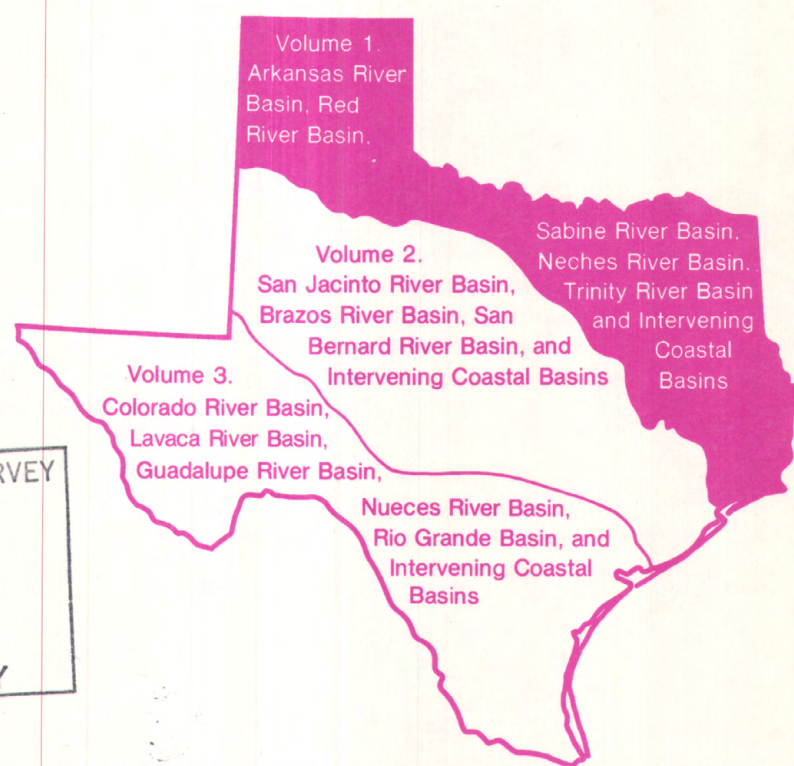


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Water Resources Data Texas Water Year 1994

Volume 1. Arkansas River Basin, Red River Basin,
Sabine River Basin, Neches River Basin, Trinity
River Basin, and Intervening Coastal Basins



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CALENDAR FOR WATER YEAR 1994

1993

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1994

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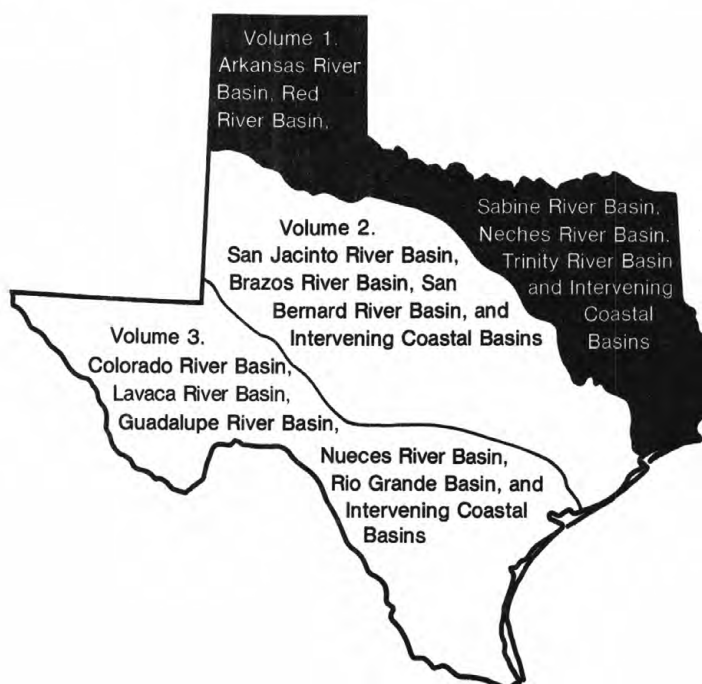
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Water Resources Data Texas Water Year 1994

Volume 1. Arkansas River Basin, Red River Basin,
Sabine River Basin, Neches River Basin, Trinity
River Basin, and Intervening Coastal Basins

by S.C. Gandara, W.J. Gibbons, F.L. Andrews, J.C. Fisher, B.A. Hinds,
and R.E. Jones



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-94-1

Prepared in cooperation with the State of Texas
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

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GEOLOGICAL SURVEY

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PREFACE

This edition of the annual hydrologic data report of Texas is one of a series of annual reports that document hydrologic data collected from the U.S. Geological Survey's collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by Federal, State, local agencies, and the private sector for developing and managing land and water resources in Texas which are contained in 4 volumes:

- Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin, and Intervening Coastal Basins
- Volume 2. San Jacinto River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins
- Volume 3. Colorado River Basin, Lavaca River Basin, Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening Coastal Basins
- Volume 4. Ground-Water Data

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had the primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to U.S. Geological Survey policy and established guidelines, most of the data were collected, computed, and processed from Subdistrict and Field Offices. The following supervised the collection, processing, and tabulation of the data:

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This report was prepared in cooperation with the State of Texas and other agencies under the supervision of Richard O. Hawkinson, District Chief.

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13. ABSTRACT (Maximum 200 words) Water-resources data for the 1994 water year for Texas are presented in four volumes, and consist of records of stage, discharge, and water quality of streams and canals; stage, contents, and water-quality of lakes and reservoirs; and water levels and water quality of ground-water wells. Volume 1 contains records for water discharge at 112 gaging stations; stage only at 4 gaging stations; stage and contents at 34 lakes and reservoirs; water quality at 60 gaging stations; and data for 7 partial-record and 14 flood-hydrograph partial-record stations. Also included are lists of discontinued surface-water discharge or stage-only stations and discontinued surface-water-quality stations; crest-stage and flood-hydrograph partial-record stations, reconnaissance partial-record stations, and low-flow partial-record stations. Additional water data were collected at various sites, not part of the systematic data-collection program, and are published as miscellaneous measurements. Records for a few pertinent stations in the bordering States also are included. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating Federal, State, and local agencies in Texas.				
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GAGING STATIONS, IN DOWNSTREAM ORDER,
FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

[Type of data collected: (d) discharge; (c) chemical; (b) biological; (t) water temperature;
(s) sediment; (e) elevation, gage heights, or contents.]

	Station number	Page
LOWER MISSISSIPPI RIVER BASIN		
ARKANSAS RIVER BASIN		
Arkansas River:		
Canadian River at Logan, NM (d) (c)	07227000	29
Revuelto Creek near Logan, NM (d) (c)	07227100	32
Canadian River above New Mexico-Texas State line (c)	07227140	34
Canadian River near Amarillo (d) (c) (b) (t)	07227500	35
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Wolf Creek at Lipscomb (d)	07235000	44
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Prairie Dog Town Fork Red River near Wayside (d) (c) (b) (t) (s)	07297910	46
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Groesbeck Creek at State Highway 6 near Quanah (d)	07299670	50
Salt Fork Red River:		
Greenbelt Lake near Clarendon (e)	07299840	51
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Lake Kemp near Mabelle (e)	07312000	82
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Diversion Lake:		
South Side Canal near Dundee (d)	07312110	84
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Wichita River at Wichita Falls (d)	07312500	86
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Lake Kickapoo near Archer City (e)	07314000	90
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Lake Arrowhead near Henrietta (e)	07314800	92
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Moss Lake near Gainesville (e)	07315950	100
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Sanders Creek:		
Pat Mayse Lake near Chicota (e)	07335390	102
Red River at Arthur City (d)	07335500	103
Red River near De Kalb (d) (c) (b) (t) (s)	07336820	104
Red River at Index, AR (d) (c) (b) (s)	07337000	107
South Sulphur River at Commerce (d)	07342465	111
South Sulphur River near Commerce (c) (b)	07342470	112
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Sulphur River near Talco (d) (c) (b)	07343200	135
White Oak Creek near Talco (d) (c)	07343500	138
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Brushy Creek at Scroggins (d)	07344486	157
Lake Bob Sandlin near Mount Pleasant (e)	07344489	158
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Lake Fork Creek:		
Garrett Creek:		
Big Creek near Brashear (c) (b)	08018620	176
Birch Creek near Yantis (FM 2297) (c) (b)	08018720	177
Caney Creek near Como (c) (b)	08018785	178
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Big Sandy Creek near Big Sandy (d)	08019500	182
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Sabine River at Logansport, LA (e)	08022500	193
Toledo Bend Reservoir near Burkeville (e)	08025350	194
Sabine River at Toledo Bend Reservoir near Burkeville (d)	08025360	195
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NECHES RIVER BASIN		
Neches River:		
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Neches River near Rockland (d) (c) (b)	08033500	212
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GAGING STATIONS, IN DOWNSTREAM ORDER,
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NECHES RIVER BASIN--Continued		
Angelina River:		
Ayish Bayou near San Augustine (d) -----	08039100	223
Sam Rayburn Reservoir near Jasper (e) (c) (b) -----	08039300	224
Angelina River at Highway 63 near Horger (c) (b) -----	08039500	242
B.A. Steinhagen Lake at Town Bluff (e) -----	08040000	243
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West Fork Trinity River (head of Trinity River) near Jacksboro (d) -----	08042800	255
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Big Sandy Creek near Bridgeport (d) (c) -----	08044000	259
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West Fork Trinity River:		
Village Creek:		
Deer Creek Outfall at I-35 West, Fort Worth (c) (b) -----	08048920	301
Village Creek at Everman (d) (c) (b) -----	08048970	305
Lake Arlington at Arlington (e) (c) (t) -----	08049200	309
Rush Creek at Woodland Park Blvd., Arlington (d) (c) (b) -----	08049240	315
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Mountain Creek Outfall at I-20, Duncanville (c) (b) -----	08049860	334
Fish Creek Outfall at I-20, Arlington (c) (b) -----	08049950	339
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Elm Fork Trinity River at Gainesville (d) -----	08050400	344
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Jordan Creek:		
Timber Creek near Collinsville (d) -----	08050800	347
Jordan Creek Tributary near Collinsville (c) (b) -----	08050815	349
Range Creek near Collinsville (d) (c) (b) -----	08050840	351
Ray Roberts Lake near Pilot Point (e) (c) -----	08051100	354
Clear Creek near Sanger (d) (c) (b) -----	08051500	368
Little Elm Creek near Aubrey (d) (c) (b) -----	08052700	373

GAGING STATIONS IN DOWNSTREAM ORDER,
FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

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	Station number	Page
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TRINITY RIVER BASIN--Continued		
Trinity River:		
Elm Fork Trinity River:		
Pecan Creek near Aubrey (c) -----	08052730	377
Lewisville Lake near Lewisville (e) (c) (b) (t) -----	08052800	379
Elm Fork Trinity River near Lewisville (d) (c) (b) -----	08053000	393
Denton Creek near Justin (d) -----	08053500	396
Grapevine Lake near Grapevine (e) -----	08054500	397
Elm Fork Trinity River near Carrollton (d) -----	08055500	398
Bachman Branch:		
Bachman Branch Outfall at I-635, Dallas (c) (b) -----	08055690	400
Trinity River at Dallas (d) -----	08057000	405
Trinity River at Cedar Crest Blvd. (c) (t) -----	08057055	407
White Rock Creek at Greenville Avenue, Dallas (d) -----	08057200	414
Trinity River below Dallas (d) (c) (b) (t) -----	08057410	415
Prairie Creek at U.S. Highway 175, Dallas (d) -----	08057445	424
East Fork Trinity River at McKinney (d) (c) -----	08058900	425
Pilot Grove Creek:		
Sister Grove Creek near Blue Ridge (d) -----	08059400	428
Lavon Lake near Lavon (e) -----	08060500	429
Rowlett Creek near Sachse (d) -----	08061540	430
East Fork Trinity River near Forney (d) -----	08061750	431
East Fork Trinity River at Seagoville (c) (b) (t) -----	08061980	432
East Fork Trinity River near Crandall (d) (c) (b) (t) -----	08062000	439
Trinity River near Rosser (d) (c) (b) (t) -----	08062500	448
Trinity River at Trinidad (d) (c) (b) (t) (s) -----	08062700	457
Cedar Creek Reservoir near Trinidad (e) -----	08063010	466
Navarro Mills Lake near Dawson (e) -----	08063050	467
Richland Creek near Dawson (d) -----	08063100	468
Chambers Creek:		
Waxahachie Creek:		
Bardwell Lake near Ennis (e) -----	08063700	469
Waxahachie Creek near Bardwell (d) -----	08063800	470
Chambers Creek near Rice (d) (c) (b) (t) -----	08064100	471
Richland-Chambers Reservoir near Kerens (e) -----	08064550	479
Tehuacana Creek near Streetman (c) (b) -----	08064700	480
Trinity River near Oakwood (d) -----	08065000	482
Upper Keechi Creek near Oakwood (d) -----	08065200	484
Trinity River near Crockett (d) (c) (b) (t) -----	08065350	485
Bedias Creek near Madisonville (d) (c) -----	08065800	495
Kickapoo Creek near Onalaska (d) -----	08066170	498
Livingston Reservoir near Goodrich (e) (c) (t) -----	08066190	499
Livingston Reservoir at outflow weir near Goodrich (d) -----	08066191	507
Trinity River:		
Long King Creek at Livingston (d) -----	08066200	508
Trinity River near Goodrich (d) -----	08066250	509
Menard Creek near Fuqua (c) -----	08066295	510
Menard Creek near Rye (d) (c) -----	08066300	512
Trinity River at Romayor (d) (c) (b) (t) (s) -----	08066500	514
Trinity River at Liberty (d) -----	08067000	519
CWA Canal near Dayton (d) -----	08067070	520
Lake Charlotte near Anahuac (e) (t) -----	08067118	521
CEDAR BAYOU BASIN		
Cedar Bayou near Crosby (d) -----	08067500	524

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in Texas have been discontinued. Daily streamflow or stage records were collected and published for the period of record, expressed in water years, shown for each station. Those stations with an asterisk (*) after the station number are currently operated as crest-stage partial-record stations. Discontinued project stations with less than 3 years of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the title page of this report.

[Letters after station name designate the type of data collected: (d) discharge, (e) elevation (stage only).]

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Punta De Agua Creek near Channing (d)	07227448	3,568	1968-73
Canadian River at Tascosa (d)	07227470	18,536	1969-77
Dixon Creek near Borger (d)	07227920	134	1974-89
Palo Duro Creek near Spearman (d)	07233500	960	1941-42
Tierra Blanca Creek above Buffalo Lake near Umbarger (d)	07295500	1,968	1942-54, 1967-73
Tierra Blanca Creek below Buffalo Lake near Umbarger (d)	07296100	2,075 lmi	1967-73
Prairie Dog Town Fork Red River near Canyon (d)	07297500	3,369	1924-26, 1938-49
North Tule Draw at Reservoir near Tulia (d)	07298000	189	1939-40, 1941-73
Tule Creek near Silverton (d)	07298200	1,150	1964-86
Prairie Dog Town Fork Red River near Brice (d)	07298500	6,082	1949-51, 1961-63
Mulberry Creek near Brice (d)	07299000	N/A	1949-51
Prairie Dog Town Fork Red River near Lakeview (d)	07299200	6,792	1963-80
Little Red River near Turkey (d)	07299300	139	1968-81
Prairie Dog Town Fork Red River near Estelline (d)	07299500	7,293	1924-25, 1938-47
Jonah Creek at Weir near Estelline (d)	07299512	65.50	1974-82
Jonah Creek below Weir near Estelline (d)	07299514	66.60	1974-76
Salt Creek near Estelline (d)	07299530	142	1974-79
Red River near Quanah (d)	07299570	8,321	1959-82
Salt Fork Red River near Clarendon (d)	07299850	457	1960-64
McClellan Creek near McLean (d)	07301200*	759	1967-80
Quitaque Creek near Quitaque (d)	07307500	293	1946-59
North Pease River near Childress (d)	07307600	1,434	1973-79
Middle Pease River near Paducah (d)	07307750	1,086	1973-79
Middle Pease River below Paducah (d)	07307760	N/A	1980-82
Pease River near Crowell (d)	07308000	3,037	1924-47
North Wichita River near Paducah (d)	07311600	540	1961-82
North Wichita River near Crowell (d)	07311622	591	1969-76
Middle Wichita River near Truscott (d)	07311648	161	1971-76
South Wichita River near Guthrie (d)	07311780	239	1971-76
South Wichita River at Ross Ranch near Benjamin (d)	07311790	499	1971-79
Wichita River near Seymour (d)	07311900	1,874	1959-79
Little Wichita River near Ringgold (d)	07315400	1,350	1959-65
Mineral Creek near Sadler (d)	07316200	26	1967-76
Bois D'Arc Creek near Randolph (d)	07332600	72	1962-85
Sanders Creek near Chicota (d)	07335400	175	1968-86
Little Pine Creek near Kanawha (d)	07336750	75.40	1968-80
Pecan Bayou near Clarksville (d)	07336800	100	1962-77
South Sulphur River near Commerce (d)	07342470	189	1979-91
Cuthand Creek near Bogata (d)	07343300	69	1956-74
Sulphur River near Darden (d)	07344000	2,774	1924-56
Big Cypress Creek near Winnsboro (d)	07344482	27.2	1974-92
Lake Cypress Springs near Mt. Vernon (d)	07344484	75.0	1974-91
Boggy Creek near Daingerfield (d)	07345000	72	1943-77
Big Cypress Creek near Karnack (e)	07346085	N/A	1980-85
Frazier Creek near Linden (d)	07346140	48.0	1965-91

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Sabine River near Emory (d)	08017500	888	1953-73
Grand Saline Creek near Grand Saline (d)	08018200	91.4	1968-73
Burke Creek near Yantis (d)	08018730	33.10	1979-89
Lake Winnsboro near Winnsboro (d)	08019300	27.1	1962-
Prairie Creek near Gladewater (d)	08020200	48.90	1968-77
Sabine River near Longview (d)	08020500	2,947	1904-06
Rabbit Creek at Kilgore (d)	08020700	75.80	1964-77
Mill Creek near Henderson (d)	08020960	20.30	1979-81
Mill Creek near Longview (d)	08020980	47.90	1979-81
Tiawichi Creek near Longview (d)	08020990	62.70	1978-81
Cherokee Bayou near Elderville	08021000	120	1940-48
Lake Cherokee near Longview (e)	08021500	158	1951-83
Murval Lake near Gary (d)	08022200	115	1958-78
Murval Bayou near Gary (d)	08022300	134	1958-83
Socagee Creek near Carthage (d)	08022400	82.60	1962-73
Tenaha Creek near Shelbyville (d)	08023200	97.80	1952-82
Sabine River near Milam (d)	08024400	6,508	1939-66
Palo Gaucho Bayou near Hemphill (d)	08024500	123	1952-65
Mill Creek near Burkeville (d)	08025307	18	1974-79
Cypress Creek near Buna (d)	08030000	69.20	1952-83
Cow Bayou near Mauriceville (d)	08031000	83.30	1952-86
Kickapoo Creek near Brownsboro (d)	08031200	232	1962-89
Neches River near Reese (d)	08031500	851	1924-27
Neches River near Alto (d)	08032500	1,945	1944-78
Piney Creek near Groveton (d)	08033300	79	1962-89
Striker Creek near Summerfield (d)	08033700	146	1941-49
East Fork Angelina River near Cushing (d)	08033900	158	1964-89
Mud Creek near Jacksonville (d)	08034500	376	1939-79
Mud Creek at Ponta (d)	08035000	475	1924-27
Angelina River near Lufkin (d)	08037000	1,600	1923-34, 1940-79
Bayou Lanana at Nacogdoches (d)	08037050	31.3	1964-86, 1988-93
Arenoso Creek near San Augustine (d)	08037500	75.30	1938-40
Angelina River near Zavalla (d)	08038500	2,892	1952-65
Ayish Bayou at San Augustine (d)	08039000	15.80	1924-26
Angelina River at Horger (d)	08039500	3,486	1928-51, 1966-73
North Creek near Jacksboro (d)	08042700	21.60	1956-80
West Fork Trinity River at Bridgeport (d)	08043100	1,113	1985-89
West Fork Trinity River at Bridgeport (d)	08043500	1,147	1910-30
West Fork Trinity River at Lake Worth, Fort Worth (d)	08045500	2,069	1917-18
Clear Fork Trinity River near Aledo (d)	08046000	251	1947-75
Marine Creek at Fort Worth (d)	08048500	16.80	1950-58
Sycamore Creek at I.H. 35W, Fort Worth (d)	08048520	17.70	1970-76
Sycamore Creek Trib. above Seminary South, Fort Worth (d)	08048530	0.97	1970-76
Sycamore Creek Trib. at I.H. 35W, Fort Worth (d)	08048540	1.35	1970-76
Dry Branch at Fain Street at Fort Worth (d)	08048600	2.15	1969-76
Big Fossil Creek at Haltom City (d)	08048800*	52.8	1960-73
Little Fossil Creek at I.H. 820, Fort Worth (e)	08048820	5.64	1969-73
Little Fossil Creek at Mesquite Street, Fort Worth (d)	08048850	12.30	1969-76
Village Creek at Kennedale (d)	08048980	100	1986-89
Village Creek near Handley (d)	80490000	126	1925-30
Big Bear Creek near Grapevine (d)	08049550	29.6	1967-79
Trigg Branch at DFW Airport near Euless (d)	08049565	1.73	1983-87
Mountain Creek near Cedar Hill (d)	08049600	119	1961-84
Mountain Creek above Duncanville (e)	08049850	224	1986-87

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Mountain Creek near Duncarville (e)	08049900	225	1970-90
Mountain Creek near Grand Prairie (d)	08050000	273	1925-33
Elm Fork Trinity SWS 6-O near Muenster (e)	08050200	0.77	1957-71
Elm Fork Trinity River near Muenster (d)	08050300	46	1957-73
Elm Fork Trinity River near Sanger (d)	08050500	381	1949-84
Isle Du Bois Creek near Pilot Point (d)	08051000	266	1949-84
Elm Fork Trinity River near Pilot Point (d)	08051130	692	1986-92
Elm Fork Trinity River near Denton (d)	08052000	1,084	1924-26
Little Elm Creek SWS #10 near Gunter (e)	08052630	2.10	1966-72
Little Elm Creek near Celina (d)	08052650	46.70	1966-76
Hickory Creek at Denton (d)	08052780	129	1985-87
Denton Creek near Roanoke (d)	08054000	621	1924-27, 1939-55
Denton Creek near Grapevine (d)	08055000	705	1947-91
Bachman Branch at Dallas (d)	08055700	10	1964-79
Turtle Creek at Dallas (d)	08056500	7.98	1948-91
White Rock Creek at Keller Springs Road, Dallas (d)	08057100	29.40	1962-79
White Rock Creek at White Rock Lake, Dallas (d)	08057300	100	1963-79
White Rock Creek at Scyene Road, Dallas (d)	08057400	122	1963-79
Tenmile Creek at State Highway 342 at Lancaster (d)	08057450	52.80	1970-79
Honey Creek SWS #11 near McKinney	08057500	2.14	1953-73
Honey Creek SWS #12 near McKinney	08058000	1.26	1953-77
Honey Creek near McKinney (d)	08058500	39	1951-73
East Fork Trinity River near McKinney (d)	08059000	190	1950-75
Sister Grove Creek near Princeton (d)	08059500	113	1949-75
East Fork Trinity River above Pilot Grove near Lavon (d)	08060000	324	1949-53
East Fork Trinity River near Lavon (d)	08061000	773	1954-89
East Fork Trinity River near Rockwall (d)	08061500	840	1924-54
Lake Ray Hubbard near Forney (e)	08061550	1,071	1968-93
Duck Creek near Garland (d)	08061700	31.6	1958-92
South Mesquite Creek at Mercury Road near Mesquite (d)	08061950	23	1969-79
Cedar Creek Reservoir Spillway Outflow near Trinidad (d)	08062650	1,007	1966-82
Cedar Creek near Kemp (d)	08062800	189	1963-87
Kings Creek near Kaufman (d)	08062900	233	1963-87
Lacey Fork near Mabank (d)	08062980	118	1982-84
Cedar Creek near Mabank (d)	08063000	733	1939-66
South Twin Creek near Eustace (d)	08063003	27.40	1983-84
Cedar Creek at Trinidad (d)	08063020	1,011	1965-71
Pin Oak Creek near Hubbard (d)	08063200	17.60	1956-72
Richland Creek near Richland (d)	08063500	734	1939-88
Chambers Creek near Corsicana (d)	08064500	963	1939-84
Richland Creek near Fairfield (d)	08064600	1,957	1972-83
Catfish Creek near Tennessee Colony (d)	08064800	207	1962-89
Trinity River near Midway (d)	08065500	14,450	1939-70
Caney Creek near Madisonville (d)	08065700	112	1963-76
White Rock Creek near Trinity (d)	08066100	222	1965-71, 1974-85
Big Creek near Shepherd	08066400	38.80	1966-89
Sulphur Barge Canal near Wallisville (e)	08067113	N/A	1976-82
Lost River near Wallisville (e)	08067250	N/A	1976-82
Old River (cutoff channel) near Wallisville (e)	08067255	N/A	1976-82
Anahuac Channel at Anahuac (e)	08067301	N/A	1976-82

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

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The following stations were discontinued as continuous-record surface-water-quality stations prior to the 1994 water year. Daily records of specific conductance, temperature, sediment, color, pH, dissolved oxygen, or chloride were collected and published for the record shown for each station.

[SC, specific conductance; T, temperature; S, sediment; C, color; pH, pH; DO, dissolved oxygen; Cl, chloride.]

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record (water years)
Canadian River at Tascosa	07227470	18,536	SC, T	1948-53, 1968-77
Canadian River near Canadian	07228000	22,866	SC, T	1974-81
Prairie Dog Town Fork Red River near Wayside	07297910	4,221	SC, T	1968-81
Tule Creek near Silverton	07298200	1,150	SC, T	1967-69
Prairie Dog Town Fork Red River near Brice	07298500	6,082	T	1950-51, 1949-51
Mulberry Creek near Brice	07299000	N/A	T, S	1949-51
Prairie Dog Town Fork Red River near Lakeview	07299200	6,792	SC, T	1968-80, 1979-80
Little Red River near Turkey	07299300	139	SC, T	1968-81, 1979-81
Jonah Creek at Weir near Estelline	07299512	65.50	SC	1974-82
Jonah Creek below Weir near Estelline	07299514	66.60	SC	1974-76
Salt Creek near Estelline	07299530	142	SC	1974-79
Prairie Dog Town Fork Red River near Childress	07299540	7,725	SC, T	1968-82
Salt Fork Red River near Hedley	07299930	744	SC, T	1956-61
Salt Fork Red River near Wellington	07300000	1,222	SC, T	1952-81
North Pease River near Childress	07307600	1,434	SC, T	1973-79
Middle Pease River near Paducah	07307750	1,086	SC	1973-79, 1973-77
Middle Pease River near Paducah	07307760	N/A	SC	1979-82, 1979-80
Pease River near Childress	07307800	2,754	SC, T	1968-82
Pease River near Crowell	07308000	3,037	SC	1942-43
Red River near Burkburnett	07308500	2,057	SC, T	1968-81
North Fork Wichita River near Paducah	07311600	540	SC, T	1967-76
North Wichita River near Crowell	07311622	591	SC	1970-76, 1973-74
Middle Fork Wichita River near Truscott	07311648	161	SC	1970-76
Truscott Brine Lake near Truscott	07311669	N/A	SC, T	1984-89
North Wichita River near Truscott	07311700	937	SC, T	1965-89, 1990-82
South Fork Wichita River near Guthrie	07311780	239	SC	1970-76, 1973-74
South Wichita River below Low-Flow Dam near Guthrie	07311783	N/A	SC, T	1986-89
South Fork Wichita River at Ross Ranch near Benjamin	07311790	499	SC	1970-79
Wichita River near Seymour	07311900	1,874	SC, T	1968-79
Beaver Creek near Electra	07312200	652	SC, T	1968-70
Wichita River at Wichita Falls	07312500	3,140	SC, T	1981-89
Wichita River near Charlie	07312700	3,439	SC, T	1967-81
Little Wichita River near Archer City	07314500	481	SC	1953-55, 1953-54
Little Wichita River above Henrietta	07314900	1,037	SC, T	1952-56, 1959-66
Little Wichita River near Henrietta	07315000	1,037	SC	1953-66, 1952-56, 1959-66
East Fork Little Wichita River near Henrietta	07315200	178	T	1953-54
Little Wichita River near Ringgold	07315400	1,350	SC	1959-62

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record (water years)
Red River near Gainesville	07316000	N/A	SC	1944-46, 1952-64, 1966-89, 1952-63, 1966-89
Red River at Denison Dam near Denison	07331600	3,972	SC T	1944-89, 1945-89
Little Pine Creek near Kanawha	07336750	75.40	T	1979-80
Red River near De Kalb	07336820	47,348	SC, T	1968-91
South Sulphur River near Cooper	07342500	527	SC, T	1958-66, 1967-89
Sulphur River near Talco	07343200	1,365	SC, T	1966-91
White Oak Creek near Talco	07343500	494	SC, T	1967-89
Sulphur River near Darden	07344000	2,774	SC, T	1947-50
Big Cypress Creek near Pittsburg	07344500	366	SC, T	1968-89
Little Cypress Creek near Jefferson	07346070	675	SC, T	1967-91
Sabine River near Emory	08017500	888	SC, T	1952-54
Grand Saline Creek near Grand Saline	08018200	91.40	SC, T	1968-73
Sabine River near Mineola	08018500	1,357	SC, T	1967-91
Lake Fork Creek near Quitman	08019000	585	SC, T	1967-89
Big Sandy Creek near Big Spring	08019500	231	SC, T, S	1984-86
Sabine River at Logansport	08022500	4,842	SC, T	1939-45
Sabine River below Toledo Bend near Burkeville	08026000	7,482	SC, T C	1968-86, 1969-75
Sabine River near Bon Weir	08028500	8,229	SC, T, C	1969-83
Cow Bayou near Mauriceville	08031000	83.30	SC, T	1952-55
Neches River near Neches	08032000	1,145	SC, T	1969-91
Neches River near Alto	08032500	1,945	SC, T	1959-69
Neches River near Diboll	08033000	2,724	SC, T	1969-81
Neches River near Rockland	08033500	3,636	SC	1941-42, 1945-47
Angelina River near Lufkin	08037000	1,600	SC, T	1954-79
Angelina River below Sam Rayburn Dam near Jasper	08039400	3,449	SC, T	1964-79
Village Creek near Kountze	08041500	860	SC, T	1967-70
Pine Island Bayou near Sour Lake	08041700	336	SC, T	1968-89
Big Sandy Creek near Bridgeport	08044000	333	SC, T S	1969-77, 1968-77
Clear Fork Trinity River at Fort Worth	08047500	518	SC T	1948-52, 1947-62
Village Creek at Everman	08048970	84.5	SC, pH, T, DO	1989-91
Elm Fork Trinity River SWS # 6-0 near Muenster	08050200	0.77	S	1956-66
Elm Fork Trinity River near Muenster	08050300	46	SC T S	1966-67, 1957-67, 1957-68
Clear Creek near Sanger	08051500	295	SC T, S	1969-77, 1968-77
Little Elm Creek near Celina	08052650	46.70	SC, T, S	1966-75
Little Elm Creek near Aubrey	08052700	75.50	SC, T, S	1966-75
Elm Fork Trinity River near Lewisville	08053000	1,673	SC T	1981-86, 1976-81
Trinity River at Westmoreland Road, Dallas	08056400	6,074	SC, pH, T, DO	1977
Duck Creek near Garland	08061700	31.6	SC, pH, T, DO	1988-89
Cedar Creek near Mabank	08063000	733	SC, T	1956-57
Pin Oak Creek near Hubbard	08063200	17.60	SC T S	1965-72, 1957-72, 1956-60, 1965-72

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

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Station name	Station number	Drainage area (mi ²)	Type of record	Period of record (water years)
Richland Creek near Richland	08063500	734	SC, T	1967-69, 1983-89
Chambers Creek near Corsicana	08064500	936	SC, T	1961-70
Richland Creek near Fairfield	08064600	1,957	SC, T	1956-66, 1972-83
Trinity River near Oakwood	08065000	12,833	SC, T	1947-81, S
Bedias Creek near Madisonville	08065800	321	SC, T	1984-87, S
Long King Creek at Livingston	08066200	141	SC, T	1963-72
Trinity River near Goodrich	08066250	16,844	SC, T	1969-73
Trinity River near Moss Bluff	08067100	N/A	SC	1946-65
Old River near Cove	08067200	N/A	SC	1946-65, T
Trinity River at Anahuac	08067300	N/A	SC	1965 1946-65

WATER RESOURCES DATA—TEXAS, 1994

VOLUME 1

ARKANSAS RIVER BASIN, RED RIVER BASIN, SABINE RIVER BASIN, NECHES RIVER BASIN, TRINITY RIVER BASIN, AND INTERVENING COASTAL BASINS

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with Federal, State, and City agencies, obtains a large amount of data pertaining to the water resources of Texas each water year. Such data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the U.S. Geological Survey, the data are published annually in four volumes of this report series entitled "Water Resources Data - Texas."

This report series includes records of stage, discharge, and water quality of streams and canals; stage, contents, and water quality of lakes and reservoirs, and water levels and water quality of ground water wells. Volume 1 contains records for water discharge at 112 gaging stations; stage only at 4 gaging stations; stage and contents at 34 lakes and reservoirs; and water quality at 60 gaging stations. Also included are data for 7 partial-record and 14 flood-hydrograph partial-record stations. The data in this report represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating Federal, State, and City agencies in Texas.

This series of annual reports for Texas began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report was changed to its present format, with data on quantities and quality of surface water contained in each of three volumes. Ground-water levels and water quality have been published in a separate volume beginning with the 1991 water year.

Prior to introduction of this series and for several water years concurrent with it, water resources data for Texas were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents

and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 7 and 8." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from U.S. Geological Survey, Books and Open-File Reports, Federal Center, Bldg. 41, Box 25425 Denver, CO 80225.

Publications similar to this report are published annually by the U.S. Geological Survey for all States. These official U.S. Geological Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water Data Report TX-94-1." For archiving and general distribution, the reports for the 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or may be purchased on microfiche from the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

Additional information, including the current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (512) 873-3000. A limited number of CD-ROM discs will be available for sale by the Books & Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

COOPERATION

Federal agencies that assisted the U.S. Geological Survey in the collection of data in this report in the form of funds or services in 1994 are:

- Corps of Engineers, U.S. Army.
- International Boundary and Water Commission, United States and Mexico, U.S. Section.
- U.S. Bureau of Reclamation.

Organizations that assisted in the collection of data in this report through joint funding agreements through the Texas Water Development Board or through direct joint funding agreements with the U.S. Geological Survey are:

Texas Water Development Board, G.E. Kretzschmar, Executive Administrator; the cities of Abilene, Arlington, Austin, Corpus Christi, Dallas, Fort Worth, Gainesville, Garland, Georgetown, Graham, Houston, Lubbock, Nacogdoches, San Angelo, San Antonio, and Wichita Falls; Bexar, Medina, and Atascosa Counties Water Improvement District No. 1; Barton Springs/Edwards Aquifer Conservation District; Brazos River Authority; Coastal Water Authority; Colorado River Municipal Water District; Dallas Public Works Department; Dallas Water Utilities; Edwards Underground Water District; El Paso Public Service Board; Fort Bend Subsidence District; Franklin County Water District; Galveston County; Greenbelt Municipal and Industrial Water Authority; Guadalupe-Blanco River Authority; Harris County Flood Control District; Harris-Galveston Coastal Subsidence District; Lavaca-Navidad River Authority; Lower Colorado River Authority; Lower Neches Valley Authority; North Central Texas Council of Governments; North Central Texas Municipal Water Authority; Northeast Texas Municipal Water District; North Texas Municipal Water District; Orange County; Pecos River Commission; Red Bluff Water Power Control District; Red River Authority; Sabine River Authority of Texas; Sabine River Compact Administration; San Antonio City Public Service Board; San Antonio City Water Board; San Antonio River Authority; San Jacinto River Authority; Somervell County Water District; Tarrant County Water Control and Improvement District No. 1; Texas Soil & Water Conservation Board; Texas State Department of Highways & Public Transportation; Texas Natural Resources Conservation Commission; Texas Water Development Board; Titus County Fresh Water Supply District No. 1; Trinity River Authority; Upper Guadalupe River Authority; Upper Neches River Municipal Water Authority; West Central Texas Municipal Water District; and Wichita County Water Improvement District No. 2.

HYDROLOGIC CONDITIONS

Large variations in precipitation, runoff, and streamflow characterize the usual hydrologic conditions in Texas. In the eastern part of the State, streams typically are deep with wide alluvial flood plains, and streamflow is perennial. In the western part of the State, most streams flow through arroyos, and streamflow usually is ephemeral.

Streamflow across the State during water year 1994 generally was normal (discharges between the 25 percentile and 75 percentile of record), except for central and east Texas, where streamflow was above normal (discharges within the upper 25 percentile of record) from February through May and in September.

Conservation storage in 77 selected reservoirs throughout the State, with a combined conservation capacity of 34,857,000 acre-feet, decreased from 84 percent at the end of September 1993 to 83 percent at the end of September 1994. Records from these reservoirs indicate that storage increased in 35, decreased in 38, and remained the same in 4.

The area for which water resources data are presented in volume 1 includes the Texas Panhandle and extends across northern and eastern Texas to southeastern Texas. Normal annual precipitation in this area ranges from about 17 inches in the western part of the Texas Panhandle to more than 50 inches in the extreme southeastern part of the State. Annual runoff ranges from less than 1 inch in parts of the Panhandle to as much as 15 inches in southeastern Texas. The area described in volume 1 and the location of selected streamflow-gaging and water-quality stations in the area are shown in figure 1.

Streamflow

Streamflow was normal during water year 1994 in the area covered in volume 1 except for parts of the Arkansas River Basin and the Trinity River Basin where streamflow was above normal. Streamflow for water year 1994 and for the period of record at six selected stations (fig. 1) for which data are included in volume 1 are presented in table 1.

At the four long-term hydrologic index stations in the State, streamflow during water year 1994 ranged from normal to above normal. Monthly

mean discharges for water year 1994 and the median of the long-term monthly means for water years 1961–90 for the four long-term hydrologic index stations in the State are shown in figure 2. Streamflow at the hydrologic index station Neches River near Rockland was above normal during February, March, August and September, and normal for the remaining 8 months. The station North Bosque River near Clifton had above normal streamflow during May and September and normal streamflow for the remaining 10 months. The station North Concho River near Carlsbad had above normal streamflow from January through March and in May and normal streamflow, including 3 months of no flow, for the remaining 8 months. Streamflow for the station Guadalupe River near Spring Branch was normal for water year 1994.

Conservation storage in 36 selected reservoirs in this area of the State, with a total combined conservation capacity of 21,624,000 acre-feet, increased from 85 percent of capacity at the end of September 1993 to 88 percent of capacity at the end of September 1994. Records from these reser-

voirs indicate that storage increased in 22, decreased in 11, and remained the same in 3 during the water year.

Water Quality

Dissolved-solids concentrations in most streams in the State are inversely related to streamflow. During years when precipitation and runoff are less than normal, streamflow commonly is more mineralized than during years when precipitation and runoff are normal or greater than normal. However, for streams in which discharge is controlled by reservoirs, the dissolved-solids concentrations may remain relatively constant despite substantial fluctuations in precipitation and runoff.

Records of discharge-weighted-average concentrations of dissolved solids for water year 1994 are compared with those for water years 1990–94 for selected long-term daily or continuous-record water-quality stations (fig. 1) in the Arkansas, Red, Neches, and Trinity River Basins. Results are shown in table 2.

Table 1. Streamflow at six selected stations

Station no. and name	Discharge during 1994 water year (cubic feet per second)			Discharge during period of record (cubic feet per second)		
	Maximum instantaneous	Minimum daily mean	Mean	Maximum instantaneous	Minimum daily mean	Mean
<u>Arkansas River Basin</u>						
07227500 Canadian River near Amarillo, Tex.	5,290	2.4	197	135,000	0	288 (1939-94)
<u>Red River Basin</u>						
07308500 Red River near Burkburnett, Tex.	9,610	30	666	166,000	0	1,109 (1961-94)
<u>Sabine River Basin</u>						
08022040 Sabine River near Beckville, Tex.	12,300	102	2,929	49,400	2.4	2,492 (1961-94)
<u>Neches River Basin</u>						
08033500 Neches River near Rockland, Tex. 1/	12,000	187	2,322	42,000	18	2,273 (1962-94)
<u>Trinity River Basin</u>						
08057000 Trinity River at Dallas, Tex.	20,400	381	2,596	111,000	10	1,773 (1934-94)
08066500 Trinity River at Romayor, Tex. 2/	36,200	625	8,986	105,000	292	8,467 (1969-94)

1/ Hydrologic index station.

2/ National Stream Quality Accounting Network (NASQAN) site.

WATER RESOURCES DATA—TEXAS, 1994

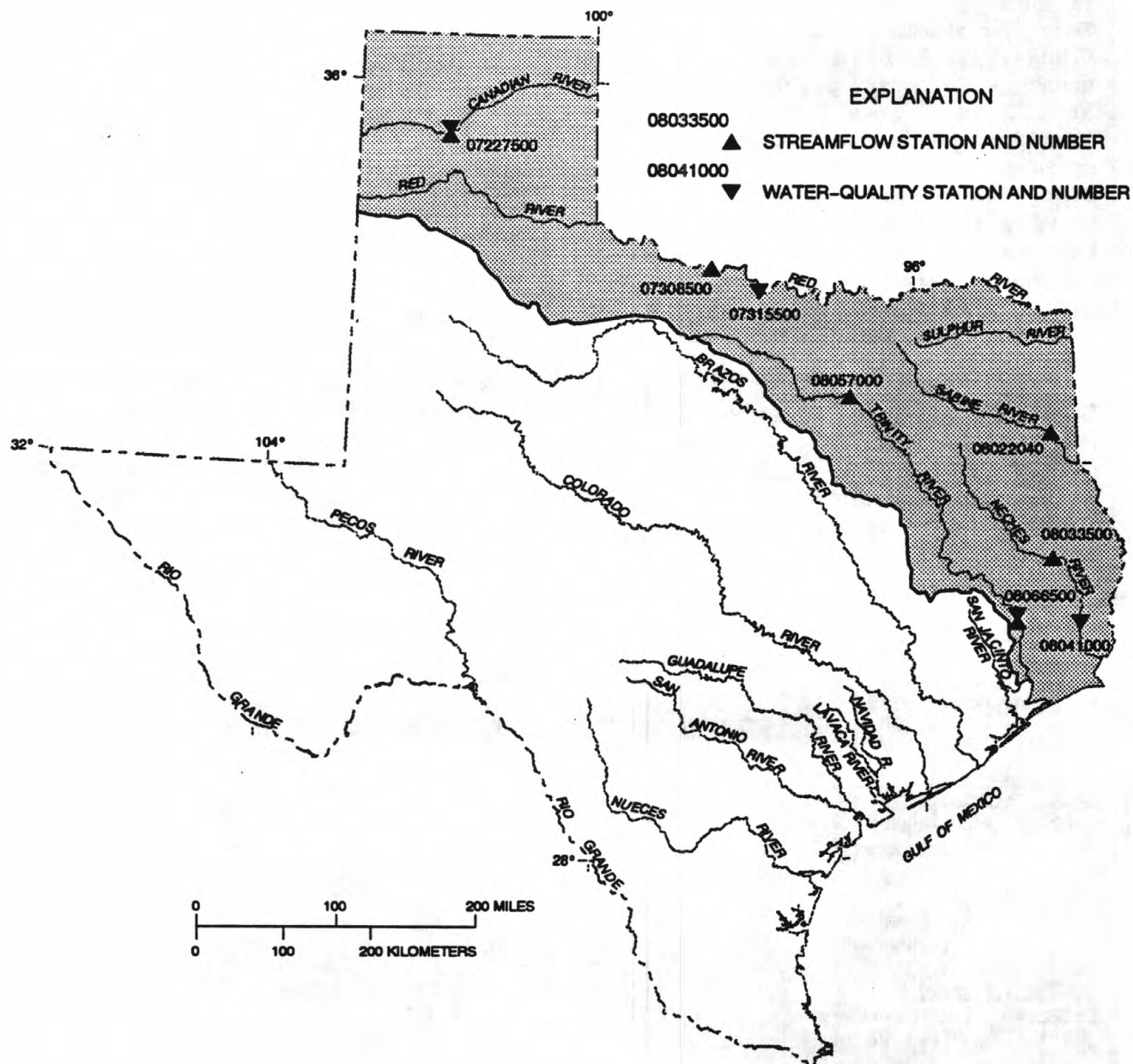


Figure 1. Area of Texas covered by volume 1 (shaded) and location of selected streamflow and water-quality stations in volume 1.

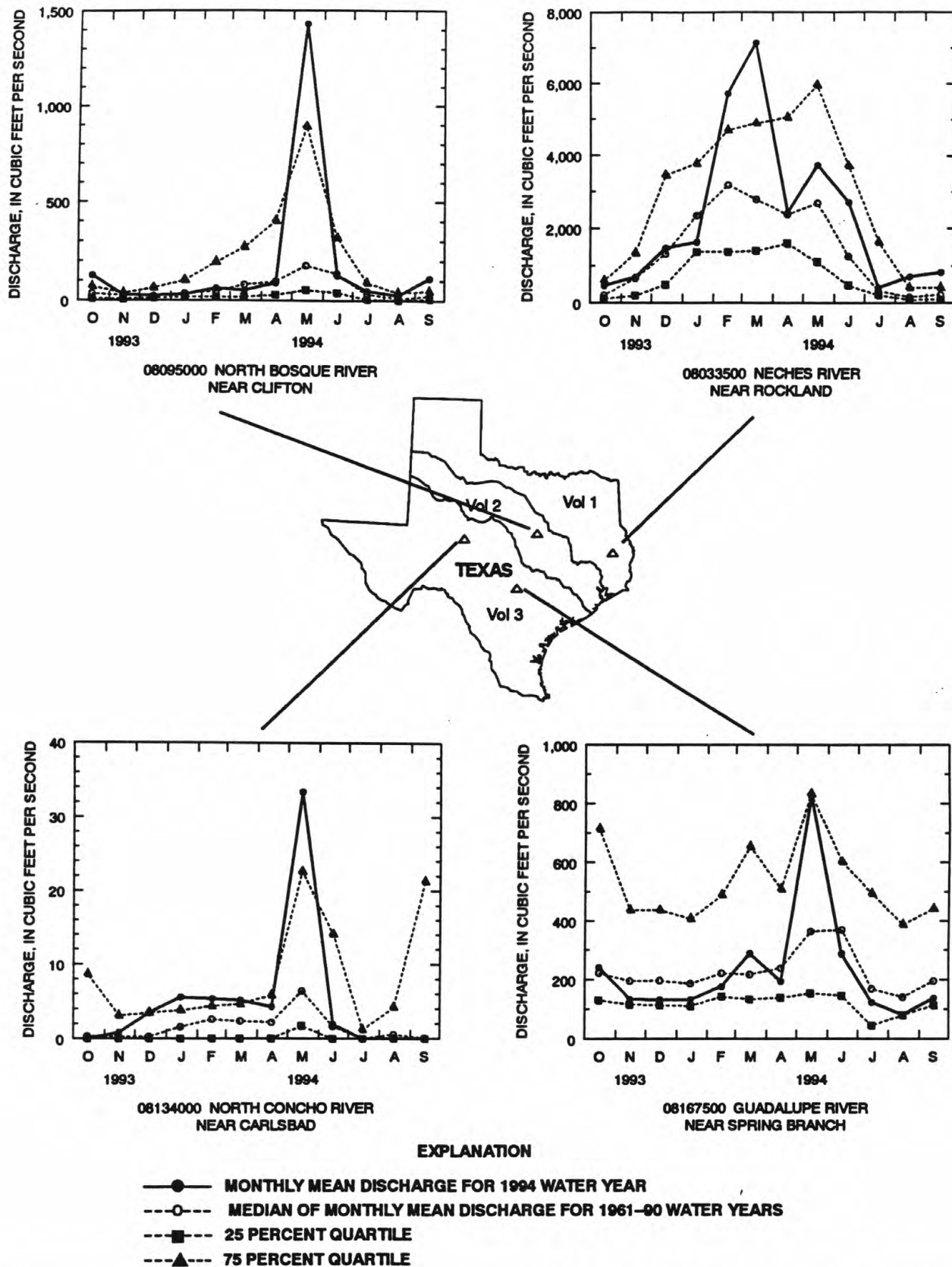


Figure 2. Monthly mean discharges at four long-term hydrologic index gaging stations during 1994 water year and median of the monthly mean discharges for 1961-90 water years.

WATER RESOURCES DATA—TEXAS, 1994

Table 2. Comparison of records of discharge-weighted-average concentrations of dissolved solids for the 1994 and 1990-94 water years

Station no. and name	Mean discharge (cubic feet per second)		Discharge-weighted-average concentration of dissolved solids (milligrams per liter)	
	1994	1990-94	1994	1990-94
Arkansas River Basin				
07227500 Canadian River near Amarillo, Tex.	197	150	915	994
Red River Basin				
07315500 Red River near Terral, Okla.	1,097	4,074	1,760	1,240
Neches River Basin				
08041000 Neches River at Evadale, Tex.	5,440	8,494	92	82
Trinity River Basin				
08066500 Trinity River at Romayor, Tex.	8,986	13,000	176	175

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 53 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 284 sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water quality for a large, diverse, and geographically distributed part of the Nation's ground- and surface-water resources, and to identify, describe, and explain the major natural and human factors that affect these observed conditions and trends.

Assessment activities have begun in about two-thirds of the study units and ultimately will be conducted in 60 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Radiochemical Program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1994 water year that began October 1, 1993, and ended September 30, 1994. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, and water-quality data for surface water. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in Texas, for surface-water stations where only miscellaneous measurements are made.

Downstream Order Numbering

Since October 1, 1950, the order of listing hydrologic-station records in U.S. Geological Survey reports is in a downstream direction along the main stream. All stations on a tributary entering up-

stream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station, such as 08057000, which appears just to the left of the station name, includes the 2-digit Part number "08" plus the 6-digit downstream-order number "057000." The Part number designates the major river basin; for example, Part "08" is the Western Gulf of Mexico basin.

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table

titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals. Measurements of discharge are made with current meters using methods adopted by the U.S. Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) Logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow over dams or weirs; or (4) step-back-water techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations, that the daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

At some stream-gaging stations, the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables defining the relationship of stage and content. The application of stage to the stage-content curves, or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Even when this is done, the contents computed may increase in error as the lapsed time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded

gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

Streamflow data in this report are presented in a format that is considerably different from the format in data reports prior to the 1991 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consists of four parts, the manuscript or station description; the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

Station manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge

or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years which the revisions apply to. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error. Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscripts published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the offices whose addresses are given on the back of the title page of this report to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check, because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

Headings for AVERAGE DISCHARGE, EXTREMES FOR PERIOD OF RECORD, AND EXTREMES FOR CURRENT YEAR have been deleted and the information contained in these paragraphs, except for the listing of secondary instantaneous peak discharges in the EXTREMES FOR CURRENT YEAR paragraph, is now presented in the tabular summaries following the discharge table or in the REMARKS paragraph, as appropriate. No changes have been made to the data presentations of lake contents.

Data table of daily mean values

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given.

Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the daily mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period, expressed as "FOR WATER YEARS ____ - ____ , BY WATER YEAR (WY)," will list the first and last water years of the range selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive,

including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, "WATER YEARS ____-____," will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. However, data for partial water years, if any, will only be used in the statistical calculations, if appropriate. For example, all of the calculations for the statistical characteristics designated ANNUAL (See line headings below.), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the column heading. When this occurs, it should be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data are also given. Runoff data is omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

HIGHEST ANNUAL MEAN.--The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.--The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.--The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.--The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.--The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. 0This value should not be confused with the 7-day 10-year low-flow statistic.)

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period.

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.--The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.--Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

Acre-foot (AC-FT) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile area drained, assuming the runoff is distributed uniformly in time and area.

Inches (INCHES) indicates the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that has been exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.--The discharge that has been exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.--The discharge that has been exceeded 90 percent of the time for the designated period.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records depends primarily on: (1) The stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of their true values; "good," within 10 percent; and "fair," within 15 percent.

Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at

those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables, is on file in the Texas District. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the offices whose addresses are given on the back of the title page of this report.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications.

A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be one or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station where random samples are collected to give better areal coverage to define water-quality conditions in the river basin. A careful distinction needs to be made between "continuing records", as used in this report, and "continuous recordings," which refers to a continuous graph or a series of discrete values obtained by data logger. Some records of water quality, such as temperature and specific conductance, may be

obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-Site Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory.

Procedures for on site measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed under "PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS" which appears at the end of the introductory text. Detailed information on collecting, treating, and shipping samples may be obtained from the Texas Office of the Central Region Office. One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section

may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals depends on flow conditions and other factors which must be evaluated by the collector.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (alkalinity), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of alkalinity in the laboratory.

For chemical-quality stations equipped with water-quality monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the Texas District Office. The address is given on the back of the title page of this report.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at the time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the Texas District Office.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge-weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and stream-flow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the U.S. Geological Survey laboratory in Arvada, Colorado. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the U.S. Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Historical and current (1994) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter. If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter and could reflect contamination introduced during some phase of the procedure.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radio-chemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. These periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No

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descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remarks Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT

REMARK

e or E	Estimated value.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
K	Results based on colony count outside the acceptance range (non-ideal colony count).
L	Biological organism count less than 0.5 percent (Organism may be observed rather than counted).
D	Biological organism count equal to or greater than 15 percent (dominant).
&	Biological organism estimated as dominant.

DISSOLVED TRACE-ELEMENT CONCENTRATIONS

NOTE: Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter ($\mu\text{g/L}$) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Data above the $\mu\text{g/L}$ level should be viewed with caution. Such data may actually represent elevated environmental concentrations from a natu-

ral or human causes; however, these data could reflect contamination introduced during sampling processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994. Full implementation of the protocols will take place in the near future.

ACCESS TO WATSTORE DATA

The National WATER Data STORage and RETrieval System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the U.S. Geological Survey at the National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from the District office (see address given on the back of the title page).

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, Virginia 22092

In addition to providing direct access to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5-1/4 inch floppy disk; and, as noted in the introduction, on CD-ROM discs. All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc. A limited number of CD-ROM discs will be available for sale by the Books & Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multicelled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Bacteria are microscopic unicellular organisms, typically spherical, rod-like, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 24 hours at 35 °C. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at +35 °C or -1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 ml of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at +44.5 °C or -0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at +35 °C or -1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 105 °C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters or liters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

Color Unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic foot per second (ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent

to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic-foot-per-second day [(ft³/s)/d] is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 cubic meters.

Cubic feet per second per square mile [(ft³/s)/mi²] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a 0.45 mm membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$d = - \sum_{i=1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Supplementary gage is a gage used to obtain additional data. A supplementary gage may be used in place of the principal gage if the latter is isolated or cut off from the channel, or registers only above (or below) a certain gage height. One or more supplementary gages may be used on bypass channels or overflow channels, or on streams that flow in several channels, each of which is rated independently.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate (CaCO_3).

Hydrologic Benchmark Network is a network of 53 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram ($\mu\text{g/g}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter ($\mu\text{g/L}$, $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L , mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 284 sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are: (1) To obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for; (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs; (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics; and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The U.S. Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay	0.00024 - 0.004	Sedimentation
Silt	0.004 - 0.062	Sedimentation
Sand	0.062 - 2.0	Sedimentation or sieve
Gravel	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phy-

toplankton, and detritus. Because they are the grazers in the aquatic environment, zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [$\text{mg C}/(\text{m}^2 \cdot \text{time})$] for periphyton and macrophytes and [$\text{mg C}/(\text{m}^3 \cdot \text{time})$] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon -14). The carbon -14 method is of greater sensitivity than the oxygen light and dark bottle method and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [$\text{mg O}/(\text{m}^2 \cdot \text{time})$] for periphyton and macrophytes and [$\text{mg O}/(\text{m}^3 \cdot \text{time})$] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

Runoff in inches (IN., in.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed-load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total-sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific conductance is related to the type and concentration of ions in solution and can be used

for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water, per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emerged or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S. Geological Survey topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is the part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 mm membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total-recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 mm membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending

with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata*, is the following:

Kingdom	Animal
Phylum	Arthropoda
Class	Insecta
Order	Ephemeroptera
Family	Ephemeridae
Genus	Hexagenia
Species	Hexagenia limbata

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

Water year in U.S. Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1990, is called the "water year 1990."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the

corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- 1-D1. *Water temperature-influential factors, field measurement, and data presentation*, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 p.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 p.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 p.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 p.
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- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and Warren E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 p.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 p.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 p.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 p.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 p.
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- 3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 p.
- 3-A7. *Stage measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 p.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 p.

- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick, and J.F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 p.
- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 p.
- 3-A11. *Measurement of discharge by moving-boat method*, by G.F. Smoot and C.E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 p.
- 3-A12. *Fluorometric procedures for dye tracing*, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS--TWRI Book 3, Chapter A12, 1986. 41 p.
- 3-A13. *Computations of continuous records of streamflow*, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A13, 1983. 53 p.
- 3-A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 p.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 p.
- 3-A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 p.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 p.
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- 3-A19. *Levels of streamflow gaging stations*, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 27 p.
- 3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS--TWRI Book 3, Chapter A20. 1993. 38 pages.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 p.
- 3-B2. *Introduction to ground-water hydraulics, a programmed text for self instruction*, by G.D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 p.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 p.
- 3-B4. *Regression modeling of ground-water flow*, by Richard L. Cooley and Richard L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 p.
- 3-B4. *Supplement 1. Regression modeling of ground-water flow - Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R.L. Cooley. USGS--TWRI Book 3, Chapter B4. 1993. 8 pages.
- 3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems--An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS--TWRI Book 3, Chapter B5. 1987. 15 p.
- 3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS--TWRI Book 3, Chapter B6. 1987. 28 p.
- 3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS--TWRI Book 3, Chapter B7. 1992. 190 pages.
- 3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 p.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H.P. Guy and V.W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 p.
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- 4-A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 p.
- 4-A2. *Frequency curves*, by H.C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 p.
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- 4-B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 p.
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- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 p.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman: USGS--TWRI Book 5, Chapter A1. 1989. 545 p.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P.R. Barnett and E.C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 p.
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- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greeson, editors: USGS--TWRI Book 5, Chapter A4. 1989. 363 p.
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- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 p.
- 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S.A. Leake and D.E. Prudic: USGS--TWRI Book 6, Chapter A2. 1991. 68 pages.
- 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS--TWRI Book 6, Chapter A3. 1993. 136 pages.
- 6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS--TWRI Book 6, Chapter A4. 1992. 108 pages.
- 6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS--TWRI Book 6, Chapter A5. 1993. 243 pages.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 p.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 p.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1983. 110 p.
- 8-A1. *Methods of measuring water levels in deep wells*, by M.S. Garber and F.C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 p.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 p.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G.F. Smoot and C.E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 p.

ARKANSAS RIVER BASIN

29

07227000 CANADIAN RIVER AT LOGAN, NM

LOCATION.--Lat 35°21'25", long 103°25'03", in NEqNEq sec.15, T.13 N., R.33 E., Quay County, Hydrologic Unit 11080006, on left bank 1,110 ft upstream from bridge on U.S. Highway 54, 0.7 mi south of Logan, 1.4 mi upstream from Chicago, Rock Island & Pacific Railroad Co. bridge, 2.0 mi downstream from Ute Dam, 4.3 mi upstream from Revuelto Creek, and at mile 672.0.

DRAINAGE AREA.--11,141 mi², of which 1,110 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1904 to November 1905 (gage heights and discharge measurements only), December 1908 to September 1909, February 1910, April to July 1910, August 1910 to September 1911 (gage heights and discharge measurements only), October 1911 to May 1914, January to May 1924, September 1924 to July 1925, January 1927 to April 1934, August 1934 to current year. Monthly discharge only for some periods, published in WSP 1311. Records for December 1909, January 1910, and May to July 1934, published in WSP 267, 287, and 762 are unreliable and should not be used. Published as "South Canadian River" June to September 1904.

REVISED RECORDS.--WSP 1087: 1935-36. WSP 1117: Drainage area. WSP 1281: 1912, 1932(M), 1934, 1945-47, 1949-50. WSP 1311: 1931(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 3,667.1 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1987 same site at datum 1.0 ft higher. See WSP 1311 or 1731 for history of changes prior to Oct. 1, 1934.

REMARKS.--No estimated daily discharges. Records poor. Flow regulated by Conchas Lake, 45 mi upstream (station 07223500) and Ute Reservoir, 2 mi upstream (station 07226800). Diversions for irrigation of about 90,000 acres upstream from station. Several observations of water temperature were made during the year. No flow at times prior to completion of Ute Dam.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--15 years (water years 1909, 1912-13, 1927-38), 392 ft³/s, 284,000 ac-ft prior to completion of Conchas dam. 24 years (water years 1939-62), 257 ft³/s, 186,200 acre-ft/yr, prior to completion of Ute Dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 278,000 ft³/s, Sept. 30, 1904, gage height, about 36.5 ft, site and datum used in 1909, from rating curve extended above 14,000 ft³/s, from Ninth Biennial Report of New Mexico State Engineer.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	3.9	3.9	3.6	4.0	4.0	8.9	356	299	326	333	334
2	4.6	3.7	3.9	3.7	4.0	4.0	8.7	355	272	326	334	332
3	4.6	4.0	3.8	3.7	4.0	4.0	8.6	355	271	325	337	331
4	4.7	3.9	3.9	3.7	4.1	4.0	8.7	355	270	324	339	329
5	4.6	3.9	3.9	3.7	4.0	4.0	8.4	356	269	324	132	328
6	3.7	3.9	3.9	3.6	4.1	4.0	8.6	357	270	324	8.7	328
7	3.7	4.0	3.9	3.5	4.0	4.0	8.7	357	267	324	5.6	308
8	3.7	4.0	3.8	3.8	4.6	4.6	8.3	359	120	324	4.6	311
9	3.7	3.9	3.4	3.9	5.0	4.8	5.7	360	115	326	4.0	311
10	3.8	4.0	2.6	3.9	4.3	4.4	4.0	366	116	325	3.7	309
11	3.7	4.0	2.3	3.9	4.0	4.2	4.3	361	158	325	3.5	305
12	3.8	4.1	2.3	3.7	3.9	4.3	119	359	221	325	3.4	316
13	3.9	3.8	2.3	3.6	3.9	4.6	332	360	285	326	3.3	320
14	3.9	4.1	2.3	3.7	3.9	4.2	240	359	493	326	3.3	320
15	3.9	4.0	2.4	3.9	3.9	4.0	12	359	470	326	3.3	320
16	3.9	4.1	2.4	3.9	3.9	4.0	7.9	359	439	327	253	321
17	3.9	3.8	2.4	3.9	3.9	4.1	5.7	360	324	327	350	322
18	3.9	3.9	2.5	3.9	4.0	4.1	4.5	362	319	327	352	322
19	4.4	3.7	2.6	12	4.0	4.0	3.9	362	318	328	353	322
20	4.1	3.7	2.6	6.5	3.9	4.0	3.7	361	318	328	352	323
21	3.9	3.9	2.6	4.5	3.9	4.0	3.5	362	324	330	351	324
22	3.9	3.9	2.7	3.9	4.0	4.0	3.9	362	337	331	351	78
23	3.6	3.7	2.8	3.7	4.2	4.0	6.1	362	329	333	350	8.7
24	3.8	3.5	2.9	3.7	4.1	4.0	4.3	362	327	325	347	6.0
25	3.6	3.7	3.0	3.8	4.0	4.1	3.5	367	327	320	345	4.8
26	3.7	3.7	3.1	4.0	4.0	4.2	166	368	328	322	344	4.3
27	3.8	3.8	4.4	3.8	4.0	4.3	354	352	328	324	342	4.2
28	3.8	3.8	3.7	3.8	4.0	5.5	357	346	328	325	341	3.9
29	3.9	3.8	3.4	4.0	---	10	358	347	327	327	340	3.9
30	4.0	3.9	3.4	4.0	---	9.2	356	349	327	329	345	3.8
31	3.9	---	3.4	4.0	---	8.9	---	333	---	331	336	---
TOTAL	123.9	116.1	96.5	129.3	113.6	145.5	2423.9	11088	8896	10110	6970.4	6853.6
MEAN	4.00	3.87	3.11	4.17	4.06	4.69	80.8	358	297	326	225	228
MAX	5.5	4.1	4.4	12	5.0	10	358	368	493	333	353	334
MIN	3.6	3.5	2.3	3.5	3.9	4.0	3.5	333	115	320	3.3	3.8
AC-FT	246	230	191	256	225	289	4810	21990	17650	20050	13830	13590

ARKANSAS RIVER BASIN

07227000 CANADIAN RIVER AT LOGAN, NM--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994#, BY WATER YEAR (WY)

MEAN	32.9	27.7	7.12	7.83	9.84	3.14	17.9	37.8	55.0	77.6	87.8	96.2
MAX	325	287	84.1	62.7	174	11.4	239	767	575	608	720	838
(WY)	1966	1983	1983	1992	1980	1983	1987	1987	1969	1982	1981	1969
MIN	1.30	1.19	1.24	.86	1.13	.63	.26	.64	.62	.65	1.19	1.36
(WY)	1964	1984	1984	1963	1987	1963	1963	1963	1963	1963	1963	1983

SUMMARY STATISTICS FOR 1993 CALENDAR YEAR
WATER YEARS 1963 - 1994

FOR 1994# WATER YEAR

ANNUAL TOTAL	13265.3	47066.8	38.5	
ANNUAL MEAN	36.3	129	145	1969
HIGHEST ANNUAL MEAN			1.62	1964
LOWEST ANNUAL MEAN			6860	Jun 18 1969
HIGHEST DAILY MEAN	333	Aug 28	493	Jun 14
LOWEST DAILY MEAN	2.3	Dec 11	2.3	Dec 11
ANNUAL SEVEN-DAY MINIMUM	2.3	Dec 11	2.3	Dec 11
INSTANTANEOUS PEAK FLOW				.10
INSTANTANEOUS PEAK STAGE				.10
ANNUAL RUNOFF (AC-FT)	26310	93360	219000	29.30
10 PERCENT EXCEEDS	167	352	27900	13
50 PERCENT EXCEEDS	3.8	4.4		2.5
90 PERCENT EXCEEDS	3.4	3.7		1.6

Period of regulated streamflow.

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

07227100 REVUELTO CREEK NEAR LOGAN, NM

LOCATION.--Lat 35°20'29", long 103°23'37", in SWQNM sec.24, T.13 N., R.33 E., Quay County, Hydrologic Unit 11080008, on right bank 0.3 mi upstream from bridge on State Highway 469, 1.9 mi southeast of Logan, and at mile 2.3.

DRAINAGE AREA.--786 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1959 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,660 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Jan. 16, 1981, at site 320 ft upstream at datum 0.56 ft higher.

REMARKS.--Records poor. Low flows supplemented by surface and ground-water return from irrigation in vicinity of Tucumcari. Several observations of water temperature were made during the year. No flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD (1941-47).--Maximum discharge determined, about 13,400 ft³/s, Sept. 18, 1946, gage height, 9.04 ft, at site 180 ft downstream at different datum, from unpublished records collected by U.S. Bureau of Reclamation. A peak of 26,100 ft³/s, date unknown, gage height, 12.9 ft at former site and datum, was measured by slope-area method in May 1957.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.0	6.8	5.4	4.8	7.7	1.1	7.4	19	e6.0	77	55	154
2	e3.0	8.6	5.0	3.6	9.9	1.5	10	22	e16	57	245	214
3	e10	7.3	5.0	3.1	9.0	1.6	52	33	e20	46	266	120
4	e8.0	6.1	4.5	2.9	7.8	1.3	17	19	e10	39	323	54
5	e18	3.6	4.5	2.2	6.8	.90	14	15	e5.0	40	121	43
6	e14	3.3	4.6	1.6	5.4	.69	38	9.8	e4.0	9.7	59	43
7	e10	3.3	2.5	1.6	2.9	.73	31	8.8	e4.0	11	35	14
8	e8.0	3.6	2.5	1.4	1.2	4.0	12	8.9	1.9	7.4	23	7.4
9	8.0	3.8	2.6	1.4	.74	9.7	8.0	9.2	2.4	47	15	8.0
10	8.7	3.8	2.4	1.4	.89	71	8.8	932	1.5	506	9.8	12
11	8.3	4.1	2.5	1.8	2.0	101	54	e40	15	128	8.2	17
12	9.8	5.0	3.1	1.9	1.3	40	34	e22	12	66	8.2	10
13	7.1	5.1	4.4	1.8	.57	142	12	e20	38	58	8.0	12
14	8.8	7.6	4.0	2.5	.78	28	11	e20	9.6	464	7.9	14
15	14	8.8	3.3	4.3	1.2	13	9.8	e14	3.0	99	9.0	9.0
16	15	4.8	3.0	3.7	1.4	11	6.8	e12	2.4	73	11	5.2
17	16	3.3	2.7	3.7	1.4	7.4	6.8	e10	1.9	57	17	5.8
18	17	3.7	3.3	2.7	.90	5.5	5.8	e6.0	4.8	41	13	8.0
19	263	3.7	4.8	5.2	.21	4.4	8.3	e10	8.8	21	15	7.4
20	210	4.4	6.3	5.8	.04	3.9	8.0	e8.0	14	8.8	17	5.8
21	49	4.9	5.8	4.4	.52	3.9	10	e6.0	15	8.8	22	4.8
22	43	4.5	6.8	4.0	1.7	3.4	25	e8.0	6.8	61	23	6.3
23	41	3.6	6.8	4.4	2.5	2.8	63	e6.0	6.8	26	18	6.3
24	23	3.1	6.3	4.0	2.5	2.7	24	e4.0	12	12	14	6.3
25	21	3.7	5.8	4.8	2.0	2.5	15	e16	7.2	12	10	5.8
26	14	5.8	8.9	3.7	1.4	2.6	12	e30	13	29	9.9	5.2
27	15	4.0	5.5	3.0	1.6	3.3	13	e25	29	29	7.9	5.8
28	19	4.8	5.1	4.0	1.5	3.7	16	e20	36	188	7.2	6.3
29	19	4.4	4.5	7.7	---	3.8	15	e10	646	111	7.0	8.8
30	27	5.0	4.3	6.5	---	3.4	20	e6.0	153	112	18	6.3
31	15	---	4.4	7.9	---	3.3	---	e8.0	---	60	290	---
TOTAL	945.7	144.5	140.6	111.8	75.85	484.12	567.7	1377.7	1105.1	2504.7	1693.1	825.5
MEAN	30.5	4.82	4.54	3.61	2.71	15.6	18.9	44.4	36.8	80.8	54.6	27.5
MAX	263	8.8	8.9	7.9	9.9	142	63	932	646	506	323	214
MIN	3.0	3.1	2.4	1.4	.04	.69	5.8	4.0	1.5	7.4	7.0	4.8
AC-FT	1880	287	279	222	150	960	1130	2730	2190	4970	3360	1640

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1994, BY WATER YEAR (WY)

	MEAN	35.0	9.17	10.1	5.71	7.71	6.54	23.6	47.2	70.6	119	123	72.5
MAX	320	34.1	129	27.9	42.5	52.1	346	203	492	1203	575	515	
(WY)	1961	1962	1960	1990	1983	1985	1970	1991	1960	1960	1981	1969	
MIN	.000	.056	.001	.000	.000	.003	.32	.085	.89	.42	.93	1.72	
(WY)	1965	1978	1976	1965	1965	1980	1981	1976	1990	1983	1978	1978	

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1959 - 1994
ANNUAL TOTAL	12147.20	9976.37	
ANNUAL MEAN	33.3	27.3	44.0
HIGHEST ANNUAL MEAN			204
LOWEST ANNUAL MEAN			4.72
HIGHEST DAILY MEAN	1490	932	13800
LOWEST DAILY MEAN	.14	.04	.00
ANNUAL SEVEN-DAY MINIMUM	.46	.81	.00
INSTANTANEOUS PEAK FLOW		5380	26700
INSTANTANEOUS PEAK STAGE		6.04	14.30
INSTANTANEOUS LOW FLOW		.00	
ANNUAL RUNOFF (AC-FT)	24090	19790	31900
10 PERCENT EXCEEDS	41	53	58
50 PERCENT EXCEEDS	5.8	7.9	5.0
90 PERCENT EXCEEDS	2.0	2.0	.00

e Estimated

PERIOD OF RECORD.--Water years 1959 to current year.

DATE	TIME	DIS-CHARGE,	SPE-CIFIC	PH	TEMPER-ATURE	TEMPER-ATURE	BARO-METRIC	OXYGEN,	OXYGEN,	HARD-NESS	CALCIUM	MAGNE-SIUM,
		INST. CUBIC FEET PER SECOND	CON-DUCT-ANCE (US/CM)	WATER WHOLE FIELD (STAND-ARD UNITS)								
1993	1500	15	1780	7.6	12.5	20.0	668	11.8	149	400	80	48
1994	1600	0.60	2760	8.5	10.0	11.0	663	8.8	93	--	--	--
	1500	3.7	8790	8.2	22.0	21.5	664	7.6	102	620	120	78
	1535	E16	458	8.6	17.5	18.5	661	8.2	101	60	14	6.0
	1500	60	1080	8.4	35.0	30.0	666	7.6	116	270	56	31
	0830	52	1120	8.4	26.0	27.0	666	6.6	96	--	--	--

[illegible]

ARKANSAS RIVER BASIN

07227140 CANADIAN RIVER ABOVE NEW MEXICO-TEXAS STATE LINE, NM

LOCATION.--Lat 35°23'35", long 103°02'30", in SW 1/4 sec.32, T.14 N., R.37 E., Quay County, Hydrologic Unit 11080006,
0.1 mi upstream from New Mexico-Texas State line, 5.5 mi downstream from Rana Canyon, and 14.7 mi north of Glenrio.

PERIOD OF RECORD.--Water years 1969-73, 1975-86, November 1992 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
1993												
1993	1100	27	6300	7.6	16.0	7.0	666	11.0	106	580	120	69
1994												
1994	1130	12	2950	8.4	20.0	17.0	672	8.9	106	410	70	57
1993	1110	600	1050	8.4	--	17.5	670	7.8	93	170	32	22
1993	1100	355	1170	8.3	33.0	30.0	664	6.6	101	260	49	33

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)
1993											
1993	1100	20	7.4	268	510	1700	0.70	11	3680	350	20
1994											
1994	480	10	5.7	256	760	340	0.70	9.7	1880	420	20
1993	150	5	6.8	173	220	100	0.50	4.1	639	190	<3
1993	160	4	6.4	197	300	86	0.60	4.6	758	210	15

ARKANSAS RIVER BASIN

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07227500 CANADIAN RIVER NEAR AMARILLO, TX

LOCATION.--Lat 35°28'13", long 101°52'45", Potter County, Hydrologic Unit 11090105, on left bank at downstream side of southbound lane of bridge on U.S. Highways 87 and 287, 1,500 ft downstream from Pitcher Creek, 1.4 mi downstream from East Amarillo Creek, 1.7 mi downstream from Panhandle and Santa Fe Railway Co. bridge, 19 mi north of Amarillo, and 537.7 mi upstream from mouth.

DRAINAGE AREA.--19,445 mi², of which 4,069 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1924 to December 1925 (period no longer used in computation of average annual discharge), January 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,989.16 ft above National Geodetic Vertical Datum of 1929. Jan. 16, 1924, to Dec. 31, 1925, and Apr. 3 to June 1, 1938, nonrecording gage at site of old bridge 20 ft upstream at same datum. June 2 to Dec. 5, 1938, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. There is some regulation by Conchas and Ute Reservoirs in New Mexico, total capacity 439,000 acre-feet. Conchas and Bell Ranch Canals divert water from Conchas Reservoir upstream for irrigation.

AVERAGE DISCHARGE.--(Water year 1925), 707 ft³/s (512,200 acre-ft/yr).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1914 reached a stage of 24 ft; a higher stage probably occurred during a flood in October 1904, but stage is unknown; information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 14,000 ft³/s.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	45	15	20	e19	9.8	7.5	336	449	620	516	350
2	65	36	14	19	e19	9.5	6.3	422	439	653	1320	573
3	53	30	15	18	e22	9.8	6.1	528	558	434	562	375
4	43	25	14	18	e26	9.8	5.2	478	498	432	569	360
5	35	24	14	18	28	9.3	4.9	461	435	466	354	379
6	27	25	14	16	23	8.9	5.4	473	405	737	506	310
7	21	25	14	15	22	8.5	5.1	486	399	529	428	275
8	17	26	15	15	20	e15	5.0	479	393	489	341	365
9	15	26	14	16	e16	e36	5.2	475	401	1140	149	410
10	15	26	14	16	e25	e49	5.0	640	419	557	70	333
11	14	22	14	16	26	e235	13	1160	519	602	37	292
12	13	29	16	16	23	e123	13	1330	444	777	20	274
13	12	32	44	16	20	e78	16	784	364	932	14	270
14	12	40	53	16	20	50	17	490	225	951	9.6	250
15	11	37	33	16	17	39	14	425	181	616	8.5	310
16	10	61	29	16	16	54	12	399	296	720	4.8	301
17	10	39	23	16	15	55	123	391	533	603	4.0	301
18	9.3	30	19	e13	15	55	165	368	566	547	3.2	305
19	39	25	20	e14	14	44	81	412	527	480	3.3	306
20	27	21	19	e15	13	36	58	411	545	445	2.4	310
21	64	19	e18	18	13	31	65	407	488	462	33	303
22	33	19	e17	18	14	27	69	433	488	465	111	317
23	124	18	e16	19	13	20	65	472	485	469	173	279
24	126	16	e19	18	12	17	35	479	493	458	232	284
25	112	e11	e19	18	12	14	21	830	499	474	323	271
26	91	e9.9	20	21	11	15	17	1790	508	472	217	134
27	77	e11	22	20	11	14	14	480	492	446	234	53
28	67	e14	21	21	10	12	25	707	507	831	221	27
29	57	e16	19	21	---	10	63	487	536	436	219	14
30	49	17	19	24	---	8.3	89	472	685	587	234	6.8
31	45	---	20	e20	---	7.6	---	462	---	626	433	---
TOTAL	1389.3	774.9	623	543	495	1110.5	1030.7	17967	13777	18456	7351.8	8337.8
MEAN	44.8	25.8	20.1	17.5	17.7	35.8	34.4	580	459	595	237	278
MAX	126	61	53	24	28	235	165	1790	685	1140	1320	573
MIN	9.3	9.9	14	13	10	7.6	4.9	336	181	432	2.4	6.8
AC-FT	2760	1540	1240	1080	982	2200	2040	35640	27330	36610	14580	16540

ARKANSAS RIVER BASIN

07227500 CANADIAN RIVER NEAR AMARILLO, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1994, BY WATER YEAR (WY)

MEAN	318	80.7	52.1	58.1	46.5	43.2	186	458	529	589	532	548
MAX	5663	812	458	519	259	403	5988	6804	5288	4880	3007	8016
(WY)	1942	1942	1942	1943	1980	1961	1942	1941	1941	1941	1981	1941
MIN	.57	1.52	1.25	4.75	3.00	1.86	1.51	4.60	.95	.31	.11	.034
(WY)	1981	1978	1984	1978	1939	1940	1978	1945	1990	1983	1983	1983

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1939 - 1994
ANNUAL TOTAL	47305.94	71856.0	
ANNUAL MEAN	130	197	
HIGHEST ANNUAL MEAN			288
LOWEST ANNUAL MEAN			2351
HIGHEST DAILY MEAN	2650 Jun 20	1790 May 26	37.7
LOWEST DAILY MEAN	.14 Jun 16	2.4 Aug 20	79600 Sep 23 1941
ANNUAL SEVEN-DAY MINIMUM	.18 Jun 11	5.1 Apr 4	.00 Aug 7 1940
INSTANTANEOUS PEAK FLOW		5290 May 26	.00 Sep 3 1983
INSTANTANEOUS PEAK STAGE		5.89 May 26	135000 Jul 25 1941
INSTANTANEOUS LOW FLOW			15.70 Jul 25 1941
ANNUAL RUNOFF (AC-FT)	93830	142500	.00 Oct 1 1977
10 PERCENT EXCEEDS	525	522	208600
50 PERCENT EXCEEDS	33	36	477
90 PERCENT EXCEEDS	13	11	25
			3.9

e Estimated

ARKANSAS RIVER BASIN

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07227500 CANADIAN RIVER NEAR AMARILLO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: July 1948 to October 1949, February 1950 to current year. Chemical and biochemical analyses: March 1968 to current year. Pesticide analyses: March 1968 to June 1981.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1950 to current year.

WATER TEMPERATURE: August 1949 to current year.

SUSPENDED SEDIMENT DISCHARGE: August 1949 to September 1952.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 9,180 microsiemens June 8, 1990; minimum daily, 346 microsiemens Oct. 29, 1964. WATER TEMPERATURE (1949-76, 1988 to current year): Maximum daily, 39.0°C July 7, 1973; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 5,410 microsiemens Apr. 12; minimum daily, 577 microsiemens Aug. 4. WATER TEMPERATURE: Maximum daily, 30.0°C June 29; minimum daily, 1.0°C on several days during November, December, January, and February.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CaCO3)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS Ca)	
NOV 17...	0840	38	3600	8.5	3.5	14.0	116	1.2	480	280	110	
JAN 19...	0850	23	4890	8.0	0.5	14.9	115	2.0	750	510	180	
MAR 24...	0715	18	4340	8.4	6.5	11.5	104	0.8	530	330	110	
JUN 21...	0935	466	1480	8.6	22.0	10.0	125	1.6	270	79	50	
AUG 02...	0810	545	1210	8.3	22.5	9.0	114	1.0	220	66	44	
AUG 25...	1605	382	1270	8.4	29.0	8.3	118	1.3	250	88	49	
DATE		MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CaCO3 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
NOV 17...	50	550	11	6.5	200	450	800	0.60	13	2100	0.380	
JAN 19...	73	810	13	1.3	250	610	1100	0.70	17	2940	0.580	
MAR 24...	61	720	14	7.1	200	540	1000	0.80	12	2570	--	
JUN 21...	35	220	6	6.7	190	350	150	0.80	6.2	933	0.110	
AUG 02...	27	170	5	6.1	150	260	130	0.50	7.2	739	0.240	
AUG 25...	31	190	5	4.5	160	300	120	0.60	7.7	800	0.085	
DATE		NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	ARSENIC DIS-SOLVED (UG/L AS AS)
NOV 17...	0.380	0.070	0.450	0.450	1.00	0.30	1.3	0.210	0.220	0.67	2	
JAN 19...	0.580	0.080	0.660	0.660	0.770	0.13	0.90	0.170	0.190	0.58	--	
MAR 24...	--	<0.010	--	<0.050	0.030	--	<0.20	0.020	0.010	0.03	--	
JUN 21...	--	<0.010	0.110	0.110	0.020	0.28	0.30	0.020	0.020	0.06	--	
AUG 02...	--	<0.010	0.240	0.240	0.030	0.37	0.40	0.030	<0.010	--	3	
AUG 25...	--	<0.010	0.085	0.085	0.030	0.27	0.30	0.030	0.010	0.03	--	

07227500 CANADIAN RIVER NEAR AMARILLO, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 17...	<100	<1.0	<1	2	20	<1	20	<0.1	<1	<1.0	<10
JAN 19...	--	--	--	--	--	--	--	--	--	--	--
MAR 24...	--	--	--	--	--	--	--	--	--	--	--
JUN 21...	--	--	--	--	--	--	--	--	--	--	--
AUG 02...	150	<1.0	1	6	440	<1	11	<0.1	<1	<1.0	<3
25...	--	--	--	--	--	--	--	--	--	--	--

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. 1993	1389.3	2940	1730	6500	620	2330	370	1390	400
NOV. 1993	774.9	3830	2270	4750	850	1770	480	1010	520
DEC. 1993	623	3700	2190	3680	810	1370	470	783	500
JAN. 1994	543	4550	2710	3970	1100	1540	580	844	610
FEB. 1994	495	4390	2610	3490	1000	1340	550	741	590
MAR. 1994	1110.5	3480	2060	6180	760	2280	440	1310	470
APR. 1994	1030.7	3940	2340	6510	890	2480	500	1380	530
MAY 1994	17967	1490	869	42100	280	13800	190	9000	210
JUNE 1994	13777	1540	900	33500	290	10800	190	7150	220
JULY 1994	18456	1230	717	35700	230	11300	150	7640	170
AUG. 1994	7351.8	1140	664	13200	210	4150	140	2820	160
SEPT 1994	8337.8	1360	794	17900	250	5690	170	3820	190
TOTAL	71856.0	**	**	177000	**	58800	**	37900	**
WTD.AVG.	197	1560	915	**	300	**	200	**	220

07227500 CANADIAN RIVER NEAR AMARILLO, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY EQUIVALENT MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1830	3380	4180	e4150	4550	4830	4880	5390	1290	1480	1170	1320
2	2190	3510	4190	4350	e4550	4820	4920	2610	1360	1410	1070	1300
3	2510	e3580	4350	4630	4550	4780	5070	2110	1400	1190	801	1320
4	2870	e3660	4420	4580	4200	4560	5090	1600	1180	1290	577	1300
5	3190	e3740	4380	4540	4050	4750	5270	1770	e1350	1380	917	1220
6	3330	e3810	4450	4780	4160	4810	5150	1760	1520	1190	1110	1260
7	3520	e3880	4460	4760	4200	4900	5100	1730	1610	1190	e1200	1270
8	3760	e3960	4220	4900	4310	e4400	5110	1720	1660	1440	e1400	1310
9	3890	4040	4400	4910	4480	3900	5110	1710	1680	e1300	e1500	1140
10	3920	3710	4570	4780	4250	3690	5310	1700	1670	e1200	e1700	1300
11	4030	4020	4630	4850	3610	2600	5180	1230	1380	1130	e1800	1340
12	4060	3820	4500	4510	3960	3060	5410	1130	1510	1090	e1900	1390
13	4150	4040	4040	4580	4200	2270	5120	971	1420	1220	e2000	1430
14	4200	3920	2800	4700	4120	2770	5190	922	2100	1020	e2150	1450
15	4310	3470	2760	4610	4280	3650	5030	1040	2500	1090	2390	1480
16	4380	3370	3190	e4680	4570	3730	5140	1190	2640	1230	2740	1440
17	4390	3500	3500	4720	4700	4340	5140	1330	2130	1210	2740	1430
18	4400	3500	3930	4010	4700	4260	3660	1440	1710	1170	2750	1420
19	4400	3960	3830	3850	4680	3450	2780	1490	1540	1240	2590	1420
20	3810	4130	3960	4480	4740	4080	2830	1530	1450	1290	2670	1430
21	2450	4280	4030	4580	4760	3510	3130	1550	1450	1400	3330	1440
22	2070	4300	4410	4730	4670	3490	2500	1550	1460	1390	2150	1430
23	3200	4370	3620	4370	4790	4030	3180	1560	1430	1440	1420	1440
24	3930	4490	2510	4480	4720	4400	2380	1560	1450	1410	1300	1450
25	2200	e4480	e2700	4430	4830	4700	3780	1540	1450	1410	992	1450
26	1950	e4460	e3000	4390	4930	4710	4750	e1340	e1460	1430	1110	1480
27	2380	e4440	3380	4590	4750	4800	5220	1130	e1460	1420	1240	1590
28	2770	4430	3470	4620	4800	4780	4890	1120	1470	785	1270	1720
29	3020	4090	3280	4440	---	4860	4150	1040	1480	968	1230	1900
30	3290	4360	3850	e4550	---	5020	4810	1080	1420	e1070	1270	2140
31	3380	---	3900	4600	---	5040	---	1200	---	1270	1300	---
MEAN	3350	3960	3840	4550	4470	4160	4510	1580	1590	1250	1670	1430
MAX	4400	4490	4630	4910	4930	5040	5410	5390	2640	1480	3330	2140
MIN	1830	3370	2510	3850	3610	2270	2380	922	1180	785	577	1140

WTR YR 1994 MEAN 3020 MAX 5410 MIN 577

e Estimated

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.0	5.0	10.0	---	3.0	7.0	10.0	8.0	22.0	---	24.0	19.0
2	12.0	6.0	5.0	4.0	---	6.0	11.0	11.0	22.0	23.0	23.0	19.0
3	11.0	---	4.0	1.0	2.0	6.0	---	13.0	21.0	24.0	21.0	20.0
4	14.0	---	7.0	2.0	2.0	7.0	9.0	14.0	21.0	24.0	21.0	21.0
5	15.0	---	4.0	5.0	3.0	8.0	8.0	16.0	---	20.0	22.0	23.0
6	16.0	---	3.0	7.0	2.0	9.0	5.0	17.0	23.0	24.0	22.0	21.0
7	15.0	---	8.0	3.0	5.0	15.0	7.0	15.0	21.0	21.0	---	20.0
8	12.0	---	3.0	2.0	10.0	---	17.0	16.0	24.0	19.0	---	19.0
9	7.0	3.0	4.0	1.0	3.0	12.0	15.0	17.0	22.0	---	---	20.0
10	8.0	4.0	4.0	1.0	3.0	3.0	10.0	18.0	20.0	---	---	20.0
11	8.0	10.0	3.0	1.0	3.0	5.0	10.0	16.0	22.0	23.0	---	20.0
12	12.0	10.0	5.0	1.0	8.0	7.0	17.0	17.0	22.0	22.0	---	20.0
13	13.0	8.0	7.0	8.0	10.0	6.0	12.0	15.0	21.0	21.0	---	20.0
14	14.0	6.0	4.0	2.0	7.0	---	10.0	17.0	22.0	21.0	---	20.0
15	13.0	5.0	2.0	1.0	6.0	9.0	10.0	16.0	20.0	22.0	19.0	20.0
16	13.0	7.0	4.0	---	12.0	8.0	10.0	17.0	21.0	22.0	20.0	17.0
17	15.0	5.0	1.0	4.0	6.0	10.0	12.0	19.0	22.0	23.0	20.0	18.0
18	11.0	5.0	1.0	3.0	10.0	10.0	12.0	20.0	23.0	23.0	21.0	17.0
19	14.0	4.0	2.0	5.0	7.0	12.0	13.0	18.0	22.0	21.0	21.0	17.0
20	12.0	1.0	8.0	5.0	4.0	13.0	15.0	18.0	23.0	22.0	20.0	18.0
21	12.0	2.0	2.0	7.0	5.0	10.0	16.0	18.0	22.0	23.0	18.0	18.0
22	7.0	5.0	4.0	4.0	4.0	13.0	14.0	20.0	23.0	23.0	20.0	12.0
23	8.0	8.0	3.0	10.0	1.0	18.0	---	18.0	22.0	25.0	20.0	11.0
24	8.0	4.0	4.0	13.0	2.0	12.0	15.0	19.0	21.0	24.0	21.0	11.0
25	9.0	---	---	11.0	8.0	13.0	15.0	19.0	23.0	23.0	22.0	13.0
26	8.0	---	---	10.0	2.0	10.0	9.0	---	---	21.0	21.0	14.0
27	---	---	5.0	1.0	2.0	9.0	7.0	19.0	---	20.0	22.0	15.0
28	5.0	6.0	2.0	1.0	7.0	13.0	6.0	22.0	28.0	21.0	22.0	15.0
29	4.0	8.0	7.0	1.0	---	10.0	6.0	21.0	30.0	21.0	21.0	15.0
30	3.0	2.0	9.0	---	---	7.0	6.0	22.0	24.0	---	21.0	15.0
31	1.0	---	3.0	---	---	5.0	---	22.0	---	25.0	20.0	---
MEAN	10.4	5.4	4.4	4.2	5.1	9.4	11.0	17.3	22.5	22.3	21.0	17.6
MAX	16.0	10.0	10.0	13.0	12.0	18.0	17.0	22.0	30.0	25.0	24.0	23.0
MIN	1.0	1.0	1.0	1.0	1.0	3.0	5.0	8.0	20.0	19.0	18.0	11.0

WTR YR 1994 MEAN 12.6 MAX 30.0 MIN 1.0

ARKANSAS RIVER BASIN

07228000 CANADIAN RIVER NEAR CANADIAN, TX
(National stream-quality accounting network)

LOCATION.--Lat 35°56'06", long 100°22'13", Hemphill County, Hydrologic Unit 11090106, on left abutment at downstream side of upstream bridge on U.S. Highways 60 and 83, 600 ft downstream from Panhandle and Santa Fe Railway Co. bridge, 1.2 mi downstream from Red Deer Creek, 1.6 mi northeast of Canadian, and 433.9 mi upstream from mouth.

DRAINAGE AREA.--22,866 mi², of which 4,688 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1924 to August 1925 (gage heights only), January 1938 to current year. Prior to April 1938, monthly discharges only, published in WSP 1311.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,301.50 ft above National Geodetic Vertical Datum of 1929. July 1, 1924, to Aug. 31, 1925, and Apr. 21 to Dec. 15, 1938, nonrecording gage; Dec. 16, 1938, to Sept. 30, 1953, water-stage recorder and nonrecording gages; all at site 300 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Extreme low flow is maintained by springs that enter river about 600 ft upstream from the gage. There is some regulation and diversions from Lake Meredith (07227900) 75 mi upstream. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--26 years (water years 1939-64) prior to completion of Lake Meredith, 549 ft³/s (397,800 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1939-64).--Maximum discharge, 122,000 ft³/s Sept. 23, 1941 (gage height, 9.8 ft), from graph based on gage readings, and from rating curves for two channels extended above 8,000 and 54,000 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 20.0 ft Oct. 2, 1904. Floods of May 2, 1914, and Oct. 5, 1923, reached stages of 12 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	20	30	39	e50	51	57	185	32	8.5	6.3	1.3
2	7.8	21	31	40	e51	50	54	164	30	11	7.6	2.5
3	7.9	21	31	39	e50	48	56	146	48	8.1	10	2.6
4	7.9	22	31	39	48	47	59	123	52	6.3	10	2.0
5	8.0	21	30	40	49	46	62	102	35	7.0	8.2	4.6
6	7.6	21	29	39	50	46	62	89	28	8.5	7.4	14
7	7.3	22	29	42	50	46	65	78	26	8.2	5.8	7.7
8	7.5	23	30	43	49	59	68	74	21	7.1	9.5	9.7
9	7.4	23	31	43	e49	73	72	73	19	6.4	8.9	10
10	7.4	24	31	44	48	92	75	73	366	6.0	5.9	9.1
11	8.1	25	31	43	52	130	151	65	217	5.0	3.8	8.0
12	8.5	27	33	43	48	128	179	62	83	11	1.9	7.1
13	13	28	38	43	47	119	169	60	46	16	.88	6.5
14	15	29	35	43	45	106	e150	70	31	13	.95	5.8
15	14	30	35	41	46	88	e130	61	24	12	2.4	6.5
16	13	32	35	47	46	77	e120	53	21	15	4.1	6.9
17	14	33	35	49	45	69	e106	47	18	14	3.0	6.3
18	15	32	35	e45	45	61	e98	46	16	11	1.4	5.6
19	14	31	36	e48	48	58	e89	45	16	7.5	.41	4.7
20	16	30	36	51	47	56	e83	41	15	5.1	.77	4.2
21	16	30	35	49	47	57	e75	39	14	4.6	2.0	4.2
22	16	30	36	49	59	53	e70	37	13	5.9	1.7	4.3
23	16	30	37	49	57	51	e64	36	15	5.0	.60	4.0
24	16	29	36	48	58	48	e60	34	14	3.4	.25	4.0
25	17	e30	36	48	54	49	e58	36	12	5.3	.16	3.9
26	16	e30	40	57	51	53	55	63	9.9	13	.11	3.9
27	17	e31	38	52	52	55	53	57	8.6	17	.10	3.6
28	17	e32	37	48	50	55	91	50	7.7	14	.08	3.2
29	18	30	36	47	---	57	111	54	7.3	12	.05	2.4
30	18	30	37	49	---	57	185	45	8.2	9.9	.06	1.2
31	20	---	38	e50	---	59	---	36	---	8.3	.38	---
TOTAL	394.6	817	1058	1407	1391	2044	2727	2144	1253.7	285.1	104.70	159.8
MEAN	12.7	27.2	34.1	45.4	49.7	65.9	90.9	69.2	41.8	9.20	3.38	5.33
MAX	20	33	40	57	59	130	185	185	366	17	10	14
MIN	7.3	20	29	39	45	46	53	34	7.3	3.4	.05	1.2
AC-FT	783	1620	2100	2790	2760	4050	5410	4250	2490	565	208	317

ARKANSAS RIVER BASIN

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07228000 CANADIAN RIVER NEAR CANADIAN, TX--Continued
(National stream-quality accounting network)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994#, BY WATER YEAR (WY)

MEAN	48.1	66.3	68.4	78.0	86.7	117	91.5	169	189	35.6	26.3	38.3
MAX	426	848	490	292	146	473	555	1022	1054	167	89.6	266
(WY)	1969	1972	1972	1972	1972	1973	1973	1977	1965	1967	1965	1970
MIN	.35	4.97	22.4	31.0	37.0	23.0	3.90	1.39	.34	.019	.019	.000
(WY)	1976	1967	1967	1977	1981	1967	1968	1966	1966	1970	1980	1983

SUMMARY STATISTICS FOR 1993 CALENDAR YEAR FOR 1994 WATER YEAR WATER YEARS 1965 - 1994#

ANNUAL TOTAL	23823.33	13785.90	84.4
ANNUAL MEAN	65.3	37.8	190
HIGHEST ANNUAL MEAN			1972
LOWEST ANNUAL MEAN			35.4
HIGHEST DAILY MEAN	441 Jun 19	366 Jun 10	12700 Oct 9 1968
LOWEST DAILY MEAN	.18 Sep 5	.05 Aug 29	.00 Oct 11 1964
ANNUAL SEVEN-DAY MINIMUM	.25 Sep 1	.12 Aug 24	.00 Oct 11 1964
INSTANTANEOUS PEAK FLOW		1410 Jun 10	38900 Oct 9 1968
INSTANTANEOUS PEAK STAGE		4.96 Jun 10	9.83 Apr 15 1973
INSTANTANEOUS LOW FLOW			.00 Oct 11 1965
ANNUAL RUNOFF (AC-FT)	47250	27340	61140
10 PERCENT EXCEEDS	141	72	140
50 PERCENT EXCEEDS	36	32	37
90 PERCENT EXCEEDS	7.5	4.3	.67

e Estimated

Period of regulated streamflow.

ARKANSAS RIVER BASIN

07228000 CANADIAN RIVER NEAR CANADIAN, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: August 1966 to August 1994 (discontinued). Pesticide analyses: October 1970 to June 1982.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to September 1981.

WATER TEMPERATURE: October 1974 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,480 microsiemens Aug. 12, 1979; minimum daily, 461 microsiemens Sept. 8, 1980.

WATER TEMPERATURE: Maximum daily, 39.0°C June 28, 1979; minimum daily, 0.0°C on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECA, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, KF AGAR (COLS. PER 100 ML)	HARDNESS TOTAL (MG/L AS CaCO3)
NOV 16...	1505	31	2780	8.5	9.0	1.0	12.7	119	0.9	150	310	440
JAN 18...	1500	46	2990	8.2	2.5	3.0	15.0	118	1.0	K4	K38	540
MAR 23...	1340	53	3190	8.3	19.5	0.80	10.0	119	0.9	22	K2	540
JUN 20...	1515	13	2600	8.5	33.5	2.6	7.8	118	0.8	100	K40	400
AUG 01...	1740	6.0	2660	8.5	30.0	1.7	7.1	102	1.9	250	290	320

DATE	HARDNESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM DIS-SOLVED (MG/L AS Mg)	SODIUM DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO	POTASSIUM DIS-SOLVED (MG/L AS K)	CARBONATE WATER DIS IT FIELD AS CO3	BICARBONATE WATER DIS IT FIELD AS HCO3	ALKALINITY WAT DIS TOT IT FIELD AS CaCO3	ALKALINITY WAT DIS FIX END FIELD AS CaCO3	SULFATE DIS-SOLVED (MG/L AS SO4)
NOV 16...	200	100	45	410	9	6.5	9	266	232	230	190
JAN 18...	340	130	52	400	7	6.1	0	241	197	200	220
MAR 23...	310	120	57	450	8	7.0	0	282	231	230	250
JUN 20...	190	84	45	400	9	4.1	13	220	203	200	160
AUG 01...	150	59	42	430	10	8.2	10	195	177	170	130

DATE	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)
NOV 16...	660	2.0	19	1560	1570	--	--	<0.010	--	<0.050	0.020
JAN 18...	660	2.8	24	1700	1610	0.120	0.120	0.030	0.150	0.150	0.030
MAR 23...	780	2.6	16	1930	1820	--	--	<0.010	--	<0.050	0.020
JUN 20...	620	2.0	14	1500	1450	--	--	<0.010	--	<0.050	0.010
AUG 01...	700	1.7	13	1540	1490	--	--	<0.010	--	<0.050	0.020

DATE	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DIS-SOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUMINUM, DIS-SOLVED (UG/L AS AL)
NOV 16...	--	--	<0.20	<0.010	0.010	<0.010	--	36	3.0	61	<10
JAN 18...	0.45	0.27	0.30	0.030	<0.010	<0.010	--	73	9.1	96	--
MAR 23...	0.30	0.28	0.30	0.020	0.030	0.010	0.03	110	16	22	<10
JUN 20...	0.40	0.39	0.40	0.040	0.030	<0.010	--	35	1.2	84	<10
AUG 01...	0.30	0.28	0.30	0.050	0.020	<0.010	--	2	0.03	80	<10

ARKANSAS RIVER BASIN

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07228000 CANADIAN RIVER NEAR CANADIAN, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM, DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
NOV 16...	200	<1	20	90	20	<1	1	<1	<1.0	1700	14
JAN 18...	--	--	--	--	--	--	--	--	--	--	--
MAR 23...	200	<1	<10	100	30	5	2	<1	<1.0	2400	19
JUN 20...	200	<1	20	80	<10	1	1	<1	<1.0	1600	14
AUG 01...	300	<1	<10	80	10	3	1	<1	<1.0	1400	16

ARKANSAS RIVER BASIN

07235000 WOLF CREEK AT LIPSCOMB, TX

LOCATION.--Lat 36°14'19", long 100°16'31", Lipscomb County, Hydrologic Unit 11100203, on right bank at downstream side of State Highway 305, 0.3 mi north of Lipscomb, 0.6 mi downstream from Sand Creek, 2 mi upstream from Plum Creek, and 61.2 mi upstream from mouth.

DRAINAGE AREA.--697 mi², of which 222 mi² probably is noncontributing.

PERIOD OF RECORD.--October 1937 to September 1942, October 1961 to current year. Prior to 1941, monthly discharges only, published in WSP 1311.

Water-quality records.--Chemical and biochemical analyses: May 1980.

REVISED RECORDS.--WSP 1311: 1938-39, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,371.29 ft above National

Geodetic Vertical Datum of 1929. Prior

to Feb. 25, 1938, nonrecording gage, Feb. 25, 1938, to Sept. 30, 1942, water-stage recorder at present site at datum 5.77 ft higher.

REMARKS.--No estimated daily discharges. Records poor. There are small diversions upstream from station for irrigation and recreation.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--5 years (water years 1938-42), 39.7 ft³/s, 28,760 acre-feet/yr.

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1938-42).--Maximum discharge, 20,000 ft³/s Oct. 21, 1941 (Gage-height, 11.57 ft, present datum), from rating curve extended above 14,000 ft³/s on basis of velocity-area studies; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1890, 15.5 ft June 23, 1957, present site and datum, from flood-marks. A flood in May 1955 reached a stage of 12.1 ft, present site and datum, from information by State Department of Highways and Public Transportation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	2.1	2.4	2.8	2.9	4.4	3.3	4.0	4.5	.53	.25	.62
2	1.7	2.1	2.4	2.8	3.1	4.5	3.1	3.8	4.5	.47	.29	.61
3	1.4	1.9	2.7	2.8	3.0	4.4	3.1	3.9	4.2	.41	.33	.47
4	1.3	2.1	2.8	2.8	3.1	4.5	3.0	3.9	4.1	.45	.31	.35
5	1.2	1.4	2.7	2.8	3.1	4.6	3.0	3.7	4.0	.37	.24	.48
6	1.2	1.3	2.8	2.9	3.3	4.7	3.1	3.7	3.8	.37	.25	.41
7	1.1	1.3	2.8	2.9	3.3	4.6	3.1	3.4	3.4	.37	.28	.42
8	1.1	1.2	2.8	2.9	3.3	5.3	3.0	3.2	3.1	.36	.33	.70
9	1.1	1.2	2.9	2.8	3.1	5.8	3.1	3.2	2.8	.33	.25	.44
10	1.1	.89	3.1	2.8	3.3	5.9	3.0	3.3	3.2	.33	.24	.39
11	1.1	.84	2.7	2.9	3.5	6.5	4.0	3.4	3.7	.33	.23	.36
12	1.4	.87	2.7	2.9	3.5	6.2	3.9	3.3	3.7	.49	.22	.37
13	1.3	1.3	2.9	3.0	3.7	6.3	3.6	3.4	3.4	.56	.20	.38
14	1.2	1.7	2.6	3.1	3.8	6.2	3.5	4.7	2.9	.39	.27	.34
15	1.2	1.6	2.8	3.1	4.0	5.3	3.3	4.7	2.5	.50	.28	.38
16	1.3	1.6	2.5	3.2	4.1	5.2	3.2	4.1	2.1	.45	.25	.35
17	1.6	1.4	2.5	3.2	4.2	5.3	3.1	4.0	2.0	.40	.24	.37
18	1.8	1.3	2.5	3.1	4.4	5.2	2.8	3.9	2.1	.33	.25	.40
19	2.0	1.4	2.6	3.0	4.4	5.5	2.8	3.9	2.1	.27	.27	.47
20	2.4	1.8	2.6	3.0	4.4	5.3	2.7	3.5	1.7	.27	.56	.46
21	2.7	2.0	2.7	3.0	4.3	5.1	2.8	3.2	1.4	.43	.38	.45
22	2.7	2.3	2.7	3.1	4.9	5.1	2.8	3.1	1.8	.35	.35	.50
23	3.1	2.4	2.8	3.4	4.7	4.6	2.9	3.0	1.8	.29	.35	.57
24	3.2	2.4	2.8	3.4	4.7	4.0	2.9	3.1	1.4	.29	.37	.50
25	3.4	2.4	2.8	3.2	4.7	4.0	2.9	4.2	1.0	.31	.31	.54
26	3.2	2.4	3.1	3.3	4.6	4.0	2.7	7.7	.86	.37	.26	.52
27	2.9	2.5	3.0	3.3	4.7	3.8	2.6	6.0	.70	.34	.26	.53
28	2.5	2.4	2.8	3.3	4.6	3.6	3.6	5.5	.62	.32	.27	.55
29	2.3	2.4	2.9	3.3	---	3.5	3.9	5.5	.58	.29	.29	.58
30	2.1	2.7	2.9	2.8	---	3.6	4.3	5.2	.56	.26	.32	.57
31	2.1	---	2.9	3.0	---	3.6	---	4.8	---	.25	.53	---
TOTAL	58.4	53.20	85.2	93.9	108.7	150.6	95.1	126.3	74.52	11.48	9.23	14.08
MEAN	1.88	1.77	2.75	3.03	3.88	4.86	3.17	4.07	2.48	.37	.30	.47
MAX	3.4	2.7	3.1	3.4	4.9	6.5	4.3	7.7	4.5	.56	.56	.70
MIN	1.1	.84	2.4	2.8	2.9	3.5	2.6	3.0	.56	.25	.20	.34
AC-FT	116	106	169	186	216	299	189	251	148	23	18	28
CFSM	.00	.00	.01	.01	.01	.01	.01	.01	.01	.00	.00	.00
IN.	.00	.00	.01	.01	.01	.01	.01	.01	.01	.00	.00	.00

ARKANSAS RIVER BASIN

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07235000 WOLF CREEK AT LIPSCOMB, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994#, BY WATER YEAR (WY)

MEAN	6.97	5.93	3.55	3.74	4.59	7.32	8.71	19.2	18.4	8.11	8.72	6.36
MAX	167	112	12.3	11.8	10.9	53.0	69.1	124	206	82.7	77.6	61.8
(WY)	1969	1972	1972	1969	1963	1974	1980	1979	1965	1967	1965	1963
MIN	.10	.57	.73	.55	.60	1.10	.94	.65	.74	.30	.000	.21
(WY)	1965	1979	1984	1986	1986	1986	1986	1986	1966	1974	1964	1984

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1962 - 1994#	
ANNUAL TOTAL	3886.01		880.71			
ANNUAL MEAN	10.6		2.41		8.49	
HIGHEST ANNUAL MEAN					30.5	
LOWEST ANNUAL MEAN					1.44	
HIGHEST DAILY MEAN	643	Ju1 13	7.7	May 26	2860	May 31 1963
LOWEST DAILY MEAN	.71	Sep 5	.20	Aug 13	.00	May 24 1964
ANNUAL SEVEN-DAY MINIMUM	.92	Sep 1	.24	Aug 9	.00	Ju1 22 1964
INSTANTANEOUS PEAK FLOW			8.3	May 26	8790	May 31 1963
INSTANTANEOUS PEAK STAGE			3.28	Dec 10	10.62	May 10 1979
INSTANTANEOUS LOW FLOW					.00	Ju1 22 1964
ANNUAL RUNOFF (AC-FT)	7710		1750		6150	
ANNUAL RUNOFF (CFSM)	.022		.005		.018	
ANNUAL RUNOFF (INCHES)	.30		.07		.24	
10 PERCENT EXCEEDS	14		4.5		10	
50 PERCENT EXCEEDS	3.8		2.8		2.6	
90 PERCENT EXCEEDS	1.3		.33		.50	

Period of regulated streamflow.

07297910 PRAIRIE DOG TOWN FORK RED RIVER NEAR WAYSIDE, TX
(National stream-quality accounting network)

LOCATION.--Lat 34°50'15", long 101°24'49", Armstrong County, Hydrologic Unit 11120103, on left bank at downstream side of bridge on Farm Road 284, 13 mi northeast of Wayside, 26 mi south of Claude, and at mile 1.145.

DRAINAGE AREA.--4,211 mi², of which 3,281 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,463.74 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. There are several small diversions upstream from station. Sewage effluent is released into river above station by the city of Amarillo.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	6.8	3.8	2.2	1.9	1.1	.85	4.3	1.2	e.00	.01	e23
2	1.7	6.3	3.4	1.9	1.8	.80	.73	3.1	.98	e.00	61	4.0
3	1.4	6.8	3.0	1.8	1.7	.73	.72	2.8	1.0	e.00	3.8	3.1
4	.68	5.8	3.0	1.8	2.4	.60	.86	5.0	3.9	e.00	1.2	4.7
5	.99	3.2	2.8	1.8	2.4	.48	.77	3.3	1.3	e.00	.82	24
6	1.1	4.5	2.6	1.6	2.0	.46	.84	2.2	e1.1	e.00	.43	6.2
7	28	6.3	2.5	1.8	1.5	.42	.66	1.9	e.66	e.00	6.6	4.2
8	50	6.1	2.5	1.6	1.5	36	.69	1.9	e.39	e.00	2.0	244
9	10	6.3	2.5	1.5	1.4	13	.71	1.8	e.39	e.00	.57	2.8
10	7.2	6.6	2.5	1.6	1.3	6.4	.69	2.1	e363	e.00	.18	.82
11	6.3	4.8	2.6	1.5	1.3	3.9	2.8	3.5	e174	e.00	.07	.53
12	6.1	5.3	2.8	1.5	1.1	3.7	2.6	3.4	e6.4	e.00	.05	.46
13	6.6	4.2	3.4	1.4	1.2	3.0	2.3	2.7	e.10	e.00	.02	.47
14	7.0	7.2	4.3	1.4	1.2	2.4	1.4	2.9	e.03	e108	.01	.99
15	6.7	7.9	3.5	1.3	1.2	2.1	1.1	1.7	e.01	e2.0	.33	1.7
16	5.0	14	3.5	1.3	1.1	1.8	.92	1.2	e.01	e1.0	1.0	.70
17	4.9	11	3.0	1.3	1.0	1.6	.77	1.0	e.01	e.50	.48	.48
18	6.4	9.7	2.8	1.3	.98	1.4	.65	1.0	e.01	e.10	.36	.44
19	8.4	7.4	2.8	1.3	.89	1.5	1.0	.90	e.01	e.10	85	.46
20	10	7.0	2.6	1.3	.81	1.3	.90	.69	e.01	e.10	1.8	.47
21	8.1	7.3	2.6	1.3	.88	1.2	.78	.48	e.00	e.86	.23	.41
22	5.6	6.8	2.6	1.3	.96	1.1	1.9	.57	e.00	2.1	.13	.37
23	4.4	6.8	2.3	1.3	.94	1.0	2.0	23	e.00	.71	1.1	.41
24	3.0	7.0	2.4	1.1	.75	.96	2.1	30	e.00	.45	12	.40
25	3.3	7.7	2.5	.97	.59	1.0	1.1	70	e.00	.34	11	.39
26	4.4	8.4	2.3	1.2	.58	1.2	.70	11	e.00	.17	.57	.39
27	5.4	6.1	2.2	1.4	.66	1.1	.73	5.8	e.00	.10	.15	.43
28	6.0	5.2	2.1	1.3	.96	.97	8.8	3.3	e.00	.06	.10	.44
29	4.5	4.9	2.1	1.2	---	.91	14	2.2	e.00	.04	.09	.44
30	5.4	4.5	2.2	1.5	---	.91	14	1.6	e.00	.05	.06	.42
31	7.2	---	2.4	3.4	---	.96	---	1.4	---	.01	e45	---
TOTAL	227.07	201.9	85.6	47.17	35.00	94.00	68.07	196.74	554.51	116.69	236.16	327.62
MEAN	7.32	6.73	2.76	1.52	1.25	3.03	2.27	6.35	18.5	3.76	7.62	10.9
MAX	50	14	4.3	3.4	2.4	36	14	70	363	108	85	244
MIN	.68	3.2	2.1	.97	.58	.42	.65	.48	.00	.00	.01	.37
AC-FT	450	400	170	94	69	186	135	390	1100	231	468	650

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

	MEAN	25.0	7.51	4.09	3.81	3.28	6.46	10.6	51.9	56.9	22.3	88.2	24.7
MAX	147	51.9	20.3	24.7	17.4	26.1	97.5	472	304	77.7	1410	110	
(WY)	1986	1972	1988	1988	1990	1992	1977	1978	1984	1975	1968	1969	
MIN	.000	.066	.099	.30	.16	.34	.17	.13	1.44	.000	.39	.000	
(WY)	1976	1971	1971	1971	1976	1971	1978	1984	1970	1974	1983	1975	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1968 - 1994

ANNUAL TOTAL	5682.02	2190.53	25.6
ANNUAL MEAN	15.6	6.00	137
HIGHEST ANNUAL MEAN			1.90
LOWEST ANNUAL MEAN			22700
HIGHEST DAILY MEAN	894	363	.00
LOWEST DAILY MEAN	.05	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.15	.00	.00
INSTANTANEOUS PEAK FLOW		1460	58000
INSTANTANEOUS PEAK STAGE		8.84	13.00
INSTANTANEOUS LOW FLOW			.00
ANNUAL RUNOFF (AC-FT)	11270	4340	18520
10 PERCENT EXCEEDS	21	7.2	22
50 PERCENT EXCEEDS	4.9	1.4	1.8
90 PERCENT EXCEEDS	1.8	.05	.05

e Estimated

07297910 PRAIRIE DOG TOWN FORK RED RIVER NEAR WAYSIDE, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1967 to current year. Chemical and biochemical analyses: October 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1968 to September 1981.

WATER TEMPERATURE: October 1968 to September 1981.

INSTRUMENTATION.--Specific conductance was recorded continuously at this station from April 1968 to September 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 51,100 microsiemens July 30, 1978; minimum daily, 417 microsiemens July 10, 1975.

WATER TEMPERATURE: Maximum daily, 38.0°C Oct. 14, 1968, June 13, 1975; minimum daily, 0.0°C on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)
NOV 17...	1210	10	4090	8.5	11.0	100	13.4	132	2.3	280	760	910
JAN 19...	1130	1.7	13800	7.9	1.0	0.50	14.5	116	1.4	21	26	2000
MAR 24...	0920	0.99	13400	8.3	9.0	75	11.9	116	0.6	580	40	1700
AUG 02...	1030	54	871	7.9	22.0	8500	9.4	116	2.4	>6000	49000	180
26...	0810	0.66	6170	8.3	19.5	80	9.1	109	1.1	960	920	980
DATE		HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)
NOV 17...		700	260	62	570	8	16	13	224	206	210	870
JAN 19...		1800	570	130	2400	24	6.7	0	222	182	180	2000
MAR 24...		1600	480	120	2200	23	26	0	187	154	150	1900
AUG 02...		47	49	13	120	4	6.8	0	159	130	130	280
26...		830	280	67	1000	14	18	0	181	148	150	1100
DATE		CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
NOV 17...		740	1.9	25	2710	2690	3.37	3.37	0.130	3.50	3.50	0.020
JAN 19...		3600	1.2	28	9230	8850	--	--	0.020	--	<0.050	0.080
MAR 24...		3400	1.2	26	8740	8260	0.070	--	<0.010	0.070	0.070	0.040
AUG 02...		44	0.50	72	944	679	0.860	0.860	0.020	0.880	0.880	0.050
26...		1500	1.2	24	4230	4090	0.750	0.750	0.020	0.770	0.770	0.060
DATE		NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
NOV 17...		4.6	1.1	1.1	2.10	1.80	1.60	4.9	231	6.2	97	<10
JAN 19...		--	--	<0.20	0.070	0.080	0.090	0.28	15	0.07	65	--
MAR 24...		--	--	<0.20	<0.010	0.010	0.010	0.03	9	0.02	61	<20
AUG 02...		15	14	14	12.0	0.030	0.010	0.03	26600	3880	100	3400
26...		1.2	0.34	0.40	0.210	0.120	0.120	0.37	283	0.50	91	10

RED RIVER BASIN

07297910 PRAIRIE DOG TOWN FORK RED RIVER NEAR WAYSIDE, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
NOV 17...	<100	1	30	130	30	14	1	<1	<1.0	4900	21
JAN 19...	--	--	--	--	--	--	--	--	--	--	--
MAR 24...	<100	<1	50	150	200	4	<1	<1	<1.0	9900	59
AUG 02...	140	4	6500	26	130	<10	6	2	<1.0	1100	33
26...	400	1	<10	100	80	11	2	<1	<1.0	6100	42

07299540 PRAIRIE DOG TOWN FORK RED RIVER NEAR CHILDRESS, TX

LOCATION.--Lat 34°34'09", long 100°11'37", Childress County, Hydrologic Unit 11120105, on left bank at downstream side of bridge on U.S. Highways 62 and 83, 3.1 mi downstream from Salt Creek, 10.0 mi north of Childress, and at mile 1.061.

DRAINAGE AREA.--7,725 mi², of which 4,769 mi² probably is noncontributing.

PERIOD OF RECORD.--December 1964 to March 1965 (gage heights only), April 1965 to current year.

Water-quality records: Chemical analyses: September 1948 to April 1963, January 1969 to September 1986.

Chemical and biochemical analyses: January 1978 to September 1986.

GAGE.--Water-stage recorder. Datum of gage is 1,628.4 ft above National Geodetic Vertical Datum of 1929 (from Texas State Department of Highways and Public Transportation bench mark).

REMARKS.--Records poor. Many small diversions upstream from station. Flow is affected at times by discharge from the flood-detention pools of 23 floodwater-retarding structures with a combined detention capacity of 20,010 acre-ft. These structures control runoff from 95.2 mi² in the drainage basin above station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1899, 16.9 ft in May or June 1957, from information by local residents and State Department of Highways and Public Transportation.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 26	1300	11,300	9.82				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	11	2.0	e3.6	e3.0	e21	e7.8	132	5.0	.82	.22	4.3
2	2.1	12	1.8	e4.5	e18	e195	e7.0	62	3.0	2.5	.64	3.4
3	2.2	11	45	e5.9	e90	e71	e6.4	41	2.9	1.5	1.5	3.1
4	2.3	8.3	9.7	e7.2	e61	e27	e5.9	36	2.7	.91	.91	2.7
5	2.4	9.0	2.9	e5.8	e42	e10	e5.3	34	1.6	1.6	.59	3.2
6	2.7	9.5	2.0	e4.4	e28	e9.0	e4.8	32	1.7	53	.88	3.6
7	4.5	9.5	1.7	e3.9	e20	e8.2	e4.4	12	5.8	5.1	.71	4.1
8	18	9.5	1.6	e3.2	e23	e64	e4.0	11	2.1	2.1	.35	23
9	3.6	e11	1.9	e2.7	e28	e400	e3.7	8.7	2.9	24	.56	7.6
10	3.6	e12	1.8	e2.1	e33	e200	e3.3	7.5	5.0	19	.79	86
11	3.3	e15	1.4	e1.8	e40	e19	e22	45	5.2	6.7	.86	9.9
12	15	e23	38	e1.4	e19	e10	e160	70	15	5.4	.80	2.2
13	491	e34	58	e1.2	e8.5	e93	e68	107	12	5.0	.92	1.3
14	116	e40	7.6	e1.9	e4.0	e32	e30	66	5.4	3.4	1.0	.97
15	86	e16	5.8	e2.8	e4.2	e10	e16	27	2.4	e3.0	4.9	30
16	68	18	6.0	e2.5	e4.4	e7.8	e13	9.9	2.2	e2.8	2.6	52
17	68	5.5	4.4	e2.1	e4.8	e6.1	e11	7.9	2.0	e2.3	2.0	16
18	75	3.8	4.0	e1.9	e5.0	e4.8	e8.3	7.2	2.2	e1.8	1.7	3.7
19	205	1.5	4.4	e1.7	e4.9	e3.7	e7.0	6.3	3.1	e1.6	1.9	2.7
20	248	1.0	3.0	e1.6	e4.6	e3.0	e8.0	6.0	4.7	e1.1	3.9	2.6
21	99	.92	e2.2	e1.3	e4.2	e6.9	e7.4	7.3	2.1	e.80	2.8	2.7
22	73	.94	e1.8	e2.0	e4.0	e16	6.7	8.5	1.7	.17	2.4	2.1
23	57	.98	e4.2	e10	e7.9	e9.0	6.7	10	1.4	.12	2.3	2.2
24	48	e.75	e3.3	e31	e15	e7.3	6.8	11	1.5	1.2	2.4	2.3
25	41	e.80	e2.8	e12	e9.5	e6.0	14	442	2.0	.39	2.3	2.3
26	17	e1.0	e2.2	e9.0	e6.1	e4.8	8.5	2670	3.1	.10	2.2	2.5
27	16	.49	e1.8	e13	e4.1	e4.0	21	98	.96	.05	2.2	2.4
28	28	.63	e1.4	e28	e2.8	e12	70	15	.57	.04	2.1	2.3
29	16	.76	e1.8	e71	---	e40	240	8.3	.63	.04	2.1	2.0
30	12	1.1	e2.2	e20	---	e19	257	6.7	2.9	1.8	2.3	1.8
31	13	---	e2.9	e7.1	---	e8.5	---	6.1	---	.61	2.4	---
TOTAL	1844.2	268.97	229.6	266.6	499.0	1328.1	1034.0	4011.4	103.76	148.95	53.23	284.97
MEAN	59.5	8.97	7.41	8.60	17.8	42.8	34.5	129	3.46	4.80	1.72	9.50
MAX	491	40	58	71	90	400	257	2670	15	53	4.9	86
MIN	2.1	.49	1.4	1.2	2.8	3.0	3.3	6.0	.57	.04	.22	.97
AC-FT	3660	534	455	529	990	2630	2050	7960	206	295	106	565

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	110	46.4	33.8	36.3	28.3	42.4	94.2	255	300	101	152	147
MEAN	110	46.4	33.8	36.3	28.3	42.4	94.2	255	300	101	152	147
MAX	1279	377	265	296	162	243	594	1835	1123	367	1086	470
(WY)	1987	1987	1993	1993	1987	1973	1973	1978	1985	1972	1968	1966
MIN	3.14	1.85	2.27	2.05	2.00	1.72	2.95	1.18	3.46	.66	1.56	3.39
(WY)	1985	1978	1983	1971	1974	1966	1978	1988	1994	1974	1980	1984

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1966 - 1994

ANNUAL TOTAL	35208.61	10072.78	112	
ANNUAL MEAN	96.5	27.6	286	1987
HIGHEST ANNUAL MEAN			27.6	1994
LOWEST ANNUAL MEAN				
HIGHEST DAILY MEAN	2570 Sep 8	2670 May 26	34200	May 28 1978
LOWEST DAILY MEAN	.20 Mar 11	.04 Jul 28	.00	Aug 5 1970
ANNUAL SEVEN-DAY MINIMUM	.24 Mar 11	.28 Jul 23	.00	Jun 7 1988
INSTANTANEOUS PEAK FLOW		11300 May 26	86400	May 28 1978
INSTANTANEOUS PEAK STAGE		9.82 May 26	13.94	May 21 1977
INSTANTANEOUS LOW FLOW			.00	Aug 8 1969
ANNUAL RUNOFF (AC-FT)	69840	19980	81430	
10 PERCENT EXCEEDS	173	52	166	
50 PERCENT EXCEEDS	8.1	4.8	7.0	
90 PERCENT EXCEEDS	.76	1.0	1.0	

e Estimated

07299670 GROESBECK CREEK AT STATE HIGHWAY 6 NEAR QUANAH, TX

LOCATION.--Lat 34°21'16", long 99°44'24", Hardeman County, Hydrologic Unit 11130101, near left bank at downstream side of bridge on State Highway 6, 2 mi downstream from confluence of North and South Groesbeck Creeks, 4 mi north of Quanah, and 9 mi upstream from mouth.

DRAINAGE AREA.--303 mi².

PERIOD OF RECORD.--November 1961 to current year. Prior to October 1974, published as "at State Highway 283".

GAGE.--Water-stage recorder. Datum of gage is 1,425.69 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. There are several diversions upstream from station for farm and ranch use and for a gypsum plant. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--The highest stage known occurred in June 1891; and the highest stage since 1891 occurred in September 1929, stages unknown. Other large floods are reported to have occurred in 1912, 1936, 1946, 1951, 1955, and 1957, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	18	18	18	18	20	19	72	16	33	13	11
2	17	18	18	18	17	20	19	48	14	24	12	11
3	17	18	20	18	18	19	19	36	12	19	13	11
4	18	18	20	18	17	19	19	30	13	17	14	9.3
5	18	18	18	18	17	20	19	26	14	17	14	9.4
6	18	18	18	18	18	20	19	25	15	29	13	9.4
7	18	18	18	18	17	20	19	23	18	27	13	9.5
8	19	19	18	18	17	81	20	22	18	23	13	11
9	18	18	17	18	17	106	20	20	16	22	12	10
10	18	18	18	18	17	73	20	19	15	39	12	9.5
11	18	18	18	18	18	43	23	21	15	35	11	9.0
12	19	18	19	18	18	37	23	23	15	25	11	8.8
13	21	18	19	18	17	30	22	33	15	21	10	8.7
14	19	18	18	18	17	28	21	36	15	17	11	9.0
15	18	18	18	18	17	27	20	24	15	15	14	14
16	18	18	18	18	18	26	19	19	14	15	14	13
17	17	18	18	18	18	26	18	17	14	15	13	10
18	17	18	18	18	18	25	18	17	13	14	12	9.7
19	18	18	18	18	18	24	17	16	13	14	12	9.5
20	18	17	18	18	18	23	17	16	13	14	12	9.8
21	18	17	18	18	19	21	18	17	13	14	12	10
22	17	18	18	18	22	20	17	19	25	14	11	9.9
23	17	18	19	18	21	20	17	19	23	14	11	10
24	17	18	19	18	21	19	18	18	18	14	9.2	10
25	18	18	19	18	20	18	18	24	15	16	9.4	9.8
26	17	17	19	18	19	19	18	224	14	17	12	10
27	17	18	19	18	19	20	20	111	13	17	12	10
28	17	18	18	17	19	20	23	43	13	16	11	10
29	17	18	18	17	---	19	24	26	14	15	11	10
30	18	18	18	17	---	19	56	20	44	15	11	9.9
31	18	---	18	18	---	19	---	17	---	14	11	---
TOTAL	552	538	568	555	510	901	620	1081	485	601	369.6	302.2
MEAN	17.8	17.9	18.3	17.9	18.2	29.1	20.7	34.9	16.2	19.4	11.9	10.1
MAX	21	19	20	18	22	106	56	224	44	39	14	14
MIN	17	17	17	17	17	18	17	16	12	14	9.2	8.7
AC-FT	1090	1070	1130	1100	1010	1790	1230	2140	962	1190	733	599
CFSM	.06	.06	.06	.06	.06	.10	.07	.12	.05	.06	.04	.03
IN.	.07	.07	.07	.07	.06	.11	.08	.13	.06	.07	.05	.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

	MEAN	33.5	8.43	8.47	7.26	7.62	9.25	13.9	27.8	36.0	13.2	9.36	45.2
MAX	393	21.0	43.0	24.3	26.3	37.1	97.1	163	423	116	53.4	286	
(WY)	1984	1993	1992	1992	1992	1990	1976	1987	1991	1975	1969	1974	
MIN	.68	1.33	1.48	1.33	1.35	1.18	1.12	1.74	1.54	.10	.000	.39	
(WY)	1969	1969	1969	1971	1971	1971	1969	1967	1967	1964	1964	1968	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1963 - 1994

ANNUAL TOTAL	9716	7082.8	18.3	
ANNUAL MEAN	26.6	19.4	65.5	1991
HIGHEST ANNUAL MEAN			2.97	1964
LOWEST ANNUAL MEAN				
HIGHEST DAILY MEAN	1480	May 9	224	May 26
LOWEST DAILY MEAN	12	Jul 10	8.7	Sep 13
ANNUAL SEVEN-DAY MINIMUM	13	Jul 7	9.4	Sep 8
INSTANTANEOUS PEAK FLOW			290	May 26
INSTANTANEOUS PEAK STAGE			9.41	May 26
INSTANTANEOUS LOW FLOW				
ANNUAL RUNOFF (AC-FT)	19270	14050	13280	
ANNUAL RUNOFF (CFSM)	.088	.064	.061	
ANNUAL RUNOFF (INCHES)	1.19	.87	.82	
10 PERCENT EXCEEDS	29	24	19	
50 PERCENT EXCEEDS	19	18	6.0	
90 PERCENT EXCEEDS	17	11	1.4	

07299840 GREENBELT LAKE NEAR CLARENDON, TX

LOCATION.--Lat 35°00'02", long 100°53'40", Donley County, Hydrologic Unit 11120201, on upstream side near right end of dam on Salt Fork Red River and 4.3 mi north of Clarendon.

DRAINAGE AREA.--457 mi², of which 191 mi² probably is noncontributing.

PERIOD OF RECORD.--August 1967 to current year. Prior to October 1973, published as Greenbelt Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Freese and Nichols, Inc., Consulting Engineers benchmark).

REMARKS.--The lake is formed by a rolled earthfill dam 5,800 ft long. Deliberate impoundment began Dec. 5, 1966, and the dam was completed in August 1967. The dam is the property of Greenbelt Municipal and Industrial Water Authority and was built to impound water for municipal and industrial uses by the cities of Childress, Clarendon, Crowell, Hedley, and Quanah. The spillway is an uncontrolled open cut through natural ground, 1,450 ft wide and located at the left end of dam, designed to discharge 184,000 ft³/s at an elevation of 2,684.0 ft. A morning-glory-type drop inlet with a 26-foot 8.5-inch-diameter opening at crest discharges into a 7- by 7-foot concrete conduit. The outlet works consists of a 36-inch pipe that is controlled by two 20-inch valves that control the discharge into a stilling basin and to a water treatment plant. The capacity table, dated April 1964, is based on Geological Survey topographic maps dated 1962. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	2,686.0	-
Design flood.....	2,683.0	105,600
Crest of spillway.....	2,674.0	81,760
Crest of morning-glory-type drop inlet.....	2,663.65	59,110
Lowest gated outlet (invert).....	2,597.0	900

COOPERATION.--Records of diversion and capacity table provided by Greenbelt Municipal and Industrial Water Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 44,650 acre-ft June 26-28, 1975 (elevation, 2,655.71 ft); minimum, 2,950 acre-ft Aug. 29, 30, 1967 (elevation, 2,607.37 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 29,710 acre-ft Oct. 1 at 0100 hours (elevation, 2,645.47 ft); minimum, 24,860 acre-ft Sept. 30 (elevation, 2,641.35 ft).

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

2,610.0	3,770	2,642.0	25,580	2,652.0	38,730
2,620.0	8,000	2,644.0	27,900	2,654.0	41,850
2,630.0	14,340	2,646.0	30,370	2,656.0	45,130
2,640.0	23,410	2,648.0	32,990		

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29570	e28890	28770	28680	28730	28850	28910	29070	29170	27890	26940	25590
2	29540	e28880	28790	28640	28730	28860	28860	29180	29130	27820	26930	25560
3	29520	e28860	28790	28640	28730	28850	28880	29170	29110	27770	26900	25510
4	29490	e28850	28790	28660	28770	28850	28860	29190	29010	27710	26860	25550
5	e29480	e28840	28780	28670	28770	28850	28780	29190	29100	27750	26810	25550
6	e29470	e28820	28780	28640	28790	28860	28800	29220	29050	27690	26770	25510
7	e29460	e28800	28770	28640	28800	28850	28790	29210	29010	27630	26720	25490
8	e29460	28790	28770	28630	28780	28990	28780	29210	28970	27580	26690	25470
9	e29440	28770	28750	28620	28780	29000	28740	29190	28920	27660	26640	25490
10	e29430	28740	28750	28620	28790	29060	28730	29190	28940	27660	26590	25460
11	e29430	28750	28750	28630	28800	29060	28750	29220	28860	27630	26560	25380
12	e29410	28770	28750	28630	28790	29070	28840	29220	28840	27580	26510	25360
13	e29400	28790	28720	28620	28790	29080	28830	29270	28790	27520	26470	25370
14	e29370	28790	28740	28620	28790	29110	28810	29260	28720	27520	26400	25390
15	e29340	28800	28740	28620	28790	29110	28780	29260	28670	27520	26370	25390
16	e29320	28810	28750	28600	28800	29100	28790	29230	28630	27490	26330	25360
17	e29310	28830	28730	28610	28800	29070	28750	29230	28560	27450	26290	25340
18	e29280	28830	28740	28600	28800	29070	28750	29230	28510	27400	26250	25320
19	e29240	28810	28730	28580	28800	29070	28740	29230	28500	27330	26220	25280
20	e29200	28800	28730	28570	28810	29060	28720	29190	28460	27290	26180	25250
21	e29140	28810	28720	28580	28830	29060	28670	29190	28400	27250	e26180	25180
22	e29120	28800	28710	28600	28780	29050	28910	29170	28330	27220	e26150	25140
23	e29100	28750	28670	28610	28810	29050	28970	29140	28300	27190	e26090	25100
24	e29070	28750	28690	28610	28830	29010	28990	29130	28250	27160	e26040	25050
25	e29040	28780	28680	28620	28800	29010	28940	29170	28200	27160	e25980	25030
26	e29020	28770	28710	28620	28790	29010	28950	29180	28160	27100	e25920	25020
27	e28990	28770	28690	28620	28790	28960	28840	29210	28080	27120	e25860	24970
28	e28950	28780	28690	28630	28800	28960	28940	29230	27890	27060	e25820	24950
29	e28940	28780	28670	28630	---	28940	29010	29240	27970	27060	e25760	24910
30	e28920	28780	28680	28730	---	28940	29070	29220	27960	27010	e25700	24880
31	e28910	---	28670	28730	---	28940	---	29190	---	26970	e25650	---
MAX	29570	28890	28790	28730	28830	29110	29070	29270	29170	27890	26940	25590
MIN	28910	28740	28670	28570	28730	28850	28670	29070	27890	26970	25650	24880
(+)	2644.83	2644.72	2644.63	2644.68	2644.74	2644.85	2644.96	2645.06	2644.05	2643.21	2642.06	2641.36
(@)	-700	-130	-110	+60	+70	+140	+130	+120	-1230	-990	-1320	-770
(++)	332	290	270	284	261	296	342	324	521	513	525	393
CAL YR 1993	MAX	34020	MIN	28670	(@)	-4590	(++)	4012				
WTR YR 1994	MAX	29570	MIN	24880	(@)	-4730	(++)	4351				

e Estimated

(+) Elevation, in feet, at end of month.

(@) Change in contents, in acre-feet.

(++) Diversions, in acre-feet, for municipal and industrial use by Greenbelt Municipal Water Authority

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 mi², of which 209 mi² 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. There are several small diversions upstream from gage for irrigation. There is some regulation for municipal use by Greenbelt Lake (station 07299840) 42 mi upstream.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--14 years (water years 1953-66) prior to completion of Greenbelt Lake, 72.6 ft³/s (52,600 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1953-66).--Maximum discharge, 146,000 ft³/s May 16, 1957 (gage height, 19.00 ft), from rating curve extended above 11,000 ft³/s on basis of slope-area measurement of 63,400 ft³/s; minimum, 0.1 ft³/s June 19, 1952.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	14	17	22	27	44	26	116	18	9.5	2.3	1.9
2	5.6	14	16	21	30	55	25	80	15	13	2.3	1.9
3	6.0	14	18	19	39	46	24	142	16	9.4	2.9	2.0
4	6.3	14	18	19	44	43	23	95	22	7.9	2.8	1.8
5	6.5	14	18	20	40	41	23	67	20	7.3	2.6	1.6
6	6.7	15	18	19	37	39	23	54	21	19	2.8	2.1
7	6.9	15	19	19	35	37	26	45	21	11	2.5	2.2
8	14	15	20	18	33	63	24	40	23	9.3	2.6	2.5
9	8.6	15	20	19	32	99	26	39	15	124	3.0	2.1
10	7.8	15	19	21	31	82	24	38	19	37	2.9	2.2
11	7.9	15	19	21	37	61	36	40	22	23	2.9	2.2
12	8.5	15	19	22	34	52	61	43	15	11	2.9	2.3
13	15	15	22	23	30	53	48	60	11	6.2	2.9	2.3
14	12	16	21	22	28	51	36	61	8.6	5.1	2.7	2.6
15	11	15	20	22	27	44	30	43	8.8	4.3	2.9	3.8
16	10	18	19	23	28	36	27	34	8.4	3.8	3.0	2.9
17	11	19	19	22	28	31	27	32	7.6	3.3	2.6	2.9
18	12	18	18	20	30	26	27	30	8.3	3.2	2.6	2.7
19	12	18	19	20	29	23	27	28	20	3.1	2.6	2.7
20	13	17	20	21	31	22	26	26	15	2.7	2.6	2.9
21	13	17	20	23	31	24	26	24	10	3.4	2.7	3.2
22	13	18	20	28	33	24	26	21	9.1	3.5	2.6	3.1
23	13	18	19	29	35	24	27	20	8.3	3.0	2.8	3.3
24	13	18	19	32	34	20	28	20	8.5	2.8	2.9	3.2
25	13	18	20	31	34	19	37	21	7.9	4.2	2.7	2.9
26	13	19	21	33	30	20	38	34	8.0	3.4	2.5	3.0
27	14	19	21	34	29	24	33	38	8.8	3.0	2.5	2.9
28	14	19	21	31	29	26	36	39	8.3	2.7	2.4	2.9
29	14	19	20	30	---	27	48	33	8.5	2.6	2.3	3.1
30	14	18	21	31	---	28	161	28	12	2.4	1.8	2.9
31	14	---	22	27	---	26	---	23	---	2.3	1.9	---
TOTAL	333.8	494	603	742	905	1210	1049	1414	404.1	346.4	81.5	78.1
MEAN	10.8	16.5	19.5	23.9	32.3	39.0	35.0	45.6	13.5	11.2	2.63	2.60
MAX	15	19	22	34	44	99	161	142	23	124	3.0	3.8
MIN	5.0	14	16	18	27	19	23	20	7.6	2.3	1.8	1.6
AC-FT	662	980	1200	1470	1800	2400	2080	2800	802	687	162	155

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1994#, BY WATER YEAR (WY)

	MEAN	32.3	28.1	26.0	30.0	34.3	40.6	60.3	119	127	27.7	27.2	30.4
MAX	279	213	92.4	86.0	64.5	127	505	468	962	155	301	113	
(WY)	1987	1987	1992	1993	1988	1979	1977	1977	1989	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 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1967 - 1994#

ANNUAL TOTAL	17587.6	7660.9	
ANNUAL MEAN	48.2	21.0	48.5
HIGHEST ANNUAL MEAN			115
LOWEST ANNUAL MEAN			10.5
HIGHEST DAILY MEAN	3030	Jul 7	14200
LOWEST DAILY MEAN	4.3	Sep 23	1.6
ANNUAL SEVEN-DAY MINIMUM	4.9	Sep 21	1.8
INSTANTANEOUS PEAK FLOW			504
INSTANTANEOUS PEAK STAGE			5.10
INSTANTANEOUS LOW FLOW			
ANNUAL RUNOFF (AC-FT)	34880	15200	35140
10 PERCENT EXCEEDS	83	39	64
50 PERCENT EXCEEDS	19	19	16
90 PERCENT EXCEEDS	6.0	2.7	4.2

Period of regulated streamflow.

07300000 SALT FORK RED RIVER NEAR WELLINGTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: February 1951 to October 1954, October 1967 to current year. Chemical and biochemical analyses: October 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1952 to September 1954, October 1967 to September 1991.

WATER TEMPERATURE: June 1952 to September 1954, October 1967 to September 1991.

INSTRUMENTATION.--From September 1968 to September 1974, specific conductance was continuously recorded at this station.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,510 microsiemens Dec. 20, 1990; minimum daily, 330 microsiemens July 30, 1982.

WATER TEMPERATURE: Maximum daily, 40.0°C July 20, 1981; minimum daily, 0.0°C on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CaCO3)	
NOV 16...	1150	20	3160	8.1	8.5	12.9	118	0.7	160	510	1700	
JAN 18...	1210	19	3230	8.0	2.0	14.8	114	0.7	K5	42	1700	
MAR 23...	1045	21	3060	8.1	17.0	10.9	122	0.6	110	110	1400	
JUN 20...	1215	18	2930	8.0	31.5	6.1	88	1.8	960	650	1700	
AUG 01...	1450	2.4	2980	8.1	34.0	7.8	118	2.1	140	140	1900	
25...	1200	3.1	2980	8.0	30.0	8.8	124	1.0	48	58	1800	
DATE		HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CaCO3 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
NOV 16...	1500	530	81	190	2	4.5	170	1400	280	0.60	19	
JAN 18...	1500	540	86	200	2	0.70	180	1300	280	0.60	22	
MAR 23...	1300	440	83	210	2	4.2	160	1300	290	0.60	18	
JUN 20...	1600	550	83	160	2	4.7	140	1500	200	0.60	22	
AUG 01...	1800	610	91	140	1	5.0	100	1600	180	0.50	24	
25...	1700	570	91	130	1	3.7	110	1600	170	0.50	23	
DATE		SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)
NOV 16...	2620	1.78	1.78	0.020	1.80	1.80	0.070	--	<0.20	0.010	<0.010	
JAN 18...	2550	2.17	2.17	0.030	2.20	2.20	0.070	--	<0.20	<0.010	<0.010	
MAR 23...	2450	1.29	1.29	0.010	1.30	1.30	0.040	0.16	0.20	0.020	<0.010	
JUN 20...	2610	1.67	1.67	0.030	1.70	1.70	0.070	0.23	0.30	<0.010	<0.010	
AUG 01...	2720	2.18	2.18	0.020	2.20	2.20	0.120	0.38	0.50	0.020	<0.010	
25...	2660	1.78	1.78	0.020	1.80	1.80	0.130	--	<0.20	<0.010	<0.010	

07300500 SALT FORK RED RIVER AT MANGUM, OK

LOCATION.--Lat 34°51'30", long 99°30'30", in SW 1/4 SE 1/4 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 mi², of which 209 mi² 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. No flow at times most years.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	24	33	41	e43	52	33	349	30	11	.30	.00
2	10	24	34	41	e47	60	30	186	24	15	.40	.00
3	10	25	43	41	e58	74	30	132	22	10	.34	.00
4	11	25	42	42	68	67	30	150	26	4.6	.28	.00
5	12	25	40	41	74	56	29	95	20	3.4	.23	.00
6	13	25	38	41	65	50	29	70	17	9.5	.12	.00
7	13	25	38	40	60	46	30	57	16	8.0	.05	.00
8	17	25	38	40	57	94	31	51	14	4.1	.01	.00
9	63	26	37	41	e56	120	33	46	13	334	.01	.00
10	48	27	37	42	e55	155	34	43	28	341	.00	.00
11	25	28	38	42	e70	119	397	42	41	120	.00	.00
12	21	30	40	42	95	223	45	27	39		.00	.00
13	24	30	51	42	55	80	122	46	21	23	.00	.00
14	27	31	44	42	53	66	83	43	16	14	1.3	.00
15	30	29	43	42	50	59	66	42	13	9.5	2.1	.00
16	27	33	43	42	46	57	55	42	12	6.2	.73	.00
17	24	33	42	42	46	52	47	37	11	4.1	38	.00
18	25	34	41	e37	43	47	41	34	9.7	2.9	127	.00
19	25	32	41	e34	41	47	39	33	9.4	1.9	.88	.00
20	28	29	40	e32	39	42	39	32	33	1.3	.59	.00
21	27	27	40	e36	42	37	39	29	17	1.1	.11	.00
22	27	28	40	44	59	35	39	25	12	1.1	.00	.00
23	25	29	40	46	55	35	39	22	10	.86	.00	.00
24	24	31	40	50	56	31	38	21	9.5	.77	.00	.00
25	24	28	40	49	52	31	36	21	8.5	.79	.00	.00
26	23	24	39	49	49	33	34	28	6.8	.82	.00	.00
27	22	e23	39	50	47	36	49	31	5.2	.67	.00	.00
28	22	e22	39	e50	46	34	70	36	3.7	.64	.00	.00
29	22	e27	41	e49	---	33	101	48	3.4	.56	.00	.00
30	22	e31	41	e48	---	34	451	37	7.2	.43	.00	.00
31	23	---	41	e46	---	33	---	33	---	.35	.00	---
TOTAL	725	830	1243	1324	1494	1810	2317	1906	486.4	970.59	172.45	0.00
MEAN	23.4	27.7	40.1	42.7	53.4	58.4	77.2	61.5	16.2	31.3	5.56	.000
MAX	63	34	51	50	74	155	451	349	41	341	127	.00
MIN	10	22	33	32	39	31	29	21	3.4	.35	.00	.00
AC-FT	1440	1650	2470	2630	2960	3590	4600	3780	965	1930	342	.00

e estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1994, BY WATER YEAR (WY)

	79.4	28.2	35.5	45.6	51.9	48.5	86.2	273	234	63.5	31.4	44.4
MEAN	79.4	28.2	35.5	45.6	51.9	48.5	86.2	273	234	63.5	31.4	44.4
MAX	919	196	148	199	196	183	490	1389	1602	575	301	315
(WY)	1961	1987	1992	1960	1949	1969	1973	1957	1941	1953	1968	1986
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

SUMMARY STATISTICS

	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1938 - 1994
ANNUAL TOTAL	45691.5	13278.44	
ANNUAL MEAN	125	36.4	85.2
HIGHEST ANNUAL MEAN			277
LOWEST ANNUAL MEAN			12.3
HIGHEST DAILY MEAN	8710	451	22600
LOWEST DAILY MEAN	6.3	.00	.00
ANNUAL SEVEN-DAY MINIMUM	7.4	.00	.00
INSTANTANEOUS PEAK FLOW		1010	72000
INSTANTANEOUS PEAK STAGE		6.27	14.70
ANNUAL RUNOFF (AC-FT)	90630	26340	61720
10 PERCENT EXCEEDS	147	59	118
50 PERCENT EXCEEDS	61	31	16
90 PERCENT EXCEEDS	19	.00	.00

RED RIVER BASIN

55

07301200 McCLELLAN CREEK NEAR McLEAN, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 35°19'45", Long 100°36'32", Gray County, Hydrologic Unit 11120301, on left bank at downstream side of bridge on State Highway 273, 5.0 mi upstream from mouth.

DRAINAGE AREA.--759.0 mi².

PERIOD OF RECORD.--October 1967 to September 1980 (continuous record). October 1981 to September 1992 (annual maximum). October 1992 to current year (peaks above base discharge and annual maximum).

REVISED RECORDS.--WDR TX-75-1: 1968-70, 1972, 1973(M), 1974.

GAGE.--Water-stage recorder. Datum of gage is 2,545.99 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records poor. Flow is regulated by Lake McClellan, (capacity 5,000 acre-ft), 18 mi upstream. Flow is affected at times by discharge from flood-detention pool of a floodwater-retarding structure with detention capacity of 2,930 acre-ft. These structures control flow from 17.0 mi².

AVERAGE DISCHARGE.--13 years (water years 1967-80), 20.1 ft³/s, 14,560 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,600 ft³/s May 29, 1975 (gage height, 14.55 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1912, 21 ft in May 1957, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 29	2400	*116	*5.39	No peak greater than base discharge.			

RED RIVER BASIN

07301300 NORTH FORK RED RIVER NEAR SHAMROCK, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 35°15'51", Long 100°14'29", Wheeler County, Hydrologic Unit 11120302, on left bank at downstream side of bridge on U.S. Highway 83, 2.5 mi north of Shamrock.

DRAINAGE AREA.--1,082 mi².

PERIOD OF RECORD.--October 1951 to September 1963 (miscellaneous measurements). October 1964 to September 1992 (annual maximum). October 1992 to current year (peaks above base discharge and annual maximum).

GAGE.--Water-stage recorder. Datum of gage is 2,545.99 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Some regulation by Lake McClellan (capacity 5,000 acre-feet) 41 miles upstream. Flow is affected at times by discharge from flood-detention pools of eleven floodwater retarding structures with combined detention capacity of 18,290 acre-feet. These structures control runoff from 165 mi².

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,400 ft³/s May 29, 1975 (gage height, 4.47 ft).

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 29	1200	1,020	2.97				

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 mi², of which 20 mi² probably is noncontributing.

PERIOD OF RECORD.--November 1961 to current year.

Water-quality records.--Chemical analyses: October 1969 to June 1985.

GAGE.--Water-stage recorder. Elevation of gage is 2,230 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. There are many small diversions upstream from station for ranch use. Satellite telemeter at station.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.36	1.5	5.1	7.2	9.5	13	11	34	4.6	1.3	.52	.35
2	.34	1.7	5.1	7.2	11	13	11	26	4.4	1.3	.55	.38
3	.36	1.7	5.3	7.1	12	12	11	23	4.0	1.1	.58	.38
4	.34	1.9	5.1	7.3	13	13	11	21	5.8	1.0	.55	.31
5	.35	1.6	5.2	7.4	12	12	11	18	5.6	1.0	.47	.33
6	.33	1.8	5.1	7.5	11	11	11	16	4.5	1.6	.43	.39
7	.34	1.9	5.2	7.2	11	11	11	14	3.8	1.5	.36	.37
8	.40	1.9	5.3	7.5	11	21	12	13	3.2	1.3	.34	.62
9	.39	2.0	5.3	7.9	11	28	11	13	2.7	1.3	.34	.51
10	.44	2.0	5.3	7.8	11	27	11	12	6.8	1.3	.32	.50
11	.52	2.1	5.3	7.7	12	29	19	12	8.4	1.3	.29	.46
12	.56	2.2	5.5	7.9	11	25	20	12	6.1	1.7	.25	.44
13	.66	2.2	6.4	7.8	10	21	16	11	4.4	1.7	.24	.41
14	.67	2.6	6.3	7.8	10	19	14	11	3.3	1.5	.26	.43
15	.71	2.4	6.4	7.9	10	18	12	10	2.9	1.2	.28	.84
16	.75	3.0	6.5	8.0	10	17	12	9.6	2.6	1.1	.21	.59
17	.75	3.2	6.6	8.0	10	16	11	9.1	2.4	.95	.20	.56
18	.85	3.3	6.7	8.4	10	14	11	8.9	2.1	.85	.19	.51
19	.88	3.5	6.8	9.1	10	14	11	8.9	1.9	.78	.17	.49
20	.93	3.2	6.7	8.8	10	14	10	8.3	1.9	.73	.19	.47
21	1.0	3.3	6.7	8.2	10	13	10	7.9	1.8	.91	.20	.47
22	1.0	3.5	6.8	8.6	11	12	10	7.6	1.6	.84	.16	.50
23	1.1	3.7	7.0	8.8	11	12	11	7.5	1.5	.74	.15	.56
24	1.2	4.0	6.9	8.8	11	12	15	7.3	1.4	.67	.13	.59
25	1.2	3.9	6.8	8.7	11	12	14	7.1	1.4	.68	.11	.62
26	1.1	3.9	6.8	9.5	10	12	11	7.4	1.3	.85	.10	.60
27	1.2	4.5	6.9	9.6	12	12	11	7.1	1.2	.88	.10	.59
28	1.3	4.9	7.0	9.3	12	11	17	7.2	1.2	.78	.08	.54
29	1.3	4.9	7.0	9.2	---	11	27	7.0	1.1	.68	.08	.47
30	1.4	5.0	7.2	9.5	---	11	54	6.3	1.3	.60	.09	.42
31	1.4	---	7.3	10	---	11	---	5.5	---	.55	.33	---
TOTAL	24.13	87.3	191.6	255.7	303.5	477	427	368.7	95.2	32.69	8.27	14.70
MEAN	.78	2.91	6.18	8.25	10.8	15.4	14.2	11.9	3.17	1.05	.27	.49
MAX	1.4	5.0	7.3	10	13	29	54	34	8.4	1.7	.58	.84
MIN	.33	1.5	5.1	7.1	9.5	11	10	5.5	1.1	.55	.08	.31
AC-FT	48	173	380	507	602	946	847	731	189	65	16	29
IN.	.00	.01	.03	.04	.04	.07	.06	.05	.01	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994, BY WATER YEAR (WY)

	8.32	10.4	11.7	13.1	16.0	18.2	20.7	24.5	21.0	5.25	4.99	7.34
MEAN	8.32	10.4	11.7	13.1	16.0	18.2	20.7	24.5	21.0	5.25	4.99	7.34
MAX	42.1	34.5	19.3	24.3	29.6	35.3	74.6	196	86.3	32.3	42.7	40.9
(WY)	1987	1975	1992	1987	1987	1988	1970	1977	1965	1967	1963	1988
MIN	.30	1.05	3.11	5.87	7.25	9.09	8.72	3.38	2.80	.44	.000	.027
(WY)	1985	1985	1984	1984	1981	1977	1971	1971	1966	1974	1964	1984

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1962 - 1994

ANNUAL TOTAL	3655.32	2285.79	13.2
ANNUAL MEAN	10.0	6.26	26.8
HIGHEST ANNUAL MEAN			4.89
LOWEST ANNUAL MEAN			1820
HIGHEST DAILY MEAN	73 May 3	54 Apr 30	May 21 1977
LOWEST DAILY MEAN	.33 Oct 6	.08 Aug 28	Jul 29 1964
ANNUAL SEVEN-DAY MINIMUM	.35 Oct 1	.10 Aug 24	Jul 29 1964
INSTANTANEOUS PEAK FLOW		60 Apr 30	May 20 1977
INSTANTANEOUS PEAK STAGE		7.62 Apr 30	May 20 1977
INSTANTANEOUS LOW FLOW			.00 Jul 29 1964
ANNUAL RUNOFF (AC-FT)	7250	4530	9570
ANNUAL RUNOFF (INCHES)	.51	.32	.67
10 PERCENT EXCEEDS	22	12	21
50 PERCENT EXCEEDS	6.8	5.2	10
90 PERCENT EXCEEDS	.83	.38	.86

RED RIVER BASIN

07307750 MIDDLE PEASE RIVER NEAR PADUCAH, TX.

LOCATION.--Lat 34°12'31", long 100°18'03", Cottle County, Hydrologic Unit 11120104, on left bank at downstream side of bridge on U.S. Highway 62 and 83, 11.8 mi north of Paducah, and 13.4 mi upstream from mouth.

DRAINAGE AREA.--1,086 mi², of which 65 mi² probably is noncontributing.

PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: May 1973 to September 1979.

WATER TEMPERATURE: May 1973 to September 1979.

SEDIMENT RECORDS: January 1992 to September 1992.

REMARKS.--No gage at station. Only concentrations of suspended-sediment samples are reported, however, during the 1994 water year no flow conditions were observed for all site visits.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,910 microsiemens Feb. 12, 1975; minimum daily, 802 microsiemens June 10, 1979.

07307800 PEASE RIVER NEAR CHILDRESS, TX

LOCATION.--Lat 34°13'39", long 100°04'24", Cottle County, Hydrologic Unit 11130105, near right bank at downstream side of bridge on Farm Road 104, 0.8 mi upstream from Catfish Creek, 4.4 mi downstream from confluence of North and Middle Forks, 17 mi southeast of Childress, and 71.0 mi upstream from mouth.

DRAINAGE AREA.--2,754 mi², of which 559 mi² probably is noncontributing.

PERIOD OF RECORD.--December 1959 to September 1962 (average discharge for 1961-62 water years excluded from average annual discharge computations), and October 1967 to current year.
Water-quality records.--Chemical analyses: July 1968 to September 1982

GAGE.--Water-stage recorder. Datum of gage is 1,492.98 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 21, 1959, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. There are three small diversions for irrigation above station. Flow is affected at times by discharge from the flood-detention pools of six flood-water-retarding structures with a combined detention capacity of 1,360 acre-ft. These structures control runoff from 6.27 mi² in the Kent Creek drainage basin.

AVERAGE DISCHARGE.--2 years (water years 1961-62), 89.6 ft³/s (0.55 in/yr), 64,900 acre-ft/yr.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1909, 22 ft June 1, 1957; flood in May 1935 reached a stage of 18 ft and was the second highest, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft³/s.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	5.8	8.0	8.3	11	19	5.0	109	16	3.0	.86	11
2	2.8	5.9	8.6	7.1	12	18	4.3	76	13	2.4	.98	6.2
3	3.4	5.6	16	7.1	11	13	4.3	50	10	2.1	1.3	3.6
4	4.0	5.9	11	6.8	9.4	11	5.1	32	10	2.5	1.4	1.9
5	3.9	5.6	8.5	7.1	8.8	11	4.8	24	7.3	2.4	1.0	2.2
6	3.9	5.5	8.5	6.3	8.5	10	5.0	19	6.5	59	.97	2.9
7	4.0	5.6	8.9	6.4	8.0	10	6.1	16	20	29	.85	3.0
8	4.2	5.7	7.8	6.8	8.0	74	5.8	15	92	13	.59	3.7
9	3.0	6.2	7.7	7.2	7.4	80	5.9	12	49	268	.71	2.9
10	3.5	6.6	7.4	6.8	7.8	49	5.4	12	56	526	.83	2.1
11	3.7	7.2	6.9	6.8	7.7	27	30	55	46	136	.75	1.5
12	10	7.4	8.5	7.5	e6.8	14	22	51	29	62	.76	1.7
13	13	6.9	9.4	7.1	e6.8	9.5	14	89	23	29	.83	1.7
14	6.4	7.7	7.7	6.8	e6.8	7.0	11	81	19	20	10	1.9
15	5.0	6.6	7.5	6.4	e6.3	5.4	7.7	40	15	18	171	14
16	4.1	11	8.0	7.1	e6.3	5.1	7.5	23	e13	16	46	9.5
17	3.6	10	8.0	7.0	e6.3	5.3	8.0	17	e11	10	13	4.9
18	4.1	7.4	8.0	6.3	e5.9	4.1	7.3	14	e11	6.9	6.3	4.4
19	6.4	6.9	8.0	7.2	e5.9	3.6	6.9	9.9	e10	4.3	4.2	3.4
20	11	6.3	7.9	8.0	e5.9	3.1	7.2	6.6	e9.3	2.8	3.7	2.9
21	6.5	6.8	8.4	8.0	e17	2.9	8.0	6.4	e8.6	3.4	2.6	2.6
22	5.7	6.8	8.3	9.5	e48	3.4	8.0	4.6	e7.4	3.3	1.8	1.9
23	5.3	6.8	8.2	10	21	4.0	8.0	5.0	e6.8	3.0	1.8	1.6
24	5.4	6.8	7.7	10	15	3.2	8.0	6.8	e6.3	2.7	1.9	2.0
25	5.3	6.8	8.1	8.6	10	3.7	7.6	129	e5.4	2.3	1.6	2.5
26	4.6	6.8	7.9	7.8	9.4	4.7	6.6	222	e4.4	1.6	1.0	2.3
27	4.8	6.8	7.2	6.9	9.9	4.3	64	140	e4.4	1.5	.83	2.3
28	5.0	7.5	6.8	6.8	12	3.9	55	99	e3.9	1.2	.69	2.3
29	4.2	7.4	7.5	8.1	---	4.2	78	68	e3.9	.92	.68	1.7
30	4.9	7.4	7.9	11	---	4.2	138	37	3.9	.77	.59	1.3
31	5.3	---	8.6	16	---	4.8	---	21	---	.84	2.0	---
TOTAL	159.7	205.7	258.9	242.8	298.9	422.4	554.5	1490.3	521.1	1233.93	281.52	105.9
MEAN	5.15	6.86	8.35	7.83	10.7	13.6	18.5	48.1	17.4	39.8	9.08	3.53
MAX	13	11	16	16	48	80	138	222	92	526	171	14
MIN	2.7	5.5	6.8	6.3	5.9	2.9	4.3	4.6	3.9	.77	.59	1.3
AC-FT	317	408	514	482	593	838	1100	2960	1030	2450	558	210
CFSM	.00	.00	.00	.00	.00	.01	.01	.02	.01	.02	.00	.00
IN.	.00	.00	.00	.00	.01	.01	.01	.03	.01	.02	.00	.00

RED RIVER BASIN

07307800 PEASE RIVER NEAR CHILDRESS, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

MEAN	95.2	23.6	17.8	20.8	23.5	31.1	44.3	90.9	192	41.1	45.5	81.2
MAX	895	153	132	158	170	181	215	341	766	172	257	380
(WY)	1984	1987	1992	1992	1992	1973	1973	1982	1985	1979	1968	1989
MIN	1.68	3.04	3.74	2.70	2.83	2.78	3.32	5.99	4.08	.28	.13	1.23
(WY)	1981	1978	1979	1971	1971	1971	1974	1975	1970	1980	1980	1980

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1968 - 1994	
ANNUAL TOTAL	9290.5		5775.65		58.9	
ANNUAL MEAN	25.5		15.8		144	
HIGHEST ANNUAL MEAN					15.8	
LOWEST ANNUAL MEAN					1987	
HIGHEST DAILY MEAN	336	Jul 14	526	Jul 10	14800	Oct 20 1983
LOWEST DAILY MEAN	1.2	Jul 27	.59	Aug 8	.00	Aug 10 1969
ANNUAL SEVEN-DAY MINIMUM	1.6	Jul 6	.76	Aug 7	.00	Aug 10 1969
INSTANTANEOUS PEAK FLOW			1750	Jul 9	19000	Jun 9 1960
INSTANTANEOUS PEAK STAGE			9.65	Jul 9	14.83	Oct 20 1983
ANNUAL RUNOFF (AC-FT)	18430		11460		42660	
ANNUAL RUNOFF (CFSM)	.012		.007		.027	
ANNUAL RUNOFF (INCHES)	.16		.10		.36	
10 PERCENT EXCEEDS	69		29		86	
50 PERCENT EXCEEDS	8.1		6.9		8.6	
90 PERCENT EXCEEDS	3.0		1.9		1.5	

e Estimated

LOCATION.--Lat 34°10'45", long 99°16'40", Wilbarger County, Hydrologic Unit 11130105, near left bank at downstream side of bridge on U. S. Highway 283, 1.9 mi north of Vernon, and 10 mi upstream from mouth.

PERIOD OF RECORD.--December 1959 to September 1982, and March 1992 to current year. October 1982 to September 1987, annual maximums.

Water-quality records.--Chemical analyses: November 1967 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 1,166.03 ft above National Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. There are four small diversions for irrigation above station. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 07307800.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1890, 24 ft in 1891. The flood in September 1936 reached a stage of 23.5 ft, and the flood of June 2, 1957, reached a stage of 22.0 ft, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 25	2100	2,820	11.92	July 9	1930	2,960	12.02

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.76	4.6	11	17	13	40	26	60	e52	90	1.9	5.8
2	.72	4.6	11	15	20	45	24	86	e46	35	1.5	4.5
3	.63	4.8	43	16	20	44	20	105	e41	9.3	1.6	6.4
4	.82	6.5	44	16	22	41	22	76	e38	2.8	1.3	e5.2
5	.52	4.5	37	18	21	41	18	63	e34	1.0	1.2	e4.3
6	.45	4.1	30	15	23	38	18	55	e32	61	.89	e4.9
7	.64	4.8	25	12	21	34	20	45	e29	120	.82	e5.4
8	.55	5.1	22	13	17	255	21	39	26	55	.60	e4.5
9	.11	4.9	21	14	14	489	24	37	20	1030	.56	e3.9
10	.19	5.7	20	14	13	168	23	32	37	1270	.54	e3.5
11	.37	7.1	18	16	14	127	39	113	34	850	.49	e2.9
12	1.8	9.4	24	17	12	91	45	217	31	360	.41	e3.0
13	180	17	54	15	12	86	37	319	22	195	.23	e3.0
14	44	30	46	16	12	76	32	293	14	157	.21	e3.2
15	21	19	30	13	11	66	29	140	10	127	3.3	e16.0
16	20	18	23	14	13	59	25	126	8.8	74	1.4	e12.8
17	11	15	19	12	14	56	22	100	6.6	57	13	e9.5
18	9.3	22	17	9.8	15	53	20	81	5.8	45	194	e7.7
19	15	17	17	10	14	50	19	67	5.2	33	178	e6.5
20	27	13	16	11	14	48	19	57	5.1	21	50	e5.8
21	19	13	17	11	28	41	17	51	4.1	18	24	e5.3
22	17	12	15	15	167	38	16	46	3.5	17	13	e4.8
23	12	11	15	18	88	37	14	42	2.8	15	9.3	e4.5
24	12	7.4	14	21	61	33	14	41	4.1	13	7.2	e4.1
25	10	7.2	17	21	51	30	13	392	4.2	10	5.5	e3.8
26	7.6	6.9	18	20	43	32	9.9	e952	2.7	7.8	3.6	e3.6
27	6.6	7.5	17	15	37	28	9.5	e237	1.2	5.1	2.0	e3.4
28	7.2	9.1	14	13	37	26	14	e162	.83	4.1	1.3	e3.4
29	5.1	9.1	15	15	---	25	30	e117	1.6	2.9	1.0	e3.2
30	4.2	9.8	15	15	---	23	63	e90	17	3.0	.83	e3.0
31	4.6	---	17	14	---	25	---	e68	---	2.0	13	---
TOTAL	440.16	310.1	702	461.8	827	2245	703.4	4309	539.53	4691.0	532.68	157.9
MEAN	14.2	10.3	22.6	14.9	29.5	72.4	23.4	139	18.0	151	17.2	5.26
MAX	180	30	54	21	167	489	63	952	52	1270	194	16
MIN	.11	4.1	11	9.8	11	23	9.5	32	.83	1.0	.21	2.9
AC-FT	873	615	1390	916	1640	4450	1400	8550	1070	9300	1060	313

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1994h, BY WATER YEAR (WY)

MEAN	115	39.9	25.2	23.6	29.2	48.0	76.5	214	315	133	71.0	190
MAX	1057	206	163	116	172	269	359	777	1041	1185	395	895
(WY)	1961	1993	1960	1973	1993	1973	1973	1977	1979	1975	1979	1965
MIN	.000	.000	.000	.000	.000	.000	.000	6.12	18.0	.000	.000	.20
(WY)	1964	1971	1971	1971	1971	1971	1971	1961	1994	1964	1980	1980

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1960 - 1994h
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ANNUAL TOTAL	33294.29			15919.57					
ANNUAL MEAN	91.2			43.6			104		
HIGHEST ANNUAL MEAN							211		1973
LOWEST ANNUAL MEAN							12.6		1964
HIGHEST DAILY MEAN	2100	Mar	30	1270	Jul	10	16100	Oct	18 1965
LOWEST DAILY MEAN	.11	Oct	9	.11	Oct	9	.00	Aug	7 1960
ANNUAL SEVEN-DAY MINIMUM	.40	Oct	5	.40	Oct	5	.00	Aug	7 1960
INSTANTANEOUS PEAK FLOW				2960	Jul	9	40500	Oct	2 1983
INSTANTANEOUS PEAK STAGE				12.02	Jul	9	20.15	Oct	2 1983
ANNUAL RUNOFF (AC-FT)	66040			31580			75520		
10 PERCENT EXCEEDS	191			78			163		
50 PERCENT EXCEEDS	54			16			13		
90 PERCENT EXCEEDS	1.6			2.4			.00		

e Estimated

h See PERIOD OF RECORD paragraph.

07308500 RED RIVER NEAR BURKBURNETT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: May 1968 to current year. Biochemical analyses: October 1974 to August, 1994 (discontinued). Pesticide analyses: October 1973 to September 1982.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1968 to September 1981.

WATER TEMPERATURE: July 1968 to September 1981.

INSTRUMENTATION.--From December 1968 to September 1979, specific conductance was continuously recorded at this station.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 17,400 microsiemens July 30, 1972; minimum daily, 889 microsiemens Sept. 24, 1970.

WATER TEMPERATURE: Maximum daily, 35.5°C June 29, 1980; minimum daily, 0.0°C on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	
MAR 25...	0850	529	7120	8.2	10.0	1.2	14.5	136	5.8	K10	K75	
JUN 22...	1100	150	7930	8.0	28.0	34	9.6	130	0.8	1000	560	
AUG 03...	1035	101	6540	8.1	25.0	4.0	10.2	130	3.6	340	K90	
26...	1450	232	3200	8.5	31.0	48	10.3	145	3.3	760	360	
DATE		HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD (MG/L AS C03)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HC03)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CAC03)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)
MAR 25...	1300	1200	340	120	1100	13	8.6	0	136	111	110	
JUN 22...	1500	1400	420	120	1400	16	7.3	0	121	99	99	
AUG 03...	1400	1300	350	130	1000	12	11	0	106	87	85	
26...	690	620	180	58	440	7	10	5	75	71	72	
DATE		SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	
MAR 25...	1200	1800		0.50	2.6	4880	4640	<0.010	<0.050	0.020	1.0	
JUN 22...	1300	2000		0.50	7.0	1560	5320	<0.010	<0.050	0.040	1.0	
AUG 03...	1200	1600		0.50	5.8	4600	4350	<0.010	<0.050	0.040	1.1	
26...	590	710		0.40	5.9	308	2040	<0.010	<0.050	0.030	0.90	
DATE		NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	BARIUM, DIS-SOLVED (UG/L AS BA)	
MAR 25...	0.98	1.0	0.080	<0.010	<0.010		--	--	--	10	<100	
JUN 22...	0.96	1.0	0.110	0.050	<0.010		118	48	98	<10	100	
AUG 03...	1.1	1.1	0.070	0.030	<0.010		38	10	98	<10	100	
26...	0.87	0.90	0.120	0.020	<0.010		90	56	100	20	200	
DATE		COBALT, DIS-SOLVED (UG/L AS CO)	IRON, DIS-SOLVED (UG/L AS FE)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	
MAR 25...	<1		20	60	30	4	<1	5	<1.0	4700	35	
JUN 22...	<1		40	90	20	3	1	3	<1.0	4900	50	
AUG 03...	<1	<10		80	<10	5	1	3	<1.0	4600	7	
26...	<1	<10		40	<10	3	2	2	<1.0	2400	28	

07311630 MIDDLE WICHITA RIVER NEAR GUTHRIE, TX

LOCATION.--Lat 33°47'45", long 100°04'29", King County, Hydrologic Unit 11130204, on right bank 100 ft (32 m) downstream from inflatable dam. One mile downstream from ranch road crossing, 0.71 miles upstream from Forrer Creek, 12 miles upstream from confluence with North Wichita River and 19 miles northeast of Guthrie, Tx.

DRAINAGE AREA.-- Undetermined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.-- June 1994 to September 1994.

GAGE.--Water-stage recorder. Datum of gage is 1,583.90 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There are no known diversions upstream from station. Low flow is maintained by springs that enter river in the vicinity of gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	e6.2	6.3	8.7	9.4
2	---	---	---	---	---	---	---	---	6.2	6.3	8.8	9.0
3	---	---	---	---	---	---	---	---	6.2	6.3	9.1	8.9
4	---	---	---	---	---	---	---	---	6.1	6.2	9.1	8.8
5	---	---	---	---	---	---	---	---	6.1	6.4	8.9	8.8
6	---	---	---	---	---	---	---	---	6.1	16	8.6	9.3
7	---	---	---	---	---	---	---	---	6.1	7.3	8.6	8.9
8	---	---	---	---	---	---	---	---	6.0	6.9	8.6	9.9
9	---	---	---	---	---	---	---	---	6.1	7.6	8.9	8.9
10	---	---	---	---	---	---	---	---	6.2	7.3	9.0	8.7
11	---	---	---	---	---	---	---	---	6.2	7.3	9.2	8.6
12	---	---	---	---	---	---	---	---	6.1	7.5	9.2	8.7
13	---	---	---	---	---	---	---	---	6.0	7.5	9.1	8.7
14	---	---	---	---	---	---	---	---	6.0	7.5	13	8.6
15	---	---	---	---	---	---	---	---	6.1	7.4	29	12
16	---	---	---	---	---	---	---	---	6.2	7.5	8.4	9.0
17	---	---	---	---	---	---	---	---	6.2	7.5	8.6	e8.2
18	---	---	---	---	---	---	---	---	6.2	7.5	8.5	e8.2
19	---	---	---	---	---	---	---	---	6.1	7.5	8.5	7.9
20	---	---	---	---	---	---	---	---	6.2	7.6	8.7	7.9
21	---	---	---	---	---	---	---	---	6.3	7.8	8.7	8.0
22	---	---	---	---	---	---	---	---	6.3	8.0	8.8	e8.0
23	---	---	---	---	---	---	---	---	6.3	7.9	8.9	e7.8
24	---	---	---	---	---	---	---	---	6.4	7.9	9.1	e7.6
25	---	---	---	---	---	---	---	---	6.4	8.1	9.0	e7.6
26	---	---	---	---	---	---	---	---	6.3	8.2	8.9	e8.0
27	---	---	---	---	---	---	---	---	6.2	8.3	8.9	e7.8
28	---	---	---	---	---	---	---	---	6.4	8.3	8.9	e7.8
29	---	---	---	---	---	---	---	---	6.8	8.6	8.9	e7.6
30	---	---	---	---	---	---	---	---	6.4	8.6	8.9	7.4
31	---	---	---	---	---	---	---	---	---	8.7	9.5	---
TOTAL	---	---	---	---	---	---	---	---	186.4	241.8	299.0	256.0
MEAN	---	---	---	---	---	---	---	---	6.21	7.80	9.65	8.53
MAX	---	---	---	---	---	---	---	---	6.8	16	29	12
MIN	---	---	---	---	---	---	---	---	6.0	6.2	8.4	7.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1994, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	---	---	---	6.21	7.80	9.65	8.53
MAX	---	---	---	---	---	---	---	---	6.21	7.80	9.65	8.53
(WY)	---	---	---	---	---	---	---	---	1994	1994	1994	1994
MIN	---	---	---	---	---	---	---	---	6.21	7.80	9.65	8.53
(WY)	---	---	---	---	---	---	---	---	1994	1994	1994	1994

e Estimated

RED RIVER BASIN

65

07311630 MIDDLE WICHITA RIVER NEAR GUTHRIE, TX--Continued

PERIOD OF RECORD.--Chemical analyses: October 1993 to July 1994.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 25 1994 to September 1994.

TEMPERATURE: June 25 1994 to September 1994.

INSTRUMENTATION.--From June 1994 to September 1994, specific conductance and temperature were continuously recorded at this station.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 26...	1435	7.3	11700	15.5	2500	2400	770	140	1700
NOV 15...	1530	9.7	10800	11.5	2500	2400	780	140	1700
JAN 03...	1600	8.0	11600	11.0	2400	2200	710	150	1800
MAR 15...	1215	8.3	11300	17.0	2400	2200	720	150	1900
MAY 31...	1305	6.2	12200	28.0	2600	2400	780	160	1900
JUL 27...	1455	8.4	12300	28.0	2400	2300	750	140	2100

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 26...	15	9.4	140	2300	2600	0.90	12	7620
NOV 15...	15	9.3	160	2400	2700	0.90	13	7840
JAN 03...	16	10	150	2300	2900	0.60	13	7980
MAR 15...	17	11	170	2300	3000	0.60	12	8190
MAY 31...	16	13	180	2300	3200	0.50	6.6	8470
JUL 27...	18	9.3	160	2300	3300	0.50	5.0	8700

07311700 NORTH WICHITA RIVER NEAR TRUSCOTT, TX

LOCATION.--Lat 33°49'14", long 99°47'10", Foard-Knox County line, Hydrologic Unit 11130204, near right bank at downstream side of bridge on State Highway 6, 4.5 mi north of Truscott, about 47.6 mi upstream from confluence with South Wichita River, and 188.4 mi upstream from mouth.

DRAINAGE AREA.--937 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1952-57 (occasional low-flow measurements), December 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,351.78 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 2, 1960, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There is one small diversion for irrigation upstream from station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900 occurred in September 1919; the next highest flood occurred in May 1954, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s:

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 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	23	30	27	37	51	28	e46	36	11	5.7	28
2	20	23	31	28	35	50	29	e44	34	8.9	6.8	26
3	20	24	105	27	34	41	27	37	32	7.8	9.6	16
4	22	24	55	28	32	35	26	33	31	6.3	7.1	11
5	22	23	43	29	32	33	28	28	29	5.6	6.9	8.8
6	22	24	35	27	30	31	e29	25	27	222	6.4	9.7
7	22	24	33	29	30	29	e29	23	26	104	6.2	16
8	24	24	31	29	30	35	e27	24	24	27	5.3	17
9	22	25	31	30	33	42	e26	24	21	6.1	4.8	20
10	22	27	29	29	33	39	e24	24	20	45	5.0	19
11	22	28	27	29	33	33	e41	353	20	40	5.1	15
12	25	30	33	29	31	29	e45	287	19	e34	5.1	12
13	26	41	58	29	31	27	e42	e555	18	e29	5.1	11
14	29	42	39	29	30	26	e38	e172	15	25	9.4	11
15	26	34	31	28	30	22	e36	e74	15	22	24	157
16	23	44	29	29	29	21	e34	e44	14	19	8.0	63
17	22	46	30	28	29	21	e31	e39	14	18	18	21
18	23	37	29	30	29	19	e30	36	13	16	10	17
19	42	33	29	31	30	19	e29	32	13	13	8.0	16
20	47	31	29	30	29	20	e27	28	12	11	8.4	14
21	37	31	28	31	115	20	e26	26	13	9.6	8.4	15
22	26	30	28	35	105	21	e25	24	12	9.9	8.3	14
23	23	30	28	35	58	23	e25	24	11	9.0	7.3	14
24	22	30	28	34	44	25	e24	23	11	9.4	6.7	14
25	22	30	28	32	38	26	e23	97	10	8.1	8.0	13
26	21	30	28	30	36	28	e23	213	9.7	7.5	7.5	12
27	20	30	26	29	35	29	e29	506	9.0	7.3	5.6	14
28	20	30	25	29	35	29	e37	452	8.6	6.5	4.7	14
29	20	30	26	30	---	29	e48	128	10	5.9	4.5	12
30	23	30	27	33	---	29	e52	65	18	6.4	4.5	9.6
31	23	---	27	37	---	28	---	42	---	6.0	4.7	---
TOTAL	759	908	1056	930	1093	910	938	3528	545.3	756.3	235.1	640.1
MEAN	24.5	30.3	34.1	30.0	39.0	29.4	31.3	114	18.2	24.4	7.58	21.3
MAX	47	46	105	37	115	51	52	555	36	222	24	157
MIN	20	23	25	27	29	19	23	23	8.6	5.6	4.5	8.8
AC-FT	1510	1800	2090	1840	2170	1800	1860	7000	1080	1500	466	1270
IN.	.03	.04	.04	.04	.04	.04	.04	.14	.02	.03	.01	.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1994, BY WATER YEAR (WY)

MEAN	113	30.0	25.9	24.6	28.9	32.2	46.7	113	144	42.8	72.6	112
MAX	1170	73.0	120	68.5	149	102	275	771	730	317	1266	818
(WY)	1984	1993	1992	1992	1992	1990	1990	1987	1992	1975	1966	1965
MIN	3.90	10.4	11.8	8.23	6.16	5.49	7.61	16.4	11.9	.72	1.17	3.51
(WY)	1964	1968	1964	1965	1965	1965	1964	1965	1970	1964	1964	1968

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1961 - 1994

ANNUAL TOTAL	21947	12298.8	65.5
ANNUAL MEAN	60.1	33.7	193
HIGHEST ANNUAL MEAN			17.2
LOWEST ANNUAL MEAN			19400
HIGHEST DAILY MEAN	2060	May 10	555
LOWEST DAILY MEAN	15	Aug 21	4.5
ANNUAL SEVEN-DAY MINIMUM	16	Aug 17	5.2
INSTANTANEOUS PEAK FLOW			977
INSTANTANEOUS PEAK STAGE			11.00
INSTANTANEOUS LOW FLOW			May 13
ANNUAL RUNOFF (AC-FT)	43530	24390	47480
ANNUAL RUNOFF (INCHES)	.87	.49	.95
10 PERCENT EXCEEDS	82	42	65
50 PERCENT EXCEEDS	35	27	19
90 PERCENT EXCEEDS	21	8.4	7.4

e Estimated

WATER-QUALITY RECORDS

SPECIFIC CONDUCTANCE: Maximum, 35,800 microsiemens Oct. 9, 1982; minimum, 400 microsiemens June 7, 8, 1985.
WATER TEMPERATURE: Maximum, 39.0°C Aug. 21, 23, 1969, Aug. 22, 1973; minimum, 0.0°C on many days during winter months.

[illegible]

RED RIVER BASIN

07311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NEAR GUTHRIE, TX

LOCATION.--Lat 33°37'19", long 100°12'31", King County, Hydrologic Unit 11130205, on right bank 1.0 mi downstream from ranch road crossing, 2.9 mi upstream from Willow Creek, 6.6 mi east of Guthrie, and 91.5 mi upstream from confluence with North Wichita River.

DRAINAGE AREA.--223 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1984 to September 1985, May 1987 to current year (discharge to 07311669 Truscott Brine Lake near Truscott).

GAGE.--Water-stage recorder. Datum of gage is 1,590.0 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Discharge represents flow diverted by pumping from South Wichita River at Low Flow dam near Guthrie (station 07311782) via pipeline to Truscott Brine Lake near Truscott (station 07311669). Flow is determined from digital recorder monitoring flowmeter in pipeline. From May 1987 to current year, specific conductivity and discharge values collected at this station have been used for computation of water quality loads for station 07311669. Satellite telemeter at station.

COOPERATION.--Flow data furnished by the U.S. Army Corps of Engineers, Tulsa District.

PEAK DISCHARGES FOR CURRENT YEAR.--Not determined.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	6.8	7.1	7.3	7.8	9.0	6.5	7.5	7.1	7.4	5.0	4.9
2	2.1	7.3	7.1	7.3	8.1	8.1	6.5	7.3	7.3	6.4	7.4	7.4
3	.00	7.3	6.4	7.2	7.4	8.2	6.5	7.2	7.3	5.7	7.4	7.4
4	1.8	7.3	7.2	7.3	6.9	6.7	6.5	6.7	7.4	5.6	6.7	7.3
5	7.2	7.3	7.2	7.2	6.5	5.6	6.5	6.4	7.4	5.8	3.7	5.9
6	10	7.2	7.2	9.6	6.5	5.7	6.5	6.7	7.4	4.9	7.3	7.4
7	6.0	7.2	7.2	11	6.4	6.5	6.5	7.1	7.4	6.1	7.3	7.4
8	7.0	7.2	5.6	6.6	6.4	6.5	6.5	7.1	7.4	5.9	3.3	6.5
9	.48	7.2	8.8	6.6	5.1	9.7	6.4	7.1	7.4	7.3	.00	6.9
10	.07	7.2	9.7	6.6	6.4	11	6.4	6.9	7.4	7.3	6.9	.00
11	3.8	7.2	7.2	6.6	10	9.0	6.5	8.3	7.5	.60	7.3	.00
12	7.2	7.2	7.2	8.1	9.1	7.5	6.5	3.9	7.5	3.9	7.1	.51
13	7.0	7.2	7.2	9.5	8.1	7.4	8.3	.00	7.5	1.9	7.3	5.0
14	7.1	7.2	7.1	6.6	7.0	6.5	6.4	.00	7.4	.44	7.3	7.0
15	7.0	7.2	7.1	6.6	7.3	6.4	6.4	.00	5.1	6.7	3.9	9.7
16	.51	7.2	7.1	6.6	7.3	6.8	6.4	2.7	7.6	8.1	6.4	12
17	.00	7.2	7.0	6.6	7.3	9.5	3.4	6.7	7.6	7.5	6.2	6.9
18	.13	7.2	7.0	6.6	7.3	7.4	6.0	7.2	5.6	7.5	4.5	6.9
19	.00	7.2	7.0	6.6	7.2	6.7	9.6	7.2	3.0	7.5	6.4	6.3
20	.00	7.2	6.9	6.5	7.2	7.1	4.5	7.2	5.6	.00	7.4	6.9
21	.00	7.1	6.9	8.7	8.7	7.2	6.7	6.9	7.4	3.8	5.4	6.4
22	.00	7.2	7.0	12	12	6.4	8.2	7.2	7.5	8.0	5.2	4.9
23	.00	7.2	7.3	8.7	9.2	7.8	6.5	7.2	5.6	7.0	7.4	6.9
24	.00	7.2	7.3	6.5	8.0	6.5	6.4	6.9	2.1	7.5	4.1	6.9
25	6.1	7.2	7.3	6.5	8.3	7.7	6.4	5.5	.00	7.4	5.8	6.8
26	11	7.2	7.3	6.5	7.2	7.1	6.4	4.8	.00	7.5	6.7	6.8
27	7.2	7.2	7.3	6.5	8.1	6.5	6.5	3.0	7.9	.33	6.7	6.8
28	7.2	7.2	7.3	8.2	7.9	7.1	6.6	.00	8.3	.00	4.5	6.7
29	7.2	7.2	7.3	11	---	6.2	6.5	.00	7.2	6.5	1.9	6.7
30	7.2	7.1	7.3	7.8	---	6.5	7.7	.00	5.3	9.4	7.4	6.9
31	7.3	---	7.3	8.8	---	6.5	---	4.7	---	6.7	4.9	---
TOTAL	127.09	215.8	223.9	238.2	214.7	226.8	196.7	159.40	189.20	170.67	178.80	188.11
MEAN	4.10	7.19	7.22	7.68	7.67	7.32	6.56	5.14	6.31	5.51	5.77	6.27
MAX	11	7.3	9.7	12	12	11	9.6	8.3	8.3	9.4	7.4	12
MIN	.00	6.8	5.6	6.5	5.1	5.6	3.4	.00	.00	.00	.00	.00
AC-FT	252	428	444	472	426	450	390	316	375	339	355	373

07311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NEAR GUTHRIE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1984 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1984 to current year. October 1986 to April 1987 published under station 07311783.
WATER TEMPERATURE: October 1984 to current year. October 1986 to April 1987 published under station 07311783.

INSTRUMENTATION.--Since October 1984, specific conductance and water temperature are recorded continuously at this station.

REMARKS.--Interruptions in the record are due to malfunction of the instrument or when the pumps were not running. Where maximum and minimum specific conductance values are not shown, mean values are sometimes estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 43,800 microsiemens Sept. 14, 1994; minimum, 200 microsiemens July 3, 1986.
WATER TEMPERATURE: Maximum, 33.5°C June 28 and 29, 1994; minimum, 0.0°C Dec. 23, 1989, Dec. 22, 1990.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 43,800 microsiemens Sept. 14; minimum, 23,100 microsiemens May 17.
WATER TEMPERATURE: Maximum, 33.5°C June 28 and 29; minimum 5.0°C Feb. 1.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 05...	0955	10	38400	22.0	4100	4000	1200	270	8200
FEB 10...	1030	6.4	36300	7.0	3600	3500	1000	270	7600
JUL 12...	0900	1.4	42100	27.0	3900	3600	1100	270	8700
AUG 23...	1000	7.4	37200	25.5	4000	3900	1100	300	9200

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 05...	56	33	98	3200	13000	1.9	6.9	26000
FEB 10...	55	31	130	3000	13000	0.60	8.4	25000
JUL 12...	61	36	240	3200	14000	0.60	10	27500
AUG 23...	63	38	98	3200	15000	0.50	8.4	28900

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. 1993	127.09	35300	23800	8160	11900	4090	3000	1040	*
NOV. 1993	215.8	34600	23300	13600	11600	6780	3000	1740	*
DEC. 1993	223.9	35200	23700	14300	11900	7190	3000	1820	*
JAN. 1994	238.2	36700	24800	16000	12500	8050	3100	1990	*
FEB. 1994	214.7	35400	23800	13800	12000	6940	3000	1750	*
MAR. 1994	226.8	33900	22800	14000	11400	6960	2900	1800	*
APR. 1994	196.7	38800	26300	14000	13400	7110	3200	1690	*
MAY 1994	159.40	34700	23400	10100	11700	5040	3000	1280	*
JUNE 1994	189.20	37700	25500	13000	13000	6620	3100	1600	*
JULY 1994	170.67	41300	28200	13000	14500	6680	3300	1510	*
AUG. 1994	178.80	41700	28500	13700	14600	7070	3300	1590	*
SEPT 1994	188.11	40900	27900	14200	14300	7260	3300	1660	*
TOTAL	2329.37	**	**	158000	**	79800	**	19500	**
MTD.AVG.	6.4	37100	25100	**	13000	**	3100	**	**

07311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NEAR GUTHRIE, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	e36000	35500	33100	34900	34800	34100	34700	36100	35800	36000
2	---	---	e36200	---	35100	35900	35100	34900	35000	36100	35900	36000
3	---	---	---	35400	33800	34900	34400	33800	34100	---	---	e35700
4	---	---	e36700	35000	34200	34700	34400	34300	34400	---	---	e36000
5	---	---	e35800	35000	34300	34700	34200	33400	33700	---	---	e36500
6	37100	36000	36500	35100	---	34800	33600	33300	33400	---	---	e37000
7	37100	36200	36600	34900	---	34300	33400	33200	33300	37700	36900	37300
8	36100	35100	35600	---	33300	33900	34000	33800	33900	37100	36800	37000
9	36000	35400	35700	34900	32700	34000	34000	31800	33600	37100	36600	37000
10	36100	35300	35700	35000	32500	34000	34600	33000	33700	37200	36600	36900
11	36100	35600	35800	34800	32400	34100	34700	34400	34600	36800	36600	36700
12	36200	35800	36000	34600	---	34200	34900	34400	34700	36700	36400	36600
13	36200	35800	36100	34400	---	34100	35100	34800	35000	36600	36400	36600
14	36200	35600	36000	34300	33300	34000	35300	35200	35200	36500	36100	36300
15	36200	34600	35400	35200	34300	35000	36000	35600	35700	36500	36300	36400
16	35900	34700	35300	35200	33700	34600	36900	36000	36300	36700	36200	36400
17	---	---	---	34700	33600	34200	37100	34700	36100	36700	36500	36600
18	35700	34500	35100	34900	34000	34500	37300	36900	37100	37800	36500	37200
19	---	---	---	34600	33900	34300	37000	36800	36900	37900	37500	37700
20	---	---	---	34300	33600	34000	36900	35500	36000	37700	37300	37500
21	---	---	---	34500	33100	33800	35800	35500	35700	37400	37100	37300
22	---	---	---	35100	33000	34000	35700	35500	35600	37200	37100	37200
23	---	---	---	35300	34300	35100	35900	35700	35800	37200	36800	37000
24	---	---	---	35400	34500	35000	36000	35800	35900	37100	36800	37000
25	34400	34300	34300	35500	34100	35300	36100	35900	36000	37200	37100	37200
26	34100	33600	33700	35700	35200	35600	36100	35800	35900	37300	36700	37000
27	34300	33600	34100	35800	35100	35600	36000	35700	35900	36800	36600	36700
28	34500	34000	34300	35700	34800	35400	36200	36000	36100	36700	36500	36700
29	35100	33900	34500	35300	34700	35000	36300	36100	36200	36700	36600	36700
30	35100	34900	35000	34700	34400	34600	36400	36000	36200	37100	35900	36600
31	35000	34600	34800	---	---	---	36400	36000	36200	36300	35800	36000
MONTH	37100	33600	35500	35800	32400	34600	37300	31800	35300	37900	35800	36700

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	36000	35800	35900	33700	31500	33400	38400	34700	36500	38800	38200	38600
2	36000	35500	35700	33800	33400	33500	38900	37700	38200	38200	35200	36300
3	35600	35200	35400	33400	32200	32600	38300	37700	37400	35300	35000	35100
4	35700	35300	35500	32700	31000	32300	38400	37300	38100	35900	35100	35400
5	36000	35600	35800	32500	31900	32200	39200	37900	38600	36600	35700	36300
6	36300	36000	36100	32400	31500	32000	39800	38900	39400	37300	36100	36700
7	36400	36200	36300	32800	31900	32500	39600	38600	39100	37000	36500	36800
8	36600	36400	36400	33500	32600	33100	39600	38000	39000	37000	36100	36700
9	36700	36500	36600	34000	33500	33800	39700	39200	39400	37300	36800	37000
10	37000	36600	36800	34300	33600	34000	39700	38500	38900	37600	36900	37300
11	37300	36300	36900	34100	33100	33500	39200	38600	39000	37000	27500	32200
12	37200	36200	36500	33200	32400	32800	39000	37900	38500	35500	30800	34200
13	36300	35900	36000	33300	32100	32800	39400	37300	38500	---	---	---
14	36700	36000	36400	33700	32800	33400	39200	38100	38600	---	---	---
15	36600	36200	36400	33700	33300	33600	39500	38700	39000	---	---	---
16	36400	36100	36300	33600	33300	33400	38900	37800	38500	28400	25500	27000
17	36300	36100	36200	34500	33400	33800	39600	37300	38200	28300	23100	27200
18	36400	36200	36300	34600	33700	34300	39900	38800	39400	32300	28000	30000
19	36300	35900	36200	34900	34000	34400	40000	38700	39500	33800	27900	32600
20	36400	36100	36100	35100	34400	34700	40000	39000	39400	34400	29200	33400
21	36900	34600	36000	35200	33900	34800	39300	38500	39000	35300	34100	34500
22	35700	34400	35200	35200	33700	34500	40100	38100	39100	36200	34800	35500
23	34400	33400	33800	35500	34200	35000	39900	38600	39200	36200	34900	35600
24	33400	31400	31900	35700	35300	35500	39500	38600	39100	36700	34900	35900
25	32200	31300	31700	35600	34600	35300	39400	38500	39000	36600	36100	36300
26	33200	32200	32800	35300	34600	35000	40100	38500	39300	36900	34900	36500
27	34200	33100	33700	35200	34400	34900	39800	38600	39000	36900	31800	35400
28	34300	31500	33900	35400	34600	35000	39000	38100	38700	---	---	---
29	---	---	---	35700	33200	35100	39200	38600	38900	---	---	---
30	---	---	---	35900	35300	35700	39300	38700	39100	---	---	---
31	---	---	---	35600	34800	35300	---	---	---	36200	24100	31000
MONTH	37300	31300	35500	35900	31000	33900	40100	34700	38800	38800	23100	34500

e Estimated

07311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NEAR GUTHRIE, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	32200	28300	30300	41900	38600	41400	42000	41500	41600	42700	41100	42100
2	33500	28400	32000	41800	41100	41300	41800	40400	41300	43100	41200	42300
3	34400	30800	33200	41400	40300	40500	41500	40900	41200	43000	---	42800
4	35300	31900	34100	41700	39500	40100	41400	40500	40900	42800	42400	42600
5	35800	32300	34200	41600	40100	39800	41600	41000	41200	42800	41400	42300
6	36500	33300	35500	42200	40800	41200	42000	39400	41300	42400	41800	42100
7	37000	33400	36200	42500	39700	41400	41900	40900	41500	42300	40700	41600
8	37600	33300	36600	42200	38900	40900	41500	40900	41400	41300	37300	40000
9	37800	36500	37300	41900	40300	41100	---	---	---	41300	39500	40900
10	38100	32700	37400	42200	40800	41500	42600	41100	42000	---	---	---
11	38000	32700	37500	41500	40800	41200	43100	41800	42600	---	---	---
12	38500	33500	37800	42000	39900	41000	42800	41300	42400	41900	40600	41500
13	38500	31000	36400	41200	39400	40300	42300	41100	41700	43300	41400	42000
14	38600	34800	38100	41900	39700	40800	41600	40800	41400	43800	43000	43300
15	39100	38200	38600	42500	40000	41500	41800	38900	40500	43500	38800	41400
16	39500	38900	39100	43500	40800	42100	42500	38800	41000	43000	35100	40100
17	39800	39100	39400	43000	40500	41800	42500	40900	41800	42200	37500	39600
18	39800	38900	39400	41700	39700	40700	43300	41000	42300	38800	37500	38200
19	39600	38400	39300	41300	39200	40300	43000	41300	42300	39600	38600	39000
20	40200	38700	39400	---	---	---	42500	41200	42100	40400	39300	40000
21	41400	38100	40400	---	---	e41000	42300	40900	41600	40600	39600	40300
22	41500	39600	40600	43200	40600	41900	42000	40100	41200	40400	40100	40200
23	41300	40300	40300	43300	41900	42600	42200	41400	41500	40400	39600	40000
24	41100	40300	40700	42600	41000	41800	42000	40900	41600	40900	40300	40600
25	---	---	---	---	---	e41400	42600	40900	42000	40800	40500	40600
26	---	---	---	---	---	e40700	43000	40500	42300	40900	40400	40600
27	43500	40400	41900	41700	---	41000	42500	41600	42300	40900	40100	40500
28	43100	39900	42200	---	---	40800	42000	40900	41700	40800	40400	40600
29	42700	40200	41600	42100	41100	41700	---	---	e41000	40800	40400	40600
30	42100	39800	41400	43100	40600	42300	---	---	e42000	40700	40100	40500
31	---	---	---	43000	42000	42400	---	---	e42500	---	---	---
MONTH	43500	28300	37900	43500	38600	41200	43300	38800	41700	43800	35100	40900
YEAR	43800	23100	37200									

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	23.5	20.0	21.5	12.5	11.5	12.0	12.5	11.0	11.5	9.5	8.5	9.0
2	22.0	20.0	20.5	14.0	12.0	13.0	13.0	12.0	12.5	9.5	9.0	9.5
3	---	---	---	14.5	12.5	13.5	13.0	12.5	13.0	11.0	9.0	9.5
4	22.5	20.5	21.5	16.0	12.5	14.0	13.0	12.0	12.5	11.0	8.5	9.5
5	23.5	21.5	22.5	15.0	12.5	13.5	12.5	11.5	12.0	11.5	8.0	10.0
6	23.5	21.5	22.5	14.0	11.5	13.0	12.0	11.0	11.5	11.5	10.0	11.0
7	22.5	21.5	22.0	12.5	11.0	12.0	12.0	11.0	11.5	11.5	8.5	10.0
8	23.0	21.0	22.0	13.5	11.0	12.0	12.0	11.0	11.5	10.5	7.0	9.0
9	22.5	19.5	20.5	13.0	12.0	12.5	12.0	11.5	12.0	9.5	7.0	8.5
10	20.0	18.5	19.0	14.5	12.5	13.5	13.0	11.5	12.0	11.0	7.0	9.0
11	20.5	19.0	19.5	15.0	13.5	14.0	12.5	11.5	12.0	11.0	7.5	9.5
12	21.0	19.0	20.0	16.5	15.0	16.0	12.5	11.5	12.0	11.5	8.5	10.0
13	21.0	20.0	20.5	16.0	15.0	15.5	12.5	11.0	11.5	13.0	9.0	11.0
14	21.0	19.0	20.0	15.5	14.0	15.0	11.0	10.5	10.5	12.5	8.5	10.5
15	21.5	19.5	20.5	14.5	13.0	13.5	10.5	10.0	10.5	11.0	8.5	9.5
16	21.5	20.5	21.0	13.5	12.5	13.0	10.5	9.5	10.0	12.0	9.0	10.0
17	---	---	---	13.5	11.5	12.5	10.0	9.5	9.5	11.0	8.0	9.5
18	20.5	20.5	20.5	13.5	12.0	13.0	9.5	9.0	9.0	9.5	6.5	8.0
19	---	---	---	13.5	12.5	13.0	9.5	8.5	9.0	9.0	5.5	7.5
20	---	---	---	13.0	11.5	12.5	9.5	8.5	9.0	8.5	6.5	7.5
21	---	---	---	13.0	11.5	12.0	9.0	8.0	8.5	8.0	6.5	7.0
22	---	---	---	12.5	11.0	12.0	8.5	8.0	8.5	10.0	7.5	9.0
23	---	---	---	13.0	12.0	12.5	8.5	7.5	8.0	14.0	10.0	12.0
24	---	---	---	13.0	10.5	11.5	8.5	7.5	8.0	15.5	13.0	14.0
25	18.0	17.0	18.0	10.5	9.0	9.5	9.0	7.5	8.0	16.5	13.0	14.5
26	18.0	16.5	17.0	9.0	8.0	8.5	9.0	8.5	8.5	15.5	13.0	14.5
27	17.5	15.5	16.5	9.0	7.5	8.5	9.0	9.0	9.0	13.0	10.5	12.0
28	17.5	15.0	16.0	10.0	8.0	9.0	9.0	8.5	8.5	11.5	10.0	11.0
29	17.0	13.5	15.0	10.5	9.0	9.5	8.5	8.0	8.5	12.5	10.0	11.0
30	13.5	11.5	12.5	11.0	9.5	10.5	8.5	8.0	8.5	10.5	7.5	9.5
31	12.5	10.5	12.0	---	---	---	9.0	8.0	8.5	10.0	6.5	8.0
MONTH	23.5	10.5	19.0	16.5	7.5	12.5	13.0	7.5	10.0	16.5	5.5	10.0

e Estimated

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	9.5	5.0	7.5	12.5	10.5	11.0	20.5	15.0	17.5	20.5	14.0	18.0
2	10.5	5.5	8.0	15.5	9.0	12.0	21.0	14.5	17.5	18.0	15.5	17.0
3	12.5	7.5	10.0	15.5	11.0	13.0	20.5	13.0	16.5	20.0	16.0	18.0
4	13.0	10.0	11.0	17.0	12.0	14.0	19.0	14.5	17.0	25.5	18.0	22.0
5	14.5	9.5	12.0	18.0	12.5	15.0	17.5	13.0	14.5	26.0	21.0	23.5
6	15.0	10.0	12.5	19.5	14.5	17.0	18.5	11.5	15.0	27.5	22.0	25.0
7	14.5	10.5	12.5	19.0	16.0	17.0	17.0	12.0	14.5	22.0	19.5	21.0
8	13.5	11.0	12.0	17.5	11.5	14.5	21.0	14.0	17.5	25.0	21.0	22.5
9	12.5	8.0	9.5	12.0	10.0	11.0	22.0	17.0	19.5	25.0	21.5	23.0
10	10.0	7.0	8.5	15.0	8.5	11.5	20.0	17.0	18.5	23.0	19.5	21.5
11	11.0	7.5	9.0	15.0	10.5	13.0	19.5	15.5	17.0	23.0	19.5	20.5
12	12.0	9.0	10.5	14.0	12.0	13.0	20.5	14.0	17.0	21.0	20.5	21.0
13	13.0	7.5	10.0	18.0	12.5	14.5	22.0	15.5	18.5	---	---	---
14	10.5	7.5	9.0	18.5	12.5	15.5	21.0	17.5	20.5	---	---	---
15	13.0	8.0	10.0	20.0	15.0	17.5	22.0	17.0	19.5	---	---	---
16	14.5	8.5	11.0	19.5	15.0	17.0	24.0	16.5	20.0	28.0	22.5	25.0
17	15.0	10.5	13.0	21.0	16.0	18.5	22.5	17.5	20.0	26.5	23.5	24.5
18	16.0	12.5	14.0	21.5	16.5	19.0	23.0	18.5	20.5	28.0	23.5	25.5
19	16.5	15.0	15.5	22.5	16.5	19.5	25.0	19.0	22.0	29.5	24.0	26.5
20	16.5	12.5	14.5	21.5	18.5	20.0	26.0	20.5	24.0	28.0	23.5	26.0
21	14.5	10.5	12.0	21.5	16.5	19.0	24.5	21.0	22.5	29.0	23.0	26.0
22	11.0	9.5	10.5	20.0	16.0	17.5	26.0	21.0	23.5	28.5	24.0	26.0
23	12.5	7.0	9.5	22.0	16.5	18.5	26.0	21.5	23.0	29.5	24.0	26.5
24	14.0	8.0	11.0	22.0	16.5	18.5	24.0	20.5	22.0	31.0	24.5	27.5
25	13.0	9.0	11.0	19.5	15.0	16.5	23.0	18.0	21.0	30.5	25.5	28.0
26	13.0	8.0	10.5	20.0	15.0	16.5	25.0	18.0	21.5	29.5	26.0	27.0
27	13.0	8.0	10.5	18.5	14.0	15.5	18.5	15.0	16.0	27.5	25.0	26.0
28	13.0	11.0	12.0	17.0	12.5	14.5	21.5	13.5	18.0	---	---	---
29	---	---	---	17.0	11.5	14.0	15.5	12.0	13.5	---	---	---
30	---	---	---	19.0	13.0	15.0	18.0	12.0	15.5	---	---	---
31	---	---	---	19.5	13.0	16.0	---	---	---	30.0	25.5	26.5
MONTH	16.5	5.0	11.0	22.5	8.5	15.5	26.0	11.5	19.0	31.0	14.0	23.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	30.5	28.0	29.5	32.5	27.5	30.0	28.0	24.0	26.0	26.5	24.5	25.5
2	30.5	27.0	29.5	31.5	26.5	29.0	27.5	24.0	26.0	26.5	23.5	24.5
3	30.5	27.0	29.0	31.0	26.5	29.0	29.0	24.5	26.5	27.5	23.5	25.5
4	30.5	27.5	29.0	31.0	25.5	28.5	29.5	25.0	27.0	28.5	23.5	25.5
5	31.0	27.5	29.0	31.0	25.0	28.0	29.0	25.5	26.5	27.0	24.0	25.0
6	31.0	27.5	29.5	31.5	26.5	28.5	30.5	25.5	28.0	26.0	23.5	24.5
7	31.5	27.5	29.5	32.5	27.0	29.5	31.0	26.0	27.5	27.0	23.0	24.5
8	31.5	26.5	29.0	31.5	26.5	29.0	27.5	26.0	27.0	27.5	22.5	24.5
9	31.5	26.5	29.0	30.0	25.0	28.0	---	---	---	27.5	23.5	25.0
10	32.0	27.0	29.0	31.0	26.0	28.0	30.0	26.5	28.0	---	---	---
11	31.0	26.5	28.5	28.0	27.0	27.0	30.0	26.0	27.5	---	---	---
12	31.0	25.5	28.0	30.0	27.0	28.0	30.0	25.0	27.5	25.0	24.5	25.0
13	31.5	26.5	28.5	27.0	25.5	26.0	30.5	25.0	27.5	27.5	25.0	26.0
14	31.0	26.0	28.0	29.5	27.0	28.0	29.5	25.0	26.5	27.5	25.0	26.5
15	30.0	24.0	27.0	30.5	27.5	29.0	25.0	23.5	24.0	28.0	25.0	26.5
16	29.0	25.0	27.0	31.0	27.0	29.0	28.5	21.5	25.0	28.0	24.0	26.5
17	30.5	25.5	27.5	31.0	26.0	28.5	30.0	24.0	26.5	27.0	22.5	25.0
18	31.0	26.5	28.5	31.0	26.0	28.0	30.0	25.0	27.5	28.0	22.0	25.0
19	31.0	26.5	29.0	30.0	25.5	27.5	30.0	25.5	27.5	27.5	23.0	25.5
20	31.5	28.0	29.5	---	---	---	29.0	25.5	27.0	28.0	23.0	25.5
21	32.0	27.5	29.5	29.5	25.5	27.5	29.0	25.0	27.0	26.5	23.0	25.0
22	32.0	27.0	29.5	31.0	26.5	28.5	29.0	23.5	26.0	25.0	19.5	21.5
23	32.5	26.5	29.0	31.0	26.5	28.5	29.5	24.0	26.5	22.0	18.5	20.5
24	32.0	27.5	30.0	31.5	26.5	28.5	27.5	25.0	27.0	22.5	17.5	20.0
25	---	---	---	30.5	26.0	27.5	30.0	25.0	27.5	23.5	17.5	20.5
26	---	---	---	29.0	26.0	27.0	30.5	25.0	27.5	25.0	18.5	21.5
27	33.0	28.0	29.0	26.0	25.0	25.5	30.0	25.0	26.5	26.0	20.0	22.5
28	33.5	29.0	31.5	---	---	---	29.0	24.5	27.0	26.0	20.5	23.0
29	33.5	28.0	30.5	26.5	25.0	26.0	29.5	25.0	27.0	26.0	21.0	23.0
30	33.0	27.0	30.0	28.0	24.5	26.0	29.5	24.5	26.5	25.0	20.5	22.5
31	---	---	---	28.5	23.5	26.0	28.0	24.5	26.5	---	---	---
MONTH	33.5	24.0	29.0	32.5	23.5	28.0	31.0	21.5	27.0	28.5	17.5	24.0
YEAR	33.5	5.0	19.0									

07311783 SOUTH WICHITA RIVER BELOW DAM NEAR GUTHRIE, TX

LOCATION.--Lat 33°37'19", long 100°12'31", King County, Hydrologic Unit 11130205, on right bank 1.1 mi downstream from ranch road crossing, 2.8 mi upstream from Willow Creek, 6.6 mi east of Guthrie, and 91.4 mi upstream from confluence with North Wichita River.

DRAINAGE AREA.--223 mi².

PERIOD OF RECORD.--October 1985 to current year. Water-quality records.--Specific conductance: May 1987 to September 1989. Water temperature: May 1987 to September 1989.

GAGE.--Water-stage recorder. Datum of gage is 1,590.0 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diversions from station 07311782 via pipeline to station 07311669 began in May 1987. Specific conductance and water temperature for October 1986 to April 1987 were collected at station 07311782, but are published at this station and are used for computation of water quality loads at this station. Rain gage at station. Satellite telemeter and rain gage at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1950, 20.8 ft in May 1954, at station 07311780 located about 1.1 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.03	.28	.06	.06	.03	.03	2.3	e.13	.04	.01	.01
2	.04	.03	.13	.15	.09	.04	.03	2.4	e.13	.04	.01	.01
3	2.4	.04	1.8	.05	.13	.05	.01	2.7	e.13	.04	.02	.01
4	2.6	.04	.01	.06	1.9	.05	.03	e10	e.13	.04	.02	.01
5	1.7	.02	.01	.13	.05	.05	.03	e.20	e.13	.04	.02	.01
6	.01	.02	.01	.11	.05	.05	.02	e.06	e.06	.02	.02	.01
7	.01	.02	.02	.05	.05	.05	.02	.05	e.04	.03	.02	.01
8	.01	.03	.02	.05	.05	.14	.02	.05	e.03	.03	.03	.01
9	.03	.03	.02	.05	.05	.16	.01	.05	e.01	.02	.02	.01
10	2.6	.03	.02	.05	.91	.05	.01	.05	e.01	.03	.03	.01
11	1.4	.03	.02	.05	.04	.06	.01	27	.01	4.4	.03	.01
12	.01	.03	.02	.05	.04	.06	.01	49	.01	.01	.03	.28
13	.01	.03	.01	.05	.05	.05	.01	47	.01	3.9	.03	.41
14	.01	.03	.02	.05	.04	.05	.01	12	.01	.02	.02	.04
15	.02	.03	.02	.06	.04	.05	.01	7.0	.01	.02	.02	.02
16	1.7	.04	.02	.07	.07	.05	.01	2.1	.01	.02	.02	.02
17	3.2	.04	.03	.06	.05	.05	.02	.02	.01	.02	.03	.02
18	3.3	.04	.03	.06	.05	.06	.02	.01	.01	.02	.02	.02
19	5.1	.04	.03	.06	.04	.05	.01	.01	.01	.02	.03	.02
20	4.3	.04	.03	.13	.04	.05	.02	.01	.01	.02	.03	.02
21	3.7	.04	.03	.15	.04	.05	.02	.01	.01	.02	.02	.02
22	3.4	.05	.08	.06	.05	.05	.03	.02	.01	.02	.02	.02
23	3.3	.05	.04	.06	.05	.05	.05	.04	.01	.02	.02	.03
24	3.3	.04	.04	.06	.04	.04	.12	.11	.01	.01	.02	.03
25	1.3	.04	.05	.09	.04	.04	.20	.55	.02	.01	.02	.02
26	.02	.05	.06	.08	.05	.04	.25	.37	1.7	.01	.02	.02
27	.02	1.0	.05	.06	.04	.04	.25	24	.66	.01	.02	.02
28	.02	4.4	.04	.06	.04	.05	.52	25	.03	.01	.01	.02
29	.02	2.2	.03	.08	---	1.3	2.7	16	.03	.01	.01	.02
30	.02	.37	.04	.14	---	.04	5.2	17	.03	.01	.01	.02
31	.02	---	.08	.06	---	.04	---	e7.8	---	.01	.01	---
TOTAL	43.61	8.88	3.09	2.30	4.15	2.94	9.68	252.91	3.41	8.92	0.64	1.18
MEAN	1.41	.30	.10	.074	.15	.095	.32	8.16	.11	.29	.021	.039
MAX	5.1	4.4	1.8	.15	1.9	1.3	5.2	49	1.7	4.4	.03	.41
MIN	.01	.02	.01	.05	.04	.03	.01	.01	.01	.01	.01	.01
AC-FT	87	18	6.1	4.6	8.2	5.8	19	502	6.8	18	1.3	2.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1994, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	6.23	1.95	3.23	3.73	4.06	2.08	2.22	8.92	4.99	19.2
MAX	30.6	8.51	9.34	9.16	17.8	5.20	9.16	53.2	13.8	154
(WY)	1987	1987	1992	1990	1992	1992	1990	1987	1991	1986
MIN	.030	.046	.028	.073	.077	.016	.074	.043	.11	.025
(WY)	1989	1988	1989	1989	1989	1991	1989	1988	1994	1993

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1985 - 1994
ANNUAL TOTAL	372.63	341.71	
ANNUAL MEAN	1.02	.94	5.84
HIGHEST ANNUAL MEAN			20.8
LOWEST ANNUAL MEAN			.75
HIGHEST DAILY MEAN	33 Feb 15	49 May 12	3520 Jul 3 1986
LOWEST DAILY MEAN	.01 Jul 12	.01 Oct 6	.00 Jan 4 1986
ANNUAL SEVEN-DAY MINIMUM	.01 Jul 14	.01 Apr 9	.01 Sep 15 1990
INSTANTANEOUS PEAK FLOW		257 May 13	13100 Jul 3 1986
INSTANTANEOUS PEAK STAGE		5.94 May 13	19.01 Jul 3 1989
INSTANTANEOUS LOW FLOW			.00 Jan 4 1986
ANNUAL RUNOFF (AC-FT)	739	678	4230
10 PERCENT EXCEEDS	3.3	1.7	8.5
50 PERCENT EXCEEDS	.05	.04	.07
90 PERCENT EXCEEDS	.02	.01	.02

e Estimated

RED RIVER BASIN

07311790 SOUTH WICHITA RIVER AT ROSS RANCH NEAR BENJAMIN, TX

LOCATION.--Lat 33°39'18", long 100°00'49", King County, Hydrologic Unit 11130205, on left bank 170 ft (52 m) upstream from ranch road, 1.6 mi (2.6 km) downstream from Ox Yoke Creek, 13.7 mi (22.0 km) northwest of Benjamin, and 64.5 mi (103.8 km) upstream from mouth.

PERIOD OF RECORD.--Chemical analyses: August 1970 to September 1979, March 1988 to current year. Sediment analyses: April 1978 to September 1979.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1970 to September 1979.

INSTRUMENTATION.--From October 1970 to September 1979, specific conductance was continuously recorded at this station.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 51,000 microsiemens July 28, 1978; minimum, 1,500 microsiemens May 28, 1975.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT									
12...	1040	0.41	19700	19.0	3900	3800	1000	330	3400
NOV									
15...	1305	2.2	20800	12.5	3500	3400	930	280	3700
JAN									
03...	1255	2.0	16500	9.5	3000	2900	790	260	2600
FEB									
10...	1330	1.8	14400	6.0	2800	2700	730	240	2300
DATE		SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT									
12...	24	21		52	3300	5400	1.1	<0.10	13500
NOV									
15...	27	21		76	2900	6100	1.2	0.10	14000
JAN									
03...	21	19		120	2700	4500	0.40	4.2	10900
FEB									
10...	19	17		120	2600	3800	0.40	0.60	9760

RED RIVER BASIN

75

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX

LOCATION.--Lat 33°38'39", long 99°48'02", Knox County, Hydrologic Unit 11130205, on right bank at upstream side of bridge on State Highway 6, 2 mi downstream from Panhandle and Santa Fe Railway Co. bridge, 4 mi north of Benjamin, and 41 mi upstream from confluence with North Wichita River.

DRAINAGE AREA.--584 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1952-57 (occasional low-flow measurements), December 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,334.23 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 2, 1960, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There are low flow diversions upstream on the South Wichita River at Low Flow Dam near Guthrie (station 07311782) to evaporation lake (station 07311669). There were other minor diversions upstream from station during the year. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1903 occurred in September 1919 (stage and discharge unknown), from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 27	0900	2,170	14.69	Sep. 15	1000	3,080	15.79

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.3	3.1	1.5	2.7	46	1.5	e.42	24	.00	.00	198
2	.00	2.2	3.0	1.5	3.3	18	1.7	7.5	22	.00	.00	14
3	.00	1.6	55	1.5	2.1	11	1.3	.90	20	.00	.00	1.8
4	.00	1.7	24	2.0	2.2	11	1.6	.80	15	.00	.00	.35
5	.00	1.3	12	3.1	2.3	10	1.3	.62	13	.00	.00	.00
6	.00	1.3	10	2.9	2.0	7.6	1.1	.53	11	269	.00	.00
7	.00	1.4	9.2	2.6	2.5	5.6	1.3	.35	8.8	23	.00	.00
8	.00	1.3	5.5	3.0	2.6	13	1.4	.36	7.1	1.4	.00	.00
9	.00	1.3	4.0	3.2	4.4	16	1.3	.38	4.1	.58	.00	.00
10	.00	1.5	2.9	3.0	5.3	10	.97	.45	3.9	.26	.00	.00
11	.00	1.7	2.7	2.6	5.7	8.2	1.5	338	3.1	.15	.00	.00
12	.00	2.2	9.4	2.8	4.0	7.4	5.7	163	3.2	.04	.00	.00
13	.00	1.5	35	2.9	2.6	7.5	1.6	187	2.3	.00	.00	.00
14	.00	1.9	7.5	2.8	2.6	5.5	1.5	92	1.7	.00	3.5	.00
15	.00	1.7	2.6	2.6	3.8	4.8	1.0	67	1.6	.00	34	1690
16	.00	4.7	2.6	2.6	5.3	3.1	.92	34	1.2	.00	.92	282
17	.00	6.6	2.3	2.3	4.8	3.8	.94	23	1.8	.00	.00	46
18	.00	9.2	2.3	4.3	3.7	2.8	.88	16	1.0	.00	.00	25
19	34	8.1	2.4	3.7	3.5	3.1	.79	11	.80	.00	.00	17
20	37	5.8	2.0	2.0	3.5	3.1	.79	6.9	.84	.00	.00	4.6
21	8.5	7.1	1.8	1.8	181	2.2	.73	6.4	.84	.00	.00	1.6
22	10	6.9	2.2	3.9	229	2.0	.70	5.9	.91	.00	.00	.73
23	9.4	7.2	1.8	3.5	16	2.4	.65	6.2	.73	1.4	.00	.70
24	9.6	3.1	1.7	2.9	6.1	1.8	.64	8.2	1.0	2.7	.00	.58
25	11	2.0	1.8	2.9	3.2	1.5	.61	248	.83	.00	.00	.37
26	12	1.9	1.7	2.9	1.4	2.0	.63	632	.61	.00	.00	.28
27	11	3.1	1.6	2.8	1.2	1.6	.64	1030	.54	.00	.00	.28
28	13	3.9	1.3	2.6	3.1	1.5	.64	92	.41	.00	.00	.14
29	8.6	2.6	1.4	1.7	---	1.5	8.0	65	.29	.00	.00	.05
30	4.2	3.0	1.5	2.2	---	1.3	e.53	46	.00	.00	.00	.02
31	2.5	---	1.6	3.4	---	1.4	---	33	---	.00	.00	---
TOTAL	170.80	100.1	215.9	83.5	509.9	216.7	42.86	3122.91	152.60	298.53	38.42	2283.50
MEAN	5.51	3.34	6.96	2.69	18.2	6.99	1.43	101	5.09	9.63	1.24	76.1
MAX	37	9.2	55	4.3	229	46	8.0	1030	24	269	34	1690
MIN	.00	1.3	1.3	1.5	1.2	1.3	.53	.35	.00	.00	.00	.00
AC-FT	339	199	428	166	1010	430	85	6190	303	592	76	4530
IN.	.01	.01	.01	.01	.03	.01	.00	.20	.01	.02	.00	.15

RED RIVER BASIN

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1994, BY WATER YEAR (WY)

MEAN	77.9	18.0	12.9	12.3	18.3	21.1	30.6	75.9	86.2	22.7	36.9	77.5
MAX	656	65.1	77.5	60.3	172	88.7	187	256	458	162	360	502
(WY)	1984	1987	1992	1992	1992	1970	1990	1989	1990	1986	1966	1966
MIN	.17	1.14	.73	.68	1.39	.97	.073	.92	1.49	.013	.000	.034
(WY)	1980	1988	1989	1989	1989	1989	1989	1988	1976	1965	1963	1983

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1961 - 1994
ANNUAL TOTAL	8312.04	7235.72	
ANNUAL MEAN	22.8	19.8	40.9
HIGHEST ANNUAL MEAN			107
LOWEST ANNUAL MEAN			11.2
HIGHEST DAILY MEAN	1040	1690	8260
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		3080	14900
INSTANTANEOUS PEAK STAGE		15.79	17.07
INSTANTANEOUS LOW FLOW			.00
ANNUAL RUNOFF (AC-FT)	16490	14350	29630
ANNUAL RUNOFF (INCHES)	.53	.46	.95
10 PERCENT EXCEEDS	36	16	46
50 PERCENT EXCEEDS	9.6	1.8	7.1
90 PERCENT EXCEEDS	.00	.00	.34

e Estimated

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1967 to current year.

INSTRUMENTATION.--Since August 1968, specific conductance and water temperature was recorded continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request. No flow conditions present for several days.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 39.0°C July 31, 1989; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 38.0°C Aug. 14; minimum, 0.0°C for several days.

[illegible]

RED RIVER BASIN

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX--Continued

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. 1993	170.80	8980	6110	2820	2300	1060	1600	719	1900
NOV. 1993	100.1	18700	12900	3470	5300	1420	2900	778	*
DEC. 1993	215.9	10400	7060	4120	2500	1480	1900	1110	*
JAN. 1994	83.5	16000	10900	2460	4300	963	2600	592	*
FEB. 1994	509.9	7850	5320	7320	2000	2700	1400	1930	1700
MAR. 1994	216.7	6900	4650	2720	1600	951	1300	767	1500
APR. 1994	42.86	14900	10200	1180	4000	458	2500	287	*
MAY 1994	3122.91	3380	2260	19000	740	6220	690	5780	800
JUNE 1994	152.60	8660	5820	2400	2000	828	1700	687	2000
JULY 1994	298.53	1690	1120	900	330	270	370	298	430
AUG. 1994	38.42	3100	2050	213	630	66	660	69	770
SEPT 1994	2283.50	1800	1190	7360	360	2210	390	2430	460
TOTAL	7235.72	**	**	54000	**	18600	**	15500	**
WTD.AVG.	20	4110	2760	**	950	**	790	**	930

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	18500	17900	18100	17900	17500	17700	16000	15400	15700
2	---	---	---	18900	18400	18700	17900	16800	17600	16000	15600	15800
3	---	---	---	19100	18600	18900	15700	3580	9950	16800	15900	16400
4	---	---	---	19500	18800	19100	9200	5160	6690	16900	16400	16600
5	---	---	---	20000	19100	19500	10400	9740	9910	16800	16300	16600
6	---	---	---	20400	19800	20100	12100	11300	11600	17100	16500	16700
7	---	---	---	20200	19600	19900	13000	12200	12400	17300	16700	17100
8	---	---	---	20000	18800	19400	14200	13800	13900	17100	16700	17000
9	---	---	---	19100	18700	18800	14400	14100	14200	17200	16500	16800
10	---	---	---	19200	18600	18800	14200	13800	14000	16900	16300	16700
11	---	---	---	18800	18400	18500	14200	13900	14000	16800	16500	16700
12	---	---	---	19100	18300	18700	14600	5060	13500	16700	16400	16600
13	---	---	---	18800	18000	18600	12300	4160	7400	16700	16200	16500
14	---	---	---	18800	17200	18100	9400	7040	8130	16600	16200	16500
15	---	---	---	18600	17800	18200	9080	7860	8260	16600	16400	16500
16	---	---	---	18400	15900	17700	11200	9080	9850	16600	16100	16400
17	---	---	---	18500	17800	18100	12800	12200	12400	16500	16000	16300
18	---	---	---	19000	18300	18700	12900	12400	12600	16900	16100	16500
19	2700	900	1400	19300	18700	19100	13500	13100	13200	16700	13300	16000
20	4040	1780	2940	19200	18700	19000	14000	13500	13700	16200	15200	15600
21	---	---	e6000	19400	18700	19000	14200	13800	14000	16000	15200	15600
22	---	---	e8000	19600	19000	19300	14400	12700	14000	15300	14500	14800
23	---	---	e10000	19200	18200	18700	14700	14000	14300	15000	14400	14700
24	---	---	e13000	19000	18600	18800	14700	14100	14400	15000	14500	14800
25	---	---	e15000	19000	18700	18900	14700	14100	14400	15000	14800	15000
26	15600	11300	15500	20100	17600	18900	14500	14200	14400	15200	14800	15000
27	16700	15500	16200	19300	17500	18300	14900	14300	14500	15600	15200	15500
28	17800	16700	17300	18600	17500	18000	15100	14800	14900	15700	15400	15600
29	18300	17800	18000	18200	17800	18000	15400	14800	15100	15600	15200	15400
30	17900	17400	17700	18000	17700	17900	15600	15000	15400	15300	14400	15000
31	18000	17500	17800	---	---	---	15600	15100	15400	14900	14400	14600
MONTH	18300	900	12200	20400	15900	18700	17900	3580	13000	17300	13300	16000

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	15500	14000	14700	---	---	e2500	16100	15100	15600	6020	3940	5170
2	15300	14100	14800	---	---	e4000	16300	15400	15800	7800	3040	5000
3	15000	13900	14500	---	---	e6000	16400	15800	16100	3560	2780	3130
4	15000	14500	14800	7680	7400	7250	16400	16000	16200	10300	3560	7080
5	15300	14900	15200	8140	6450	7430	16600	16100	16300	10400	9800	10100
6	15300	14900	15100	6520	3900	5230	16900	16400	16700	11400	9860	10600
7	15200	14900	15100	4450	3990	4210	16800	16300	16600	13800	11100	12700
8	15200	15100	15100	4570	3900	4260	17000	16300	16600	14900	13800	14300
9	15400	15100	15300	4100	3760	3930	17200	16400	16800	15400	14500	14800
10	16200	15200	15500	4010	3800	3910	17100	16600	16800	14900	10800	14000
11	16200	15300	15700	---	---	e10000	16900	15100	16200	14700	1000	5330
12	16500	15900	16200	---	---	e10800	18100	16000	17200	3100	700	1510
13	17000	16300	16700	---	---	e11500	18400	17300	17700	8040	780	2700
14	17000	16300	16600	11600	12300	11900	18400	16400	17500	8780	5800	7290
15	17100	16500	16800	12800	12000	12400	16400	14500	15300	9240	3880	5190
16	17200	16700	17000	12900	12300	12600	14800	13200	13700	12500	9240	11300
17	17700	17000	17300	13300	12400	12900	13800	12900	13400	9860	8900	9330
18	17900	17300	17500	13800	13000	13400	14600	13200	13800	10700	9640	10100
19	18300	17600	17900	14100	13200	13700	15000	13800	14300	12200	10500	11200
20	18600	18100	18400	14100	13500	13900	15100	14000	14600	12900	11900	12300
21	19000	1050	12800	14500	14000	14200	16000	14500	15100	13200	12200	12700
22	2860	1300	1920	14500	14200	14300	16700	15000	15800	13100	12500	12800
23	1450	1290	1400	14700	14200	14400	17100	15700	16300	13300	12700	12900
24	5700	6500	6200	15100	14300	14600	16800	15900	16400	13600	11700	13100
25	---	---	e6300	15000	14400	14800	17400	16100	16800	13900	740	9780
26	---	---	e7000	15100	14200	14600	17700	16200	16900	1740	600	1320
27	---	---	e8500	15300	14900	15000	16900	15600	16400	2100	780	1350
28	---	---	e10000	15700	15000	15400	17400	14200	16200	2040	1520	1720
29	---	---	---	15800	15200	15500	16100	1780	10000	---	---	e4000
30	---	---	---	15700	15200	15500	6020	3140	4100	---	---	e6000
31	---	---	---	15600	15200	15400	---	---	---	7560	7000	e7210
MONTH	19000	1050	13400	15800	3760	10800	18400	1780	15400	15400	600	8260

e Estimated

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	e7500	---	---	---	---	---	---	3520	1480	3380
2	---	---	e7800	---	---	---	---	---	---	---	---	e4500
3	---	---	e8000	---	---	---	---	---	---	---	---	e5200
4	---	---	e8200	---	---	---	---	---	---	---	---	e6000
5	---	---	e8580	---	---	---	---	---	---	---	---	---
6	---	---	e8600	3400	---	1540	---	---	---	---	---	---
7	9300	8600	8980	2660	1640	2060	---	---	---	---	---	---
8	9630	9030	9340	3190	2370	2900	---	---	---	---	---	---
9	9860	9160	9590	---	---	e4500	---	---	---	---	---	---
10	10000	9350	9770	---	---	e5200	---	---	---	---	---	---
11	10200	9750	10000	---	---	e5900	---	---	---	---	---	---
12	10400	9830	10100	---	---	e6920	---	---	---	---	---	---
13	10700	10400	10500	---	---	---	---	---	---	---	---	---
14	11000	10700	10900	---	---	---	1140	1080	1120	---	---	---
15	11200	11000	11000	---	---	---	5300	1140	3200	---	---	e1400
16	11100	10900	11000	---	---	---	7200	6400	6760	---	---	e2400
17	11500	10800	11100	---	---	---	---	---	---	4970	2670	3780
18	11400	10900	11200	---	---	---	---	---	---	3790	2300	2930
19	11500	10800	11200	---	---	---	---	---	---	4060	2220	3160
20	11700	10900	11200	---	---	---	---	---	---	3920	2540	3110
21	11900	10900	11400	---	---	---	---	---	---	3460	2670	3080
22	11900	11100	11400	---	---	---	---	---	---	3950	3000	3400
23	11700	11200	11500	8700	7530	8200	---	---	---	4520	3300	3850
24	12200	11300	11700	9150	6870	8000	---	---	---	4790	3870	4100
25	11900	11400	11700	---	---	---	---	---	---	5110	4150	4420
26	12200	11500	11800	---	---	---	---	---	---	4810	4030	4360
27	12100	11700	11900	---	---	---	---	---	---	5100	4400	4600
28	12500	12100	12300	---	---	---	---	---	---	5140	4460	4670
29	12800	12300	12600	---	---	---	---	---	---	5830	4670	4960
30	---	---	---	---	---	---	---	---	---	6060	4960	5220
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	12800	8600	10400	9150	1640	5020	7200	1080	3690	6060	1480	3930
YEAR	20400	600	12200									

e Estimated

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	11.0	6.0	8.0	16.0	7.0	11.0	13.0	4.0	7.5
2	---	---	---	14.0	8.0	10.0	14.5	9.5	11.5	12.0	5.0	7.0
3	---	---	---	15.5	7.5	10.5	12.0	9.5	11.5	13.0	3.5	7.5
4	---	---	---	19.0	9.0	12.5	10.5	6.0	8.5	11.5	2.5	6.0
5	---	---	---	13.5	7.0	9.5	11.0	6.0	8.5	12.0	3.0	6.5
6	---	---	---	14.0	4.0	8.0	9.5	4.0	7.0	11.0	5.0	7.5
7	---	---	---	13.0	3.0	7.0	10.5	4.5	7.5	9.5	.5	4.0
8	---	---	---	17.0	4.0	9.0	11.5	5.0	8.0	8.5	1.0	3.5
9	---	---	---	11.5	7.5	10.0	14.0	9.5	11.0	9.0	.0	3.5
10	---	---	---	18.0	8.5	11.5	15.0	7.5	10.5	12.0	3.0	6.0
11	---	---	---	16.5	9.0	13.0	11.5	6.5	9.0	12.5	3.0	6.0
12	---	---	---	21.0	13.5	16.0	18.0	8.5	12.5	12.0	3.0	6.5
13	---	---	---	14.0	10.5	12.5	12.0	8.0	9.5	13.0	3.5	7.0
14	---	---	---	17.5	8.5	12.0	---	---	---	14.5	3.0	7.0
15	---	---	---	13.0	7.0	9.0	---	---	---	8.0	2.5	5.0
16	---	---	---	13.5	7.5	9.5	---	---	---	15.5	4.0	7.0
17	---	---	---	15.0	6.0	9.5	---	---	---	13.0	2.5	6.0
18	---	---	---	16.5	8.5	11.5	---	---	---	8.5	.0	2.0
19	18.0	14.0	15.5	14.0	6.5	10.5	---	---	---	9.5	.0	2.0
20	17.0	14.5	15.5	12.5	4.0	7.0	---	---	---	4.0	2.0	3.5
21	17.5	11.0	14.0	13.0	3.5	7.0	---	---	---	5.5	2.5	4.0
22	16.5	9.5	13.0	14.0	5.0	8.5	---	---	---	9.5	5.0	7.0
23	16.0	10.0	13.0	14.0	8.0	10.5	---	---	---	18.0	9.0	12.5
24	17.5	11.0	14.0	8.5	2.5	5.5	---	---	---	21.5	14.0	16.5
25	17.5	11.0	14.0	3.5	.0	1.5	---	---	---	24.0	13.5	18.0
26	17.0	12.0	14.0	7.5	.0	1.5	---	---	---	18.5	12.0	16.5
27	16.5	10.5	13.0	11.0	.0	3.0	---	---	---	18.0	8.0	11.0
28	16.5	9.5	13.0	11.0	.5	4.5	---	---	---	13.0	5.0	8.0
29	13.5	5.0	9.0	12.5	1.5	5.0	---	---	---	15.0	5.5	8.5
30	11.0	2.0	5.5	14.5	2.0	7.0	---	---	---	8.5	2.0	5.0
31	12.5	3.0	7.0	---	---	---	---	---	---	10.0	.0	3.0
MONTH	18.0	2.0	12.5	21.0	.0	8.5	18.0	4.0	9.5	24.0	.0	7.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	12.0	.0	3.5	12.0	8.5	9.5	25.5	10.5	16.5	16.0	14.0	15.5
2	12.5	.0	5.0	12.5	7.5	9.5	25.5	10.0	17.0	17.0	13.0	15.0
3	18.5	3.5	10.0	15.0	12.5	13.5	26.5	9.5	16.0	18.5	12.5	15.0
4	16.5	9.0	12.0	16.5	13.0	15.0	22.5	12.0	16.5	29.5	14.0	20.5
5	20.5	7.5	12.5	18.5	10.0	14.0	18.0	7.5	13.0	30.5	18.0	23.0
6	23.5	7.0	13.5	17.5	13.5	15.5	22.5	6.0	12.5	32.5	19.5	25.0
7	22.0	9.5	14.0	17.5	15.0	16.0	22.0	8.0	14.0	22.0	16.5	20.0
8	18.0	7.0	12.5	16.0	8.5	12.5	26.5	10.0	17.0	32.5	16.0	22.5
9	7.0	.0	2.0	10.5	7.0	8.5	26.0	15.0	19.0	29.5	19.0	22.5
10	14.5	.0	4.0	12.5	9.5	10.5	22.5	14.0	16.5	20.5	19.0	19.5
11	19.0	.5	8.5	14.5	12.0	13.0	23.0	11.5	15.5	21.0	18.0	19.5
12	21.0	7.0	12.0	14.0	13.0	14.0	22.0	10.5	15.5	23.5	18.5	20.5
13	21.0	3.0	9.5	17.0	13.5	14.5	24.0	12.5	17.5	23.5	18.0	20.5
14	13.5	3.0	7.5	20.5	16.5	18.5	21.5	15.5	18.0	27.5	20.5	24.0
15	20.5	3.5	10.0	22.0	15.5	17.5	20.5	14.0	17.0	29.5	21.0	25.0
16	22.0	5.5	12.0	22.5	12.0	16.5	24.0	12.0	17.0	31.5	20.5	25.5
17	24.5	9.5	15.0	24.5	14.0	18.0	24.0	13.5	18.0	29.5	22.5	26.0
18	23.5	13.0	17.0	26.0	15.0	19.5	23.5	13.0	17.5	29.5	23.0	26.0
19	20.5	12.5	17.0	27.0	15.0	20.0	29.5	14.0	19.5	30.5	22.0	26.0
20	21.0	9.0	13.5	27.5	16.5	21.5	32.5	16.5	23.0	29.0	20.0	24.5
21	10.5	4.0	7.5	28.0	14.0	19.0	33.5	17.5	22.5	29.0	19.5	24.5
22	9.0	4.5	6.0	25.5	12.5	18.0	32.0	16.5	23.5	27.5	21.5	25.0
23	11.5	9.0	10.0	31.0	15.5	21.0	32.5	17.0	23.5	26.5	20.5	24.5
24	---	---	---	25.5	14.0	19.0	28.0	18.0	21.5	29.0	21.0	25.0
25	---	---	---	23.5	11.5	16.5	26.5	14.5	20.0	31.0	22.0	25.5
26	8.5	4.5	6.5	32.0	14.5	20.0	31.0	11.5	20.5	26.0	20.5	23.0
27	9.5	5.5	7.0	23.5	12.5	16.0	19.5	9.5	13.5	25.5	18.0	21.5
28	12.5	9.0	10.5	26.0	8.5	16.0	32.0	9.0	18.5	23.5	22.0	22.5
29	---	---	---	21.0	10.0	14.0	16.5	8.0	11.0	25.0	23.0	24.0
30	---	---	---	23.5	8.0	14.0	15.5	8.5	12.0	25.5	23.5	25.0
31	---	---	---	24.5	8.5	15.0	---	---	---	32.5	24.0	28.0
MONTH	24.5	.0	10.0	32.0	7.0	15.5	33.5	6.0	17.5	32.5	12.5	22.5

07311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

07312000 LAKE KEMP NEAR MABELLE, TX

LOCATION.--Lat 33°45'30", long 99°09'03", Baylor County, Hydrologic Unit 11130206, in outlet gate tower near center of dam on Wichita River, 6.2 mi north of Mabelle, 13 mi northeast of Seymour, and 126.7 mi upstream from mouth.

DRAINAGE AREA.--2,086 mi².

PERIOD OF RECORD.--October 1922 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1972, nonrecording gage at different site and at datum 2.40 ft higher.

REMARKS.--The lake is formed by a rolled earthfill dam 8,890 ft long. The original dam was completed Aug. 25, 1923, but deliberate impoundment had begun Oct. 1, 1922. Enlargement of the dam was completed in November 1973. The 3,000-foot-wide uncontrolled spillway is located approximately 600 ft to right and slightly upstream from right end of dam. The controlled outlet works near center of dam consist of two hydraulically operated slide gates 5 ft 8-in by 13 ft with a 13-foot-diameter conduit and spillway basin. The dam and lake are owned by the city of Wichita Falls and the Wichita County Water Improvement District No. 2. Water is used for irrigation in the Wichita River Valley, oil field operation, municipal, and industrial uses. The capacity table is based on a resurvey made in 1973. Satellite telemetering at station. Figures given herein represents total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,183.0	-
Crest of spillway.....	1,160.0	603,000
Top of flood-control pool.....	1,156.0	502,900
Top of conservation pool.....	1,144.0	268,000
Lowest gated outlet (invert).....	1,090.0	1,400

COOPERATION.--Capacity table No. 4-C was provided by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 420,900 acre-ft June 30, 1941 (elevation, 1,152.0 ft), present datum; minimum since first appreciable storage, 26,160 acre-ft June 30, 1953 (elevation, 1,108.0 ft), present datum.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 243,200 acre-ft May 31 at 0200 hours (elevation, 1,142.34 ft); minimum daily contents, 175,700 acre-ft Sept. 15 (elevation, 1,136.97 ft).

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

1110.0	31,100	1136.0	166,200	1142.0	238,200
1120.0	66,300	1138.0	186,700	1147.0	317,700
1130.0	120,400	1140.0	210,900	1152.0	407,600

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	215400	206000	204500	209100	205600	216600	217700	206600	242700	224300	206900	184100
2	214200	205900	204600	208600	205500	217200	217800	206600	242300	222900	205900	183500
3	213600	206000	205900	209000	205700	217800	216600	206900	241800	221500	205200	182500
4	212900	206000	206100	208500	206000	218300	216400	207400	241600	220200	203800	181900
5	212200	205700	206500	208800	206200	218200	215200	207500	241400	219500	202600	181200
6	211400	205100	206600	208600	206300	218900	214800	207700	240100	222900	200200	180300
7	210900	205000	206700	208300	206500	218500	214400	207000	240000	224600	198100	179700
8	210300	204800	206900	208500	206600	218900	214000	207000	239700	224100	197100	179000
9	209000	205100	207000	208000	205200	219500	214100	206900	239800	224500	196900	178700
10	208100	205100	207100	208000	205600	219500	212800	207000	238600	224600	196000	178000
11	207600	204800	207100	207600	206200	219700	213400	210600	238200	224500	195500	177500
12	209800	205200	207100	207500	205700	220100	212500	217700	237600	223800	194100	177000
13	210100	205400	209000	207400	206100	220200	212000	221700	236400	224100	193400	176400
14	209900	205400	208600	207200	206100	220500	211800	224200	236100	223000	193400	175800
15	209800	205400	208800	206600	206000	220500	211300	224900	235300	223300	192300	177900
16	209300	205200	208900	205900	206000	220300	210900	225700	235000	222200	191600	181000
17	209000	205200	208900	205900	206100	221100	210600	225900	234300	222300	190400	183500
18	208800	205200	208800	205400	206500	220900	209400	226700	233900	221300	192800	184700
19	210000	205200	209100	204900	206700	221300	209500	226900	233300	220200	193900	184300
20	210500	205200	209000	205100	206600	221300	208900	226300	232900	219700	192800	183800
21	210500	205100	209000	204900	208800	221100	208800	226300	232000	218500	191600	183400
22	210600	205100	209000	204700	212400	220600	207700	225700	230900	218200	191000	182800
23	209900	205100	208900	205200	213400	220300	207500	225700	230600	217400	190300	182200
24	209800	205000	208600	205500	214900	220100	207100	225700	230200	216400	189700	181200
25	209500	204600	209100	205700	213700	219900	207100	227400	229000	215600	188700	180800
26	208900	204100	208900	206200	214000	219800	206400	231300	228400	214400	187600	180100
27	208500	204100	208800	205700	214000	219100	205700	236100	226900	213600	186600	180200
28	208200	204200	208500	205400	215700	219500	205100	238900	225700	212100	186000	179600
29	207500	204200	208300	205600	---	218500	205500	242300	224800	210800	185100	178800
30	206600	204200	208500	205400	---	218500	206200	243000	224800	209500	184200	178600
31	206000	---	209000	205400	---	218300	---	242400	---	208900	183400	---
MAX	215400	206000	209100	209100	215700	221300	217800	243000	242700	224600	206900	184700
MIN	206000	204100	204500	204700	205200	216600	205100	206600	224800	208900	183400	175800
(+)	1139.61	1139.46	1139.85	1139.56	1140.36	1140.56	1139.63	1142.29	1141.04	1139.84	1137.69	1137.24
(#)	-10100	-1800	+4800	-3600	+10300	+2600	-12100	+36200	-17600	-15900	-25500	-4800
CAL YR 1993	MAX	282200	MIN	204100	(#)	-32100						
WTR YR 1994	MAX	243000	MIN	175700	(#)	-37500						

(+) Elevation, in feet, at end of month.
(#) Change in contents, in acre-feet.

RED RIVER BASIN

83

07312100 WICHITA RIVER NEAR MABELLE, TX

LOCATION.--Lat 33°45'36", long 99°08'33", Baylor County, Hydrologic Unit 11130206, near left bank at downstream side of bridge on U.S. Highways 183 and 283, 0.3 mi downstream from Lake Kemp Dam, 6.2 mi north of Mabelle, and 13 mi north-east of Seymour.

DRAINAGE AREA.--2,086 mi², all of which is above Lake Kemp Dam.

PERIOD OF RECORD.--1952-58 (occasional discharge measurements), October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,062.72 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Lake Kemp (station 07312000) 0.3 mi upstream. Water is released from Lake Kemp to supply Lake Diversion, 12.5 mi downstream. Water from Lake Diversion is released for mining, recreation, and for irrigation in the vicinity of Wichita Falls.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	181	37	.92	1.2	1.1	7.3	135	59	158	237	365	293
2	181	1.5	.92	1.2	1.1	1.5	135	60	158	322	366	293
3	182	1.2	1.6	1.2	1.1	1.3	134	58	156	322	349	292
4	183	1.1	1.1	1.2	1.1	1.5	133	59	156	320	336	292
5	183	1.2	.92	1.0	1.1	1.2	137	61	158	125	474	292
6	183	1.1	.92	1.1	1.1	1.2	137	61	158	77	754	264
7	184	1.1	.92	1.2	1.1	1.3	137	59	159	262	760	211
8	186	1.1	.92	57	1.1	1.5	135	54	159	265	296	158
9	188	1.1	.92	98	1.2	1.4	134	54	161	266	1.5	158
10	187	1.0	.92	98	1.2	1.2	135	55	162	265	91	157
11	187	.99	.92	98	1.1	1.2	135	58	161	190	240	157
12	190	.94	1.4	98	1.1	1.2	134	57	158	140	238	157
13	120	.93	1.3	98	1.1	1.2	132	59	151	140	237	157
14	75	.94	1.0	98	1.1	1.1	133	56	145	140	241	158
15	74	.92	.92	99	1.1	1.2	137	56	134	140	236	159
16	74	.95	.92	99	1.1	1.1	135	56	158	140	239	159
17	75	1.0	.92	98	1.1	.98	135	56	158	139	238	161
18	75	.92	.92	99	1.1	1.1	136	57	154	138	240	161
19	79	1.0	.92	99	1.4	1.1	136	57	155	137	234	161
20	75	.92	.92	100	1.3	1.1	136	56	158	187	238	161
21	74	.84	.92	100	5.4	1.1	136	56	194	219	243	160
22	74	.84	.92	100	4.8	1.0	136	56	217	220	242	164
23	74	.84	1.0	60	1.5	1.1	135	111	217	219	243	164
24	75	.92	1.0	1.5	1.2	1.1	134	156	218	218	238	163
25	75	.84	1.1	1.3	1.3	1.1	133	162	218	220	240	163
26	77	.84	1.1	1.2	1.3	1.1	134	163	248	221	242	163
27	74	.84	1.1	1.2	1.2	1.2	136	166	322	221	239	162
28	72	.84	1.1	1.2	1.3	.96	135	158	323	259	243	162
29	76	.92	1.1	1.2	---	53	109	158	324	282	243	161
30	73	.92	1.1	1.2	---	136	60	156	324	282	270	161
31	73	---	1.1	1.2	---	134	---	156	---	297	295	---
TOTAL	3679	65.55	31.74	1517.1	40.7	362.34	3949	2646	5722	6610	8911.5	5624
MEAN	119	2.18	1.02	48.9	1.45	11.7	132	85.4	191	213	287	187
MAX	190	37	1.6	100	5.4	136	137	166	324	322	760	293
MIN	72	.84	.92	1.0	1.1	.96	60	54	134	77	1.5	157
AC-FT	7300	130	63	3010	81	719	7830	5250	11350	13110	17680	11160

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1994, BY WATER YEAR (WY)

MEAN	138	116	42.6	65.9	68.1	150	171	158	296	317	247	168
MAX	952	1271	247	648	769	659	659	1246	1810	923	490	915
(WY)	1987	1987	1987	1992	1992	1968	1968	1990	1992	1967	1967	1986
MIN	.66	.39	.42	.60	.51	.50	.89	6.53	2.59	140	30.9	1.66
(WY)	1985	1974	1974	1979	1979	1989	1981	1977	1989	1975	1978	1974

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1960 - 1994

ANNUAL TOTAL	61526.39	39158.93	162
ANNUAL MEAN	169	107	522
HIGHEST ANNUAL MEAN			59.9
LOWEST ANNUAL MEAN			3530
HIGHEST DAILY MEAN	1170	760	1987
LOWEST DAILY MEAN	.84	.84	1981
ANNUAL SEVEN-DAY MINIMUM	.85	.85	1992
INSTANTANEOUS PEAK FLOW		768	1989
INSTANTANEOUS PEAK STAGE		4.49	1976
INSTANTANEOUS LOW FLOW			1976
ANNUAL RUNOFF (AC-FT)	122000	77670	117300
10 PERCENT EXCEEDS	396	242	410
50 PERCENT EXCEEDS	122	98	12
90 PERCENT EXCEEDS	1.0	.99	.72

07312110 SOUTH SIDE CANAL NEAR DUNDEE, TX

LOCATION.--Lat 33°48'50", long 98°55'57", Archer County, Hydrologic Unit 11130206, on left bank, 125 ft downstream from Lake Diversion headgates, and 5.3 mi northwest of Dundee.

DRAINAGE AREA.--2,194 mi² (for Lake Diversion on Wichita River, provided by Wichita County Water Improvement District No. 2).

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,039.70 ft above National Geodetic Vertical Datum of 1929 (Wichita County Water Improvement District benchmark).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Records of discharge are of water released from Lake Diversion into a cannal system for mining, industrial, recreation, and irrigation use. Several observations of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	20	1.0	.45	.48	.23	22	79	103	227	252	199
2	84	16	1.0	.45	.39	.25	22	78	103	228	250	177
3	84	1.2	.97	.43	.31	.25	22	53	104	229	237	177
4	84	1.0	.78	.46	.32	.30	22	51	104	230	236	178
5	84	1.0	.79	.46	.32	.43	22	52	116	230	240	171
6	84	.91	.77	.46	.32	.47	22	52	134	201	244	161
7	84	.91	.85	.45	.32	.53	22	52	135	165	251	156
8	83	.80	.86	e16	.32	.55	23	52	138	147	255	143
9	83	.80	.91	e60	.29	.51	23	52	155	148	255	134
10	83	.70	.91	e87	.25	.48	51	52	160	149	251	126
11	84	.70	.91	e94	.24	.47	72	52	162	102	248	125
12	86	.61	.87	e94	.20	.46	96	52	160	60	249	124
13	88	.61	.53	e94	.18	.53	118	53	161	87	252	124
14	86	.61	.40	e94	.20	.53	110	53	161	89	245	123
15	86	.53	.47	e94	.17	.53	128	53	162	89	218	122
16	85	.53	.53	e94	.14	.66	128	53	162	95	202	122
17	85	.46	.53	e94	.14	.64	129	53	161	106	204	120
18	85	e.46	.56	e94	.14	.61	136	54	161	157	219	120
19	87	e.53	.61	94	.20	.70	143	54	161	176	226	109
20	86	e.53	.61	94	.20	.94	142	59	160	174	211	99
21	85	e.53	.61	93	.25	.88	141	77	160	173	212	98
22	85	e.61	.61	93	.20	.80	141	78	166	174	211	106
23	85	e.61	.56	73	.14	.77	142	101	197	174	211	113
24	84	e.70	.56	5.3	.13	.91	141	118	220	183	225	113
25	84	e.70	.56	4.1	.14	.91	141	119	221	180	233	112
26	84	e.70	.53	2.4	.14	.91	140	122	221	174	232	111
27	83	e.80	.53	1.2	.15	1.1	141	120	220	174	232	110
28	82	e.80	.53	.75	.20	1.2	140	101	220	174	230	109
29	82	e.91	.49	.74	---	11	128	101	223	174	230	108
30	67	.98	.46	.68	---	22	81	101	227	185	224	125
31	20	---	.42	.62	---	22	---	102	---	231	215	---
TOTAL	2535	56.23	20.72	1380.95	6.48	72.55	2789	2249	4938	5085	7200	3915
MEAN	81.8	1.87	.67	44.5	.23	2.34	93.0	72.5	165	164	232	130
MAX	88	20	1.0	94	.48	22	143	122	227	231	255	199
MIN	20	.46	.40	.43	.13	.23	22	51	103	60	202	98
AC-FT	5030	112	41	2740	13	144	5530	4460	9790	10090	14280	7770

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1994, BY WATER YEAR (WY)

	MEAN	66.8	11.8	14.2	21.2	13.7	21.3	59.8	75.7	127	206	185	119
MAX	141	41.0	76.3	66.1	52.2	75.6	150	218	240	344	282	219	
(WY)	1978	1978	1978	1989	1975	1980	1972	1984	1984	1974	1980	1983	
MIN	3.10	.000	.000	.000	.000	.000	2.56	17.6	20.1	124	50.8	45.2	
(WY)	1977	1985	1985	1985	1985	1985	1979	1982	1982	1992	1989	1986	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1972 - 1994

ANNUAL TOTAL	26062.67	30247.93	
ANNUAL MEAN	71.4	82.9	77.2
HIGHEST ANNUAL MEAN			120
LOWEST ANNUAL MEAN			46.6
HIGHEST DAILY MEAN	203	255	374
LOWEST DAILY MEAN	.00	.13	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.16	.00
INSTANTANEOUS PEAK FLOW		264	374
INSTANTANEOUS PEAK STAGE		7.18	
ANNUAL RUNOFF (AC-FT)	51700	60000	55940
10 PERCENT EXCEEDS	186	218	203
50 PERCENT EXCEEDS	53	84	50
90 PERCENT EXCEEDS	.00	.45	.24

e Estimated

LOCATION.--Lat 33°54'21", long 98°54'17", Wichita County, Hydrologic Unit 11130207, near right bank at downstream side of bridge on Farm Road 2326, 6.5 mi northwest of Kanay, 8 mi upstream from Wichita River, and 9 mi south of Electra.

PERIOD OF RECORD.--February 1960 to current year.

Water-quality records.--Chemical analyses: October 1968 to June 1970. Water temperatures: October 1968 to June 1970. Sediment records: April 1966 to September 1975.

GAGE.--Water-stage recorder. Datum of gage is 991.3 ft above National Geodetic Vertical Datum of 1929 (Texas Department of Transportation reference point).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1925, 36.0 ft, probably occurred Oct. 2, 1941 (partly caused by breaching of Santa Rosa Dam to avoid its failure). from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 22	1530	1.450	22.58				

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.9	e8.7	2.9	2.6	11	.80	89	4.9	23	4.8	15
2	11	9.9	e10	2.8	2.5	15	1.6	49	5.2	9.0	3.8	30
3	11	10	e99	2.8	2.6	14	3.6	143	5.1	6.6	4.2	11
4	11	9.9	e123	2.8	2.7	9.8	3.0	68	3.9	6.7	5.5	4.9
5	11	9.7	e31	2.7	2.6	8.7	2.4	26	4.6	5.8	5.1	4.0
6	11	9.6	e9.9	2.7	2.6	7.9	3.4	14	4.8	142	4.8	3.8
7	11	9.5	e7.5	2.6	2.9	7.5	2.5	9.5	3.4	60	4.6	3.8
8	9.5	9.7	6.9	2.4	3.0	11	1.2	7.9	4.2	13	3.8	3.9
9	11	9.8	6.6	2.4	3.0	94	1.3	7.3	4.3	61	4.0	4.2
10	11	9.8	6.5	2.2	3.1	86	4.1	7.1	7.4	199	3.7	4.2
11	11	9.6	6.3	2.1	3.1	28	5.6	33	7.8	94	3.8	3.9
12	12	9.8	6.5	1.9	3.0	14	5.6	799	8.3	19	2.6	3.8
13	98	9.8	60	1.9	3.0	10	8.8	487	8.0	9.1	3.2	3.8
14	64	10	33	1.9	3.0	8.5	7.2	381	8.4	7.3	3.3	3.2
15	22	11	13	1.9	3.2	7.7	5.5	148	8.0	6.5	4.5	2.9
16	12	10	7.6	1.8	3.3	6.9	3.0	34	6.7	6.1	5.5	5.1
17	11	10	5.9	1.8	3.3	6.5	3.1	18	5.6	5.8	5.7	8.5
18	11	9.5	5.0	1.7	3.1	5.9	2.5	12	5.3	5.4	4.0	5.2
19	34	9.2	4.6	1.6	3.4	5.6	1.2	9.4	5.6	4.7	5.1	3.9
20	87	9.0	4.2	1.6	4.7	5.3	1.1	8.8	8.2	4.5	6.2	3.8
21	34	9.0	4.0	1.6	68	5.1	1.2	8.4	8.5	5.2	4.6	3.7
22	15	8.9	3.8	1.7	1070	3.0	2.3	7.8	8.5	5.2	2.6	2.8
23	11	9.2	3.7	2.1	313	1.3	6.2	6.7	8.3	5.4	1.8	3.1
24	11	9.1	3.7	2.5	77	2.2	7.6	5.4	8.2	5.2	3.0	3.4
25	10	e9.4	3.6	2.9	26	3.3	12	5.8	8.2	4.7	5.5	3.7
26	10	e9.4	3.6	e3.1	14	3.8	8.0	59	8.2	4.6	4.7	3.7
27	10	e9.4	3.5	e3.1	11	3.8	6.8	47	8.0	5.2	3.1	3.2
28	9.7	e9.4	3.4	3.1	9.6	3.5	6.5	19	7.5	4.6	4.2	2.8
29	9.8	e9.3	3.3	2.8	---	2.6	15	10	7.3	4.9	3.4	3.6
30	10	e8.7	3.1	2.7	---	1.5	138	7.0	28	5.8	3.5	3.4
31	10	---	3.1	2.6	---	.96	---	6.1	---	5.8	3.3	---
TOTAL	611.0	287.5	494.0	72.7	1649.3	394.36	271.10	2533.2	220.4	745.1	127.9	162.3
MEAN	19.7	9.58	15.9	2.35	58.9	12.7	9.04	81.7	7.35	24.0	4.13	5.41
MAX	98	11	123	3.1	1070	94	138	799	28	199	6.2	30
MIN	9.5	8.7	3.1	1.6	2.5	.96	.80	5.4	3.4	4.5	1.8	2.8
AC-FT	1210	570	980	144	3270	782	538	5020	437	1480	254	322
CFSM	.03	.01	.02	.00	.09	.02	.01	.13	.01	.04	.01	.01
IN.	.03	.02	.03	.00	.09	.02	.02	.14	.01	.04	.01	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1994, BY WATER YEAR (WY)

MEAN	124	39.0	31.4	21.7	53.7	83.0	66.3	140	121	67.2	41.5	118
MAX	1108	319	385	185	553	592	760	921	618	727	388	1107
(WY)	1987	1973	1992	1985	1993	1961	1990	1987	1992	1975	1966	1986
MIN	.14	.82	.71	.27	.84	.65	.89	3.10	3.37	1.84	1.35	1.14
(WY)	1964	1966	1971	1966	1963	1965	1982	1988	1966	1964	1983	1983

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1961 - 1994

ANNUAL TOTAL	62661.2		7568.86				
ANNUAL MEAN	172		20.7			75.6	
HIGHEST ANNUAL MEAN						296	1987
LOWEST ANNUAL MEAN						11.4	1983
HIGHEST DAILY MEAN	4290	Feb 16	1070	Feb 22		11000	May 29 1987
LOWEST DAILY MEAN	3.1	Dec 30	.80	Apr 1		.00	May 11 1962
ANNUAL SEVEN-DAY MINIMUM	3.4	Dec 25	1.7	Jan 16		.00	May 11 1962
INSTANTANEOUS PEAK FLOW			1450	Feb 22		11700	Mar 17 1961
INSTANTANEOUS PEAK STAGE			22.58	Feb 22		34.94	May 29 1987
ANNUAL RUNOFF (AC-FT)	124300		15010			54770	
ANNUAL RUNOFF (CFSM)	.26		.032			.12	
ANNUAL RUNOFF (INCHES)	3.58		.43			1.58	
10 PERCENT EXCEEDS	432		28			115	
50 PERCENT EXCEEDS	16		5.8			5.4	
90 PERCENT EXCEEDS	9.1		2.6			.72	

e Estimated

RED RIVER BASIN

07312500 WICHITA RIVER AT WICHITA FALLS, TX

LOCATION.--Lat 33°54'34", long 98°32'00". Wichita County, Hydrologic Unit 11130206, near center of stream at downstream side of bridge on Beverly Drive in Wichita Falls, 4 mi upstream from Fort Worth and Denver Railway Co. bridge, 8.4 mi upstream from Holliday Creek, and 55.3 mi upstream from mouth.

DRAINAGE AREA.--3,140 mi², of which 2,086 mi² is above Lake Kemp Dam.

PERIOD OF RECORD.--February 1901 to January 1902 (monthly discharge only, published in WSP 1311, 1901 water year no longer used in computation of average discharge because of poor accuracy of record. October 1910 to December 1911 (gage heights only), March 1938 to current year.

Water-quality records.--Chemical analyses: April 1966 to July 1975. Chemical and biochemical analyses: November 1981 to August 1989. Sediment analyses: April 1966 to July 1975. Specific Conductance: October 1981 to September 1989. Water temperature: October 1981 to September 1989.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 924.26 ft above National Geodetic Vertical Datum of 1929. February 1900 to February 1902 and Oct. 1, 1910, to Dec. 31, 1911, nonrecording gages at site 4 mi downstream at different datum. Mar. 30, 1938, to Dec. 1, 1959, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow from 2,086 mi² above this station is regulated by Lake Kemp (capacity 603,000 acre-ft) 71 mi upstream. Since completion of Lake Kemp in 1923, no outflow has been permitted to pass over the spillway. Water is diverted from Lake Diversion (capacity 40,000 acre-ft) 41 mi upstream for the irrigation of 42,000 acres under permit in the vicinity of Wichita Falls. During the current water year, the Wichita County Water Improvement District No. 2 diverted 60,000 acre-ft from Lake Diversion for mining, industrial, irrigation, and for recreational uses. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 50,000 ft³/s June 8, 1915, computed by Vernon L. Sullivan, engineer for Big Wichita River Irrigation Co.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	98	40	14	18	194	21	182	47	100	63	76
2	52	112	42	14	17	193	22	178	40	99	71	88
3	50	95	294	14	20	120	27	188	32	80	71	100
4	53	69	241	15	21	88	32	198	30	71	65	86
5	53	58	170	16	23	67	43	129	24	70	69	64
6	52	54	96	16	27	54	51	92	19	142	69	61
7	55	53	51	16	19	46	33	62	28	242	76	63
8	70	53	35	15	15	46	33	49	32	185	83	66
9	75	52	28	16	15	74	36	41	41	168	78	111
10	74	50	23	17	14	101	40	37	81	168	71	91
11	76	49	22	59	15	129	42	40	234	281	80	86
12	72	55	38	95	16	88	42	64	248	210	84	78
13	131	52	180	109	16	64	42	682	126	129	76	62
14	167	55	140	81	15	49	50	491	116	105	72	58
15	168	53	112	78	15	42	94	388	115	e85	83	55
16	117	51	60	76	15	36	58	217	113	e65	81	53
17	94	54	41	70	14	34	60	111	96	e50	77	54
18	83	49	29	70	15	34	58	76	91	e36	68	55
19	107	47	20	63	22	30	51	59	86	e42	58	58
20	182	46	18	64	26	31	50	49	86	62	60	51
21	177	44	17	61	85	28	38	47	83	71	67	46
22	134	43	16	65	810	27	40	49	73	72	69	47
23	113	43	15	64	1710	26	33	43	50	77	65	46
24	100	42	14	65	930	24	38	67	50	69	74	50
25	94	42	14	76	187	23	46	91	58	57	e71	51
26	89	42	15	50	110	23	44	123	64	44	e69	51
27	89	41	15	30	78	23	48	122	63	47	70	53
28	87	41	14	24	67	25	62	140	60	53	e74	52
29	90	40	14	21	---	26	98	104	64	51	e72	53
30	97	37	14	20	---	25	131	68	80	57	e74	49
31	97	---	14	21	---	24	---	53	---	57	76	---
TOTAL	2948	1620	1842	1415	4335	1794	1463	4240	2330	3045	2236	1914
MEAN	95.1	54.0	59.4	45.6	155	57.9	48.8	137	77.7	98.2	72.1	63.8
MAX	182	112	294	109	1710	194	131	682	248	281	84	111
MIN	50	37	14	14	14	23	21	37	19	36	58	46
AC-FT	5850	3210	3650	2810	8600	3560	2900	8410	4620	6040	4440	3800

RED RIVER BASIN

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07312500 WICHITA RIVER AT WICHITA FALLS, TX--Continued

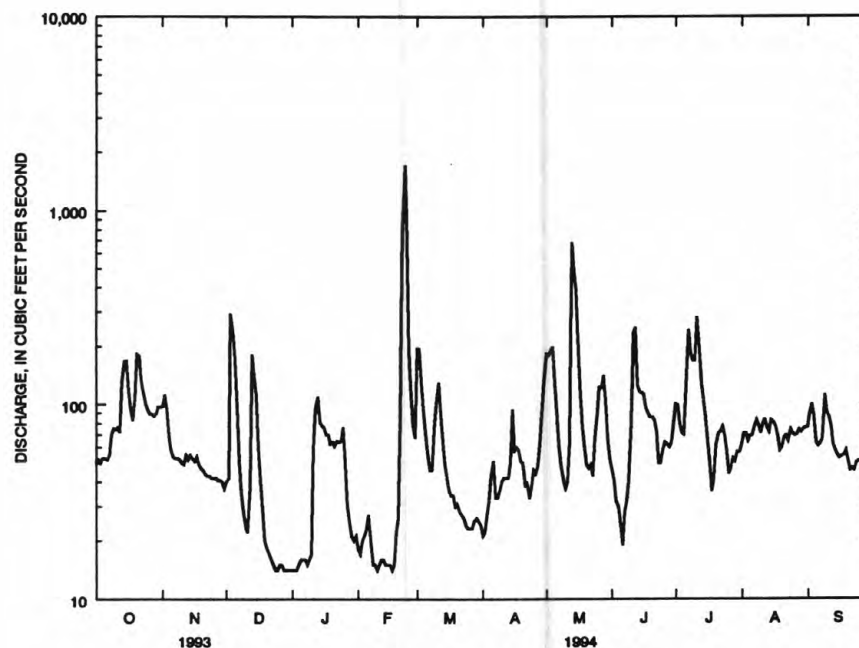
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1994, BY WATER YEAR (WY)

MEAN	433	214	123	94.2	154	195	236	575	510	240	232	328
MAX	4017	1784	1091	859	1252	1412	1450	4105	4475	1201	2791	2619
(WY)	1942	1973	1992	1992	1992	1993	1990	1941	1941	1975	1950	1950
MIN	55.1	34.9	25.3	22.5	28.7	26.9	37.3	52.0	71.0	60.6	61.9	63.8
(WY)	1983	1982	1979	1974	1982	1975	1989	1988	1944	1986	1986	1994

SUMMARY STATISTICS FOR 1993 CALENDAR YEAR FOR 1994 WATER YEAR WATER YEARS 1938 - 1994

ANNUAL TOTAL	152473		29182		275	
ANNUAL MEAN	418		80.0		977	1941
HIGHEST ANNUAL MEAN					64.3	1983
LOWEST ANNUAL MEAN					17300	Oct 3 1941
HIGHEST DAILY MEAN	4630	Mar 4	1710	Feb 23	7.7	Apr 9 1978
LOWEST DAILY MEAN	14	Dec 24	14	Dec 24	11	Mar 6 1975
ANNUAL SEVEN-DAY MINIMUM	14	Dec 24	14	Dec 28	17800	Oct 3 1941
INSTANTANEOUS PEAK FLOW			1840	Feb 23	24.00	Oct 3 1941
INSTANTANEOUS PEAK STAGE			9.32	Feb 23	.00	Oct 11 1960
INSTANTANEOUS LOW FLOW			12	Feb 10		
ANNUAL RUNOFF (AC-FT)	302400		57880		198900	
10 PERCENT EXCEEDS	1210		130		570	
50 PERCENT EXCEEDS	111		58		84	
90 PERCENT EXCEEDS	49		19		36	

e Estimated

07312500 WICHITA RIVER AT WICHITA FALLS, TX
MEAN DAILY DISCHARGE (CFS)

RED RIVER BASIN

07312700 WICHITA RIVER NEAR CHARLIE, TX

LOCATION.--Lat 34°03'11", long 98°17'47", Clay County, Hydrologic Unit 11130206, on right bank at upstream side of bridge on Farm Road 810, 3.0 mi southeast of Charlie, and 5.7 mi northwest of Petrolia.

DRAINAGE AREA.--3,439 mi², of which 2,086 mi² is above Lake Kemp Dam and 143 mi² is above Lake Wichita Dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 872.71 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are poor. For statement regarding regulation and diversions, see station 07312500. Records furnished by the city of Wichita Falls show that 15,455 acre-ft was returned to river above this station as sewage effluent.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	125	107	92	58	336	47	294	126	136	85	131
2	106	139	109	93	47	450	49	284	115	144	85	154
3	104	201	674	90	45	273	54	375	107	140	123	160
4	102	189	956	89	45	160	52	294	95	106	115	e140
5	108	142	362	88	45	114	54	273	80	107	97	e119
6	103	109	257	82	43	93	52	185	69	164	99	e116
7	101	99	183	73	46	78	54	139	73	387	102	116
8	107	97	147	74	47	73	50	108	75	410	99	119
9	113	96	129	54	40	120	46	98	68	342	104	e222
10	105	93	122	53	38	125	48	96	71	596	115	e280
11	105	96	115	54	38	118	49	94	148	346	112	154
12	106	92	120	60	41	149	61	126	656	409	112	120
13	175	96	388	107	38	155	80	207	343	317	128	109
14	249	100	322	124	38	144	64	756	191	198	117	107
15	226	119	229	119	37	109	69	598	164	152	117	99
16	206	101	197	119	38	87	98	487	163	138	139	104
17	145	141	152	134	38	63	75	307	153	101	139	99
18	122	109	130	113	37	59	81	179	145	102	125	94
19	125	93	120	106	39	59	89	141	130	94	117	89
20	301	94	113	106	98	56	82	123	118	94	109	97
21	252	96	111	106	84	54	95	106	118	119	104	104
22	243	98	102	112	1000	52	97	96	112	136	107	85
23	192	99	108	122	1310	49	90	97	97	133	109	69
24	157	103	106	131	1620	52	90	108	78	127	112	63
25	135	104	104	124	812	51	84	138	70	111	104	59
26	130	101	100	110	241	49	101	234	94	110	97	61
27	124	106	99	82	137	51	97	250	102	106	104	61
28	131	106	96	58	105	49	88	207	95	100	117	67
29	123	102	94	52	---	49	127	224	100	84	115	69
30	127	101	95	49	---	49	629	164	92	80	120	71
31	127	---	94	51	---	49	---	143	---	88	125	---
TOTAL	4558	3347	6041	2827	6205	3375	2752	6931	4048	5677	3453	3338
MEAN	147	112	195	91.2	222	109	91.7	224	135	183	111	111
MAX	301	201	956	134	1620	450	629	756	656	596	139	280
MIN	101	92	94	49	37	49	46	94	68	80	85	59
AC-FT	9040	6640	11980	5610	12310	6690	5460	13750	8030	11260	6850	6620

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

	398	330	211	187	277	401	347	573	655	292	244	431
MEAN	398	330	211	187	277	401	347	573	655	292	244	431
MAX	2032	2194	1556	1005	1411	1832	2377	3094	2736	1330	750	2598
(WY)	1987	1973	1992	1992	1992	1993	1990	1990	1987	1992	1971	1986
MIN	101	63.2	51.5	46.1	54.4	70.2	61.2	103	135	92.5	111	111
(WY)	1971	1982	1979	1974	1980	1972	1989	1988	1994	1972	1994	1994

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1968 - 1994

ANNUAL TOTAL	214092	52552	
ANNUAL MEAN	587	144	
HIGHEST ANNUAL MEAN			362
LOWEST ANNUAL MEAN			986
HIGHEST DAILY MEAN	4860	Mar 6	125
LOWEST DAILY MEAN	92	Nov 12	1983
ANNUAL SEVEN-DAY MINIMUM	96	Nov 7	7740
INSTANTANEOUS PEAK FLOW			May 7 1990
INSTANTANEOUS LOW FLOW			24
ANNUAL RUNOFF (AC-FT)	424700	104200	24
10 PERCENT EXCEEDS	1650	249	25.80
50 PERCENT EXCEEDS	192	106	262300
90 PERCENT EXCEEDS	103	52	851
			143
			66

e Estimated

RED RIVER BASIN

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07312700 WICHITA RIVER NEAR CHARLIE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1967 to September 1981, October 1989 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1967 to September 1981.

WATER TEMPERATURE: October 1967 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD

SPECIFIC CONDUCTANCE: Maximum daily, 10,000 microsiemens Apr. 25, 1972; minimum daily, 384 microsiemens Aug. 16, 1971.

WATER TEMPERATURE: Maximum daily, 34.5°C July 25, 1981; minimum daily, 0.0°C on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	
NOV 18...	1030	107	3210	7.9	10.0	9.4	86	2.9	610	460	150	
JAN 20...	1045	99	4760	8.4	4.0	16.5	130	1.5	1100	960	280	
MAR 28...	0925	49	4200	8.5	12.5	12.0	117	4.7	850	640	190	
JUN 16...	0950	145	4230	8.0	25.0	7.1	89	4.0	890	780	230	
AUG 03...	1335	123	4990	8.9	27.5	13.9	183	4.7	1200	1000	280	
29...	1350	89	5370	8.6	29.0	11.1	152	4.3	1200	1100	300	
DATE		MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
NOV 18...	58	390	7	9.2	160	300	790	0.40	6.0	1800	0.950	
JAN 20...	100	630	8	1.6	150	690	1100	0.50	3.8	2910	1.75	
MAR 28...	92	560	8	8.8	220	440	1000	0.70	1.7	2440	2.44	
JUN 16...	76	610	9	9.0	110	690	930	0.50	8.8	2630	1.19	
AUG 03...	110	750	10	11	110	830	1200	0.50	2.9	3250	0.420	
29...	110	750	9	9.1	110	910	1300	0.50	6.1	3450	0.380	
DATE		NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	
NOV 18...	0.950	0.010	0.960	0.960	0.020	0.48	0.50	0.330	0.350	1.1		
JAN 20...	1.75	0.050	1.80	1.80	0.090	0.31	0.40	0.150	0.160	0.49		
MAR 28...	2.44	0.060	2.50	2.50	0.020	0.58	0.60	0.660	0.660	2.0		
JUN 16...	1.19	0.010	1.20	1.20	0.030	0.47	0.50	0.260	0.230	0.71		
AUG 03...	0.420	0.030	0.450	0.450	0.040	0.46	0.50	0.140	0.100	0.31		
29...	0.380	0.020	0.400	0.400	0.040	0.26	0.30	0.260	0.250	0.77		

RED RIVER BASIN

07314000 LAKE KICKAPOO NEAR ARCHER CITY, TX

LOCATION.--Lat 33°39'47", long 98°46'43", Archer County, Hydrologic Unit 11130209, on intake tower near left end of dam on North Fork Little Wichita River, 8.2 mi south of Mankins, and 9.2 mi northwest of Archer City.

DRAINAGE AREA.--275 mi².

PERIOD OF RECORD.--February 1946 to current year. Prior to October 1965, end of month contents only.
Water-quality records.--Chemical analyses: October 1969 to September 1984.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by City of Wichita Falls). Prior to Oct. 8, 1946, water-stage recorder at same site and datum. Non-recording gage read twice daily prior to Feb. 17, 1974, once daily thereafter.

REMARKS.--The lake is formed by a rolled earthfill dam 8,200 ft long, including a 483-foot-wide reinforced concrete ogee-type uncontrolled spillway near right end of dam. The dam was completed Dec. 15, 1945, and storage began Feb. 1, 1946. The service outlet consists of two gate-controlled 4- by 5-foot conduits. The dam and lake are owned by the City of Wichita Falls, which uses the water for their municipal supply. The capacity table is based on U.S. Geological Survey topographic maps, dated 1929. The capacity curve, dated November 1946, was entitled "Lake Kickapoo & Capacity Curve". Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,062.0	-
Design flood (2-foot freeboard).....	1,060.0	221,000
Crest of spillway.....	1,045.0	106,000
Lowest gated outlet (invert).....	1,000.92	0

COOPERATION.--Capacity curve, record of lake elevations, and diversions for municipal use are provided by the city of Wichita Falls.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 134,300 acre-ft Aug. 2, 1950 (elevation, 1,049.2 ft); minimum observed since first filling in July 1950, 35,660 acre-ft June 30, 1953 (elevation, 1,029.8 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 99,700 acre-ft May 26 (elevation, 1,044.0 ft); minimum daily contents, 84,850 acre-ft Sept. 27, 29-30 (elevation, 1,041.5 ft).

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

1,030.0	36,200	1,042.0	87,700	1,048.0	126,000
1,038.0	66,500	1,044.0	99,700	1,049.0	132,900
1,040.0	76,500	1,046.0	112,500	1,050.0	140,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94210	91830	91240	96040	93010	92420	91830	88290	96040	91830	91240	88880
2	94820	92420	91240	96040	93010	93010	90650	88290	96040	91830	91240	88880
3	94820	92420	93010	96040	93010	93010	90060	88290	96040	91830	91240	88880
4	92420	92420	94820	95430	93010	93010	90650	88290	96040	90650	91240	88880
5	92420	91830	94820	95430	93010	93010	90060	88290	96040	90650	91240	88290
6	92420	91240	94820	94820	93010	93010	90060	88290	96040	91240	91240	88880
7	92420	91830	95430	94820	92420	92420	90060	88290	96040	90650	90650	88290
8	92420	91830	96040	94820	92420	92420	89470	88290	96040	90060	89470	88880
9	92420	91830	95430	94820	92420	93010	90060	88290	95430	90060	89470	87700
10	91830	91830	95430	94820	92420	93010	89470	88290	94820	91240	89470	88290
11	91830	91830	96040	94820	92420	93010	89470	88880	95430	93600	88880	87700
12	91830	91830	95430	94820	92420	93010	89470	88880	94820	94820	88880	87700
13	92420	91830	97260	94820	92420	93010	89470	89470	94820	94820	88880	87700
14	92420	91830	96650	94820	91830	93010	89470	90060	94820	94210	88290	87130
15	93010	91830	97260	94210	91240	92420	89470	90060	94210	94210	91240	87700
16	93010	91830	96650	94210	91830	92420	89470	90060	94210	94210	91240	87130
17	92420	91830	96040	94210	91830	91830	89470	90060	93600	94210	91240	87130
18	92420	91830	96040	94210	91830	92420	89470	90060	93600	93600	91240	86560
19	92420	91830	96040	93600	91830	92420	88880	90060	93600	93600	91240	86560
20	93600	91830	96040	93600	91240	92420	88290	90060	93010	93010	90650	86560
21	93600	91830	96650	93600	91830	91830	87700	90060	93010	93010	90650	86560
22	93600	91830	96040	93600	91830	91830	87700	90060	93010	92420	90650	86560
23	93600	91830	96040	93600	92420	91830	87700	90060	92420	93010	90650	86560
24	93600	91830	96040	93600	92420	91830	87700	89470	92420	92420	90060	85990
25	93600	91830	96040	93600	92420	91240	87130	90060	92420	92420	90060	85420
26	93600	91830	96040	93600	92420	91830	87700	99700	92420	92420	89470	85420
27	93010	91830	96040	93600	92420	91240	87130	96650	92420	91830	88880	84850
28	93010	91830	96040	93600	92420	91240	88290	97260	92420	91830	88880	85420
29	93010	91240	96040	93010	---	91240	88290	97260	91830	91240	88880	84850
30	92420	91240	96040	93010	---	91830	88290	96040	92420	91830	89470	84850
31	92420	---	96040	93010	---	91830	---	96040	---	91240	88880	---
MAX	94820	92420	97260	96040	93010	93010	91830	99700	96040	94820	91240	88880
MIN	91830	91240	91240	93010	91240	91240	87130	88290	91830	90060	88290	84850
(+)	1042.8	1042.6	1043.4	1042.9	1042.8	1042.7	1042.1	1043.4	1042.8	1042.6	1042.2	1041.5
(@)	-2400	-1180	+4800	-3030	-590	-590	-3540	+7750	-3620	-1180	-2360	-4030
(++)	1215	354	619	1112	1128	1054	1100	0	559	1188	1427	1160
CAL YR 1993	MAX	118800	MIN	91240	(@)	-11260	(++)	11890				
WTR YR 1994	MAX	99700	MIN	84850	(@)	-9970	(++)	10920				

(+) Elevation, in feet, at end of month.

(@) Change in contents, in acre-feet.

(++) Diversions, in acre-feet, for municipal use.

07314500 LITTLE WICHITA RIVER NEAR ARCHER CITY, TX

LOCATION.--Lat 33°39'45", long 98°36'46", Archer County, Hydrologic Unit 11130209, on left bank at downstream side of bridge on State Highway 79, 1.5 mi downstream from confluence of North and Middle Forks, and 4.8 mi north of Archer City.

DRAINAGE AREA.--481 mi², of which 275 mi² is above Lake Kickapoo.

PERIOD OF RECORD.--May 1932 to January 1956, August 1966 to current year.

Water-quality records.--Chemical analyses: January 1953 to January 1956. Water temperatures: January 1953 to January 1956. Sediment records: May 1968 to September 1975.

REVISED RECORDS.--WSP 827: 1932-35. WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 934.72 ft above National Geodetic Vertical Datum of 1929. Aug. 17, 1954, to Jan. 6, 1956, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Some regulation by Lake Kickapoo (station 07314000) on North Fork Little Wichita River. Records furnished by the city of Wichita Falls show that 12,460 acre-ft was diverted from Lake Kickapoo for municipal use and wholesale customers during the current year.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--13 years (water years 1933-45) 110 ft³/s (79,700 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1933-45).--Maximum discharge, 17,900 ft³/s Oct. 31, 1941 (gage height, 21.80 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1930 reached a stage of about 28 ft, from information by Texas Department of Transportation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	e3.4	.39	.29	.01	8.4	.00	159	1.3	.00	.01	.13
2	.00	e2.9	.38	.26	.01	22	.00	59	.82	.00	.01	.13
3	.00	e2.6	62	.17	.03	15	.00	9.5	.70	.00	.00	.13
4	.00	e2.1	175	.15	.11	5.9	.00	18	.61	.00	.00	.10
5	.00	e1.8	21	.17	.21	2.7	.00	6.9	1.2	.00	.00	.10
6	.00	e1.6	10	.10	.05	1.7	.00	3.1	.80	.00	.00	.08
7	.00	e1.5	5.0	.07	.07	1.3	.00	2.1	.56	.00	.00	.07
8	.00	e1.3	3.3	.03	.11	.86	.00	1.5	.42	.00	.00	.07
9	.00	e1.1	2.1	.05	.11	1.0	.00	1.4	.35	.00	.00	.16
10	.00	e.99	1.8	.14	.05	2.9	.00	1.4	.31	e83	.00	.13
11	.00	e.88	1.5	.14	.06	2.1	.00	1.2	.21	e423	.00	2.2
12	.07	e.83	1.8	.09	.09	1.6	.00	.23	.20	e79	.00	1.7
13	37	e.77	15	.13	.08	.95	.00	327	.19	e22	.00	1.5
14	32	e.74	18	.17	.05	.50	.00	504	.11	e9.8	.00	1.2
15	3.9	e.70	3.2	.13	.06	.34	.00	79	.09	e4.4	142	.74
16	1.6	e.67	1.4	.15	.08	.43	.00	12	.01	e2.6	36	.47
17	1.1	e.67	.85	.25	.11	.18	.00	4.4	.02	e1.3	4.9	.35
18	.91	e.67	.67	.15	.13	.02	.00	2.1	.00	e.77	2.2	.31
19	8.9	e.67	.48	.08	.30	.00	.03	1.2	.00	e.52	.77	.27
20	e150	e.64	.41	.06	.89	.00	.05	.84	.00	e.37	.52	.22
21	e147	e.61	.41	.03	3.4	.00	.01	.78	.00	e.22	1.3	.17
22	e59	e.58	.41	.05	103	.00	.02	.75	.00	e.08	1.0	.17
23	e31	e.55	.45	.07	174	.00	.02	.69	.00	e.07	.83	.16
24	e18	e.52	.43	.02	45	.00	.00	.69	.00	e.07	.64	.13
25	e11	e.52	.41	.02	10	.00	.01	2.3	.00	e.07	.47	.12
26	e7.9	e.52	.41	.09	4.2	.00	.04	386	.00	e.05	.37	.10
27	e6.0	e.50	.41	.06	2.1	.00	.02	315	.00	e.05	.28	.10
28	e5.1	e.50	.41	.00	1.5	.00	.00	43	.00	e.05	.13	.10
29	e4.8	e.47	.44	.00	---	.00	1.3	15	.00	e.03	.07	.09
30	e4.6	.43	.44	.00	---	.00	332	6.3	.00	e.03	.07	.05
31	e4.1	---	.33	.00	---	.00	---	3.0	.00	e.02	.10	---
TOTAL	534.02	31.73	328.83	3.12	345.81	67.88	333.50	1990.15	7.90	627.50	191.67	39.96
MEAN	17.2	1.06	10.6	.10	12.4	2.19	11.1	64.2	.26	20.2	6.18	1.33
MAX	150	3.4	175	.29	174	22	332	504	1.3	423	142	16
MIN	.00	.43	.33	.00	.01	.00	.00	.69	.00	.00	.00	.05
AC-FT	1060	63	652	6.2	686	135	661	3950	16	1240	380	79

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1994#, BY WATER YEAR (WY)

	MEAN	60.7	16.4	23.7	14.9	23.9	42.9	43.7	168	124	24.9	47.4	72.3
MAX	771	160	194	154	176	309	637	1224	944	282	1337	624	624
(WY)	1982	1987	1992	1990	1993	1990	1990	1982	1985	1950	1950	1989	1989
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1953	1946	1946	1953	1947	1950	1971	1984	1953	1974	1967	1954	1954

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1946 - 1994#

ANNUAL TOTAL	33560.24	4502.07	54.9
ANNUAL MEAN	91.9	12.3	2.49
HIGHEST ANNUAL MEAN			252
LOWEST ANNUAL MEAN			2.49
HIGHEST DAILY MEAN	3030	May 11	9550
LOWEST DAILY MEAN	.00	Jul 31	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 13	.00
INSTANTANEOUS PEAK FLOW			585
INSTANTANEOUS PEAK STAGE			14.32
INSTANTANEOUS LOW FLOW			.00
ANNUAL RUNOFF (AC-FT)	66570	8930	39740
10 PERCENT EXCEEDS	157	14	66
50 PERCENT EXCEEDS	2.1	.29	.32
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

Period of regulated streamflow

07314800 LAKE ARROWHEAD NEAR HENRIETTA, TX

LOCATION.--Lat 33°45'51", long 98°22'17", Clay County, Hydrologic Unit 11130209, at intake tower near center of dam on Little Wichita River, 2.3 mi upstream from Lake Creek, 11 mi southwest of Henrietta, and 12.3 mi southeast of Wichita Falls.

DRAINAGE AREA.--822 mi².

PERIOD OF RECORD.--June 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.40 ft below National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam 15,900 ft long, including an uncontrolled reinforced concrete ogee spillway 1,581 ft wide located near the left end of dam. The dam was completed in December 1966 and storage began in June 1967. The service outlet works, located in a cylindrical service tower at upstream side of dam, consist of two gated 5-foot-diameter inlets that can be used for controlled releases. The dam was built by the city of Wichita Falls to impound water for municipal, industrial, and recreational uses. The area-capacity curves are based on U.S. Geological Survey topographic maps. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam.....	944.4	-
Design flood.....	939.95	551,400
Crest of spillway (top of conservation pool).....	926.4	262,100
Lowest gated outlet (invert).....	874.1	-

COOPERATION.--Capacity table provided by Homer Hunter and Associates and Biggs and Mathews, Consulting Engineers, for the city of Wichita Falls. Area-capacity curves provided by Homer Hunter and Associates. Record of diversions provided by the city of Wichita Falls.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 287,500 acre-ft May 4, 1990 (gage height, 927.92 ft); minimum since first appreciable storage, 4,640 acre-ft Aug. 31 to Sept. 4, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 234,700 acre-ft Oct. 1 at 0900 hours (gage height, 924.64 ft); minimum, 190,700 acre-ft Sept. 30 (gage height, 921.52 ft).

Capacity table (gage height, in feet, and total contents, in acre-feet)

921.0	183,900	924.0	225,200	927.0	272,000
922.0	197,000	925.0	240,100	928.0	288,900
923.0	210,800	926.0	255,700		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	232900	225100	218600	220000	218300	220000	217000	215900	221800	213600	205200	199600
2	230500	224900	220200	219700	218000	220300	215500	216300	221500	213000	205100	199600
3	232400	224800	220600	220000	218400	220500	216600	216400	221400	212600	204600	199100
4	232600	224000	221400	219600	217900	220500	216900	216400	220900	212200	204400	199700
5	230800	223900	221200	220300	218000	220600	215000	216600	220800	211600	204000	199500
6	232100	223900	221200	219300	218000	220600	215600	216700	220000	212200	203700	199900
7	231800	223600	220800	219300	217600	220200	215300	216000	220000	212100	203500	200200
8	227700	223700	221400	219000	217300	219700	215300	216300	219700	211400	202900	194900
9	228000	223700	220900	219400	216700	220200	215500	216200	220000	210700	202500	196100
10	226500	223100	221200	219300	217000	220300	215000	216300	219400	211400	202200	195800
11	224900	223600	221200	219300	217300	220000	e215300	217400	220300	211600	201800	195700
12	224500	223900	221400	219300	217300	220000	e215300	217200	220000	212800	201500	195400
13	225600	223300	221500	219300	217200	220500	e215300	217600	220000	212800	201300	195300
14	225200	223000	221200	219000	217200	220500	e215200	218600	219000	212800	200600	195000
15	226100	223100	221100	218700	216900	220000	e215200	218900	218600	212500	201500	194700
16	225200	223600	221200	218400	217000	220300	e214900	219000	218300	212300	201500	195300
17	225100	223700	221200	217900	217000	220500	e215200	218600	218200	211900	200800	195000
18	224300	223700	221200	218400	217000	219900	e215300	218600	217900	211600	200800	194500
19	227100	222800	220600	218400	217600	220200	e215300	218200	217700	210800	200700	194200
20	227400	220300	220800	218300	217300	219200	e215300	217900	217600	210100	200300	193800
21	227800	220000	221100	218300	218000	219400	e214400	217600	217200	209800	199900	193600
22	227700	220200	220900	218600	218700	219300	213500	217300	216900	209700	199200	193200
23	227700	218900	221100	218600	218900	219300	213600	217000	216300	209500	199100	192800
24	227400	218700	220800	218700	220500	218200	212900	216400	216200	209100	199100	192400
25	227100	218700	220800	218900	218600	218400	213300	219600	216000	208700	198900	192100
26	226200	219300	220900	218900	219000	217700	213600	221500	215300	207700	198500	191800
27	226700	218400	219700	218300	219200	217900	212600	222500	214700	207600	198200	191800
28	226500	218600	219900	218200	219200	217700	212800	223000	214000	207200	198200	191600
29	225300	218700	219900	218400	---	216300	214700	223000	213700	206900	198400	191600
30	225100	218700	220200	217600	---	217400	214900	223100	214000	206200	198400	191200
31	224900	---	220300	218200	---	217300	---	222100	---	205700	198800	---
MAX	232900	225100	221500	220300	220500	220600	217000	223100	221800	213600	205200	200200
MIN	224300	218400	218600	217600	216700	216300	212600	215900	213700	205700	198200	191200
(+)	923.98	923.56	923.67	923.52	923.59	923.46	923.29	923.79	923.23	922.63	922.13	921.56
(@)	-9300	-6200	+1600	-2100	+1000	-1900	-2400	+7200	-8100	-8300	-6900	-7600
(++)	251	889	572	80	215	344	702	1315	2114	2627	2119	1693

CAL YR 1993 MAX 280000 MIN 218400 (+) -11400 (++) 8932
WTR YR 1994 MAX 232900 MIN 191200 (+) -43000 (++) 12920

e Estimated
(+) Gage height, in feet, at end of month.
(@) Change in contents, in acre-feet.
(++) Diversions, in acre-feet, for municipal use by the City of Wichita Falls.

RED RIVER BASIN

93

07314900 LITTLE WICHITA RIVER ABOVE HENRIETTA, TX

LOCATION.--Lat 33°49'36", long 98°14'23", Clay County, Hydrologic Unit 11130209, on right bank at downstream side of bridge on U.S. Highways 822 and 287, 1.0 mi downstream from Duck Creek, 2.8 mi west of Henrietta, 6.6 mi upstream from Turkey Creek, and 7.6 mi upstream from Dry Fork Little Wichita River.

DRAINAGE AREA.--1,037 mi².

PERIOD OF RECORD.--January 1953 to current year. Prior to October 1974, published as "near Henrietta".
Water-quality records.--Chemical analyses: December 1952 to January 1956, November 1959 to September 1966, January 1968 to September 1985.

REVISED RECORDS.--TX-93-1: Daily discharge.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 831.57 ft above National Geodetic Vertical Datum of 1929. Prior to June 26, 1953, nonrecording gage. Prior to July 11, 1975, at site 2.6 mi downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow largely regulated by Lake Arrowhead, 39 mi upstream (capacity, 262,100 acre-feet). The city of Wichita Falls diverted 12,460 acre-ft from Lake Kickapoo and 13,562 acre-ft from Lake Arrowhead for municipal uses, and returned 11,655 acre-ft as sewage effluent and filter plant wash water to the Wichita River below station 07312500 at Wichita Falls and above station 07312700 near Charlie. The city of Henrietta diverted 476 acre-ft from pool at gage for municipal use. Records of diversions were furnished by the cities of Wichita Falls and Henrietta.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--13 years (water years 1954-66) prior to completion of Lake Arrowhead, 124 ft³/s (89,840 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1954-66).--Maximum discharge, 6,390 ft³/s May 2, 1957; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1908 reached a stage of 21 ft at former site, from information by Texas Department of Transportation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	39	.00	.82	7.0	.00	.00	.00
2	.00	.00	.00	.00	.00	49	.00	.01	4.5	.00	.00	.00
3	.00	.00	108	.00	.00	41	.00	1.8	2.1	.00	.00	.00
4	.00	.00	70	.00	.00	22	.00	1.3	1.7	.00	.00	.00
5	.00	.00	38	.00	2.2	15	.00	1.8	2.0	.00	.00	.00
6	.00	.00	14	.00	3.9	12	.00	2.9	2.2	.00	.00	.00
7	.00	.00	5.2	.00	4.2	7.2	.00	4.0	2.1	9.9	3.8	.00
8	.00	.00	.04	.00	4.3	4.9	.00	4.3	3.6	15	7.0	.00
9	.00	.00	.00	.00	4.3	2.7	.00	3.9	8.0	16	7.6	.00
10	.00	.00	.00	.00	3.4	.72	.00	2.2	6.5	20	7.6	.00
11	.00	.00	.00	.00	.00	.17	.00	.44	7.6	11	4.3	.00
12	.00	.00	.00	.00	.00	.00	.00	.21	13	.89	.00	.00
13	.00	.00	.00	.00	.00	.14	.00	.13	14	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	15	.00	.10	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	13	.00	.89	2.7
16	.00	.00	.00	.00	.00	.00	.00	.00	12	.00	.00	12
17	.00	.00	.00	.00	.00	.00	.00	.00	5.7	.00	.00	13
18	.00	.00	.00	.00	.00	.00	.00	.00	2.8	.00	.00	13
19	.00	.00	.00	.00	.00	.00	.00	.00	1.9	.00	.00	8.3
20	.00	.00	.00	.00	.00	.00	.00	.00	1.2	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	7.7	.00	.46	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	12	.00	.26	.00	.00	.00
23	.00	.00	.00	.00	11	.00	12	.00	.01	.00	.00	.00
24	5.8	.00	.00	.00	25	.00	12	.00	.00	.00	.00	.00
25	14	.00	.00	.00	21	.00	12	.00	.00	.00	.00	.00
26	16	.00	.00	.00	7.7	.00	12	.42	.00	.00	.00	.00
27	17	.00	.00	.00	.00	.00	9.8	86	.00	.00	.00	.00
28	13	.00	.00	.00	.00	.00	.45	73	.00	.00	.00	.00
29	.64	.00	.00	.00	.00	.00	.00	45	.00	.00	.00	.00
30	.00	.00	.00	.00	.00	.00	.80	23	.00	.00	.00	.00
31	.00	.00	.00	.00	.00	.00	4.1	14	.00	.00	.00	.00
	.00	.00	.00	.00	.00	.00	.00	11	.00	.00	.00	.00
TOTAL	66.44	0.00	235.24	0.00	87.23	193.83	70.85	276.23	126.63	72.79	31.29	49.00
MEAN	2.14	.0000	7.59	.0000	3.12	6.25	2.36	8.91	4.22	2.35	1.01	1.63
MAX	17	.00	108	.00	25	49	12	86	15	20	7.6	13
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	132	.00	467	.00	173	384	141	548	251	144	62	97

RED RIVER BASIN

07314900 LITTLE WICHITA RIVER ABOVE HENRIETTA, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1994#, BY WATER YEAR (WY)

MEAN	32.8	14.3	26.2	16.8	33.0	96.6	97.1	241	226	34.4	3.44	57.4
MAX	329	141	251	131	275	937	2169	2272	1652	549	37.8	549
(WY)	1982	1987	1992	1992	1987	1990	1990	1982	1992	1992	1971	1989
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1968	1967	1967	1967	1967	1967	1971	1971	1977	1968	1967	1967

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1967 - 1994#

ANNUAL TOTAL	42009.96	1209.53	73.3	
ANNUAL MEAN	115	3.31	498	1990
HIGHEST ANNUAL MEAN			2.30	1978
LOWEST ANNUAL MEAN			10500	May 3 1990
HIGHEST DAILY MEAN	2700 May 10	108 Dec 3	.00 Oct 16 1966	
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Oct 19 1966	
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 19	.00 Oct 1	14200 May 3 1990	
INSTANTANEOUS PEAK FLOW		181 Dec 3	24.96 May 3 1990	
INSTANTANEOUS PEAK STAGE		10.66 Dec 3		
ANNUAL RUNOFF (AC-FT)	83330	2400	53070	
10 PERCENT EXCEEDS	209	11	57	
50 PERCENT EXCEEDS	7.0	.00	.00	
90 PERCENT EXCEEDS	.00	.00	.00	

Period of regulated streamflow.

07315200 EAST FORK LITTLE WICHITA RIVER NEAR HENRIETTA, TX

LOCATION.--Lat 33°48'46", long 98°05'05", Clay County, Hydrologic Unit 11130209, at downstream side of bridge on U.S. Highway 82, 5.8 mi upstream from Little Wichita River, 6.4 mi east of Henrietta, and 8.9 mi west of Ringgold.

DRAINAGE AREA.--178 mi².

PERIOD OF RECORD.--November 1963 to current year.

REVISED RECORDS.--WDR TX-72-1: 1966(M).

GAGE.--Water-stage recorder. Datum of gage is 825.32 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. There are no known diversions upstream from this station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1941 reached a stage of 28.8 ft, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 26	2300	3,960	24.27				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.09	.08	.11	21	.61	324	11	.58	.02	.13
2	.00	.00	.10	.08	.11	18	.59	43	7.9	.53	.01	.15
3	.00	.00	.32	.08	.12	15	.59	67	6.3	.49	.01	.17
4	.00	.00	.87	.07	.13	10	.59	164	4.7	.44	.01	.12
5	.00	.00	.58	.07	.13	6.8	.58	41	4.0	.42	.01	.09
6	.00	.00	.45	.07	.13	4.1	.57	21	3.6	.42	.01	.06
7	.00	.00	.43	.07	.13	2.6	.55	14	3.2	.38	.01	.06
8	.00	.00	.41	.08	.12	1.8	.58	9.7	2.8	.34	.00	.31
9	.00	.00	.36	.09	.13	1.5	.60	8.1	2.5	.56	.00	.41
10	.00	.00	.29	.10	.13	1.4	.60	7.2	2.1	.72	.00	1.5
11	.00	.00	.21	.10	.13	1.2	.61	6.6	11	.69	.00	.61
12	.00	.02	.19	.10	.14	1.0	.63	7.1	20	.56	.00	.29
13	.00	.04	.22	.10	.14	.97	.64	8.1	17	.46	.00	.14
14	.00	.04	.22	.09	.13	.99	.59	11	7.9	.40	2.3	.08
15	.00	.06	.16	.09	.13	.91	.56	12	4.0	.35	134	.09
16	.00	.08	.14	.09	.13	.86	.57	10	2.9	.31	9.2	178
17	.00	.10	.13	.13	.13	.85	.56	8.6	2.1	.29	5.7	12
18	.00	.10	.13	.13	.13	.83	.70	7.4	1.6	.26	138	1.9
19	.08	.10	.12	.13	.13	.79	.60	5.7	1.3	.22	17	.87
20	.18	.11	.11	.13	.15	.75	.60	4.4	1.1	.21	3.1	.48
21	.73	.10	.11	.13	.16	.71	.60	3.8	.91	.18	1.0	.30
22	1.5	.10	.09	.13	5.9	.74	.56	3.6	.84	.15	.69	.19
23	.82	.10	.08	.13	25	.73	.55	3.5	.77	.14	.47	.15
24	.54	.08	.08	.13	18	.74	21	3.5	.70	.12	.27	.12
25	.30	.08	.08	.18	9.8	.70	10	3.4	.72	.11	.17	.11
26	.13	.06	.08	.20	5.3	.67	3.6	1300	.69	.10	.12	.10
27	.05	.05	.09	.13	3.0	.66	24	2610	.65	.07	.09	.10
28	.03	.07	.10	.11	2.1	.63	24	460	.62	.06	.05	.07
29	.00	.08	.08	.11	---	.59	11	31	.60	.05	.03	.02
30	.00	.08	.08	.11	---	.60	173	23	.67	.03	.02	.02
31	.00	---	.08	.12	---	.71	---	16	---	.02	.07	---
TOTAL	4.36	1.45	6.48	3.36	71.84	98.83	280.23	5237.7	124.17	9.66	312.36	269.92
MEAN	.14	.048	.21	.11	2.57	3.19	9.34	169	4.14	.31	10.1	9.00
MAX	1.5	.11	.87	.20	25	21	173	2610	20	.72	138	178
MIN	.00	.00	.08	.07	.11	.59	.55	3.4	.60	.02	.00	.02
AC-FT	8.6	2.9	13	6.7	142	196	556	10390	246	19	620	535
CFSM	.00	.00	.00	.00	.01	.02	.05	.95	.02	.00	.06	.05
IN.	.00	.00	.00	.00	.02	.02	.06	1.09	.03	.00	.07	.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1994, BY WATER YEAR (WY)

	MEAN	42.0	10.5	22.9	13.3	18.8	48.5	44.8	112	72.9	6.91	4.70	14.2
MAX	902	97.3	303	139	143	295	686	453	508	123	41.3	102	
(WY)	1982	1974	1992	1985	1987	1985	1990	1989	1992	1973	1973	1980	
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
(WY)	1979	1972	1966	1966	1966	1967	1971	1971	1971	1964	1969	1979	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1964 - 1994

ANNUAL TOTAL	22052.32	6420.36	
ANNUAL MEAN	60.4	17.6	35.3
HIGHEST ANNUAL MEAN			128
LOWEST ANNUAL MEAN			3.04
HIGHEST DAILY MEAN	4980	2610	16900
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		3960	32500
INSTANTANEOUS PEAK STAGE		24.27	31.70
INSTANTANEOUS LOW FLOW			.00
ANNUAL RUNOFF (AC-FT)	43740	12730	25540
ANNUAL RUNOFF (CFSM)	.34	.099	.20
ANNUAL RUNOFF (INCHES)	4.61	1.34	2.69
10 PERCENT EXCEEDS	29	10	20
50 PERCENT EXCEEDS	1.3	.22	.15
90 PERCENT EXCEEDS	.00	.00	.00

RED RIVER BASIN

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, Rock Island, and 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 mi², of which 5,936 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 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 National Geodetic Vertical Datum of 1929. Prior to Jan. 12, 1939, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There are many small diversions upstream from station for irrigation, oil field operations, and for municipal uses. Satellite telemeter at station.

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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 21,000 ft³/s.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	400	363	367	466	447	1700	605	3000	3890	378	218	249
2	363	357	376	460	452	2110	588	5430	3500	437	201	236
3	341	350	1330	454	463	1890	559	6180	3220	423	193	262
4	333	354	2070	454	461	1330	557	7340	2750	411	191	272
5	326	384	2190	451	456	1090	541	7430	2330	369	199	282
6	316	372	1020	448	451	891	520	5230	2190	353	200	286
7	317	355	803	438	448	808	539	3640	1620	363	199	284
8	320	347	697	431	450	781	537	2870	909	436	190	264
9	309	344	624	439	438	3570	523	2340	813	557	202	349
10	313	343	570	447	402	12300	506	1950	757	1750	200	525
11	e324	346	544	440	438	8060	515	1470	688	3940	201	468
12	339	351	536	439	457	4580	508	1330	701	4450	196	339
13	369	355	561	434	443	3490	506	1340	1190	3630	185	265
14	374	359	803	442	428	2950	952	1710	1760	3000	184	227
15	434	369	976	466	424	2870	1500	4040	1350	2180	208	220
16	516	396	756	481	415	2590	1390	4150	893	1470	401	486
17	731	438	737	486	420	2260	1550	3350	669	867	566	644
18	653	446	687	475	421	1910	1290	2350	597	758	936	279
19	563	472	626	482	417	1710	953	1520	536	686	639	216
20	554	452	586	477	436	1520	770	1260	511	561	642	207
21	565	435	553	467	441	1430	665	1160	486	415	504	222
22	610	425	541	482	2590	1350	618	1080	446	361	391	235
23	575	411	514	491	6100	1160	587	974	411	345	503	215
24	549	390	505	493	4920	1100	569	880	387	326	456	184
25	492	371	497	492	4120	1040	570	880	378	316	459	166
26	452	366	490	492	2470	975	662	1110	e339	298	375	160
27	420	368	488	498	1430	823	679	8170	e336	295	317	159
28	404	362	475	487	1080	750	636	20200	e330	290	283	156
29	394	362	461	470	---	734	685	17300	e336	270	262	151
30	382	362	465	453	---	693	1120	7640	e343	256	247	150
31	365	---	462	453	---	633	---	4730	---	236	248	---
TOTAL	13403	11405	22310	14388	31918	69098	22200	132054	34666	30427	10196	8158
MEAN	432	380	720	464	1140	2229	740	4260	1156	982	329	272
MAX	731	472	2190	498	6100	12300	1550	20200	3890	4450	936	644
MIN	309	343	367	431	402	633	506	880	330	236	184	150
AC-FT	26580	22620	44250	28540	63310	137100	44030	261900	68760	60350	20220	16180

RED RIVER BASIN

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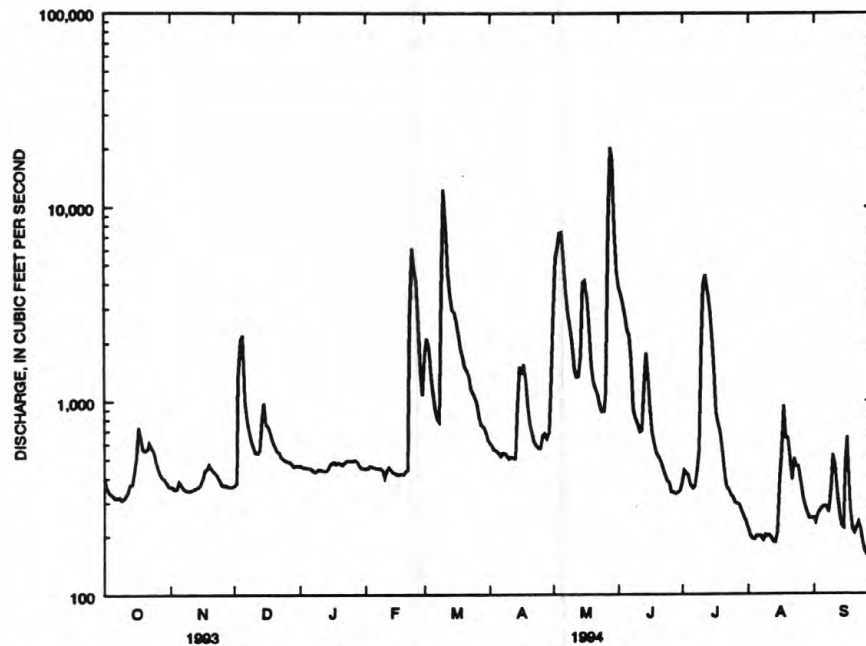
07315500 RED RIVER NEAR TERRAL, OK--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1994, BY WATER YEAR (WY)

MEAN	3137	1488	1119	894	1255	1817	2483	6783	6024	1664	1089	1960
MAX	23900	9713	11810	5306	9320	12560	18080	43580	37460	8077	9267	9653
(WY)	1987	1987	1992	1992	1987	1990	1990	1957	1941	1950	1950	1986
MIN	108	102	91.2	76.5	136	66.1	142	134	517	158	155	109
(WY)	1953	1940	1939	1940	1953	1940	1971	1971	1966	1964	1970	1956

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1938 - 1994	
ANNUAL TOTAL	1743839		400223			
ANNUAL MEAN	4778		1097		2475	
HIGHEST ANNUAL MEAN					8925	
LOWEST ANNUAL MEAN					523	
HIGHEST DAILY MEAN	76600	May 11	20200	May 28	211000	May 30 1987
LOWEST DAILY MEAN	309	Oct 9	150	Sep 30	46	Mar 20 1940
ANNUAL SEVEN-DAY MINIMUM	318	Oct 5	161	Sep 24	47	Mar 18 1940
INSTANTANEOUS PEAK FLOW			22700	May 29	225000	May 30 1987
INSTANTANEOUS PEAK STAGE			14.76	May 29	33.60	Oct 22 1983
INSTANTANEOUS LOW FLOW					43	Mar 15 1939
ANNUAL RUNOFF (AC-FT)	3459000		793800		1793000	
10 PERCENT EXCEEDS	10200		2520		5370	
50 PERCENT EXCEEDS	2300		486		572	
90 PERCENT EXCEEDS	380		262		172	

e Estimated

07315500 RED RIVER NEAR TERRAL, TX
MEAN DAILY DISCHARGE (CFS)

07315500 RED RIVER NEAR TERRAL, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1967 to current year.

WATER TEMPERATURE: October 1967 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 13,000 microsiemens June 15, 1984; minimum daily, 255 microsiemens Jan. 1, 1985.

WATER TEMPERATURE: Maximum daily, 35.0°C Aug. 13, 16, 17, 1983; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 7,200 microsiemens Feb. 11; minimum daily, 800 microsiemens May 27.

WATER TEMPERATURE: Maximum daily, 34.5°C June 24; minimum daily, 0.0°C Feb. 9.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 28...	0955	361	5600	4.5	1100	940	290	97	870
JAN 13...	1100	437	5360	8.0	1000	890	260	97	790
MAR 07...	1430	818	4420	17.5	730	660	170	73	630
AUG 03...	0900	193	4680	25.0	960	740	230	94	700

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 28...	11	7.8	180	830	1300	0.60	5.3	3510
JAN 13...	11	6.4	160	840	1300	0.40	2.7	3390
MAR 07...	10	6.5	70	610	1000	0.40	0.70	2530
AUG 03...	10	11	220	790	1100	0.50	4.6	3060

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. 1993	13403	4260	2490	90200	940	33900	600	21800	740
NOV. 1993	11405	4960	2960	91100	1100	34800	710	21900	860
DEC. 1993	22310	4170	2440	147000	920	55300	590	35500	720
JAN. 1994	14388	5440	3300	128000	1300	49500	790	30700	950
FEB. 1994	31918	3150	1860	160000	700	60500	450	38500	550
MAR. 1994	69098	2980	1680	314000	610	114000	410	76100	510
APR. 1994	22200	4740	2820	169000	1100	64400	680	40700	820
MAY 1994	132054	2110	1160	415000	420	148000	280	100900	350
JUNE 1994	34666	3300	1880	176000	690	64900	460	42700	560
JULY 1994	30427	2330	1300	107000	470	38600	320	26000	390
AUG. 1994	10196	3560	2060	56600	760	21000	500	13700	610
SEPT 1994	8158	3810	2200	48500	820	18000	530	11700	650
TOTAL	400223	**	**	1903000	**	703000	**	460000	**
4TD.AVG.	1097	3070	1760	**	650	**	430	**	520

07315500 RED RIVER NEAR TERRAL, OK--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY EQUIVALENT MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4400	5440	5250	e5270	5140	2920	5020	e1300	3650	4640	3380	4110
2	4270	5360	5280	e5190	5660	3140	e5100	1600	2990	e4500	4610	4210
3	e4340	5210	3010	5110	6220	3230	e5180	930	2440	e4320	4690	e4200
4	4420	5190	e3000	5320	e6100	3730	e5280	2390	e2400	e4140	4770	e4200
5	4660	5100	e2980	5350	e6000	e3980	5390	2440	e2380	3960	4850	4200
6	4810	e5000	2940	5360	e5950	e4730	5290	2610	2370	4170	e4890	4650
7	4720	e4900	3540	5360	5900	4420	5280	e2640	2620	e4290	e4940	4510
8	e4690	4790	4200	e5360	6270	e4500	5380	e2680	3730	4410	4980	3990
9	4660	e4770	4260	5360	6540	1880	e5400	2720	3930	4970	5050	3470
10	4710	e4740	4710	5460	7000	2150	e5420	2820	e4450	1680	5010	e3300
11	4650	4720	4950	5320	7200	e2400	e5440	3450	4980	1270	4940	e3350
12	4660	4670	e5000	5360	e6600	e2650	e5460	3610	e4600	1660	e4850	3400
13	4340	e4700	5050	5360	e6700	2900	5470	3770	4230	1470	e4760	3430
14	4330	e4740	4230	5350	e6800	3040	6210	e2850	2310	1470	e4700	e3600
15	4680	4750	3510	e5390	6820	3310	e4100	e1800	2420	2020	4650	3820
16	e4400	4660	3730	e5440	6630	3310	e4350	1960	3250	e2270	2630	2750
17	e3200	e4640	4090	5480	6550	3300	e4580	3260	3050	e2400	5220	e2600
18	e3500	4620	e4260	5600	e6500	3340	4760	3120	e3600	2580	2040	e3400
19	3570	4560	e4460	5650	e6600	e3390	e4630	3340	e4000	e2800	e2300	3790
20	3570	e4650	4630	5480	e6650	e3440	4500	4370	4300	3090	e2500	3950
21	4040	e4740	5120	5520	e6700	e3490	4900	e4300	4560	3780	e2800	4510
22	4110	e4830	5330	e5500	1620	3520	4930	e4210	e4800	3730	e3000	4810
23	e4070	e4920	5450	e5490	1290	3710	e4960	4130	5040	e3850	3120	4700
24	4030	e5010	5440	5480	1660	3600	5000	e4000	5500	e3980	3760	e4600
25	4300	e5150	e5390	5460	2090	e3740	5040	3860	e5450	4100	2920	e4530
26	4330	e5350	e5290	5640	e2350	e3880	4190	e2000	e5410	4360	e3200	4400
27	4480	e5500	5160	5560	e2650	e4010	4710	800	e5400	4600	e3400	4460
28	4460	e5600	5240	5550	2900	e4150	4480	1210	e5390	4240	e3550	4320
29	e4680	5500	5310	5520	---	4290	4110	e1650	5380	4000	3670	4160
30	e4900	5250	5360	e5600	---	4340	e2000	2030	5510	e4190	3810	4720
31	5120	---	5320	5700	---	4660	---	4170	---	4390	3740	---
MEAN	4360	4970	4560	5440	5320	3520	4890	2770	4000	3460	3960	4000
MAX	5120	5600	5450	5700	7200	4730	6210	4370	5510	4970	5220	4810
MIN	3200	4560	2940	5110	1290	1880	2000	800	2310	1270	2040	2600

WTR YR 1994 MEAN 4260 MAX 7200 MIN 800

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.0	9.5	14.5	---	5.0	6.0	20.0	---	26.5	33.0	32.5	27.0
2	24.5	10.5	16.0	---	6.0	10.0	---	13.0	27.0	---	30.0	28.0
3	---	12.5	14.0	8.0	9.0	12.0	---	15.0	27.0	---	25.0	---
4	26.0	16.5	---	8.0	---	15.0	---	18.0	---	---	32.0	---
5	26.5	11.0	---	9.5	---	---	14.0	20.0	---	32.5	31.0	29.0
6	27.0	---	11.0	9.0	---	---	15.0	24.0	29.0	32.0	---	28.5
7	24.0	---	11.0	4.5	10.5	18.5	17.0	---	30.0	---	---	29.0
8	---	10.5	12.0	---	9.5	---	20.5	---	31.0	26.0	31.0	27.0
9	18.0	---	15.0	7.0	.0	8.5	---	20.5	31.5	---	31.0	28.0
10	20.0	---	14.5	10.5	3.0	9.0	---	20.5	---	26.5	31.5	---
11	21.5	15.0	12.0	12.0	6.0	---	---	23.5	26.0	28.0	32.0	---
12	21.0	18.5	---	11.0	---	---	---	25.5	---	29.0	---	29.0
13	22.5	---	10.0	8.0	---	13.0	22.5	24.5	29.5	30.0	---	29.5
14	22.5	---	9.5	10.0	---	14.5	22.0	---	28.5	29.0	---	---
15	22.5	12.5	9.0	---	12.0	16.5	---	---	26.5	30.5	28.0	29.0
16	---	10.5	7.5	---	14.5	17.0	---	25.5	29.0	---	30.0	24.0
17	---	---	9.0	5.0	11.0	19.0	---	25.5	30.5	---	30.5	---
18	---	14.0	---	3.0	---	19.5	23.0	26.0	---	32.5	31.0	---
19	18.5	13.0	---	2.0	---	---	---	27.5	---	---	---	25.5
20	19.5	---	8.0	4.0	---	---	25.5	27.0	30.0	32.0	---	28.0
21	18.5	---	7.0	5.0	---	---	24.5	---	33.5	31.0	---	27.0
22	19.0	---	7.0	---	9.0	18.5	26.0	---	---	32.0	---	21.0
23	---	---	7.5	---	7.5	21.0	---	27.5	33.5	---	31.0	18.5
24	18.5	---	4.0	11.5	9.0	18.5	26.0	---	34.5	---	31.5	---
25	19.0	---	---	14.5	7.5	---	22.5	28.5	---	31.0	32.0	---
26	17.0	---	---	15.0	---	---	24.0	---	---	31.5	---	26.5
27	16.0	---	9.0	10.0	---	---	21.0	23.5	---	30.0	---	29.0
28	17.5	4.5	4.5	7.5	7.5	---	18.0	22.0	---	---	---	29.5
29	---	9.5	5.5	6.0	---	16.0	8.0	---	34.0	29.5	32.0	29.0
30	---	11.5	7.0	---	---	16.5	---	26.0	---	---	32.0	29.5
31	10.0	---	8.0	4.5	---	18.5	---	27.0	---	31.5	26.0	---
MEAN	20.7	12.0	9.7	8.1	7.9	15.1	20.6	23.4	30.1	30.4	30.5	27.2
MAX	27.0	18.5	16.0	15.0	14.5	21.0	26.0	28.5	34.5	33.0	32.5	29.5
MIN	10.0	4.5	4.0	2.0	.0	6.0	8.0	13.0	26.0	26.0	25.0	18.5

WTR YR 1994 MEAN 19.6 MAX 34.5 MIN .0

e Estimated

07315950 MOSS LAKE NEAR GAINESVILLE, TX

LOCATION.--Lat 33°46'26", long 97°12'50", Cooke County, Hydrologic Unit 11130201, on top of upstream side of dam adjacent to guardrail of roadway about 250 ft from right end of Fish Creek dam on Fish Creek, 1.6 mi upstream from Bearhead Creek, 3.7 mi upstream from mouth, and 10 mi northwest of Gainesville.

DRAINAGE AREA.--65.0 mi².

PERIOD OF RECORD.--October 1967 to current year.

Water-quality records.--Chemical analyses: October 1969 to September 1984.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Apr. 20, 1979, recording gage at site about 150 ft upstream at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 1,460 ft long. The dam was completed and storage began Dec. 2, 1966. An uncontrolled morning-glory-type spillway with a 7- by 7-foot opening is designed to discharge 2,500 ft³/s at a 10-foot head. A 400-foot-wide spillway has been cut through natural ground, and is located about 100 ft to left of the left end of dam. The dam was built by the city of Gainesville to impound water for municipal use. Area and capacity tables are based on a 1961 survey. There was no diversion from the lake during the current water year. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	740.0	-
Top of design flood pool.....	736.0	55,230
Crest of spillway.....	725.0	36,440
Crest of spillway morning-glory type (top of conservation pool)...	715.0	23,210
Lowest gated outlet (invert).....	666.0	78

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 50,990 acre-ft Oct. 13, 1981 (elevation, 733.72 ft); minimum since lake filled in May 1968, 11,490 acre-ft Jan. 18, 1990 (elevation, 702.08 ft, from graph).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 26,000 acre-ft Mar. 1 at 0500 hours (elevation, 717.37 ft); minimum, 22,10 acre-ft Oct. 10 (elevation, 713.99 ft).

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

702.0	11,400	716.0	24,400	727.0	39,600
707.0	15,300	718.0	26,800	730.0	44,400
710.0	18,000	720.0	29,300	733.0	49,700
712.0	20,000	722.0	32,100	734.0	51,500
714.0	22,100	724.0	35,000		

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22260	23010	23110	23130	23150	25290	23240	24200	23440	23000	22970	22580
2	22220	23020	23140	23110	23150	24480	23240	25150	23410	22990	22960	22590
3	22190	23070	24510	23110	23140	24100	23190	24700	23380	22980	22950	22600
4	22200	23070	24040	23100	23140	23870	23260	24190	23340	22960	22930	22590
5	22180	23040	23760	23130	23150	23720	23180	23900	23310	22950	22930	22580
6	22180	22980	23590	23090	23220	23660	23190	23740	23320	22930	22920	22580
7	22160	22990	23460	23040	23190	23550	23210	23600	23300	22860	22900	22600
8	22190	23000	23430	23040	23140	23530	23200	23540	23280	22970	22860	22630
9	22120	23020	23380	23100	23190	23510	23230	23520	23260	23380	22850	22810
10	22110	23020	23320	23180	23220	23430	23270	23490	23260	23680	22840	22840
11	22120	23060	23290	23220	23350	23420	23260	23450	23500	23570	22820	22840
12	22240	23100	23300	23220	23370	23410	23230	23520	23470	23450	22800	22820
13	22300	23100	23210	23230	23340	23430	23240	23660	23380	23450	22790	22810
14	22310	23110	23190	23220	23340	23430	23260	23590	23320	23370	22790	22790
15	22310	23080	23190	23140	23350	23410	23210	23530	23280	23340	22770	22870
16	22330	23170	23140	23180	23320	23390	23220	23470	23270	23300	22750	24930
17	22330	23180	23150	23150	23340	23410	23210	23430	23240	23280	22750	24120
18	22540	23180	23180	23170	23340	23380	23220	23390	23240	23270	22730	23730
19	25220	23120	23130	23170	23390	23410	23220	23360	23240	23200	22710	23530
20	24590	23080	23120	23170	23460	23360	23220	23310	23190	23140	22710	23390
21	23930	23080	23130	23150	23440	23340	23220	23300	23180	23170	22690	23320
22	23650	23080	23140	23190	24860	23350	23220	23290	23170	23190	22680	23230
23	23470	23090	23130	23230	24220	23340	23220	23280	23150	23190	22640	23180
24	23360	23360	23130	23240	23890	23290	23220	23280	23140	23170	22630	23140
25	23290	23020	23120	23260	23590	23300	23180	23290	23130	23150	22630	23130
26	23230	23040	23120	23270	23580	23320	23750	23810	23130	23070	22620	23130
27	23190	23040	23100	23230	23460	23290	23720	23670	23040	23060	22570	23140
28	23170	23040	23090	23180	25700	23260	23590	23570	23030	23040	22550	23130
29	22240	23080	23090	23190	---	23280	24660	23650	23030	23040	22520	23110
30	23020	23090	23090	23210	---	23240	24800	23590	23030	23030	22490	23100
31	23010	---	23120	23210	---	23210	---	23510	---	22980	22560	---
MAX	25220	23180	24510	23270	25700	25290	24800	25150	23500	23680	22970	24930
MIN	22110	22980	23090	23040	23140	23210	23180	23280	23030	22860	22490	22580
(+)	714.82	714.89	714.92	715.00	717.12	715.00	716.37	715.26	714.84	714.79	714.41	714.90
(#)	+740	+80	+30	+90	+2490	-2490	+1590	-1290	-480	-50	-420	+540

CAL YR 1993 MAX 35250 MIN 21780 (#) -310
WTR YR 1994 MAX 25700 MIN 22110 (#) +830

e Estimated

(+) Elevation, in feet, at end of month.

(#) Change in contents, in acre-feet.

LOCATION.--Lat 33°43'40", long 97°09'35", in SW 1/4 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.

DRAINAGE AREA.--30,782 mi² of which 5,936 mi² 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). Satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 24,000 ft³/s.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	599	587	555	708	676	7520	1140	5130	7630	529	783	1210
2	591	578	561	692	659	10000	1070	5180	4980	505	743	1120
3	554	574	2220	675	663	7340	1020	9720	4020	527	698	827
4	510	555	4380	677	658	5280	974	11600	3560	532	661	688
5	489	534	5460	671	660	3590	942	10000	3270	589	646	604
6	467	517	5010	682	655	2400	901	e9300	2920	548	614	609
7	452	518	3940	665	661	1990	876	e6900	2580	501	608	626
8	447	541	2010	645	660	1780	850	6200	2390	721	656	619
9	499	538	1430	650	785	1700	845	4400	1940	2060	601	771
10	433	529	1230	663	796	2330	843	3780	1510	7450	570	775
11	427	521	1100	717	722	12300	855	3350	1520	10800	555	701
12	447	536	1010	700	719	12700	838	3000	1530	9650	551	1010
13	1040	541	950	683	679	8210	818	2840	1310	9000	541	1120
14	1050	550	1190	668	680	5440	813	2650	1300	7770	538	882
15	730	568	1530	653	679	4420	797	2910	1490	5250	523	714
16	589	596	1630	650	655	3860	881	3530	2020	4290	515	3670
17	538	690	1580	697	636	3560	1700	5260	1750	3520	514	4670
18	889	693	1230	733	629	3220	1700	4850	1330	2900	612	1870
19	2020	671	1120	715	646	2790	1770	3830	1060	2280	804	1680
20	3410	652	1060	705	722	2490	1690	2940	944	1960	1440	1090
21	1700	643	990	702	724	2270	1400	2330	867	1780	1450	710
22	1210	665	934	707	2640	2080	1190	2000	811	1970	1200	574
23	993	644	899	727	3940	1990	1040	1900	773	1460	1140	525
24	927	617	851	740	7940	1880	942	1800	722	1230	953	e509
25	868	594	824	760	8440	1750	896	1850	671	1120	865	e485
26	809	587	787	760	7060	1690	1050	5550	623	1030	946	e467
27	736	575	772	743	4230	1660	2130	5840	584	969	904	e460
28	677	565	747	727	3220	1530	1410	9800	529	905	855	e459
29	642	560	729	714	---	1370	2080	20200	519	874	747	e450
30	605	557	715	718	---	1240	5190	18000	551	860	673	e440
31	583	---	709	700	---	1180	---	11400	---	829	704	---
TOTAL	25931	17496	48153	21647	51834	121560	38651	188040	55704	84409	23610	30335
MEAN	836	583	1553	698	1851	3921	1288	6066	1857	2723	762	1011
MAX	3410	693	5460	760	8440	12700	5190	20200	7630	10800	1450	4670
MIN	427	517	555	645	629	1180	797	1800	519	501	514	440
AC-FT	51430	34700	95510	42940	102800	241100	76660	373000	110500	167400	46830	60170

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1994, BY WATER YEAR (WY)

	1937	1941	1945	1949	1953	1957	1961	1965	1969	1973	1977	1981	1985	1989	1993
MEAN	3925	1941	1589	1191	1690	2621	3403	8253	8069	2139	1281	2314			
MAX	31080	14020	14990	7152	9984	14690	27400	47780	43510	9857	12940	12880			
(WY)	1942	1942	1992	1985	1987	1987	1990	1957	1941	1950	1950	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			

SUMMARY STATISTICS

	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1937 - 1994
ANNUAL TOTAL	2054637	707370	
ANNUAL MEAN	5629	1938	3205
HIGHEST ANNUAL MEAN			11890
LOWEST ANNUAL MEAN			651
HIGHEST DAILY MEAN	114000	May 11	232000
LOWEST DAILY MEAN	427	Oct 11	48
ANNUAL SEVEN-DAY MINIMUM	453	Oct 6	48
INSTANTANEOUS PEAK FLOW		22400	265000
INSTANTANEOUS PEAK STAGE		17.76	40.08
INSTANTANEOUS LOW FLOW		427	48
ANNUAL RUNOFF (AC-FT)	4075000	1403000	2322000
10 PERCENT EXCEEDS	11800	4990	7080
50 PERCENT EXCEEDS	2440	860	800
90 PERCENT EXCEEDS	593	540	212

e Estimated

RED RIVER BASIN

07335390 PAT MAYSE LAKE NEAR CHICOTA, TX

LOCATION.--Lat 33°51'09", long 95°32'40", Lamar County, Hydrologic Unit 11140101, on upstream side of dam on Sanders Creek, 2,800 ft to right of outlet channel, 2.0 mi southeast of Chicota, and 4.6 mi upstream from mouth.

DRAINAGE AREA.--175 mi².

PERIOD OF RECORD.--October 1967 to current year. Prior to October 1970, published as Pat Mayse Reservoir.
Water-quality records.--Chemical analyses: October 1969 to September 1984.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 10, 1968, nonrecording gage at present site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam about 7,080 ft long, including a spillway 100 ft wide located near the right abutment of dam. The dam was completed and deliberate impoundment began Sept. 28, 1967. The flood-control outlet works consist of an uncontrolled morning-glory-type drop-inlet spillway that is connected to a 7.25 foot-diameter concrete conduit through the dam. Two low-flow pipes, with 24- and 12-inch diameters, provide for additional outlets. The lake was built for flood control, municipal, and industrial water supply, recreation, fish and wildlife conservation, and for channel improvement on Sanders Creek. Water is diverted from the lake for municipal and industrial uses by the city of Paris. Any resultant effluent is discharged into Pine Creek below Lake Crook (capacity, 11,010 acre-ft), which is located in another drainage basin. The capacity table is based on U.S. Geological Survey topographic maps dated 1949. Data regarding the dam and lake are given in the following table

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	488.5	-
Crest of spillway.....	477.0	352,700
Top of flood-control pool.....	460.5	189,100
Crest of morning-glory drop-inlet spillway (top of conservation pool).	450.6	122,100
Streambed.....	393.0	0

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 208,000 acre-ft Dec. 11, 12, 1971 (elevation, 462.87 ft); minimum since conservation pool was first reached on Apr. 20, 1968, 100,900 acre-ft Nov. 10, 1978 (elevation, 446.80 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 148,100 acre-ft Dec. 5 at 1300 hours (elevation, 454.75 ft); minimum, 111,900 acre-ft Oct. 17 (elevation, 448.84 ft).

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

446.0	96,700	455.0	149,800	460.0	185,300
449.0	112,800	458.0	170,600	463.0	209,100
452.0	130,600				

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113600	129200	127200	130200	128000	133700	129500	136200	132000	128100	128900	127300
2	113400	129100	127300	129900	127800	135700	128900	139000	131600	128400	128600	128300
3	113300	128900	136000	129600	127700	136000	128900	142600	131200	128200	128300	128300
4	113200	128800	146900	129300	127500	135600	128800	146100	130700	128000	128100	128300
5	113100	128300	147600	129400	127500	135000	128600	145700	130400	127700	127800	128100
6	113000	128100	146200	128800	127300	134500	128300	144400	130000	127400	127600	127900
7	113000	127800	144700	128500	127200	134000	128200	143100	129700	127200	128200	127700
8	112900	127700	143500	128300	127200	134500	128100	141900	129400	127000	128100	127400
9	112500	127500	142300	128100	126800	136800	128100	140900	129100	127200	128000	127200
10	112400	127400	141100	128000	126700	138600	128000	140000	132400	127300	127700	127000
11	112400	127200	139900	128100	126500	138100	128400	139100	136200	127900	127500	126800
12	112300	127200	138900	128000	126400	137300	129200	138400	137200	127900	127300	126700
13	112400	127300	139700	127800	126300	136700	129600	138700	136700	127700	127000	126500
14	112300	127500	140000	127600	126200	136100	129400	139100	135900	127800	126700	126400
15	112100	127300	139300	127300	126100	135400	129100	139000	135400	128100	126500	126200
16	112100	128100	138400	127900	126100	134800	128900	138300	134800	129100	126400	125900
17	112200	128900	137600	128100	125900	134300	128800	137700	134200	129200	126100	125600
18	113400	129200	136900	128200	125900	133800	128600	136900	133700	129000	125900	125500
19	119200	128900	136100	128300	126200	133300	128300	136200	133100	128600	125800	125300
20	130600	128800	135500	128100	126400	132900	128100	135300	132600	128300	126500	125100
21	134000	128500	134800	128100	126400	132300	128000	134700	132000	129100	126400	125000
22	133700	128400	134200	128000	130600	131900	127700	134100	131600	130500	126500	124900
23	133200	128100	133700	128000	133700	131600	127600	133500	131200	132200	126500	124700
24	132700	127800	133200	128100	133800	131100	127400	132900	130800	132000	126300	124600
25	132300	127900	132700	128100	133200	130800	127300	132400	130400	131500	126200	124400
26	131800	127800	132300	128700	132900	131000	128100	132300	129900	131100	126100	124300
27	131300	127700	131800	128700	132300	130900	128800	131800	129400	130600	125900	124100
28	130900	127600	131300	128600	132300	130600	128900	131500	129100	130200	125800	124100
29	130400	127400	130900	128400	---	130200	130200	131800	128800	129800	125600	124000
30	129900	127300	130700	128300	---	129900	133500	132300	128500	129500	125500	124000
31	129700	---	130400	128100	---	129600	---	132400	---	129200	126400	---
MAX	134000	129200	147600	130200	133800	138600	133500	146100	137200	132200	128900	128300
MIN	112100	127200	127200	127300	125900	129600	127300	131500	128500	127000	125500	124000
(+)	451.85	451.46	451.97	451.60	452.27	451.84	452.47	452.29	451.66	451.78	451.32	450.91
(@)	+16000	-2400	+3100	-2300	+4200	-2700	+3900	-1100	-3900	+700	-2800	-2400
CAL YR 1993	MAX	148800	MIN	112100	(@)	+1600						
WTR YR 1994	MAX	147600	MIN	112100	(@)	+10300						

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

07335500 RED RIVER AT ARTHUR CITY, TX

LOCATION.--Lat 33°52'30", long 95°30'06", in NW 1/4 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 mi², of which 5,936 mi² 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. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4590	6130	2590	5830	5850	20300	10100	23700	38100	7230	7380	5290
2	4330	6340	2100	4060	4970	29400	8370	24500	33500	7320	6960	6330
3	3420	6000	8690	3400	4960	30800	6030	31500	27600	5360	6820	6070
4	3410	3830	34300	3430	4970	28000	4670	38400	22300	4900	6690	5700
5	2920	2690	34700	4230	5000	26900	4060	36800	15900	4870	6780	6020
6	2860	2160	25000	3720	3970	26700	5040	33800	12100	4980	7020	4850
7	2800	2950	19200	5510	3300	25400	5170	32700	11600	4400	7120	3390
8	2590	5850	22200	6290	3450	23600	4670	32300	13400	4480	13400	2270
9	2550	6170	22400	6410	3380	28600	4510	29700	13000	4940	20000	1740
10	2880	4620	20500	6210	2800	30000	4040	27300	13900	5710	12700	2800
11	3380	2660	17800	6320	5670	e28200	3530	25000	20900	6690	8840	5480
12	3480	2230	11900	5680	8490	e26500	4090	22700	12500	13300	6450	5160
13	3600	2270	8210	5760	7450	e25000	4400	21400	8360	28300	5710	4520
14	3770	2130	8440	5890	5720	22700	3830	26100	8450	29800	5430	4380
15	3860	2340	8210	5450	5440	19600	3520	24600	7770	24100	5270	4340
16	3500	5560	11700	5140	5060	18300	3650	19100	7420	23800	5260	4290
17	3440	6960	12600	5560	4880	15900	3450	16000	5200	21700	4930	4190
18	3100	8820	12000	6060	4680	15000	3510	12800	5080	16600	4420	4480
19	4490	7860	10500	7240	4570	14500	3200	9990	5640	12500	4890	4940
20	19700	5840	9590	6730	4860	14200	3180	9400	6170	10100	5060	4330
21	25500	3840	9330	6420	5570	13900	3090	8800	6010	7540	6220	3780
22	14400	3400	9110	6370	10500	13500	3070	6670	5890	8210	6530	3690
23	8860	2980	7610	5980	22100	13400	3030	5550	4950	7370	6010	3690
24	7030	2680	7210	5580	24200	13200	2940	5070	4680	5990	5340	2650
25	5570	2430	7120	4460	22300	13700	2970	5160	5030	5690	4490	1610
26	5030	2160	7030	4550	20900	14300	3180	6280	5430	5400	4710	1990
27	4810	2950	7040	4340	20700	13800	4510	10900	7120	5170	4710	1280
28	4390	4060	6840	4210	19800	13400	7440	18400	7910	6070	4640	1550
29	4170	4380	6560	4670	---	13100	7580	25700	7330	6760	4730	3610
30	3870	3460	6570	5110	---	12500	11800	37000	7280	6780	4560	4390
31	4520	---	6120	5550	---	11700	---	40700	---	7120	4460	---
TOTAL	172820	125750	383170	166160	245540	616100	142630	668020	350520	313180	207530	118810
MEAN	5575	4192	12360	5360	8769	19870	4754	21550	11680	10100	6695	3960
MAX	25500	8820	34700	7240	24200	30800	11800	40700	38100	29800	20000	6330
MIN	2550	2130	2100	3400	2800	11700	2940	5070	4680	4400	4420	1280
AC-FT	342800	249400	760000	329600	487000	1222000	282900	1325000	695300	621200	411600	235700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1994, BY WATER YEAR (WY)

	7091	7033	6969	6484	8262	10260	11290	17100	18460	7823	4632	4672
MEAN	7091	7033	6969	6484	8262	10260	11290	17100	18460	7823	4632	4672
MAX	40240	37170	32340	39930	24200	38610	55500	103900	83820	27700	34840	19010
(WY)	1982	1975	1992	1992	1946	1987	1990	1990	1957	1989	1950	1950
MIN	263	242	894	1126	1138	1118	1343	2837	2074	1586	1108	859
(WY)	1957	1957	1957	1964	1959	1967	1956	1980	1956	1956	1972	1988

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1945 - 1994

ANNUAL TOTAL	6394620	3510230	r9167
ANNUAL MEAN	17520	9617	23290
HIGHEST ANNUAL MEAN			2754
LOWEST ANNUAL MEAN			269000
HIGHEST DAILY MEAN	87600	May 10	40700
LOWEST DAILY MEAN	2100	Dec 2	1280
ANNUAL SEVEN-DAY MINIMUM	2850	Oct 5	2340
INSTANTANEOUS PEAK FLOW			41900
INSTANTANEOUS PEAK STAGE			15.44
ANNUAL RUNOFF (AC-FT)	12680000	6963000	6641000
10 PERCENT EXCEEDS	42800	24100	23900
50 PERCENT EXCEEDS	12100	6000	4190
90 PERCENT EXCEEDS	3480	3150	1320

e Estimated

r Prior to regulation, water years 1906-11, 1937-43 9,266 ft³/s

s Also occurred Dec. 12, 1956

t Maximum discharge for period of record, 400,000 ft³/s, May 28, 1908.

u Maximum gage height for period of record, 43.2 ft, May 28, 1908.

07336820 RED RIVER NEAR DE KALB, TX

LOCATION.--Lat 33°40'59", long 95°41'39", Bowie County, Hydrologic Unit 11140106, on right bank at downstream side of bridge on U.S. Highway 259, 4.8 mi upstream from North Mill Creek, 13 mi north of De Kalb, and at mile 556.9.

DRAINAGE AREA.--47,348 mi², of which 5,936 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 302.92 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. At times, flood peaks may be affected by Lake Texoma (station 07331500) located approximately 169 mi upstream, and low flows may be affected by releases for the generation of electric power. Storage and/or releases from Lake Hugo on the Kiamichi River, a tributary to the Red River about 45 mi upstream, may also affect flows. Rain gage at station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1957, 205,000 ft³/s June 1957 (gage height, 32.2 ft), from rating curve extended above 186,500 ft³/s. The greatest flood since 1936 occurred in February 1938, stage unknown.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5120	6250	6360	8220	11800	32500	12800	19400	48100	6930	6940	5110
2	4740	7770	5640	7720	8390	37900	11700	31500	43100	6940	7430	5840
3	4520	8640	16200	6240	7370	45200	9820	41000	35500	7150	7150	6790
4	3890	8730	46500	5180	6520	43900	7780	44600	31300	6400	6920	6980
5	3440	6980	63000	4780	5980	41100	6090	50200	28500	5090	6890	6430
6	3300	5240	55500	5350	5840	39700	5350	47900	20300	4730	6900	6140
7	2830	3990	46300	5460	5390	39100	5370	43500	18200	4780	7030	5790
8	2880	3480	40300	5840	4960	38000	5740	46600	18000	4660	7670	4810
9	2790	6160	42200	7520	5530	39100	5510	45900	17300	4440	11000	3770
10	2470	8030	41900	8130	5620	43300	5220	41800	15000	4660	19000	3110
11	2470	7520	38600	8180	4910	42900	5050	40500	17100	4930	17300	2790
12	3000	5650	34800	8290	4950	37600	5270	39600	23800	6700	15100	4180
13	3440	4030	30000	8210	8290	35700	5770	38200	19700	10400	12000	5500
14	3550	4140	26400	8120	9260	36800	6470	38500	12800	24800	10400	5010
15	3680	4430	24300	8170	8020	35100	7290	42400	11100	33900	9760	4740
16	3880	4360	19700	7730	8110	29400	6380	41200	9770	28600	7820	4560
17	3840	10100	19900	8640	7360	23500	4890	33600	8690	25600	5880	4470
18	3830	14000	20200	9510	6720	18600	4580	27500	6990	23300	5480	4410
19	5520	17200	17800	11500	6140	16500	4400	22400	5780	18700	5170	4360
20	19500	16800	15900	13600	6240	15700	4260	17300	5740	14300	5080	4660
21	42900	15100	14000	14000	6770	15200	4120	13500	6110	11900	5450	4790
22	42700	12700	13300	12500	9590	14800	3980	10800	6090	9400	5850	4270
23	29000	11600	12500	10800	21100	14400	3900	8640	5880	10900	6830	3910
24	21400	8760	10500	10500	34700	14300	3850	7320	5490	9970	6360	3890
25	17900	5680	9520	10800	38000	14300	3790	6440	4700	7680	5900	3700
26	15800	5800	9170	9810	35100	14500	3900	6410	4620	6420	5370	2800
27	13100	5430	9020	10400	32600	15800	4360	9280	4970	5960	4930	2430
28	10300	5200	8910	10700	31500	15500	5060	16200	5770	5570	5030	2340
29	7500	6560	8900	12000	---	14600	7950	20600	7360	5810	4970	1970
30	6810	7080	8720	14000	---	14200	11500	27900	7160	6510	4970	2360
31	6190	---	8490	14200	---	13600	---	42600	---	6860	4920	---
TOTAL	302290	237410	724530	286100	346760	852800	182150	923290	454920	333990	241500	131910
MEAN	9751	7914	23370	9229	12380	27510	6072	29780	15160	10770	7790	4397
MAX	42900	17200	63000	14200	38000	45200	12800	50200	48100	33900	19000	6980
MIN	2470	3480	5640	4780	4910	13600	3790	6410	4620	4440	4920	1970
AC-FT	599600	470900	1437000	567500	687800	1692000	361300	1831000	902300	662500	479000	261600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1968	9217	39980	1982	1783	1979
1969	13760	53170	1975	2105	1980
1970	14190	45440	1972	1608	1978
1971	11390	49500	1992	1699	1981
1972	14700	31000	1969	2876	1976
1973	20080	48590	1987	2492	1980
1974	18490	62330	1990	3005	1981
1975	25370	125500	1990	4707	1972
1976	26760	67360	1987	2909	1988
1977	9466	35030	1982	2598	1972
1978	5173	14250	1992	1418	1972
1979	5567	24010	1974	1368	1988

SUMMARY STATISTICS

	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1968 - 1994
ANNUAL TOTAL	8056990	5017650	
ANNUAL MEAN	22070	13750	14430
HIGHEST ANNUAL MEAN			30100
LOWEST ANNUAL MEAN			4690
HIGHEST DAILY MEAN	113000	May 11	278000
LOWEST DAILY MEAN	2470	Oct 10	254
ANNUAL SEVEN-DAY MINIMUM	2820	Oct 6	529
INSTANTANEOUS PEAK FLOW			279000
INSTANTANEOUS PEAK STAGE			34.42
ANNUAL RUNOFF (AC-FT)	15980000	9953000	10460000
10 PERCENT EXCEEDS	53000	38000	39800
50 PERCENT EXCEEDS	17000	8020	6830
90 PERCENT EXCEEDS	4130	4160	2130

07336820 RED RIVER NEAR DE KALB, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: October 1970 to July 1981. Sediment analyses: November 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1968 to September 1991.

WATER TEMPERATURE: January 1968 to September 1991.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,140 microsiemens July 13, 1980; minimum daily, 114 microsiemens Oct. 31, 1984.

WATER TEMPERATURE (1968-89): Maximum daily, 4.0°C on several days during July and August of 1969 and 1970; minimum daily, 0.0°C Jan. 11, 1977.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 21...	1420	44500	382	7.9	18.5	6.6	71	5.1	110	47	32
DEC 09...	1415	42500	294	7.9	10.5	10.6	97	3.3	95	36	29
JAN 26...	1057	9560	582	8.2	13.0	11.0	106	0.3	160	82	44
MAR 15...	1100	36000	615	7.9	11.5	10.3	96	0.9	160	94	42
MAY 12...	1300	39400	483	7.8	19.5	8.6	95	0.8	140	68	38
JUN 29...	1115	7270	1110	8.2	30.5	6.6	89	2.7	300	160	77

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE (MG/L AS N)
OCT 21...	8.3	28	1	3.4	67	54	33	0.20	3.8	205	0.310
DEC 09...	5.4	22	1	3.6	59	42	27	0.10	5.7	171	0.120
JAN 26...	13	50	2	9.2	82	90	78	0.10	5.3	341	0.210
MAR 15...	14	55	2	3.0	69	95	79	0.20	5.1	336	0.180
MAY 12...	10	40	1	2.7	68	72	58	0.10	5.1	268	0.160
JUN 29...	26	110	3	4.3	140	180	170	0.30	4.8	657	--

DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	SEDI-MENT, SUS-PENDED (MG/L)
OCT 21...	0.310	0.020	0.330	0.330	0.080	0.82	0.90	0.040	0.050	0.15	1130
DEC 09...	--	<0.010	0.120	0.120	0.050	0.25	0.30	0.030	0.020	0.06	702
JAN 26...	0.210	0.040	0.250	0.250	0.060	0.34	0.40	0.020	0.030	0.09	103
MAR 15...	0.180	0.010	0.190	0.190	0.040	0.76	0.80	0.080	0.020	0.06	231
MAY 12...	0.160	0.030	0.190	0.190	0.060	0.24	0.30	0.010	0.020	0.06	258
JUN 29...	--	<0.010	--	<0.050	0.030	0.17	0.20	<0.010	<0.010	--	107

DATE	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE % FINER THAN .062 MM	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)
OCT 21...	136000	85	--	--	--	--	--	--	--	--	--
DEC 09...	80600	66	--	--	--	--	--	--	--	--	--
JAN 26...	2660	67	<1	83	<0.5	<1.0	<5	<3	<10	110	<10
MAR 15...	22500	89	--	--	--	--	--	--	--	--	--
MAY 12...	27400	71	--	--	--	--	--	--	--	--	--
JUN 29...	2100	87	2	140	<0.5	<1.0	<5	<3	<10	<3	<10

RED RIVER BASIN

07336820 RED RIVER NEAR DE KALB, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 21...	--	--	--	--	--	--	--	--	--	--
DEC 09...	--	--	--	--	--	--	--	--	--	--
JAN 26...	6	13	<0.1	<10	<10	<1	<1.0	420	<6	8
MAR 15...	--	--	--	--	--	--	--	--	--	--
MAY 12...	--	--	--	--	--	--	--	--	--	--
JUN 29...	12	1	<0.1	<10	<10	<1	<1.0	830	7	<3

07337000 RED RIVER AT INDEX
(National stream-quality accounting network station)

LOCATION.--Lat 33°33'07", long 94°02'28", in NW1/4, SW1/4 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 mi², of which 5,936 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1211: Drainage area.

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

REMARKS.--No estimated daily discharges. 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.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6200	5470	5930	7300	14800	35400	14200	9860	42600	7920	6770	5300
2	6410	5220	6920	6960	13200	40100	13100	19200	44000	7510	6880	5450
3	6220	6110	20100	6560	9570	46100	12100	34500	39800	7390	7130	6210
4	5670	7180	47300	5780	7800	48200	10200	44400	34800	7450	7230	6760
5	5250	7520	67800	4590	6840	45600	8320	46600	32100	7400	6970	6880
6	4540	6810	69900	3950	6170	43000	6410	48500	29700	6150	6820	6460
7	4250	5000	57200	3890	5940	42100	5400	47000	23200	5490	6810	6310
8	3890	3860	49800	4400	5710	41100	5020	45400	20700	5340	6930	6340
9	4010	3110	45900	4400	5100	41800	5310	48000	20900	5360	7260	5910
10	3770	3650	47000	5720	5620	44000	5320	46600	22300	5140	11900	4230
11	3450	6100	45400	7010	6090	45600	5030	43700	22800	5150	13200	3660
12	3230	6570	42200	8240	5980	43000	4970	43100	23800	6040	14700	3110
13	3290	5530	38500	8660	5190	39300	4780	41700	28200	7370	16100	3240
14	3750	4210	33400	8450	7290	38900	5270	40600	23800	10700	13000	4970
15	4000	3730	29300	7960	9200	39700	5560	41100	16100	27000	11000	5430
16	4110	4130	26200	7800	8610	37700	6640	43300	12700	34000	10000	5020
17	4250	5310	20900	8020	8360	32800	6470	41200	11200	28900	8830	4860
18	5260	9370	20300	8970	7990	26900	5100	35600	9700	26100	6480	4750
19	10100	14800	20500	10200	7270	21700	4310	31000	8270	24000	5730	4690
20	27200	17700	18100	11300	7020	19000	4050	26000	6630	20200	5380	4640
21	48600	17300	15900	14400	7130	18000	3910	20900	6210	16200	5070	4740
22	56900	15200	13800	14600	9510	17300	3720	16700	6450	13700	5360	5050
23	46800	12400	12800	13100	16800	16700	3610	13300	6690	10600	5640	4930
24	34500	10700	12000	11200	30700	16200	3500	10800	6520	10900	6430	4530
25	24500	8540	10200	10700	39600	16200	3430	8920	6300	10900	6520	4320
26	19200	5960	8920	13400	40400	16300	3420	8090	5630	8670	6310	4290
27	16200	5760	8370	15000	36800	16800	3370	8220	5290	7040	6290	3880
28	13100	5700	8060	15800	34600	18900	3510	9200	5410	6330	5400	3080
29	10100	4960	7860	15400	---	18800	3960	17100	5810	5950	5180	2950
30	7320	5240	7840	14000	---	16600	5450	24300	7170	5760	5280	2730
31	6150	---	7700	14500	---	15100	---	32400	---	6270	5210	---
TOTAL	402220	223140	826100	292260	369290	958900	175440	947290	534780	356930	241810	144720
MEAN	12970	7438	26650	9428	13190	30930	5848	30560	17830	11510	7800	4824
MAX	56900	17700	69900	15800	40400	48200	14200	48500	44000	34000	16100	6880
MIN	3230	3110	5930	3890	5100	15100	3370	8090	5290	5140	5070	2730
AC-FT	797800	442600	1639000	579700	732500	1902000	348000	1879000	1061000	708000	479600	287100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1994, BY WATER YEAR (WY)

	MEAN	8283	10280	11450	10420	13930	16480	16940	24490	22560	9778	5501	5808
MAX	41690	47140	47910	52290	38960	67730	61460	121000	94400	33990	39230	30340	
(WY)	1946	1975	1992	1992	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 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1944 - 1994
ANNUAL TOTAL	8784030	5472880	n12980
ANNUAL MEAN	24070	14990	30420
HIGHEST ANNUAL MEAN			4383
LOWEST ANNUAL MEAN			1990
HIGHEST DAILY MEAN	105000	69900	268000
LOWEST DAILY MEAN	3110	2730	384
ANNUAL SEVEN-DAY MINIMUM	3620	3510	397
INSTANTANEOUS PEAK FLOW		73200	270000
INSTANTANEOUS PEAK STAGE		15.21	32.30
INSTANTANEOUS LOW FLOW		2550	378
ANNUAL RUNOFF (AC-FT)	17420000	10860000	9401000
10 PERCENT EXCEEDS	58500	41100	35100
50 PERCENT EXCEEDS	17000	8020	5750
90 PERCENT EXCEEDS	4560	4250	2240

n Prior to regulation, water years 1937-43, 11,970³/s.

07337000 RED RIVER AT INDEX--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January to September 1981.

WATER TEMPERATURE: January to September 1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

TE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV 23...	1545	80513	80020	12400	225	7.1	13.0	78	9.5	90	<3
DEC 20...	1300	80513	80020	17900	804	7.1	9.5	88	10.7	94	260
FEB 08...	1530	80513	80020	5490	950	7.7	0.0	27	11.0	77	87
APR 19...	0800	80513	80020	4280	546	7.5	20.0	5.2	8.1	90	83
JUN 21...	1340	80513	80020	5960	1020	7.5	30.5	8.8	7.1	95	K5

TE	TIME	STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS TOT FET FIELD MG/L AS CACO3
NOV 23...	1545	77	67	8	20	4.2	14	30	0.7	2.1	59
DEC 20...	1300	370	200	110	55	16	73	43	2	6.3	96
FEB 08...	1530	K17	280	120	75	23	87	40	2	4.4	160
APR 19...	0800	130	160	34	45	11	44	37	2	2.9	123
JUN 21...	1340	210	270	120	72	21	90	42	2	4.2	153

DATE	TIME	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
NOV 23.	1545	0	73	60	22	20	0.10	5.7	136	125
DEC 20.	1300	0	116	95	130	110	0.20	4.8	459	453
FEB 08.	1530	0	193	158	150	130	0.20	5.7	598	571
APR 19.	0800	0	151	124	61	54	0.20	4.9	320	298
JUN 21.	1340	5	173	150	150	140	0.30	4.2	590	573

DATE	TIME	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
NOV 23.	1545	4550	0.18	0.110	0.010	0.120	0.120	0.060	0.54	0.60
DEC 20.	1300	22200	0.62	0.160	0.010	0.170	0.170	0.080	0.22	0.30
FEB 08.	1530	8860	0.81	--	<0.010	0.160	0.160	0.040	0.46	0.50
APR 19.	0800	3700	0.44	--	<0.010	--	<0.050	0.030	0.47	0.50
JUN 21.	1340	9490	0.80	--	<0.010	--	<0.050	0.030	0.67	0.70

RED RIVER BASIN

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(National stream-quality accounting network station)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV	23. 1545	0.160	0.040	0.030	270	46	<3	190	<4	7
DEC	20. 1300	0.030	<0.010	0.020	--	--	--	--	--	--
FEB	08. 1530	0.100	0.020	0.010	--	--	--	--	--	--
APR	19. 0800	0.060	<0.010	<0.010	80	93	<9	70	<12	30
JUN	21. 1340	0.100	<0.010	0.010	30	140	<3	26	10	27

DATE	TIME	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV	23. 1545	<10	1	<1	<1.0	140	<6	133	4450	91
DEC	20. 1300	--	--	--	--	--	--	521	25200	48
FEB	08. 1530	--	--	--	--	--	--	1820	27000	9
APR	19. 0800	<30	<1	<1	<1.0	380	<18	24	277	83
JUN	21. 1340	<10	1	<1	<1.0	670	<6	95	1530	93

E	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK)	SAM- PLING DEPTH (FEET)	DEPTH AT SAMPLE LOC- ATION, TOTAL (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
...	1405	80513	80513	689	1.50	3.00	1070	8.1	31.5	6.9	95
...	1407	80513	80513	728	1.50	3.00	1070	8.0	31.0	6.8	93
...	1409	80513	80513	767	2.00	4.00	1070	8.0	31.0	6.8	93
...	1411	80513	80513	806	2.00	4.00	1070	8.1	31.0	6.8	93
...	1413	80513	80513	845	3.00	6.00	1070	8.0	31.0	6.8	93
...	1415	80513	80513	884	2.00	10.0	1070	8.1	31.0	6.8	93
...	1416	80513	80513	884	8.00	10.0	1070	8.0	31.0	6.8	93
...	1417	80513	80513	923	3.00	16.0	1060	8.1	31.0	6.9	94
...	1418	80513	80513	923	13.0	16.0	1060	8.0	31.0	6.9	94
...	1419	80513	80513	962	3.50	18.0	1060	8.1	31.0	6.9	95
...	1420	80513	80513	962	14.5	18.0	1060	8.0	31.0	6.9	94
...	1421	80513	80513	1000	4.00	20.0	1060	8.1	31.0	6.9	95
...	1422	80513	80513	1000	16.0	20.0	1060	8.0	31.0	6.9	94
...	1423	80513	80513	1040	2.00	10.0	1060	8.1	31.0	7.0	95
...	1424	80513	80513	1040	8.00	10.0	1060	8.1	31.0	7.0	95

RED RIVER BASIN

07337000 RED RIVER AT INDEX--Continued
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WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG 24...	0738	80513	80020	5840	1090	8.0	26.5	22	6.7	84
DATE	TIME	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO
AUG 24...	0738	K51	K37	280	120	73	23	110	46	3
DATE	TIME	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS TOT FET FIELD MG/L AS CAC03	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CAC03	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)
AUG 24...	0738	4.9	154	0	187	154	150	160	0.30	5.6
DATE	TIME	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
AUG 24...	0738	670	620	10600	0.91	<0.010	<0.050	0.010	0.69	0.70
DATE	TIME	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
AUG 24...	0738	0.120	<0.010	0.010	20	150	<3	11	11	17
DATE	TIME	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	SEDI- MENT, SUS- PENDEED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
AUG 24...	0738	<10	<1	<1	<1.0	790	8	151	2380	99

07342465 SOUTH SULPHUR RIVER AT COMMERCE, TX

LOCATION.--Lat 33°12'42", Long 95°54'30", Hunt County, Hydrologic Unit 11140301, on right bank at downstream side of bridge on south-bound State Highway 50, 13 mi. upstream from Dunbar Creek, and 2.8 mi. south of Commerce.

DRAINAGE AREA.--150 mi².

PERIOD OF RECORD.--October 1991 to current year.

GAGE.--Water-stage recorder. Datum of gage is 460.74 ft above National Geodetic Vertical Datum of 1929. Rain gage at station. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	0630	11,400	27.60	May 1	1030	2,730	14.65
Dec. 3	0745	4,690	19.72	May 12	1145	3,060	15.53
Feb. 22	1015	3,800	17.37	July 15	0945	11,200	27.44
Mar. 9	0545	2,740	14.69				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.59	26	1.7	4.4	880	2.9	2000	40	.53	13	495
2	.00	.61	141	1.6	3.4	822	2.8	344	17	.44	5.2	263
3	.00	1.0	3940	1.6	3.1	227	3.4	1770	5.4	.33	2.2	1170
4	.02	.71	3670	1.4	2.4	91	2.9	683	4.5	.17	1.1	737
5	.04	.46	621	1.4	2.1	47	2.9	114	2.0	.12	1.6	37
6	.01	.41	115	1.4	1.6	32	2.6	46	.92	.07	.78	12
7	.00	.18	54	2.0	1.5	26	2.9	26	1.9	.06	.96	5.8
8	.00	.05	32	1.4	1.6	116	2.9	17	3.2	.11	1.1	3.9
9	.00	.03	22	1.1	1.6	2160	2.7	13	2.0	.09	.54	2.1
10	.00	.03	18	.99	1.7	865	2.7	11	1.4	.07	2.3	3.0
11	.00	.08	15	3.2	2.3	134	16	10	1.3	37	1.8	5.3
12	.01	.22	13	17	2.3	66	146	1970	1.5	345	.93	2.3
13	.23	1.2	586	8.8	1.8	46	52	1850	.62	84	.53	2.4
14	.07	158	353	6.6	1.6	36	15	895	.51	33	.32	2.1
15	.05	80	97	4.3	1.6	29	7.4	330	.42	6160	.20	1.2
16	.01	809	47	3.4	1.4	23	3.7	163	.48	3320	.13	.75
17	.01	522	28	219	1.1	19	2.4	180	.30	256	.08	.48
18	.64	130	20	43	1.1	16	1.8	47	.27	42	.05	.34
19	3350	49	15	14	1.1	15	1.2	23	.24	17	.04	.24
20	8230	22	13	11	17	14	1.1	15	1.9	9.0	.30	.19
21	2210	14	9.7	12	17	12	.84	10	1.7	4.7	.61	.20
22	124	9.3	8.1	11	2220	11	.73	7.4	1.8	3.8	.29	.21
23	35	6.0	6.9	9.0	1340	10	.64	5.6	5.1	2.3	.18	.16
24	16	4.3	6.1	22	184	9.9	.76	4.3	4.6	1.8	.10	.13
25	9.4	3.7	5.1	94	64	9.0	.67	3.6	3.7	1.7	.06	.13
26	5.6	5.0	4.2	72	35	7.0	109	78	3.3	1.4	.05	.10
27	3.1	13	3.3	52	22	4.7	32	225	2.7	1.1	.05	.08
28	2.5	39	2.7	25	18	3.7	9.2	278	1.7	.75	.05	.06
29	1.8	83	2.4	15	---	3.1	26	233	1.5	.56	.04	.04
30	1.5	49	2.3	10	---	2.9	1190	774	.85	1.3	.02	.04
31	.99	---	2.1	6.3	---	2.9	---	120	---	1.8	.22	---
TOTAL	13990.99	2001.87	9878.9	673.19	3954.7	5740.2	1645.14	12245.9	112.81	10326.20	34.83	2745.25
MEAN	451	66.7	319	21.7	141	185	54.8	395	3.76	333	1.12	91.5
MAX	8230	809	3940	219	2220	2160	1190	2000	40	6160	13	1170
MIN	.00	.03	2.1	.99	1.1	2.9	.64	3.6	.24	.06	.02	.04
AC-FT	27750	3970	19590	1340	7840	11390	3260	24290	224	20480	69	5450
CFSM	3.01	.44	2.12	.14	.94	1.23	.37	2.63	.03	2.22	.01	.61
IN.	3.47	.50	2.45	.17	.98	1.42	.41	3.04	.03	2.56	.01	.68

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1994, BY WATER YEAR (WY)

	MEAN	291	93.2	437	106	259	264	159	396	149	164	11.0	30.6
MAX	451	193	804	224	477	346	391	734	433	333	32.0	91.5	
(WY)	1994	1992	1992	1992	1993	1992	1993	1992	1992	1994	1992	1994	
MIN	.008	19.6	188	21.7	141	185	30.7	57.4	3.76	.009	.005	.002	
(WY)	1993	1993	1993	1994	1994	1994	1992	1993	1994	1993	1993	1993	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1992 - 1994

ANNUAL TOTAL	63331.23	63349.98	197
ANNUAL MEAN	174	174	297
HIGHEST ANNUAL MEAN			120
LOWEST ANNUAL MEAN			1992
HIGHEST DAILY MEAN	8230	Oct 20	8230
LOWEST DAILY MEAN	.00	Jul 9	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 17	.00
INSTANTANEOUS PEAK FLOW			11400
INSTANTANEOUS PEAK STAGE			27.60
ANNUAL RUNOFF (AC-FT)	125600	125700	142800
ANNUAL RUNOFF (CFSM)	1.16	1.16	1.31
ANNUAL RUNOFF (INCHES)	15.71	15.71	17.85
10 PERCENT EXCEEDS	276	229	356
50 PERCENT EXCEEDS	3.1	3.4	5.2
90 PERCENT EXCEEDS	.00	.09	.00

07342470 SOUTH SULPHUR RIVER NEAR COMMERCE, TX

LOCATION.--Lat 33°13'11", long 95°51'45", Hunt County, Hydrologic Unit 11140301, at State Highway 11, 0.7 mi upstream from St. Louis Southwestern Railroad bridge, 1.8 mi downstream from Dunbar Creek, and 3.0 mi southeast of Commerce.

DRAINAGE AREA.--189 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1987 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
OCT 07...	1016	1.7	619	7.6	22.0	13	12	7.1	82	1.8	91	0
NOV 17...	1551	627	164	8.5	11.5	110	1.0	9.7	89	6.9	67	3
JAN 05...	1431	4.2	650	8.2	8.5	22	9.0	11.6	101	1.2	150	0
FEB 23...	1127	2690	239	7.6	12.0	130	230	9.3	87	2.6	93	11
APR 19...	1401	4.4	560	7.9	23.5	34	30	10.8	129	3.4	140	0
JUN 07...	1516	3.7	563	8.4	33.5	48	12	13.3	192	6.3	140	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)
OCT 07...	31	3.2	95	4	7.2	150	52	40	0.40	7.0	369	46
NOV 17...	23	2.3	8.7	0.5	5.0	64	16	6.9	0.20	9.7	112	300
JAN 05...	51	5.5	83	3	5.1	170	75	36	0.30	8.6	392	41
FEB 23...	33	2.4	11	0.5	3.5	82	18	6.3	0.20	8.6	148	540
APR 19...	46	5.1	61	2	5.0	160	67	31	0.30	7.9	342	72
JUN 07...	48	4.6	64	2	5.7	150	60	37	0.30	7.3	340	41

DATE	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)
OCT 07...	24	22	8.27	8.27	0.130	8.40	8.40	0.330	0.77	1.1	1.40
NOV 17...	40	260	0.200	0.200	0.010	0.210	0.210	0.080	0.72	0.80	0.210
JAN 05...	3	38	5.00	--	<0.010	5.00	5.00	0.060	0.44	0.50	0.680
FEB 23...	60	480	2.87	2.87	0.530	3.40	3.40	0.240	0.86	1.1	0.180
APR 19...	14	58	4.45	4.45	0.050	4.50	4.50	0.040	0.76	0.80	0.570
JUN 07...	14	27	4.86	4.86	0.040	4.90	4.90	0.030	0.87	0.90	0.610

DATE	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 07...	1.30	4.0	7.4	--	--	--	--	--	--	--	--
NOV 17...	0.200	0.61	--	--	--	--	--	--	--	--	--
JAN 05...	0.710	2.2	7.5	2	52	<0.5	<1.0	<5	<3	<10	6
FEB 23...	0.150	0.46	19	3	33	<0.5	<1.0	<5	<3	<10	26
APR 19...	0.540	1.7	12	--	--	--	--	--	--	--	--
JUN 07...	0.570	1.7	8.8	3	61	<0.5	1.0	<5	<3	<10	11

RED RIVER BASIN

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07342470 SOUTH SULPHUR RIVER NEAR COMMERCE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 07...	--	--	--	--	--	--	--	--	--	--	--
NOV 17...	--	--	--	--	--	--	--	--	--	--	--
JAN 05...	<10	9	65	<0.1	20	<10	<1	<1.0	480	<6	15
FEB 23...	<10	<4	7	<0.1	<10	<10	<1	<1.0	310	<6	6
APR 19...	--	--	--	--	--	--	--	--	--	--	--
JUN 07...	<10	12	5	<0.1	20	<10	<1	<1.0	440	<6	13

RED RIVER BASIN

07342480 MIDDLE SULPHUR RIVER AT COMMERCE, TX

LOCATION.--Lat 33°15'59", Long 95°54'55", Hunt County, Hydrologic Unit 11140301, at right end of bridge on State Highway 11 at downstream side of highway embankment, 1.5 mi upstream from Willow Creek and 1.5 mi northwest of Post Office in Commerce.

DRAINAGE AREA.--44.1 mi².

PERIOD OF RECORD.--October 1991 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage not determined.

REMARKS.--No estimated daily discharges. Records good except those for daily discharges below 5 ft/s, which are poor. Rain gage at station. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	207	1680	602	62	1510	2010	712	74	485	77	241	81
2	209	1670	602	61	1130	1220	658	75	749	66	48	88
3	209	1670	608	60	860	776	646	103	987	66	41	98
4	209	1670	610	59	546	1060	642	89	857	66	40	99
5	209	1660	605	59	387	1880	547	78	546	66	40	99
6	208	1650	601	60	374	1990	318	77	349	66	39	100
7	209	1380	601	59	372	2230	168	76	216	66	39	100
8	209	847	601	57	372	2720	95	76	208	64	38	100
9	213	446	700	57	373	2760	93	76	150	64	38	99
10	210	212	960	57	374	2750	92	76	78	64	37	99
11	210	113	992	59	377	2760	97	76	77	64	37	99
12	210	111	988	214	377	2760	301	74	76	251	37	99
13	211	110	775	338	375	2760	435	77	75	188	37	99
14	212	134	493	339	374	2760	428	93	72	78	37	99
15	212	127	455	339	479	2750	425	121	72	200	37	98
16	213	121	450	341	613	2700	424	99	71	377	37	98
17	213	125	450	342	626	2580	422	107	71	487	37	99
18	214	249	450	342	534	2570	419	85	71	811	37	99
19	215	498	450	342	374	2550	413	77	72	1340	37	99
20	232	690	616	341	371	2550	404	75	73	1800	36	99
21	266	696	867	339	379	2540	325	74	75	2290	36	99
22	546	681	894	338	548	2530	240	74	75	2730	36	97
23	851	622	773	338	932	2520	237	182	72	2760	37	95
24	892	610	568	338	1390	2240	237	272	71	2760	34	95
25	1160	608	541	446	1900	1660	237	275	69	2740	33	94
26	1940	608	536	588	2170	1200	237	181	68	2370	79	94
27	2390	608	438	773	2210	1170	236	69	68	1760	81	48
28	2440	605	290	1250	2220	1430	235	66	68	1110	81	8.3
29	2300	603	284	1730	---	1820	176	67	70	600	81	1.3
30	1800	602	192	1800	---	1570	76	100	83	324	81	1.2
31	1710	---	67	1810	---	1020	---	225	---	302	81	---
TOTAL	20529	21406	18059	13338	22547	65836	9975	3269	6074	26007	1630	2583.8
MEAN	662	714	583	430	805	2124	332	105	202	839	52.6	86.1
MAX	2440	1680	992	1810	2220	2760	712	275	987	2760	241	100
MIN	207	110	67	57	371	776	76	66	68	64	33	1.2
AC-FT	40720	42460	35820	26460	44720	130600	19790	6480	12050	51580	3230	5120

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1994, BY WATER YEAR (WY)

	MEAN	215	390	686	853	1274	1309	1038	818	951	475	224	115
MAX	662	2690	1946	2685	2687	2645	2669	2979	3209	3057	2349	482	
(WY)	1994	1958	1958	1993	1993	1988	1990	1958	1958	1958	1958	1958	
MIN	3.35	4.82	4.13	4.16	127	290	137	32.4	32.5	19.9	16.2	8.70	
(WY)	1981	1989	1982	1981	1981	1981	1981	1992	1987	1980	1982	1980	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1958 - 1994

ANNUAL TOTAL	332392	211253.8	695
ANNUAL MEAN	911	579	1859
HIGHEST ANNUAL MEAN			108
LOWEST ANNUAL MEAN			4500
HIGHEST DAILY MEAN	2810	Feb 6	2760
LOWEST DAILY MEAN	26	Jul 22	1.2
ANNUAL SEVEN-DAY MINIMUM	26	Jul 22	36
INSTANTANEOUS PEAK FLOW			2810
INSTANTANEOUS PEAK STAGE			19.34
ANNUAL RUNOFF (AC-FT)	659300	419000	503500
10 PERCENT EXCEEDS	2660	1810	2530
50 PERCENT EXCEEDS	446	240	191
90 PERCENT EXCEEDS	30	60	23

RED RIVER BASIN
WATER QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1987 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)
NOV 18...	1015	47	190	8.3	11.5	110	2.0	10.4	96	5.0	77	5
JAN 06...	1135	0.49	435	7.7	10.0	55	11	11.6	105	1.5	180	0
FEB 23...	1536	141	203	7.6	12.0	140	230	10.2	96	0.3	78	3
APR 20...	1010	0.14	844	7.7	19.0	26	3.0	7.8	85	2.9	350	70
JUN 08...	1021	0.36	347	7.7	26.0	110	15	6.2	78	2.6	140	12
JUL 19...	1631	2.0	232	7.9	28.0	56	24	8.2	107	1.9	98	0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L)
NOV 18...	27	2.3	8.8	0.4	6.4	72	18	7.0	0.20	11	125	100
JAN 06...	65	5.1	19	0.6	4.0	180	45	11	0.20	9.7	270	17
FEB 23...	28	2.0	11	0.5	3.2	75	17	5.9	0.20	8.9	125	262
APR 20...	120	12	57	1	4.8	280	140	29	0.30	7.2	538	27
JUN 08...	49	3.8	14	0.5	5.0	130	28	7.7	0.20	12	197	27
JUL 19...	35	2.6	11	0.5	4.3	100	17	6.1	0.20	12	149	46

DATE	RESIDUE VOLA- TILE, SUS- PENDE (MG/L)	RESIDUE FIXED NON FILTER- ABLE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
NOV 18...	34	66	0.160	0.160	0.010	0.170	0.170	0.070	0.73	0.80	0.250
JAN 06...	4	13	0.051	--	<0.010	0.051	0.051	0.050	0.35	0.40	0.080
FEB 23...	48	214	0.620	0.620	0.050	0.670	0.670	0.230	0.97	1.2	0.180
APR 20...	10	17	--	--	0.020	--	<0.050	0.060	0.54	0.60	0.040
JUN 08...	13	14	0.099	--	<0.010	0.099	0.099	0.050	0.75	0.80	0.100
JUL 19...	14	32	0.055	--	<0.010	0.055	0.055	0.060	0.94	1.0	0.100

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
NOV 18...	0.230	0.71	--	--	--	--	--	--	--	--	--
JAN 06...	0.080	0.25	8.5	3	72	<0.5	<1.0	<5	<3	<10	16
FEB 23...	0.160	0.49	--	3	39	<0.5	<1.0	<5	<3	<10	170
APR 20...	0.040	0.12	9.8	--	--	--	--	--	--	--	--
JUN 08...	0.090	0.28	14	4	66	<0.5	<1.0	<5	<3	<10	66
JUL 19...	0.090	0.28	10	--	--	--	--	--	--	--	--

[illegible]

07342495 COOPER LAKE NEAR COOPER, TX

LOCATION.--Lat 33°20'00", long 95°37'30", Delta-Hopkins County line, Hydrologic Unit 11140301, in control room near center of dam on South Sulphur River, about 4.0 mi southeast of Cooper, and at river mile 23.2.

DRAINAGE AREA.--479.0 mi².

WATER-CONTENT RECORDS

PERIOD OF RECORD.--October 1991 to current year.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam, 28,070 ft long, including the dike. Closure of dam and deliberate impoundment of water began Sept. 28, 1991. The spillway is a 700-foot wide vertical faced uncontrolled ogee weir located near the right abutment of the dam. The service spillway (outlet works) consists of both service and emergency gates and low-flow release facilities. The outlet works structures is 452 feet long, and consists of an approach channel, approach channel U-frame structure, intake structure and service bridge, over 10.5-foot diameter conduits, and a stilling basin and discharge channel. The emergency part of the outlet structure consists of five 40- x 20-foot tainter gates. The dam was built, and is owned by the U.S. Army Corps of Engineers in cooperation with the North Texas Municipal Water District, the Sulphur River Municipal Water District, and the city of Irving. The principal uses of the dam and lake are for flood control, water supply, and recreation. Satellite telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	459.0	-
Top of Flood Control Pool.....	446.2	441,400
Top of Conservation Pool.....	440.0	310,000
Invert, lowest gated outlet.....	398.0	-

COOPERATION.--Area and capacity tables provided by the U.S. Army Corps of Engineers. Records of elevations and contents provided by the Corps of Engineers and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 392,400 acre-ft Dec. 5, 1993 (elevation, 444.02 ft); minimum daily since first appreciable storage and after deliberate impoundment, 77 acre-ft Oct. 1-3, 1991 (elevation, 395.00 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 392,400 acre-ft Dec. 5 (elevation, 444.02 ft); minimum daily, 248,300 acre-ft Oct. 12 (elevation, 436.58 ft).

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

395.0	77	425.0	102,500	435.0	222,800
405.0	5,970	430.0	155,100	440.0	310,300
413.0	26,210	444.0	392,000	448.0	482,500
419.0	57,050				

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	250500	326900	318100	325500	312100	348200	310700	327700	333300	310900	319600	311700
2	250500	325100	330700	324900	311700	353900	310500	333500	331100	310700	318300	313400
3	250500	322800	367200	323600	311500	353700	310500	345800	328500	310500	316900	315700
4	250200	320600	387300	322600	311500	350600	310300	349000	326100	309900	315900	317500
5	249900	318300	392400	322200	311700	347200	311100	347000	324000	309300	315200	317100
6	249900	316100	389600	321200	311500	343700	309700	343100	322200	309000	314400	316300
7	249700	314000	385800	320200	311500	340300	309500	339700	320400	308600	315500	315700
8	249700	313200	380400	319400	311900	340900	309300	335900	319600	309000	315300	317100
9	249000	312600	375800	319100	312400	353500	309300	332500	317500	308800	314600	316500
10	248800	312100	370700	320000	312600	357800	309300	328700	316700	308800	313800	315900
11	248500	311700	365300	321400	312200	357000	312800	325300	316700	309000	313200	315300
12	248300	311500	358900	321400	312600	353700	313000	332100	315900	309700	312600	314800
13	250200	311300	362800	321000	312200	350400	312800	345500	315000	310100	312400	314200
14	250200	315200	361100	320200	312200	346800	313000	352500	313800	310900	312200	313600
15	249900	315500	359500	318900	312100	343100	313000	352700	313600	341100	311900	312800
16	250000	330500	356800	320000	312100	339300	312400	350000	313200	366300	311500	312200
17	249900	338300	354100	323800	312100	335900	312400	347000	313200	367800	311100	311300
18	257600	339300	350800	323200	311700	331900	312200	343300	313000	364900	310900	310700
19	289900	338300	348000	322400	312100	328300	312200	339500	312800	360900	310500	310300
20	339300	336100	345100	321600	313200	325500	312100	335700	312600	356800	312400	309700
21	356400	334100	341700	320200	314200	320800	312100	332700	312100	352700	312100	309700
22	357400	331900	339500	319400	336500	317900	311900	329700	311900	350400	311700	309500
23	356800	329700	338300	317900	344700	316300	311700	326500	313600	346600	311500	309000
24	354100	328100	336700	317300	344500	315200	311300	323000	313000	342500	311300	308200
25	351000	327900	334900	316900	342300	313800	312200	320000	313000	338300	310900	307800
26	347800	325100	333100	316500	340100	313600	312100	321200	312400	334300	310500	307400
27	344300	323600	331300	315900	338100	313000	312600	324500	311900	329900	310300	307200
28	340900	322200	329700	314200	336500	312100	312800	325500	311700	326100	310100	307000
29	337700	320400	328100	312800	---	311700	315200	331500	311500	323400	309700	306700
30	334100	318700	327300	312100	---	311100	322200	335100	311100	323400	309300	306500
31	330300	---	326300	312100	---	310900	---	335100	---	321400	310700	---
MAX	357400	339300	392400	325500	344700	357800	322200	352700	333300	367800	319600	317500
MIN	248300	311300	318100	312100	311500	310900	309300	320000	311100	308600	309300	306500
(+)	441.02	440.43	440.82	440.09	441.33	440.03	440.61	441.26	440.04	440.57	440.02	439.80
(@)	+79300	-11600	+7600	-14200	+24400	-25600	+11300	+12700	-24000	+10300	-10700	-4200
CAL YR 1993	MEAN 293400	MAX 392400	MIN 248300	(@) +24000								
WTR YR 1994	MEAN 321300	MAX 392400	MIN 248300	(@) +55600								

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

RED RIVER BASIN

07342495 COOPER LAKE NEAR COOPER, TX--Continued

WATER-QUALITY RECORDS

LOCATION.--Lat 33°20'00", long 95°37'30", Delta-Hopkins County line, Hydrologic Unit 11140301, in control room near center of dam on South Sulphur River, about 4.0 mi southeast of Cooper, and at river mile 23.2.

DRAINAGE AREA.--479.0 mi².

PERIOD OF RECORD.--Chemical and Biochemical analyses: September 1992 to current year.

331938095374701 - COOPER LAKE SITE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
FEB										
24...	1120	345000	1.00	198	7.9	9.5	0.80	11.2	100	55
24...	1124	--	10.0	198	7.9	9.0	--	11.1	98	--
24...	1128	--	20.0	198	7.9	9.0	--	11.1	98	--
24...	1132	--	30.0	197	7.8	9.0	--	11.1	98	--
24...	1136	--	40.0	196	7.8	9.0	--	11.2	98	--
24...	1140	--	46.0	194	7.8	9.0	--	11.5	101	--
MAY										
11...	1231	325000	1.00	206	8.0	20.5	1.10	7.8	88	--
11...	1235	--	10.0	209	7.4	19.5	--	5.7	63	--
11...	1238	--	20.0	209	7.3	19.0	--	4.6	50	--
11...	1241	--	30.0	210	7.2	18.5	--	3.7	40	--
11...	1245	--	44.0	215	7.1	18.5	--	1.2	13	--
AUG										
18...	1453	311000	1.00	200	7.5	28.5	0.98	6.1	80	60
18...	1457	--	10.0	201	7.0	28.0	--	2.8	36	--
18...	1501	--	20.0	204	6.8	28.0	--	1.5	20	--
18...	1505	--	30.0	202	6.7	27.5	--	0.5	6	--
18...	1510	--	42.0	219	6.7	27.0	--	0	0	--

DATE	STREP- TOCOCI FECAL KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)
FEB									
24...	34	71	0	24	2.6	10	0.5	3.3	72
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	71	0	24	2.6	9.8	0.5	3.3	72
MAY									
11...	K5	74	0	25	2.8	11	0.6	3.3	78
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	74	0	25	2.9	10	0.5	3.1	82
AUG									
18...	K1	79	0	27	2.8	11	0.5	3.6	83
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	82	0	28	3.0	11	0.5	3.6	91

RED RIVER BASIN

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07342495 COOPER LAKE NEAR COOPER, TX--Continued

331938095374701 - COOPER LAKE SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
FEB									
24...	12	5.5	0.20	0.20	102	0.180	0.180	0.010	0.190
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	12	5.4	0.20	0.30	102	0.200	--	<0.010	0.200
MAY									
11...	13	5.8	0.20	0.50	109	0.180	0.180	0.020	0.200
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	13	5.8	0.20	2.0	113	0.270	0.270	0.040	0.310
AUG									
18...	11	5.7	0.20	1.1	112	--	--	<0.010	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	0.080	--	<0.010	0.080
18...	--	--	--	--	--	0.087	--	<0.010	0.087
18...	9.9	5.7	0.20	3.8	123	--	--	<0.010	--

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB									
24...	0.190	0.040	0.36	0.40	<0.010	<0.010	--	13	1
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	0.200	0.050	0.35	0.40	<0.010	<0.010	--	18	2
MAY									
11...	0.200	0.010	0.39	0.40	0.020	<0.010	--	4	9
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	0.310	0.080	0.42	0.50	0.040	0.020	0.06	12	440
AUG									
18...	<0.050	0.020	0.38	0.40	<0.010	<0.010	--	5	15
18...	--	--	--	--	--	--	--	--	--
18...	0.080	0.040	0.36	0.40	0.040	0.010	0.03	<10	80
18...	0.087	0.050	0.35	0.40	0.030	0.010	0.03	<10	70
18...	<0.050	0.570	0.53	1.1	0.250	0.200	0.61	1000	1200

332110095422201 - COOPER LAKE SITE BC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB							
24...	1203	1.00	202	7.9	11.0	10.4	96
24...	1205	10.0	201	7.8	10.5	10.1	92
24...	1207	20.0	199	7.8	10.5	9.9	90
24...	1210	24.0	198	7.8	10.5	10.2	93
MAY							
11...	1309	1.00	200	8.5	22.5	8.9	105
11...	1314	10.0	203	7.7	21.5	5.9	68
11...	1319	15.0	211	7.2	21.0	0.8	9
11...	1324	24.0	222	7.1	19.0	0.3	3
AUG							
18...	1525	1.00	202	8.0	31.0	7.9	108
18...	1528	10.0	203	7.5	29.0	5.7	75
18...	1531	21.0	213	6.7	29.0	0	0

RED RIVER BASIN

07342495 COOPER LAKE NEAR COOPER, TX--Continued

331818095422501 - COOPER LAKE SITE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)
FEB												
24...	1230	1.00	200	8.3	10.5	0.70	11.9	108	300	K8	71	1
24...	1234	10.0	199	8.1	10.0	--	11.1	100	--	--	--	--
24...	1238	20.0	196	7.3	9.0	--	7.1	62	--	--	--	--
24...	1242	31.0	193	7.4	8.5	--	7.3	63	--	--	70	0
MAY												
11...	1439	1.00	204	8.5	22.0	0.67	10.0	116	--	K1	74	0
11...	1443	10.0	207	7.7	20.0	--	7.3	82	--	--	--	--
11...	1447	15.0	210	7.5	20.0	--	5.7	64	--	--	--	--
11...	1451	20.0	207	7.0	16.0	--	0	0	--	--	--	--
11...	1455	29.0	208	7.0	16.5	--	0	0	--	--	71	0
AUG												
18...	1551	1.00	201	7.7	31.5	1.16	6.7	93	44	K1	79	0
18...	1555	10.0	199	7.2	29.0	--	6.2	82	--	--	--	--
18...	1559	20.0	200	6.3	27.0	--	0	0	--	--	--	--
18...	1603	28.0	234	6.3	26.0	--	0	0	--	--	83	0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
FEB												
24...	24	2.6	9.8	0.5	3.3	70	13	5.4	0.20	0.30	101	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	24	2.5	9.5	0.5	3.4	73	13	5.4	0.20	2.3	104	--
MAY												
11...	25	2.7	11	0.6	3.3	76	14	6.1	0.20	0.70	109	0.055
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	25	2.0	11	0.6	2.9	76	13	5.4	0.20	8.2	118	0.720
AUG												
18...	27	2.7	11	0.5	3.8	79	11	5.6	0.20	1.4	110	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	29	2.6	7.3	0.5	4.0	110	1.9	3.8	0.30	9.7	162	--

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB												
24...	--	--	--	--	--	--	--	--	--	--	5	5
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	30	70
24...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
11...	0.055	0.030	0.085	0.085	0.060	0.34	0.40	0.020	0.020	0.06	6	11
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	0.720	0.080	0.800	0.800	0.280	0.52	0.80	0.140	0.150	0.46	340	170
AUG												
18...	--	<0.010	--	<0.050	0.020	0.38	0.40	0.030	0.020	0.06	15	17
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	<0.010	--	<0.050	2.40	0.70	3.1	1.30	1.10	3.4	4100	690

RED RIVER BASIN

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07342495 COOPER LAKE NEAR COOPER, TX--Continued

332019095441901 - COOPER LAKE SITE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB							
24...	1259	1.00	207	7.4	11.0	7.2	66
24...	1302	10.0	210	7.4	10.5	6.9	63
24...	1305	18.0	210	7.5	11.0	7.1	65
MAY							
11...	1351	1.00	208	8.3	22.5	9.3	109
11...	1355	5.00	208	7.8	21.5	7.4	85
11...	1358	14.0	266	7.1	18.5	0.4	4
AUG							
18...	1621	1.00	210	7.8	33.0	8.0	113
18...	1625	5.00	209	7.4	30.5	6.2	84
18...	1630	13.0	233	6.7	28.5	0	0

331838095465601 - COOPER LAKE SITE EC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB							
24...	1515	3.00	438	8.0	11.0	11.1	102
MAY							
11...	1648	3.00	479	8.3	23.5	9.3	111

331630095462901 - COOPER LAKE SITE FC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)
FEB 24...	1615	1.00	279	7.8	10.5	0.10	10.4	95	K5300	K12000	100	14
MAY 11...	1719	1.00	475	8.0	21.5	0.18	7.9	91	--	K360	160	0
11...	1722	7.00	475	7.8	20.0	--	5.7	64	--	--	--	--
AUG 18...	1839	1.00	368	8.3	29.0	0.21	9.4	125	1000	230	110	0
DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
FEB 24...	36	3.3	14	0.6	3.5	90	24	7.7	0.20	11	165	2.11
MAY 11...	56	5.3	33	1	3.8	160	44	18	0.30	11	281	2.65
11...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 18...	38	4.1	35	1	4.8	110	40	20	0.30	7.3	221	0.620

RED RIVER BASIN

07342495 COOPER LAKE NEAR COOPER, TX--Continued

331630095462901 - COOPER LAKE SITE FC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB 24...	2.11	0.290	2.40	2.40	0.230	1.1	1.3	0.210	0.120	0.37	38	14
MAY 11...	2.65	0.050	2.70	2.70	0.030	0.47	0.50	0.230	0.240	0.74	16	23
MAY 11...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 18...	0.620	0.040	0.660	0.660	0.030	0.37	0.40	0.140	0.110	0.34	130	6

331718095480601 - COOPER LAKE SITE GC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB 24...	1547	1.00	285	7.9	10.5	11.1	101
FEB 24...	1550	8.00	287	8.0	10.5	11.0	100
AUG 18...	1813	1.00	261	8.0	30.0	7.8	105

RED RIVER BASIN

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07342495 COOPER LAKE NEAR COOPER, TX--Continued

Cooper Lake Site AC (331938095374701)

Phytoplankton Analyses October 1993 to September 1994

Date	2-24-94
Time	1122

TOTAL CELLS/mL	5,530
NUMBER OF SPECIES	14
DEPTH COLLECTED (ft.)	1.3

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	268
Order Pennales	
<i>Ascomorpha ovalis</i>	2
<i>Cocconeis placentula</i>	17
<i>Meridion circulare</i>	2
<i>Navicula cuspidata</i>	2
<i>Navicula cuspidata</i> var. <i>ambigua</i>	5
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	1,130
<i>Chlamydomonas</i> sp.	208
<i>Pediastrum duplex</i>	30
<i>Selenastrum Westii</i>	476
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	2,825
<i>Chroococcus limneticus</i>	476
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	30
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	59

07342495 COOPER LAKE NEAR COOPER, TX--Continued

Cooper Lake Site FC (331630095462901)

Phytoplankton Analyses October 1993 to September 1994

Date	2-24-94
Time	1617

TOTAL CELLS/mL	4,522
NUMBER OF SPECIES	17
DEPTH COLLECTED (ft.)	0.2

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	357
Order Pennales	
<i>Amphora ovalis</i>	5
<i>Cocconeis placentula</i>	5
<i>Cymbella parva</i>	16
<i>Meridion circulare</i>	5
<i>Navicula cuspidata</i>	26
<i>Navicula cuspidata</i> var. <i>ambigua</i>	21
<i>Nitzschia denticula</i>	16
<i>Pinnularia brevicostata</i>	5
<i>Surirella ovata</i>	5
<i>Synedra ulna</i>	16
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	59
<i>Chlamydomonas</i> sp.	119
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	3,569
<i>Chroococcus limneticus</i>	119
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	149
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	30

RED RIVER BASIN

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07342495 COOPER LAKE NEAR COOPER, TX--Continued

Cooper Lake Site AC (331938095374701)

Phytoplankton Analyses October 1993 to September 1994

Date	5-11-94
Time	1231

TOTAL CELLS/mL	2,766
NUMBER OF SPECIES	5
DEPTH COLLECTED (ft.)	1.8

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Pennales	
<i>Cocconeis placentula</i>	2
<i>Cymbella parva</i>	26
<i>Navicula rhyncocephala</i>	2
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	2,677
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	59

07342495 COOPER LAKE NEAR COOPER, TX—Continued

Cooper Lake Site FC (331630095462901)

Phytoplankton Analyses October 1993 to September 1994

Date	5-11-94
Time	1719

TOTAL CELLS/mL	7,703
NUMBER OF SPECIES	16
DEPTH COLLECTED (ft.)	0.3

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	59
Order Pennales	
<i>Cocconeis placentula</i> 1	7
<i>Cymbella parva</i>	155
<i>Fragilaria crotonensis</i>	34
<i>Navicula rhyncocephala</i>	121
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	238
<i>Chlamydomonas</i> sp.	30
<i>Cosmarium</i> sp.	30
<i>Scenedesmus bijuga</i>	30
<i>Scenedesmus opoliensis</i>	30
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	3,866
<i>Aphanocapsa elachista</i>	595
<i>Chroococcus limneticus</i>	952
<i>Merismopedia tenuissima</i>	952
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	416
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	178

RED RIVER BASIN

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07342495 COOPER LAKE NEAR COOPER, TX—Continued

Cooper Lake Site AC (331938095374701)

Phytoplankton Analyses October 1993 to September 1994

Date	8-18-94
Time	1453

TOTAL CELLS/mL	33,576
NUMBER OF SPECIES	16
DEPTH COLLECTED (ft.)	1.6

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	30
Order Pennales	
<i>Fragilaria crotonensis</i>	238
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	89
<i>Chlamydomonas</i> sp.	30
<i>Cosmarium</i> sp.	59
<i>Pediastrum duplex</i>	59
<i>Scenedesmus bijuga</i>	59
<i>Scenedesmus opoliensis</i>	149
<i>Scenedesmus quadricauda</i>	30
CYANOPHYTA	
<i>Aphanizomenon flos-aquae</i>	297
<i>Aphanocapsa delicatissima</i>	11,004
<i>Aphanocapsa elachista</i>	7,732
<i>Chroococcus limneticus</i>	1,190
<i>Merismopedia tenuissima</i>	5,948
<i>Oscillatoria angustissima</i>	6,543
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	119

07342500 SOUTH SULPHUR RIVER NEAR COOPER, TX

LOCATION.--Lat 33°21'23", long 95°35'41", Delta County, Hydrologic Unit 11140301, on levee on left bank 110 ft downstream from bridge on State Highways 19 and 154, 1.0 mi downstream from Big Creek, 1.0 mi upstream from Brushy Creek, 4.5 mi downstream from Doctors Creek, and 5.6 mi southeast of Cooper.

DRAINAGE AREA.--527 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1942 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 371.91 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 15, 1985, at site 360 ft to right and 90 ft upstream at same datum. Oct. 1, 1970, at datum 3.00 ft higher. May 9, 1942, to Nov. 8, 1949, nonrecording gage, and Nov. 9, 1949, to May 13, 1955, water-stage recorder at site 1,060 ft to right of present gage. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Construction of Cooper Dam, 13.4 miles upstream from station, was begun during the 1988 water year. Deliberate impoundment began Sept. 28, 1991.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--49 years (water years 1943-91), 416 ft³/s (10.72 in/yr), 301,400 acre-ft/yr.

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1943-1991).--Maximum discharge 47,200 ft³/s May 13, 1982 (gage height, 27.21 ft, from floodmark in gage well); no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	1480	684	430	14	1500	11	51	800	3.1	795	6.8
2	.59	1220	870	428	12	394	9.7	123	1070	3.0	666	2.9
3	.78	1200	3550	427	9.9	473	9.2	1030	1060	2.9	452	1.1
4	.65	1200	1930	426	8.3	1460	8.1	321	1050	3.0	450	84
5	.43	1130	350	426	7.1	1670	7.6	1070	1050	2.7	379	227
6	.31	856	517	426	5.6	1660	7.0	1670	901	2.6	254	229
7	.33	850	1770	421	5.3	1660	6.8	1660	619	2.5	256	224
8	.34	683	2710	417	4.8	1720	6.5	1650	618	3.1	254	164
9	.32	277	2910	415	5.2	2430	4.2	1650	617	3.1	252	258
10	.30	268	2890	416	8.4	252	3.5	1650	557	2.6	251	220
11	.38	265	2840	404	7.2	487	11	1650	371	2.4	250	218
12	.51	268	2800	288	7.8	1460	33	1710	188	2.4	146	215
13	9.6	271	3380	252	6.1	1680	10	1930	433	2.1	5.2	212
14	9.1	298	2430	314	5.1	1690	6.4	406	379	2.2	1.7	212
15	11	294	818	438	4.3	1670	5.1	458	130	2.35	1.4	212
16	11	970	1360	438	3.5	1660	4.3	1470	120	2.1	1.2	212
17	11	1120	1450	1030	2.8	1660	4.2	1650	85	3.56	1.1	176
18	16	179	1440	530	2.2	1660	4.0	1640	9.8	1350	1.0	64
19	1350	411	1430	471	2.1	1650	3.5	1630	5.6	1780	1.0	5.6
20	2790	1070	1430	594	66	1640	3.4	1530	4.1	1780	1.1	4.3
21	398	1050	1420	793	28	1640	3.4	1340	3.5	1770	2.0	3.8
22	75	1040	1260	784	1200	1420	3.5	1330	3.0	1780	1.1	3.8
23	336	1040	800	782	478	765	3.6	1330	3.6	1750	.91	3.9
24	1130	1040	791	806	408	704	3.7	1330	4.1	1740	.74	3.8
25	1590	1030	789	866	1100	487	4.0	1330	3.6	1730	.59	3.6
26	1580	1040	786	816	1080	247	4.8	1420	3.3	1730	.55	3.7
27	1570	1060	786	801	1070	244	5.2	448	3.2	1710	.55	3.5
28	1560	1060	781	780	1070	244	5.5	465	3.1	1600	.53	3.3
29	1550	1040	648	768	---	201	5.2	1710	3.2	1200	.52	3.5
30	1550	935	432	510	---	121	225	1700	3.3	801	.52	3.5
31	1540	---	430	23	---	73	---	238	---	794	.57	---
TOTAL	17091.97	24645	46482	16720	6621.7	34622	422.4	37590	10101.4	22164.7	4427.28	2984.1
MEAN	551	821	1499	539	236	1117	14.1	1213	337	715	143	99.5
MAX	2790	1480	3550	1030	1200	2430	225	1930	1070	1780	795	258
MIN	.30	179	350	23	2.1	73	3.4	51	3.0	2.1	.52	1.1
AC-FT	33900	48880	92200	33160	13130	68670	838	74560	20040	43960	8780	5920
CFSM	1.05	1.56	2.85	1.02	.45	2.12	.03	2.30	.64	1.36	.27	.19
IN.	1.21	1.74	3.28	1.18	.47	2.44	.03	2.65	.71	1.56	.31	.21

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

ANNUAL TOTAL	235951.08	223872.55
ANNUAL MEAN	646	613
HIGHEST ANNUAL MEAN		
LOWEST ANNUAL MEAN		
HIGHEST DAILY MEAN	3550 Dec 3	3550 Dec 3
LOWEST DAILY MEAN	.30 Oct 10	.30 Oct 10
ANNUAL SEVEN-DAY MINIMUM	.34 Oct 5	.34 Oct 5
INSTANTANEOUS PEAK FLOW		4410 Dec 3
INSTANTANEOUS PEAK STAGE		18.57 Dec 3
ANNUAL RUNOFF (AC-FT)	468000	444100
ANNUAL RUNOFF (CFSM)	1.23	1.16
ANNUAL RUNOFF (INCHES)	16.66	15.80
10 PERCENT EXCEEDS	1590	1660
50 PERCENT EXCEEDS	517	336
90 PERCENT EXCEEDS	1.4	2.4

07342500 SOUTH SULPHUR RIVER NEAR COOPER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1958 to September 1966, October 1967 to current year. Chemical and biochemical analyses: December 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1958 to September 1966, October 1967 to September 1989.

WATER TEMPERATURE: October 1958 to September 1966, October 1967 to September 1989.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,710 microsiemens Aug. 14, 1973; minimum daily, 82 microsiemens July 2, 1976, July 12, 1988.

WATER TEMPERATURE: Maximum daily, 36.0°C Aug. 6, 1960, Aug. 10, 1962; minimum daily, 0.0°C on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	HARDNESS TOTAL (MG/L AS CaCO3)	HARDNESS NONCARBONATE DISSOLVED (MG/L AS CaCO3)
OCT 05...	1455	0.49	317	8.0	24.5	13	3.8	9.1	110	1.5	110	14
FEB 24...	1132	103	259	7.3	10.0	55	60	11.0	98	2.3	84	0
MAY 12...	1135	1740	184	7.8	20.0	23	7.3	9.4	105	2.0	74	0
JUN 07...	1059	619	218	7.3	24.5	29	4.4	8.4	103	3.7	74	0
JUL 19...	1154	1800	202	7.8	29.0	23	14	8.5	112	1.5	77	0
AUG 18...	1220	1.0	199	6.7	26.0	--	4.2	5.8	73	5.8	80	0

DATE	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WATER FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L)
OCT 05...	37	4.8	19	0.8	3.8	98	34	15	0.30	2.5	175	10
FEB 24...	30	2.1	20	1	2.4	89	25	12	0.30	2.2	148	144
MAY 12...	25	2.7	10	0.5	1.0	79	14	6.1	0.20	0.71	108	13
JUN 07...	25	2.8	11	0.6	3.7	78	13	7.2	0.20	2.3	112	22
JUL 19...	26	2.9	11	0.5	3.5	77	12	6.1	0.20	1.3	109	32
AUG 18...	27	2.9	11	0.5	3.1	92	9.4	5.8	0.20	3.3	120	28

DATE	RESIDUE VOLATILE, SUSPENDED (MG/L)	RESIDUE FIXED NON FILTERABLE (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOSPHORUS, DIS-SOLVED (MG/L AS P)
OCT 05...	8	2	--	--	<0.010	--	<0.050	0.050	0.55	0.60	0.040
FEB 24...	30	114	0.110	0.110	0.010	0.120	0.120	0.050	0.45	0.50	0.020
MAY 12...	7	6	0.130	0.130	0.030	0.160	0.160	0.080	0.32	0.40	0.040
JUN 07...	12	10	0.044	0.044	0.010	0.054	0.054	0.050	0.55	0.60	0.020
JUL 19...	8	24	--	--	0.010	--	<0.050	0.090	0.51	0.60	0.030
AUG 18...	18	10	--	--	<0.010	--	<0.050	0.550	0.45	1.0	0.060

DATE	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYLLIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 05...	0.040	0.12	6.5	--	--	--	--	--	--	--	--
FEB 24...	<0.010	--	10	2	41	<0.5	<1.0	<5	<3	<10	36
MAY 12...	0.020	0.06	6.9	3	38	<0.5	2.0	<5	<3	<10	11
JUN 07...	0.020	0.06	8.1	--	--	--	--	--	--	--	--
JUL 19...	0.020	0.06	9.3	--	--	--	--	--	--	--	--
AUG 18...	0.050	0.15	8.8	16	41	<0.5	<1.0	<5	<3	<10	22

RED RIVER BASIN

07342500 SOUTH SULPHUR RIVER NEAR COOPER, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 05...	--	--	--	--	--	--	--	--	--	--	--
FEB 24...	<10	<4	2	<0.1	<10	<10	<1	<1.0	280	<6	<3
MAY 12...	<10	5	6	<0.1	<10	<10	<1	<1.0	180	<6	19
JUN 07...	--	--	--	--	--	--	--	--	--	--	--
JUL 19...	--	--	--	--	--	--	--	--	--	--	--
AUG 18...	<10	<4	930	<0.1	<10	<10	<1	1.0	230	<6	7

RED RIVER BASIN

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07343000 NORTH SULPHUR RIVER NEAR COOPER, TX

LOCATION.--Lat 33°28'29", long 95°35'15", Lamar County, Hydrologic Unit 11140301, on left bank at downstream side of highway embankment near left end of downstream bridge on State Highways 19 and 24, 2.3 mi upstream from Auds Creek, 5.5 mi upstream from Hickory Creek, 8.7 mi northeast of Cooper, and 15.6 mi upstream from mouth.

DRAINAGE AREA.--276 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 372.42 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Nov. 8, 1949, nonrecording gage, Nov. 8, 1949, to May 21, 1960, water-stage recorder at site 50 ft upstream at datum 9.00 ft higher, and from May 22, 1960, to Sept. 30, 1970, at datum 5.00 ft higher.

REMARKS.--No estimated daily discharges. Records fair. In 1928-29, the channel was rectified for a distance of 28 mi upstream and 18 mi downstream from this station. Rain gage at station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 2, 1944, reached a stage of 35.6 ft, present datum, and flood in 1932 reached about same stage, from information by U.S. Army Corps of Engineers and local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	0245	27,200	21.83	May 3	0145	21,500	18.70
Dec. 3	0845	27,000	21.72	July 15	1245	31,400	23.84

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	9.7	26	16	20	8840	22	338	86	4.3	87	92
2	.92	8.4	634	13	19	1730	20	2990	59	26	45	13
3	3.8	7.8	18600	13	18	273	25	11300	50	57	30	8.4
4	2.3	7.2	2740	12	18	119	32	566	44	13	22	6.4
5	.86	6.8	511	11	17	72	24	186	39	8.4	18	5.9
6	.50	6.3	223	10	17	61	20	112	31	7.2	16	5.3
7	.20	5.8	116	8.6	17	69	19	73	30	6.8	163	4.6
8	.11	5.5	92	8.0	17	1190	18	55	29	6.8	586	12
9	.04	5.0	84	9.1	15	6910	19	47	276	6.9	84	86
10	.03	4.5	79	12	15	1290	20	47	4550	95	45	13
11	.02	4.1	54	25	17	462	35	43	817	53	31	8.7
12	.01	3.7	44	24	18	211	609	278	134	31	22	6.7
13	2.2	4.5	2130	17	14	110	63	3370	63	88	18	5.9
14	9.4	1330	415	13	12	75	37	722	37	54	17	5.0
15	1.6	341	96	11	13	57	31	179	28	12300	16	4.1
16	.30	3340	57	12	12	43	26	82	73	856	16	3.6
17	.21	1500	47	47	12	32	24	576	55	252	16	3.5
18	3.7	175	38	40	12	39	21	77	27	105	15	3.5
19	11200	49	33	17	12	39	19	41	32	67	15	3.5
20	11000	21	29	17	85	36	17	32	31	43	14	3.4
21	537	11	25	16	26	33	18	26	16	34	177	3.4
22	217	8.6	22	17	6410	30	17	22	13	310	40	3.4
23	159	6.5	19	21	820	29	18	20	26	53	25	3.3
24	111	5.7	18	60	182	29	19	19	34	38	15	3.3
25	79	5.4	18	125	95	28	19	17	9.9	30	11	3.3
26	56	20	16	107	65	26	18	1250	6.5	25	7.7	3.2
27	39	1050	16	91	55	27	17	1530	4.9	20	6.0	3.2
28	28	522	15	66	74	27	15	1050	4.1	17	5.2	3.2
29	21	118	14	51	---	24	244	4810	4.2	16	4.2	3.1
30	16	51	14	28	---	24	5520	1380	4.3	293	3.6	3.1
31	12	---	15	23	---	24	---	215	---	551	235	---
TOTAL	23502.70	8633.5	26240	940.7	8107	21959	7006	31453	6613.9	15467.4	1805.7	327.0
MEAN	758	288	846	30.3	290	708	234	1015	220	499	58.2	10.9
MAX	11200	3340	18600	125	6410	8840	5520	11300	4550	12300	586	92
MIN	.01	3.7	14	8.0	12	24	15	17	4.1	4.3	3.6	3.1
AC-FT	46620	17120	52050	1870	16080	43560	13900	62390	13120	30680	3580	649
CFSM	2.75	1.04	3.07	.11	1.05	2.57	.85	3.68	.80	1.81	.21	.04
IN.	3.17	1.16	3.54	.13	1.09	2.96	.94	4.24	.89	2.08	.24	.04

RED RIVER BASIN

07343000 NORTH SULPHUR RIVER NEAR COOPER, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1994, BY WATER YEAR (WY)

MEAN	235	226	276	200	364	339	404	483	325	107	19.9	119
MAX	1784	1406	1527	1172	1483	1223	3017	2461	1792	872	160	584
(WY)	1972	1958	1992	1950	1950	1968	1966	1982	1989	1976	1971	1973
MIN	.000	.000	.000	.16	.81	4.43	2.97	2.43	.28	.000	.000	.000
(WY)	1953	1956	1956	1964	1976	1954	1972	1972	1988	1954	1952	1952

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1950 - 1994

ANNUAL TOTAL	134310.67		152055.90									
ANNUAL MEAN	368		417							257		
HIGHEST ANNUAL MEAN										541		1957
LOWEST ANNUAL MEAN										49.4		1978
HIGHEST DAILY MEAN	18600	Dec 3	18600	Dec 3					40900		Oct 19	1971
LOWEST DAILY MEAN	.00	Sep 1	.01	Oct 12					.00		Oct 1	1949
ANNUAL SEVEN-DAY MINIMUM	.01	Aug 27	.13	Oct 6					.00		Aug 2	1951
INSTANTANEOUS PEAK FLOW			31400	Jul 15					90600		Oct 19	1971
INSTANTANEOUS PEAK STAGE			23.84	Jul 15					36.16		Oct 19	1971
ANNUAL RUNOFF (AC-FT)	266400		301600						186400			
ANNUAL RUNOFF (CFSM)	1.33		1.51						.93			
ANNUAL RUNOFF (INCHES)	18.10		20.49						12.67			
10 PERCENT EXCEEDS	520		543						280			
50 PERCENT EXCEEDS	27		24						11			
90 PERCENT EXCEEDS	.06		4.1						.00			

07343000 NORTH SULPHUR RIVER NEAR COOPER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: July 1950 to September 1958, January 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1968 to September 1990.

WATER TEMPERATURES: October 1968 to September 1990.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,000 microsiemens July 2, 3, 1988; minimum daily, 191 microsiemens Oct. 12, Dec. 10, 1971.

WATER TEMPERATURES: Maximum daily, 39.0°C June 1, 1977; minimum daily, 0.0°C on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	HARDNESS TOTAL (MG/L AS CaCO3)	HARDNESS NONCARBONIC (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)
OCT 18...	1750	0.77	1230	8.2	24.5	8.4	103	2.0	400	340	130
DEC 07...	1200	105	498	8.3	7.0	11.6	97	3.5	210	50	73
JAN 28...	0828	68	705	8.2	4.5	13.2	103	0.2	260	71	90
MAR 14...	1400	75	644	8.3	15.5	11.3	115	0.6	240	49	86
MAY 10...	0715	47	597	8.0	19.0	8.8	96	0.3	220	77	75
JUN 27...	1300	4.5	681	8.3	30.5	8.2	112	1.7	190	73	65

DATE	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY, WAT DIS FIX END FIELD (MG/L AS CaCO3)	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)
OCT 18...	18	120	3	4.9	62	490	62	0.50	2.1	865
DEC 07...	5.6	29	0.9	2.9	150	90	14	0.30	8.6	319
JAN 28...	7.7	55	1	2.9	190	160	28	0.40	3.4	461
MAR 14...	6.8	42	1	2.5	190	110	21	0.30	7.2	397
MAY 10...	6.9	49	1	2.6	140	130	24	0.40	4.8	379
JUN 27...	6.8	66	2	4.1	120	160	42	0.40	5.9	423

DATE	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)
OCT 18...	--	--	<0.010	--	<0.050	<0.010	--	0.40	0.050	0.010
DEC 07...	0.540	--	<0.010	0.540	0.540	0.030	0.27	0.30	0.040	0.050
JAN 28...	0.054	0.054	0.040	0.094	0.094	0.020	0.38	0.40	0.020	0.020
MAR 14...	0.970	0.970	0.020	0.990	0.990	0.030	0.67	0.70	0.010	0.020
MAY 10...	0.580	0.580	0.020	0.600	0.600	0.040	0.26	0.30	<0.010	<0.010
JUN 27...	--	--	<0.010	--	<0.050	0.030	0.17	0.20	<0.010	<0.010

DATE	PHOSPHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYLLIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)
OCT 18...	0.03	--	--	--	--	--	--	--	--	--
DEC 07...	0.15	--	--	--	--	--	--	--	--	--
JAN 28...	0.06	<1	58	<0.5	<1.0	<5	<3	<10	14	<10
MAR 14...	0.06	--	--	--	--	--	--	--	--	--
MAY 10...	--	--	--	--	--	--	--	--	--	--
JUN 27...	--	<1	59	<0.5	<1.0	<5	<3	<10	<3	<10

RED RIVER BASIN

07343000 NORTH SULPHUR RIVER NEAR COOPER, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 18...	--	--	--	--	--	--	--	--	--	--
DEC 07...	--	--	--	--	--	--	--	--	--	--
JAN 28...	13	12	<0.1	<10	<10	1	<1.0	1300	<6	5
MAR 14...	--	--	--	--	--	--	--	--	--	--
MAY 10...	--	--	--	--	--	--	--	--	--	--
JUN 27...	19	5	<0.1	<10	<10	<1	<1.0	1000	<6	5

07343200 SULPHUR RIVER NEAR TALCO, TX

LOCATION.--Lat 33°23'10", long 95°07'56", Franklin County, Hydrologic Unit 11140302, at downstream side of highway embankment near right end of bridge on U.S. Highway 271, 2.2 mi northwest of Talco, 3.2 mi downstream from Mustang Creek, and 162 mi upstream from mouth.

DRAINAGE AREA.--1,365 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1956 to current year.

REVISED RECORDS.--WDR TX-76-1(P).

GAGE.--Water-stage recorder. Datum of gage is 290.82 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. The River Crest Stream Electric Generating Plant diverts water (amount unknown) upstream from station. Deliberate impoundment of water in Cooper Lake (station 07342500) began on Sept. 28, 1991. Flow may be slightly affected at times by discharge from the flood-detention pools of 14 floodwater-retarding structures with a combined detention capacity of 8,210 acre-ft. These structures control runoff from 23.4 mi² in the Auds and Depot Creek drainage basin. Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--35 years (water years 1957-1991) prior to regulation by Cooper Lake, 1,408 ft³/s (14.01 in/yr), 1,020,000 acre-ft/yr.

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1957-91).--Maximum discharge, 77,000 ft³/s Dec. 11, 1971 (gage height, 29.40 ft, from floodmark); no flow at times in 1957, 1964-65, 1970, and 1979-80.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in 1908 and 1914 each reached a stage of 27.5 ft, and flood in 1945 reached a stage of 26.5 ft, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	1630	1320	485	383	2560	150	4010	2020	29	1170	249
2	3.0	1600	1420	469	166	8190	104	1420	1130	23	907	940
3	3.6	1410	7790	463	126	6000	71	4050	1300	21	752	424
4	3.1	1230	27000	457	117	3070	63	9790	1240	48	514	389
5	2.7	1190	16400	455	111	2450	72	4440	1190	52	485	205
6	3.1	1160	6730	457	101	2370	61	2270	1160	40	447	210
7	3.2	964	3690	456	92	2230	52	2230	1020	31	331	276
8	2.9	842	2910	432	87	2170	47	2200	693	25	474	276
9	2.9	795	3200	307	96	5450	46	2120	656	22	617	517
10	2.5	503	3260	235	119	9230	43	2080	946	105	389	635
11	2.3	299	3000	185	135	4440	42	2080	5430	345	320	357
12	2.1	256	2800	814	124	1950	310	2160	3880	259	287	278
13	2.3	251	3470	998	112	2000	782	2450	1130	137	249	245
14	2.1	332	6270	688	102	2180	400	6570	791	108	144	231
15	2.3	936	4680	521	102	2160	188	4380	591	1480	80	225
16	6.7	1020	2420	525	92	2100	98	1700	355	11100	51	219
17	7.6	6070	1770	1270	78	2070	65	2120	267	6610	37	217
18	9.1	6660	1760	3490	70	2040	51	2450	234	2500	29	207
19	934	3070	1710	2140	65	2040	42	2150	152	1830	24	158
20	15000	1360	1670	1180	283	2040	36	2020	90	2050	23	95
21	22400	1230	1640	887	1080	2010	32	1900	67	2060	24	55
22	10400	1210	1620	1000	2980	2020	29	1610	51	2040	29	36
23	4770	1130	1540	989	9470	1860	26	1520	43	2550	38	28
24	2330	1080	1040	1030	6010	1070	25	1500	143	2420	39	23
25	1730	1070	882	1680	2970	888	23	1510	302	2150	34	20
26	1960	1320	860	2120	2040	723	23	2270	279	2020	29	18
27	1980	1590	853	2210	1670	493	23	4660	172	1940	25	17
28	1830	1780	844	1780	1410	401	21	3730	96	1900	22	16
29	1730	1820	834	1370	---	325	19	2330	58	1840	20	15
30	1680	1600	777	1100	---	265	744	7000	39	1420	18	14
31	1640	---	564	876	---	183	---	6210	---	1100	16	---
TOTAL	68447.8	45408	114724	31069	30191	76978	3688	96930	25525	48255	7624	6595
MEAN	2208	1514	3701	1002	1078	2483	123	3127	851	1557	246	220
MAX	22400	6660	27000	3490	9470	9230	782	9790	5430	11100	1170	940
MIN	2.1	251	564	185	65	183	19	1420	39	21	16	14
AC-FT	135800	90070	227600	61630	59880	152700	7320	192300	50630	95710	15120	13080
CFSM	1.62	1.11	2.71	.73	.79	1.82	.09	2.29	.62	1.14	.18	.16
IN.	1.87	1.24	3.13	.85	.82	2.10	.10	2.64	.70	1.32	.21	.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1994, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	1384	1486	3758	1557	1842	3182	1125	1974	927	1575	693	143
MAX	2208	1924	5315	1922	2612	4213	2337	3127	1799	3164	1832	220
(WY)	1994	1992	1992	1992	1993	1992	1993	1994	1992	1992	1992	1994
MIN	24.8	1019	2257	1002	1078	2483	123	1285	133	4.39	2.15	2.18
(WY)	1993	1993	1993	1994	1994	1994	1994	1992	1993	1993	1993	1993

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1992 - 1994

ANNUAL TOTAL	565461.4	555434.8	1644
ANNUAL MEAN	1549	1522	2207
HIGHEST ANNUAL MEAN			1201
LOWEST ANNUAL MEAN			1201
HIGHEST DAILY MEAN	27000	Dec 4	31200
LOWEST DAILY MEAN	1.0	Aug 31	1.0
ANNUAL SEVEN-DAY MINIMUM	1.1	Aug 27	1.1
INSTANTANEOUS PEAK FLOW			33600
INSTANTANEOUS PEAK STAGE			26.42
ANNUAL RUNOFF (AC-FT)	1122000	1102000	1191000
ANNUAL RUNOFF (CFSM)	1.13	1.11	1.20
ANNUAL RUNOFF (INCHES)	15.41	15.14	16.36
10 PERCENT EXCEEDS	3540	3340	3990
50 PERCENT EXCEEDS	1070	752	775
90 PERCENT EXCEEDS	2.1	23	9.3

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1965 to current year. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: January 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1966 to September 1991.

WATER TEMPERATURE: October 1966 to September 1991.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,800 microsiemens Feb. 17, 1976; minimum daily, 65 microsiemens Jan. 15, 1989. WATER TEMPERATURE (1966-89): Maximum daily, 39.0°C Aug. 13, 1987; minimum daily, 0.0°C on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CaCO3)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	
OCT 22...	1120	8860	749	8.0	16.0	7.8	79	2.3	64	5	23	1.6	
DEC 08...	1545	2910	213	8.0	10.0	10.1	90	3.4	88	0	31	2.6	
JAN 27...	1219	853	239	8.0	11.5	11.0	103	0.8	94	10	33	2.8	
MAR 17...	1130	2090	215	8.1	12.5	12.2	116	1.7	79	0	27	2.8	
MAY 11...	1430	2080	222	8.0	19.5	8.2	90	0.9	89	5	31	2.8	
JUN 28...	1015	98	312	7.7	29.0	5.2	68	2.5	120	18	42	2.9	
DATE		SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
OCT 22...	5.2	0.3	3.1	59	12	3.1	0.20	7.6	92	--	--	0.030	
DEC 08...	11	0.5	3.7	92	17	5.4	0.20	4.9	132	0.260	--	<0.010	
JAN 27...	14	0.6	3.0	84	27	9.1	0.20	5.9	151	0.960	0.960	0.040	
MAR 17...	12	0.6	3.3	82	18	6.5	0.20	0.80	120	0.140	0.140	0.010	
MAY 11...	11	0.5	3.3	84	18	6.5	0.20	1.5	126	0.260	0.260	0.020	
JUN 28...	17	0.7	4.2	99	38	12	0.30	7.0	185	0.290	0.290	0.020	
DATE		NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	
OCT 22...	--	--	--	0.020	0.78	0.80	0.140	0.160	0.49	--	--	--	
DEC 08...	0.260	0.260	0.040	0.36	0.40	0.080	0.080	0.25	--	--	--	--	
JAN 27...	1.00	1.00	0.070	2.6	2.7	0.050	0.050	0.15	2	51	<0.5		
MAR 17...	0.150	0.150	0.030	0.57	0.60	<0.010	<0.010	--	--	--	--	--	
MAY 11...	0.280	0.280	0.030	0.27	0.30	<0.010	0.020	0.06	--	--	--	--	
JUN 28...	0.310	0.310	0.060	0.44	0.50	0.050	0.040	0.12	3	60	<0.5		
DATE		CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	
OCT 22...	--	--	--	--	--	--	--	--	--	--	--	--	
DEC 08...	--	--	--	--	--	--	--	--	--	--	--	--	
JAN 27...	<1.0	<5	<3	<10	130	<10	<4	11	0.2	<10	<10		
MAR 17...	--	--	--	--	--	--	--	--	--	--	--	--	
MAY 11...	--	--	--	--	--	--	--	--	--	--	--	--	
JUN 28...	<1.0	<5	<3	<10	36	<10	5	3	<0.1	<10	<10		

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

07343500 WHITE OAK CREEK NEAR TALCO, TX

LOCATION.--Lat 33°19'20", long 95°05'33", Titus County, Hydrologic Unit 11140300, near center of main channel at downstream side of bridge on U.S. Highway 271, 0.8 mi downstream from Lewis Creek, 2.4 mi upstream from Ripley Creek, 2.7 mi south of Talco, and 38.4 mi upstream from mouth.

DRAINAGE AREA.--494 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1949 to current year.

REVISED RECORDS.--WSP 1711: Elevation of historical maximum.

GAGE.--Water-stage recorder. Datum of gage is 286.45 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. There are several small diversions upstream from station for municipal supply. The cities of Sulphur Springs and Mount Vernon discharged sewage effluent into tributaries above this station. Rain gage at station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1870, 22.9 ft Mar. 31, 1945, from floodmarks and from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 21	2100	10,500	18.37	Dec. 5	1515	9,320	18.25

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	54	447	80	280	1050	155	105	2070	22	55	6.7
2	7.7	51	356	74	208	1820	123	392	1650	21	52	6.4
3	38	51	1550	70	170	2670	105	407	1320	17	57	6.0
4	102	44	4360	63	146	3150	92	443	594	13	54	5.7
5	117	38	8260	60	131	2640	84	658	201	11	48	5.4
6	108	35	6410	56	119	1880	76	661	125	9.7	44	4.8
7	57	34	4100	53	109	1090	69	418	104	8.9	41	4.7
8	28	36	2990	51	101	512	64	174	87	8.7	56	5.3
9	16	35	2170	52	95	723	58	107	76	8.3	57	5.2
10	11	32	1450	56	99	1220	52	82	69	7.6	79	4.8
11	9.6	29	746	67	138	1540	50	66	62	7.8	130	36
12	7.4	27	371	197	331	1560	71	61	56	8.0	78	56
13	6.3	25	439	405	452	1570	68	106	52	13	51	58
14	5.4	29	794	457	399	1070	117	408	51	31	40	30
15	30	58	1110	396	273	463	198	585	48	162	31	14
16	194	142	1170	230	177	265	119	620	44	650	24	8.0
17	135	636	1240	389	131	210	79	774	42	974	20	5.4
18	80	879	1220	777	110	177	64	765	45	4040	18	4.1
19	1060	1010	747	1020	97	152	53	724	56	5470	16	3.5
20	3560	971	352	936	106	137	43	448	37	3530	17	2.8
21	7710	1080	239	843	304	124	38	216	30	2280	20	2.3
22	8170	865	199	551	1210	110	36	130	56	1180	14	2.0
23	4650	365	174	336	3050	100	34	100	50	527	12	1.9
24	3240	195	159	283	5140	94	33	83	37	572	52	1.9
25	2230	148	146	332	4450	286	31	74	26	480	53	1.8
26	1490	251	135	629	3190	781	27	250	21	233	37	1.7
27	864	456	125	1120	2200	1060	24	450	19	127	23	1.6
28	292	586	113	1340	1340	1040	23	786	19	94	15	1.7
29	114	617	99	1270	---	772	22	970	18	77	11	1.8
30	74	559	93	861	---	388	24	1390	19	67	8.2	1.8
31	61	---	87	457	---	220	---	1890	---	60	7.0	---
TOTAL	34470.9	9338	41851	13511	24556	28874	2032	14343	7084	20710.0	1220.2	291.3
MEAN	1112	311	1350	436	877	931	67.7	463	236	668	39.4	9.71
MAX	8170	1080	8260	1340	5140	3150	198	1890	2070	5470	130	58
MIN	3.5	25	87	51	95	94	22	61	18	7.6	7.0	1.6
AC-FT	68370	18520	83010	26800	48710	57270	4030	28450	14050	41080	2420	578
CFSM	2.25	.63	2.73	.88	1.78	1.89	.14	.94	.48	1.35	.08	.02
IN.	2.60	.70	3.15	1.02	1.85	2.17	.15	1.08	.53	1.56	.09	.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1994, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1950	216	1744	1982	.000	1979
1951	519	2984	1975	.34	1976
1952	743	3986	1972	1.12	1966
1953	499	3222	1980	1.82	1964
1954	776	3593	1950	7.58	1976
1955	731	3491	1990	11.8	1956
1956	838	3784	1957	4.97	1956
1957	844	3166	1990	7.35	1988
1958	373	2620	1981	.83	1988
1959	245	3743	1992	.35	1956
1960	52.5	898	1992	.000	1978
1961	109	1064	1950	.000	1969

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1950 - 1994

	1993	1994	1950-1994
ANNUAL TOTAL	238201.8	198281.4	487
ANNUAL MEAN	653	543	1160
HIGHEST ANNUAL MEAN			68.6
LOWEST ANNUAL MEAN			38000
HIGHEST DAILY MEAN	8260	8260	Dec 11 1971
LOWEST DAILY MEAN	1.4	1.6	Aug 8 1954
ANNUAL SEVEN-DAY MINIMUM	1.5	1.8	Aug 8 1954
INSTANTANEOUS PEAK FLOW		10500	48000
INSTANTANEOUS PEAK STAGE		18.37	21.20
ANNUAL RUNOFF (AC-FT)	472500	393300	352600
ANNUAL RUNOFF (CFSM)	1.32	1.10	.99
ANNUAL RUNOFF (INCHES)	17.94	14.93	13.38
10 PERCENT EXCEEDS	1810	1360	1280
50 PERCENT EXCEEDS	121	104	36
90 PERCENT EXCEEDS	3.0	8.5	1.0

07343500 WHITE OAK CREEK NEAR TALCO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1967 to June 1989. Chemical and biochemical analyses: November 1982 to September 1985, and October 1991 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1967 to September 1989.

WATER TEMPERATURES: October 1967 to September 1989.

INSTRUMENTATION.--From October 1967 to September 1989 specific conductance and water temperature were recorded continuously at this station.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,220 micromhos June 15, 1972; minimum daily 33 micromhos May 16, 1969.

WATER TEMPERATURE: Maximum daily, 37.0°C July 18, Aug. 3, 15, 1975, and Aug. 7, 1986; minimum daily, 0.0°C on several days during January 1968, 1970, 1978, and 1984.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
OCT 21...	1415	7800	52	7.0	18.5	--	--	6.6	70	2.8	14	1
DEC 08...	1700	2820	75	7.0	10.0	--	--	9.0	80	2.8	23	3
JAN 27...	0855	1100	124	7.5	13.0	130	47	10.8	104	1.1	33	12
MAR 17...	0945	214	212	7.2	15.0	110	35	9.0	90	1.8	54	22
MAY 11...	0915	66	249	7.3	20.0	110	36	6.2	68	1.1	61	14
JUN 28...	1230	19	419	7.2	30.0	110	38	4.4	59	1.8	97	25
DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)
OCT 21...	3.3	1.5	3.2	0.4	3.7	13	8.1	3.7	0.10	5.7	42	--
DEC 08...	5.4	2.2	4.7	0.4	5.1	20	9.7	5.1	0.10	7.8	53	--
JAN 27...	8.1	3.0	11	0.8	4.4	21	20	11	<0.10	7.6	80	73
MAR 17...	13	5.2	18	1	4.8	32	39	17	0.10	8.6	129	36
MAY 11...	15	5.8	21	1	6.7	47	36	20	0.10	9.7	146	44
JUN 28...	23	9.5	40	2	8.6	72	63	41	0.30	12	244	70
DATE	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	
OCT 21...	--	--	0.180	0.180	0.010	0.190	0.190	0.060	1.2	1.3	1.20	
DEC 08...	--	--	0.070	--	<0.010	0.070	0.070	0.050	0.65	0.70	0.150	
JAN 27...	21	52	0.290	0.290	0.030	0.320	0.320	0.050	0.75	0.80	0.100	
MAR 17...	10	26	0.620	0.620	0.010	0.630	0.630	0.150	1.7	1.9	0.130	
MAY 11...	12	32	0.710	0.710	0.030	0.740	0.740	0.060	0.74	0.80	0.180	
JUN 28...	18	52	0.620	0.620	0.010	0.630	0.630	0.100	0.60	0.70	0.060	

RED RIVER BASIN

07343500 WHITE OAK CREEK NEAR TALCO, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 21...	1.20	3.7	--	--	--	--	--	--	--	--	--
DEC 08...	0.160	0.49	--	--	--	--	--	--	--	--	--
JAN 27...	0.100	0.31	13	<1	38	<0.5	<1.0	<5	<3	<10	460
MAR 17...	0.100	0.31	13	<1	53	<0.5	1.0	<5	<3	<10	530
MAY 11...	0.170	0.52	14	--	--	--	--	--	--	--	--
JUN 28...	0.060	0.18	12	3	74	<0.5	<1.0	<5	<3	<10	43
DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 21...	--	--	--	--	--	--	--	--	--	--	--
DEC 08...	--	--	--	--	--	--	--	--	--	--	--
JAN 27...	<10	<4	45	0.2	<10	<10	<1	<1.0	69	<6	15
MAR 17...	<10	5	120	<0.1	<10	10	<1	<1.0	110	<6	63
MAY 11...	--	--	--	--	--	--	--	--	--	--	--
JUN 28...	<10	4	340	<0.1	<10	<10	<1	<1.0	200	<6	<3

07343850 WHITE OAK CREEK NEAR OMAHA, TX

LOCATION.--Lat 33°16'30", long 94°44'30", Morris County, Hydrologic Unit 11140303, at bridge, on U.S Highway 259, 6.2 mi north of Omaha, and 10.5 mi upstream from mouth.

DRAINAGE AREA.--772 mi².

PERIOD OF RECORD.--Occasional discharge measurements: February 1965 to August 1967.

Water-quality records.--Chemical and biochemical analyses: October 1968 to September 1977, and October 1991 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)
OCT 22...	1205	4.7	70	6.6	20.0	--	--	7.0	77	2.2	18	10
DEC 09...	0930	7090	56	7.0	11.0	--	--	7.9	72	4.0	16	1
JAN 24...	1631	978	170	7.3	8.0	110	22	11.4	97	0.8	42	22
MAR 16...	1615	1890	121	7.2	16.5	110	27	9.2	94	1.3	31	10
MAY 12...	1630	125	257	7.0	21.5	120	42	5.7	65	1.5	61	22
JUN 29...	1530	34	373	7.3	29.0	110	48	4.4	58	1.8	84	37

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L)
OCT 22...	4.3	1.7	5.1	0.5	3.3	8.2	14	6.3	0.10	5.2	46	--
DEC 09...	3.9	1.6	4.4	0.5	4.5	15	8.1	4.8	0.10	5.9	43	--
JAN 24...	10	4.1	14	0.9	4.5	20	30	18	<0.10	7.7	104	25
MAR 16...	7.4	3.0	9.3	0.7	4.0	21	19	10	0.10	2.5	69	12
MAY 12...	14	6.3	25	1	5.4	39	38	27	0.10	10	151	60
JUN 29...	20	8.2	36	2	6.3	47	58	45	0.20	10	214	81

DATE	RESIDUE VOLA- TILE, SUS- PENDED (MG/L)	RESIDUE FIXED NON FILTER- ABLE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
OCT 22...	--	--	0.140	0.140	0.010	0.150	0.150	0.020	0.58	0.60	0.110
DEC 09...	--	--	--	--	<0.010	--	<0.050	0.050	0.95	1.0	0.130
JAN 24...	11	14	0.490	0.490	0.040	0.530	0.530	0.070	1.7	1.8	0.130
MAR 16...	6	6	--	--	0.020	--	<0.050	0.030	0.97	1.0	0.090
MAY 12...	14	46	0.420	0.420	0.030	0.450	0.450	0.070	0.63	0.70	0.080
JUN 29...	14	67	0.380	--	<0.010	0.380	0.380	0.060	0.54	0.60	0.050

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 22...	0.100	0.31	--	--	--	--	--	--	--	--	--
DEC 09...	0.130	0.40	--	--	--	--	--	--	--	--	--
JAN 24...	0.110	0.34	11	<1	48	<0.5	<1.0	<5	<3	<10	400
MAR 16...	0.070	0.21	14	<1	39	<0.5	<1.0	<5	<3	<10	350
MAY 12...	0.060	0.18	13	--	--	--	--	--	--	--	--
JUN 29...	0.030	0.09	12	2	69	<0.5	<1.0	<5	<3	<10	61

RED RIVER BASIN

07343850 WHITE OAK CREEK NEAR OMAHA, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 22...	--	--	--	--	--	--	--	--	--	--	--
DEC 09...	--	--	--	--	--	--	--	--	--	--	--
JAN 24...	<10	<4	32	<0.1	<10	<10	<1	<1.0	93	<6	21
MAR 16...	<10	<4	19	<0.1	<10	<10	<1	<1.0	73	<6	8
MAY 12...	--	--	--	--	--	--	--	--	--	--	--
JUN 29...	<10	5	430	<0.1	<10	<10	<1	<1.0	200	<6	<3

07344200 WRIGHT PATMAN LAKE NEAR TEXARKANA, TX

LOCATION.--Lat 33°18'16", long 94°09'38", Bowie-Cass County line, Hydrologic Unit 11140302, in intake structure of Wright Patman Dam on the Sulphur River, 0.5 mi upstream from U.S. Highway 59, 10 mi southwest of Texarkana, and 44.5 mi upstream from mouth.

DRAINAGE AREA.--3,443 mi².

WATER-CONTENT RECORDS

PERIOD OF RECORD.--July 1953 to current year. Published as Texarkana Reservoir prior to October 1970 and as Lake Texarkana from October 1970 to September 1972.

REVISED RECORDS.--WSP 1561: 1957(M). WSP 1711: 1959(M).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). July 19 to Dec. 31, 1953, nonrecording gage at site about 125 ft upstream at datum 200 ft higher.

REMARKS.--The lake is formed by a rolled earthfill dam 18,500 ft long, including a 200-foot uncontrolled spillway and a 1-mile long dike. Temporary impoundment of water began July 2, 1953, and deliberate impoundment began June 27, 1956. The dam was completed in December 1957. The flood-control outlet works consist of two 20.0-foot-diameter conduits controlled by four 10.0- by 20.0-foot electrically driven broome-type gates. Flow is affected at times by discharge from the flood-detention pools of 25 floodwater-retarding structures with a combined detention capacity of 13,450 acre-ft. These structures control runoff from 40.0 mi² in the Sulphur River and Langford Creek drainage basins. Outflow discharging over the spillway passes into an outlet channel and then to the Sulphur River. The lake was built for flood control and for conservation. An unknown amount of water is diverted for industrial and municipal uses. The capacity table is based on a 1948 survey. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	286.0	-
Crest of spillway.....	259.5	2,654,300
Top of conservation pool.....	220.0	145,300
Lowest gated outlet (invert).....	200.0	2,600

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,912,100 acre-ft May 9, 1966 (elevation, 252.64 ft); minimum since first appreciable storage and after deliberate impoundment began, 137,500 acre-ft Sept. 5, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 504,900 acre-ft Dec. 13 (elevation, 231.68 ft); minimum daily, 166,900 acre-ft Feb. 19 (elevation, 221.02 ft).

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

220.0	145,300	226.0	298,500	232.0	518,400
222.0	189,300	232.0	518,400	234.0	607,900
224.0	240,200	228.0	364,100	235.0	655,900
226.0	298,500	230.0	437,200		

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	247600	421200	264400	326400	221800	318300	329700	255200	348700	328400	347700	298200
2	247600	414100	251000	320900	218700	350400	331300	255500	351400	327400	341900	297600
3	248200	403400	243500	317100	216600	364400	328700	263800	351000	326100	336600	296300
4	247600	391700	240500	314500	213300	372800	326100	268400	351000	324800	331300	296600
5	246500	377800	244300	315800	206800	377800	325100	273100	351000	323800	328100	297000
6	246200	364100	248200	314800	197700	383100	317100	278800	351700	322200	326700	295700
7	245700	347000	277600	314200	191900	389200	312600	286900	351700	320900	327400	294800
8	247100	331000	340300	312300	188300	394600	308800	294500	353400	319600	326100	294200
9	247900	314500	407400	311600	182000	405900	305000	303500	350700	318300	323800	293000
10	248700	297600	455600	311300	181800	410400	300700	312600	347700	317100	322200	292300
11	249300	280600	480500	312600	177900	412600	303200	323200	344600	318000	319600	291700
12	248700	264100	490800	311300	176100	412200	298200	333000	344600	330700	318300	291700
13	248700	247100	504900	307500	173300	408100	293300	340300	345600	338300	317100	291400
14	247600	234500	503200	297900	172200	403700	289900	351000	343600	346000	315100	295100
15	245400	215600	499900	287200	171100	400100	287200	354800	342600	362700	314500	292700
16	242100	213800	494500	281800	169500	397900	284200	353100	344000	373500	313900	292300
17	235600	207500	489100	270800	168000	395000	280300	354500	345000	382400	312600	290500
18	237500	207000	481700	260300	167100	389500	277600	356200	343300	389900	312000	289300
19	241300	209600	474800	254400	166900	381000	275200	352700	339300	391700	310700	288100
20	258300	214100	468000	247400	172900	372500	272800	351400	336900	387400	310400	286900
21	265500	220000	460800	242100	173600	362000	270800	350000	336900	383800	309100	286300
22	262400	227000	452800	237200	190200	349300	267900	348000	335600	383500	306900	287200
23	263500	233400	443100	232600	201800	334300	265500	348700	335300	382000	305700	286300
24	286000	241800	433800	229200	214600	319900	263200	349300	334000	379200	305300	283600
25	332600	251000	420500	228100	228100	311600	262400	348300	333000	377400	304400	282100
26	377400	259500	406300	225700	240200	310100	260600	344600	331700	377800	304100	280600
27	408900	266400	390600	226500	254900	315100	260100	339900	330300	374600	303800	279100
28	424600	269900	374900	224900	277000	317100	259500	336600	330000	371400	302500	278200
29	433000	272300	356800	224900	---	321600	257200	337300	329700	367200	301000	277000
30	433000	270500	337900	223400	---	326700	258100	343300	328100	363400	301000	275500
31	428400	---	330700	222300	---	329400	---	346000	---	355500	299700	---
MAX	433000	421200	504900	326400	277000	412600	331300	356200	353400	391700	347700	298200
MIN	235600	207000	240500	222300	166900	310100	257200	255200	328100	317100	299700	275500
(+)	229.77	225.07	227.01	223.33	225.08	226.97	224.64	227.47	226.93	227.75	226.04	225.24
(#)	+179900	-157900	+60200	-108400	+54700	+52400	-71300	+87900	-87900	+97400	-55800	-24200

CAL YR 1993 MAX 511700 MIN 207000 (+) -84500
WTR YR 1994 MAX 504900 MIN 166900 (+) -27000

(+) Elevation, in feet, at end of month.
(#) Change in contents, in acre-feet.

RED RIVER BASIN

07344200 WRIGHT PATMAN LAKE NEAR TEXARKANA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: March 1967 to September 1984 and February 1992 to current year.

REVISED RECORDS.--TX-93-1 Phytoplankton.

331838094095901 - WRIGHT PATMAN LAKE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
JAN										
25...	1013	228000	1.00	218	8.0	7.5	0.58	11.2	94	K1
25...	1017	--	10.0	218	7.9	7.5	--	11.2	94	--
25...	1021	--	20.0	211	7.8	7.5	--	11.0	93	--
25...	1025	--	25.0	211	7.7	7.5	--	11.3	95	--
MAY										
10...	1019	313000	1.00	192	7.8	21.0	0.70	6.7	76	K2
10...	1022	--	10.0	192	7.6	20.5	--	5.6	63	--
10...	1027	--	20.0	194	7.4	20.0	--	4.2	47	--
10...	1032	--	28.0	204	7.2	19.5	--	0.8	9	--
AUG										
17...	0939	313000	1.00	181	7.3	28.0	0.55	4.0	52	K8
17...	0948	--	10.0	181	7.2	28.0	--	2.7	35	--
17...	0958	--	20.0	181	7.0	28.0	--	2.0	26	--
17...	1007	--	28.0	189	6.9	27.5	--	1.4	18	--

DATE	STREP- TOCOCI FECAL KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)
JAN									
25...	K1	75	9	25	3.0	13	0.7	3.2	66
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	--	71	11	24	2.8	12	0.6	3.2	60
MAY									
10...	K11	66	1	22	2.7	12	0.6	2.9	65
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	69	2	23	2.9	12	0.6	2.9	67
AUG									
17...	K6	74	2	25	2.7	10	0.5	3.7	72
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	71	0	24	2.7	9.9	0.5	3.6	73

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
JAN									
25...	22	12	0.10	5.3	124	0.017	0.017	0.040	0.057
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	22	12	0.10	5.5	118	--	--	0.020	--
MAY									
10...	18	10	0.10	1.3	108	--	--	0.020	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	18	11	0.10	4.4	116	--	--	0.020	--
AUG									
17...	12	8.2	0.20	8.9	114	--	--	<0.010	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	12	8.4	0.30	8.9	114	--	--	<0.010	--

07344200 WRIGHT PATMAN LAKE NEAR TEXARKANA, TX--Continued

331838094095901 - WRIGHT PATMAN LAKE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
25...	0.057	0.020	0.38	0.40	0.030	0.010	0.03	170	2
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	<0.050	0.020	0.38	0.40	0.060	0.050	0.15	38	4
MAY									
10...	<0.050	0.040	0.36	0.40	0.010	0.010	0.03	10	12
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	<0.050	0.310	0.39	0.70	0.020	0.030	0.09	17	670
AUG									
17...	<0.050	0.020	0.38	0.40	0.060	0.020	0.06	4	10
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	<0.050	0.090	0.41	0.50	0.090	0.050	0.15	19	270

332142094115001 - WRIGHT PATMAN LAKE BC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, DIS- SOLVED (MG/L AS N)
JAN									
25...	1050	1.00	160	7.7	9.0	0.55	10.6	93	0.020
25...	1054	10.0	156	7.6	8.5	--	10.4	90	0.030
MAY									
10...	1100	1.00	171	8.5	21.5	0.73	8.1	93	0.020
10...	1105	11.0	178	7.3	21.0	--	3.1	35	0.020
AUG									
17...	1109	1.00	187	7.4	28.0	0.55	4.4	57	<0.010
17...	1112	5.00	186	7.1	27.5	--	2.8	36	--
17...	1115	11.0	187	7.0	27.5	--	1.9	24	<0.010

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
25...	<0.050	0.020	0.48	0.50	0.050	0.010	0.03	170	<10
25...	<0.050	0.020	0.38	0.40	0.020	0.010	0.03	190	<10
MAY									
10...	<0.050	0.060	0.34	0.40	<0.010	<0.010	--	10	20
10...	<0.050	0.130	0.37	0.50	0.020	0.010	0.03	20	170
AUG									
17...	<0.050	0.020	0.38	0.40	0.030	<0.010	--	<10	10
17...	--	--	--	--	--	--	--	--	--
17...	<0.050	0.020	0.38	0.40	0.040	0.010	0.03	<10	70

331935094112901 - WRIGHT PATMAN LAKE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
JAN											
25...	1117	1.00	161	7.6	8.0	0.61	9.9	84	0.034	0.034	0.030
25...	1120	10.0	163	7.4	7.5	--	8.9	75	--	--	--
25...	1124	18.0	167	7.5	7.5	--	8.9	75	0.042	0.042	0.040
MAY											
10...	1127	1.00	173	8.3	21.5	0.82	7.7	89	--	--	0.020
10...	1130	10.0	170	8.0	21.0	--	7.1	81	--	--	--
10...	1134	15.0	167	7.7	21.0	--	5.8	66	--	--	--
10...	1137	21.0	169	7.2	20.5	--	1.2	14	--	--	0.020
AUG											
17...	1136	1.00	182	8.4	29.0	0.52	7.0	92	--	--	<0.010
17...	1139	10.0	186	7.7	28.5	--	4.3	56	--	--	--
17...	1142	20.0	190	6.9	28.0	--	0	0	--	--	<0.010

RED RIVER BASIN

07344200 WRIGHT PATMAN LAKE NEAR TEXARKANA, TX--Continued

331935094112901 - WRIGHT PATMAN LAKE CC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN										
25...	0.064	0.064	0.050	0.55	0.60	0.020	<0.010	--	130	<10
25...	--	--	--	--	--	--	--	--	--	--
25...	0.082	0.082	0.120	0.38	0.50	0.020	0.010	0.03	140	10
MAY										
10...	--	<0.050	0.020	0.28	0.30	<0.010	<0.010	--	20	70
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	<0.050	0.260	0.34	0.60	<0.010	0.020	0.06	30	300
AUG										
17...	--	<0.050	0.030	0.37	0.40	0.030	0.010	0.03	<10	30
17...	--	--	--	--	--	--	--	--	--	--
17...	--	<0.050	0.350	0.35	0.70	0.200	0.160	0.49	60	900

331706094130501 - WRIGHT PATMAN LAKE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
25...	1147	1.00	224	8.1	7.0	11.6	96
25...	1150	10.0	223	8.0	6.5	11.4	94
25...	1153	20.0	226	7.6	6.0	10.4	84
25...	1156	28.0	240	7.5	6.0	10.2	83
MAY							
10...	1206	1.00	203	8.1	20.5	7.3	82
10...	1209	10.0	203	8.0	20.5	6.8	76
10...	1212	20.0	204	7.9	20.5	6.2	70
10...	1215	29.0	215	7.4	20.0	2.0	22
AUG							
17...	1204	1.00	177	8.8	30.0	9.8	131
17...	1207	10.0	178	8.3	29.0	6.1	80
17...	1211	20.0	179	7.1	28.5	1.7	22
17...	1214	27.0	204	7.0	28.5	0	0

331519094141101 - WRIGHT PATMAN LAKE EC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
JAN												
25...	1219	1.00	238	7.5	9.0	0.24	10.0	87	95	240	69	17
25...	1224	10.0	236	7.6	8.5	--	9.9	85	--	--	--	--
25...	1229	21.0	237	7.6	8.5	--	10.0	86	--	--	75	21
MAY												
10...	1235	1.00	284	8.3	21.0	0.49	7.5	85	K3	K4	94	20
10...	1238	10.0	276	8.0	21.0	--	7.5	85	--	--	--	--
10...	1242	15.0	283	8.1	21.0	--	7.1	80	--	--	--	--
10...	1246	24.0	262	8.0	20.5	--	6.7	75	--	--	86	15
AUG												
17...	1247	1.00	179	8.8	31.0	0.55	10.3	140	K1	K1	73	0
17...	1251	10.0	183	7.8	29.5	--	5.2	69	--	--	--	--
17...	1256	18.0	195	7.0	29.5	--	0	0	--	--	76	0

RED RIVER BASIN

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07344200 WRIGHT PATMAN LAKE NEAR TEXARKANA, TX--Continued

331519094141101 - WRIGHT PATMAN LAKE EC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
JAN												
25...	23	2.9	14	0.7	2.9	52	29	15	0.10	7.0	127	0.320
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	25	3.0	15	0.8	3.1	54	28	14	0.10	6.7	129	0.330
MAY												
10...	31	4.0	19	0.9	3.4	74	39	18	0.20	1.0	161	0.100
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	28	3.8	18	0.8	3.2	71	34	17	0.20	1.2	150	0.043
AUG												
17...	25	2.6	9.7	0.5	3.8	75	12	7.2	0.30	8.3	114	--
17...	--	--	--	--	--	--	--	--	--	--	--	--
17...	26	2.8	9.7	0.5	3.9	80	12	7.1	0.20	9.2	120	--

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN												
25...	0.320	0.050	0.370	0.370	0.050	0.75	0.80	0.040	0.030	0.09	160	10
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	0.330	0.030	0.360	0.360	0.060	1.1	1.2	0.040	0.040	0.12	150	11
MAY												
10...	0.100	0.020	0.120	0.120	0.080	0.22	0.30	0.040	0.010	0.03	9	260
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	0.043	0.020	0.063	0.063	0.130	0.47	0.60	0.050	0.020	0.06	26	1100
AUG												
17...	--	<0.010	--	<0.050	0.020	0.38	0.40	0.050	0.020	0.06	11	38
17...	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	<0.010	--	<0.050	0.210	0.39	0.60	0.060	0.030	0.09	64	470

331533094210901 - WRIGHT PATMAN LAKE GC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
JAN												
25...	1446	1.00	215	7.4	8.5	0.21	9.4	81	250	380	65	16
25...	1450	10.0	214	7.4	8.0	--	9.5	81	--	--	--	--
25...	1455	16.0	216	7.5	8.5	--	10.0	86	--	--	67	18
MAY												
10...	1455	1.00	255	7.8	20.0	0.15	5.7	63	150	580	99	9
10...	1500	10.0	255	7.8	19.5	--	5.7	63	--	--	--	--
10...	1505	19.0	254	7.8	19.5	--	5.7	63	--	--	100	12
AUG												
17...	1436	1.00	236	7.2	29.5	0.34	5.8	77	K5	K9	94	1
17...	1440	10.0	240	7.0	28.5	--	2.7	35	--	--	--	--
17...	1445	18.0	239	7.0	28.5	--	2.7	35	--	--	97	8

RED RIVER BASIN

07344200 WRIGHT PATMAN LAKE NEAR TEXARKANA, TX--Continued

331533094210901 - WRIGHT PATMAN LAKE GC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
JAN												
25...	21	3.0	13	0.7	3.2	49	27	14	<0.10	7.2	120	0.290
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	22	3.0	14	0.7	3.2	49	27	14	0.10	7.0	121	0.280
MAY												
10...	35	2.8	13	0.6	3.4	90	26	8.0	0.20	6.9	155	1.14
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	36	2.8	13	0.6	3.3	89	26	8.2	0.20	7.3	156	1.14
AUG												
17...	32	3.3	14	0.6	3.4	93	19	8.8	0.30	4.9	142	--
17...	--	--	--	--	--	--	--	--	--	--	--	--
17...	33	3.5	14	0.6	1.1	89	19	9.4	0.20	6.4	140	--
DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN												
25...	0.290	0.040	0.330	0.330	0.050	0.35	0.40	0.040	0.040	0.12	59	25
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	0.280	0.030	0.310	0.310	0.050	0.35	0.40	0.040	0.040	0.12	71	24
MAY												
10...	1.14	0.060	1.20	1.20	0.100	0.40	0.50	0.050	0.050	0.15	60	17
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	1.14	0.060	1.20	1.20	0.100	0.40	0.50	0.050	0.050	0.15	56	16
AUG												
17...	--	<0.010	--	<0.050	0.020	0.38	0.40	0.030	<0.010	--	22	50
17...	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	<0.010	--	<0.050	0.030	0.37	0.40	0.040	0.020	0.06	44	92

RED RIVER BASIN

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07344200 WRIGHT PATMAN LAKE NEAR TEXARKANA, TX--Continued

Wright Patman Lake Site AC (331838094095901)

Phytoplankton Analyses October 1993 to September 1994

Date	1-25-94
Time	1013

TOTAL CELLS/mL	19,924
NUMBER OF SPECIES	14
DEPTH COLLECTED (ft.)	1.0

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	9,011
Order Pennales	
<i>Cocconeis placentula</i>	59
<i>Gomphonema parvulum</i>	59
<i>Navicula cuspidata</i>	59
<i>Nitzschia denticula</i>	59
<i>Synedra ulna</i>	178
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	2,112
<i>Micractinium pusillum</i>	59
<i>Selenastrum Westii</i>	149
CYANOPHYTA	
<i>Anabaena flos-aquae</i>	952
<i>Aphanocapsa delicatissima</i>	1,487
<i>Aphanocapsa elachista</i>	5,056
<i>Chroococcus limneticus</i>	595
EUGLENOPHYTA	
<i>Trachelomonas</i> spp.	89

07344200 WRIGHT PATMAN LAKE NEAR TEXARKANA, TX--Continued

Wright Patman Lake Site GC (331533094210901)

Phytoplankton Analyses October 1993 to September 1994

Date	1-25-94
Time	1446
<hr/>	
TOTAL CELLS/mL	4,103
NUMBER OF SPECIES	10
DEPTH COLLECTED (ft.)	0.3
<hr/>	

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	654
Order Pennales	
<i>Diatoma hiemale</i>	51
<i>Navicula cuspidata</i>	34
<i>Nitzschia denticula</i>	17
<i>Tabellaria fenestrata</i>	17
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	59
<i>Chlamydomonas</i> sp.	178
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	2,974
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	89
PYRRHOPHYTA	
<i>Peridinium pusillum</i>	30

RED RIVER BASIN

151

07344200 WRIGHT PATMAN LAKE NEAR TEXARKANA, TX--Continued

Wright Patman Lake Site AC (331838094095901)

Phytoplankton Analyses October 1993 to September 1994

Date	5-10-94
Time	1019

TOTAL CELLS/mL	9,993
NUMBER OF SPECIES	12
DEPTH COLLECTED (ft.)	1.2

OrganismsCells/mL

BACILLARIOPHYTA

Order Centrales

Cyclotella ocellata

119

Order Pennales

Cocconeis placentula

9

Cymbella parva

54

Gyrosigma acuminatum

9

Synedra ulna

18

CHLOROPHYTA

Ankistrodesmus falcatus

178

Chlamydomonas sp.

59

Scenedesmus opoliensis

30

CYANOPHYTA

Aphanizomenon flos-aquae

1,190

Aphanocapsa delicatissima

7,732

Chroococcus limneticus

119

EUGLENOPHYTA

Trachelomonas sp.

476

07344200 WRIGHT PATMAN LAKE NEAR TEXARKANA, TX—Continued

Wright Patman Lake Site GC (33153309410901)

Phytoplankton Analyses October 1993 to September 1994

Date	5-10-94
Time	1455

TOTAL CELLS/mL	4,846
NUMBER OF SPECIES	14
DEPTH COLLECTED (ft.)	0.3

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	238
Order Pennales	
<i>Cocconeis placentula</i>	62
<i>Cymbella parva</i>	9
<i>Fragilaria crotonensis</i>	36
<i>Gomphonema parvulum</i>	9
<i>Navicula rhyncocephala</i>	62
CHLOROPHYTA	
<i>Chlamydomonas</i> sp.	89
<i>Pediastrum duplex</i>	30
<i>Scenedesmus quadricauda</i>	59
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	3,271
<i>Chroococcus limneticus</i>	595
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	297
<i>Phacus</i> sp.	30
CHRYSTOPHYTA	
<i>Dinobryon sociale</i>	59

RED RIVER BASIN

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07344200 WRIGHT PATMAN LAKE NEAR TEXARKANA, TX--Continued

Wright Patman Lake Site AC (331838094095901)

Phytoplankton Analyses October 1993 to September 1994

Date	8-17-94
Time	939
<hr/>	
TOTAL CELLS/mL	53,919
NUMBER OF SPECIES	13
DEPTH COLLECTED (ft.)	0.90
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<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	59
Order Pennales	
<i>Fragilaria crotonensis</i>	198
<i>Navicula rhyncocephala</i>	99
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	4,164
<i>Pediastrum duplex</i>	59
<i>Scenedesmus opoliensis</i>	89
<i>Spirulina subsalsa</i>	595
CYANOPHYTA	
<i>Aphanizomenon flos-aquae</i>	21,413
<i>Aphanocapsa delicatissima</i>	7,138
<i>Aphanocapsa elachista</i>	6,543
<i>Chroococcus limneticus</i>	1,071
<i>Merismopedia tenuissima</i>	12,372
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	119

07344200 WRIGHT PATMAN LAKE NEAR TEXARKANA, TX--Continued

Wright Patman Lake Site GC (331533094210901)

Phytoplankton Analyses October 1993 to September 1994

Date	8-17-94
Time	1436

TOTAL CELLS/mL	17,486
NUMBER OF SPECIES	9
DEPTH COLLECTED (ft.)	0.60

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	119
Order Pennales	
<i>Fragilaria crotonensis</i>	208
CHLOROPHYTA	
<i>Scenedesmus opoliensis</i>	59
<i>Staurastrum</i> sp.	89
CYANOPHYTA	
<i>Anabaena planctonica</i>	892
<i>Aphanocapsa delicatissima</i>	5,948
<i>Chroococcus limneticus</i>	714
<i>Merismopedia tenuissima</i>	9,279
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	178

RED RIVER BASIN

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07344210 SULPHUR RIVER NEAR TEXARKANA, TX

LOCATION.--Lat 33°18'20", long 94°09'03", Bowie County, Hydrologic Unit 11140302, on downstream side of highway embankment near left end of downstream (northbound) bridge on U.S. Highway 59, 0.4 mi downstream from Texarkana Dam, 1.4 mi upstream from Elliott Creek, 11.7 mi southwest of Texarkana, and at mile 44.1.

DRAINAGE AREA.--3,443 mi².

WATER-CONTENT RECORDS

PERIOD OF RECORD.--October 1985 to current year (midnight elevations). August 1937 to July 1953 and October 1953 to September 1979 (daily gage heights); January to December 1933, January 1937 to December 1942, and January 1945 to September 1979 (discharge measurements); January to December 1939 and January 1945 to September 1979 (daily discharges) published by U.S. Army Corps of Engineers; October 1979 to September 1985 (daily discharges).

GAGE.--Water-stage recorder. Datum of gage is 0.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Elevation records good except those for estimated daily elevations, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,100 ft³/s June 16 to July 5, 1981; maximum gage height, 32.57 ft June 15, 1981; no flow June 25, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 94,000 ft³/s Apr. 4, 1945; maximum stage, 47.23 ft Apr. 14, 1945; no flow on various occasions.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 212.25 ft at 2400 hours Oct. 29; minimum, 189.34 ft May 2.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e189.61	e211.79	208.24	208.54	209.46	203.50	199.21	189.35	203.31	191.13	210.08	190.67
2	e189.62	e211.81	210.86	207.60	209.47	206.46	199.12	189.48	203.24	191.06	208.75	190.64
3	e189.67	e211.77	211.50	206.11	209.49	210.62	198.99	189.59	205.73	191.03	207.95	190.64
4	e189.65	e211.74	211.61	203.07	209.45	211.31	200.52	189.76	206.25	191.00	206.09	190.62
5	e189.64	e211.72	211.62	199.32	209.41	211.47	200.71	189.60	206.43	190.97	202.59	190.63
6	e189.63	e211.67	211.62	196.42	209.35	211.52	200.73	189.55	206.51	190.93	198.62	190.63
7	e189.65	e211.65	211.74	194.52	208.09	211.53	200.75	189.56	206.55	190.94	197.04	190.60
8	e189.66	e211.73	211.98	193.91	206.00	211.51	200.78	189.53	206.56	190.89	196.57	190.59
9	e189.67	e211.70	211.88	193.78	204.22	211.59	200.78	189.49	206.57	190.87	196.46	190.59
10	e189.64	e211.64	211.94	194.27	203.22	211.59	200.75	189.54	206.57	190.88	196.42	190.60
11	e189.62	e211.53	211.99	197.54	202.65	211.61	201.50	191.00	206.57	190.98	196.39	190.58
12	e189.68	e211.54	212.02	199.75	202.27	211.63	201.92	193.31	204.47	193.84	194.16	191.25
13	e189.68	e211.47	211.74	204.39	201.93	211.62	201.46	196.37	203.60	193.69	193.88	191.50
14	e194.38	e211.55	211.64	207.74	200.06	211.63	201.16	196.79	203.24	192.36	193.84	191.55
15	e194.93	e211.44	211.60	209.82	199.30	211.63	200.87	196.90	203.13	194.36	191.40	191.54
16	e196.23	e211.46	211.81	210.01	199.02	211.61	200.69	198.90	200.43	197.24	191.03	191.53
17	e198.28	e209.38	211.82	209.99	198.93	211.65	200.58	201.53	199.80	199.23	190.92	191.51
18	e200.78	207.75	211.78	209.97	196.67	211.61	198.96	204.34	199.61	202.25	190.91	191.54
19	e203.03	205.79	211.56	209.96	196.03	211.59	196.83	207.54	199.55	205.72	190.86	191.52
20	e203.03	203.30	211.72	209.95	197.58	211.56	196.31	208.35	197.27	208.95	190.84	191.51
21	e205.53	200.05	211.70	209.90	198.26	211.47	196.18	208.71	194.35	209.55	190.80	191.49
22	e208.83	197.25	211.65	209.85	197.25	211.47	196.13	208.88	193.70	209.82	190.81	191.49
23	e211.49	197.14	211.60	209.78	196.85	211.57	196.11	208.00	191.81	209.96	190.80	191.47
24	e211.72	196.93	211.62	209.65	194.81	211.49	196.10	207.39	191.31	210.05	190.80	191.43
25	e211.92	197.00	211.53	209.75	193.04	210.30	193.38	207.06	191.21	210.09	190.75	191.39
26	e212.04	197.02	211.54	209.90	194.08	208.65	191.19	206.85	191.15	210.12	190.79	191.38
27	e212.19	199.24	211.69	209.83	196.48	206.99	190.76	206.70	191.11	210.11	190.80	191.39
28	e212.20	199.61	211.54	209.71	199.31	205.08	189.57	206.60	191.08	210.11	190.73	191.41
29	e212.25	201.86	211.54	209.62	---	201.57	189.41	204.66	191.07	210.12	190.73	191.41
30	e211.82	205.38	211.63	209.57	---	198.84	189.36	203.82	191.16	210.11	190.70	191.39
31	e211.82	---	210.26	209.51	---	198.24	---	203.47	---	210.10	190.67	---
MAX	212.25	211.81	212.02	210.01	209.49	211.65	201.92	208.88	206.57	210.12	210.08	191.55
MIN	189.61	196.93	208.24	193.78	193.04	198.24	189.36	189.35	191.07	190.87	190.67	190.58

CAL YR 1993 MAX 212.25 MIN 189.45
WTR YR 1994 MAX 212.25 MIN 189.35

e Estimated

07344210 SULPHUR RIVER NEAR TEXARKANA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1983 to September 1985, and October 1991 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CaCO3)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	
JAN 25...	1023	6240	202	8.0	7.0	48	5.5	15.6	129	0.6	72	12	
MAY 10...	1530	172	194	7.5	22.0	29	7.5	7.8	90	1.0	63	4	
AUG 17...	1130	321	186	7.6	28.0	--	2.0	6.5	83	5.9	70	0	
DATE		CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)
JAN 25...	24	2.9	12		0.6	3.4	60	22	11	0.10	4.2	116	6
MAY 10...	21	2.6	11		0.6	3.2	59	19	10	0.10	2.0	105	13
AUG 17...	24	2.5	10		0.5	3.4	72	12	8.3	0.20	8.5	113	20
DATE		RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	
JAN 25...	7	0	0.048	0.048	0.020	0.068	0.068	0.030	0.97	1.0	0.020		
MAY 10...	8	5	0.031	0.031	0.020	0.051	0.051	0.190	0.31	0.50	0.030		
AUG 17...	20	0	--	--	<0.010	--	<0.050	0.080	0.42	0.50	0.060		
DATE		PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	
JAN 25...	0.020	0.06	8.4	<1	42	<0.5	<1.0	<5	<3	<10	140		
MAY 10...	0.030	0.09	8.2	<1	37	<0.5	<1.0	<5	<3	<10	52		
AUG 17...	0.040	0.12	9.4	6	17	<0.5	<1.0	<5	<3	<10	7		
DATE		LEAD, DIS-SOLVED (UG/L AS Pb)	LITHIUM DIS-SOLVED (UG/L AS Li)	MANGA-NESE, DIS-SOLVED (UG/L AS Mn)	MERCURY DIS-SOLVED (UG/L AS Hg)	MOLYB-DENUM, DIS-SOLVED (UG/L AS Mo)	NICKEL, DIS-SOLVED (UG/L AS Ni)	SELE-NIUM, DIS-SOLVED (UG/L AS Se)	SILVER, DIS-SOLVED (UG/L AS Ag)	STRON-TIUM, DIS-SOLVED (UG/L AS Sr)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS Zn)	
JAN 25...	<10	<4	4	<0.1	<10	<10	<1	<1.0	200	<6	12		
MAY 10...	<10	5	4	<0.1	<10	<10	<1	<1.0	180	<6	4		
AUG 17...	<10	<4	1	<0.1	<10	<10	<1	<1.0	210	<6	<3		

07344486 BRUSHY CREEK AT SCROGGINS, TX

LOCATION.--Lat 32°58'32", long 95°11'03", Franklin County, Hydrologic Unit 11140305, at downstream side of highway embankment near left end of bridge on Farm Road 115, 0.1 mi north of Scroggins, 0.3 mi downstream from Briary Creek, 2.5 mi upstream from South Brushy Creek, and 9.5 mi upstream from mouth.

DRAINAGE AREA.--23.4 mi².

PERIOD OF RECORD.--December 1977 to current year.

REVISED RECORDS.--WDR TX-89-1 1983-88 (M).

GAGE.--Water-stage recorder. Datum of gage is 343.90 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair except those below 5.0 ft³/s, which are poor. Several observations of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	0430	4,370	13.97				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	8.3	12	13	12	120	12	7.5	13	3.6	3.5	2.1
2	3.0	8.5	12	13	13	35	11	10	9.7	3.0	2.6	2.9
3	3.2	16	33	13	12	25	9.9	36	8.0	3.1	1.7	4.1
4	3.4	14	87	12	12	22	9.4	19	7.5	2.9	1.9	4.4
5	3.8	11	27	12	11	20	10	13	7.0	2.7	2.7	4.3
6	3.0	8.1	17	13	11	81	13	10	6.4	2.8	3.3	3.7
7	3.1	7.1	14	13	11	212	11	7.0	5.6	3.0	4.0	3.0
8	3.2	7.2	13	11	12	66	10	6.8	4.6	3.4	5.6	2.6
9	4.6	7.1	13	12	17	32	9.9	6.9	3.7	22	5.7	27
10	5.2	7.4	14	13	24	27	9.9	9.8	4.7	26	5.0	6.8
11	4.2	7.2	15	83	23	24	9.4	7.8	7.6	9.6	3.7	2.1
12	3.8	7.7	14	49	16	22	55	32	6.5	21	3.0	1.5
13	37	8.5	83	17	13	21	21	24	5.1	11	2.7	1.4
14	15	33	39	12	12	20	16	25	4.0	21	2.4	1.5
15	5.4	24	21	9.1	11	19	15	50	3.3	290	1.9	1.3
16	4.5	48	17	7.8	11	17	13	23	16	152	1.8	1.1
17	3.9	98	17	20	10	16	12	56	57	22	1.7	1.1
18	32	22	16	15	10	16	11	28	15	12	1.4	.91
19	116	16	15	14	78	17	10	15	23	8.5	1.6	.88
20	1120	13	15	16	74	18	10	11	13	6.2	2.9	.90
21	94	11	14	15	265	15	9.7	9.0	8.4	5.3	13	.97
22	25	11	14	16	150	14	9.5	7.4	8.4	5.2	4.9	.93
23	17	11	14	20	37	13	9.0	6.2	7.2	5.1	2.4	1.2
24	13	11	13	22	25	13	8.0	5.7	6.7	3.7	2.0	1.8
25	11	21	13	20	20	13	7.5	5.3	5.9	2.4	2.8	1.8
26	9.8	63	12	42	18	12	7.7	6.7	4.4	2.2	3.0	2.1
27	7.9	27	13	24	17	21	7.6	8.6	3.6	2.2	2.9	2.4
28	7.0	21	14	17	137	27	6.6	15	2.8	2.9	2.9	2.1
29	7.4	16	13	15	---	17	6.5	32	2.6	1.2	2.6	2.5
30	11	13	13	13	---	13	7.9	41	3.6	1.2	2.0	2.6
31	9.5	---	13	12	---	12	---	18	---	4.5	1.9	---
TOTAL	1588.9	577.1	640	583.9	1062	1000	358.5	552.7	274.3	661.7	99.5	91.99
MEAN	51.3	19.2	20.6	18.8	37.9	32.3	11.9	17.8	9.14	21.3	3.21	3.07
MAX	1120	98	87	83	265	212	55	56	57	290	13	27
MIN	2.0	7.1	12	7.8	10	12	6.5	5.3	2.6	1.2	1.4	.88
AC-FT	3150	1140	1270	1160	2110	1980	711	1100	544	1310	197	182
CFSM	2.19	.82	.88	.80	1.62	1.38	.51	.76	.39	.91	.14	.13
IN.	2.53	.92	1.02	.93	1.69	1.59	.57	.88	.44	1.05	.16	.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1994, BY WATER YEAR (WY)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	14.6	13.7	30.6	20.5	28.4	29.0	20.5	27.5	17.1	8.50	3.04	4.42				
MAX	80.5	26.6	103	62.7	47.5	66.1	54.9	68.2	70.0	32.2	17.4	41.7				
(WY)	1992	1993	1983	1993	1991	1990	1990	1991	1981	1981	1992	1979				
MIN	.68	2.51	2.99	6.33	10.8	8.15	4.96	1.64	.26	.092	.003	.14				
(WY)	1979	1990	1979	1981	1981	1986	1981	1988	1984	1980	1985	1984				

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1979 - 1994

ANNUAL TOTAL	8845.84	7490.59	18.1
ANNUAL MEAN	24.2	20.5	32.2
HIGHEST ANNUAL MEAN			5.53
LOWEST ANNUAL MEAN			1640
HIGHEST DAILY MEAN	1120	Oct 20	Oct 29 1991
LOWEST DAILY MEAN	.30	Sep 17	Jul 20 1984
ANNUAL SEVEN-DAY MINIMUM	.66	Aug 19	Jul 20 1984
INSTANTANEOUS PEAK FLOW			7520
INSTANTANEOUS PEAK STAGE			14.39
ANNUAL RUNOFF (AC-FT)	17550	14860	13130
ANNUAL RUNOFF (CFSM)	1.04	.88	.77
ANNUAL RUNOFF (INCHES)	14.06	11.91	10.53
10 PERCENT EXCEEDS	47	32	30
50 PERCENT EXCEEDS	12	11	7.1
90 PERCENT EXCEEDS	1.1	2.4	.46

07344489 LAKE BOB SANDLIN NEAR MOUNT PLEASANT, TX

LOCATION.--Lat 33°04'48", long 95°00'07", Titus County, Hydrologic Unit 11140305, in control room in left abutment of service spillway at left end of Fort Sherman Dam on Big Cypress Creek, 1.7 mi upstream from Tankersley Creek, 3.5 mi upstream from bridge on U.S. Highway 271, 5.7 mi southwest of the county courthouse in Mount Pleasant, and 129.2 mi upstream from mouth.

DRAINAGE AREA.--239 mi².

PERIOD OF RECORD.--August 1977 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Apr. 12, 1978, a nonrecording gage was located at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 10,800 ft long, including spillways. Deliberate impoundment began Aug. 8, 1977, and dam was completed by April 1978. The spillway is an excavated channel cut through natural ground. The spillway is 4,500 ft wide, located to the left of the left end of the dam. The service spillway is 289.5 ft wide with 160 ft of net flow width controlled by four 40- by 22.5-foot tainter gates. The dam was built, and is owned, maintained, and operated by the Titus County Fresh Water Supply District No. 1 to provide water for municipal use. Flow from 75.0 mi² above this station is controlled by Lake Cypress Springs on Big Cypress Creek and 36.0 mi² is controlled by Montecello Reservoir on Blundell Creek, a tributary to Big Cypress Creek. Satellite telemeter and rain gage at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-ft)
Top of dam.....	349.0	-
Crest of uncontrolled spillway.....	341.3	251,000
Crest of gated spillway.....	316.5	64,790
Lowest gated outlet (invert).....	294.5	3,300

COOPERATION.--Area and capacity tables were compiled by Forest and Cotton, Inc., Consulting Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 222,800 acre-ft Mar. 17, 1987 (elevation, 338.49 ft); minimum, 516 acre-ft Aug. 8-17, 1977 (elevation, 290.00 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 216,400 acre-ft Oct. 20 at 1200 hours (elevation, 337.82 ft); minimum, 190,700 acre-ft Oct. 13 (elevation, 335.03 ft).

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

290.0	516	310.0	37,850	330.0	148,700
300.0	11,000	320.0	82,680	339.0	227,800

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	191500	212500	213200	213400	213300	213600	213300	213100	214100	212700	212500	206400
2	190800	212900	213500	213700	213100	213300	213400	214400	214300	212500	212300	206100
3	191200	213100	214100	213500	213100	214600	213300	213700	214400	212000	212200	205900
4	191200	213300	213200	213400	213100	213400	213400	213700	214500	211700	212000	205700
5	191100	213300	213300	213700	213400	213400	213700	213700	214400	211400	211900	205400
6	190900	213100	213200	213700	213600	213400	213300	213700	214500	211000	211700	205100
7	190800	213000	213200	213600	213800	213400	213300	213800	214400	210500	211600	204800
8	190800	213000	213300	213500	213400	213800	213300	213700	214500	210300	211400	204600
9	191100	213000	213400	213500	213300	213600	213500	214000	214300	209900	211300	204400
10	190900	213100	213400	213700	213300	213900	213600	213900	214300	209700	211300	204100
11	190900	213100	213300	213600	213000	213400	214700	213900	214200	209800	211100	204000
12	190800	213300	213200	213600	213200	213400	213600	214100	214100	209900	210800	203800
13	192700	213400	213600	213300	213300	213300	213300	214100	214000	209600	210700	203700
14	192700	213400	213600	213100	213300	213300	213400	213800	213900	210100	210400	203600
15	192700	213000	213300	213100	213500	213400	213400	213700	213800	213600	210300	203400
16	192700	214100	213200	213400	213700	213300	213400	214200	213900	214600	209900	203400
17	192800	213500	213200	213300	213800	213300	213400	215100	214000	214400	209700	203000
18	196100	213300	213100	213300	213600	213300	213400	214100	214100	214100	209500	202800
19	202200	213300	213000	213300	213300	213200	213500	213900	214200	214000	209200	202600
20	213100	213200	213100	213400	213500	213200	213600	213900	214100	213900	209200	202400
21	213800	213300	213100	213700	213600	213000	213600	214000	214300	213800	209100	202300
22	213500	213400	213200	213600	214400	212900	213400	214100	214300	214600	208800	202100
23	213500	213500	213200	213400	213400	213100	213500	214200	214400	213700	208600	201700
24	213700	213700	213500	213300	214100	213300	213500	214200	214400	213700	208500	201500
25	213600	213800	213300	213200	213400	213400	213400	214200	214200	213500	208100	201100
26	213400	213300	213300	213400	213400	213700	213400	214200	213900	213500	207900	201100
27	213200	213200	213300	213300	213400	213600	213400	214000	213600	213200	207900	200900
28	212900	212800	213400	213100	213600	213200	213300	214200	213400	213100	207500	200900
29	213100	212900	213300	213200	---	213100	213400	214500	213300	212800	207200	200700
30	212700	213000	213400	213300	---	213100	213300	214300	212900	212800	206900	200600
31	212500	---	213400	213300	---	213200	---	214100	---	212600	206700	---
MAX	213800	214100	214100	213700	214400	214600	214700	215100	214500	214600	212500	206400
MIN	190800	212500	213000	213100	213000	212900	213300	213100	212900	209600	206700	200600
(+)	337.41	337.46	337.51	337.49	337.53	337.48	337.49	337.58	337.45	337.42	336.79	336.13
(#)	+20900	+500	+400	-100	+300	-400	+100	+800	-1200	-300	-5900	-6100

CAL YR 1993 MAX 215200 MIN 190700 (#) -100
WTR YR 1994 MAX 215100 MIN 190800 (#) +9000

(+) Elevation, in feet, at end of month.
(#) Change in contents, in acre-feet.

RED RIVER BASIN

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07344500 BIG CYPRESS CREEK NEAR PITTSBURG, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 33°01'15", long 94°52'55", Camp-Titus County line, Hydrologic Unit 11140305, near center of stream at downstream side of bridge on State Highway 11, 0.5 mi upstream from Louisiana & Arkansas Railway Co. bridge, 1.4 mi upstream from Williamson Creek, 5.2 mi east of Pittsburg, 19.2 mi downstream from Lake Bob Sandlin, and 110.0 mi upstream from mouth.

DRAINAGE AREA.--366 mi².

PERIOD OF RECORD.--March 1943 to January 1963 (published as Cypress Creek near Pittsburg), October 1967 to September 1989. October 1989 to current year, (peaks above base discharge). Gage-height records collected at this site from September 1963 to December 1967, are published in reports by the U.S. Army Corps of Engineers. Water-quality records.--Chemical analyses: March 1965 to August 1989. Chemical and biochemical analyses: January 1983 to September 1985.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 247.49 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 12, 1954, water-stage recorder at site 1,900 ft downstream at present datum.

REMARKS.--Records fair. Daily values and peaks discharges less than 2,500 ft³/s are not published. Flow partly regulated by Lake Cypress Springs (station 07344484) since July 1970, and by Monticello Reservoir (on Blundell Creek) since August 1972. Flow largely regulated by Lake Bob Sandlin (station 07344489) since August 1977. Sewage effluent was returned to a tributary above this station by the city of Mount Pleasant, and sewage effluent was returned to a tributary below this station by the city of Pittsburg. Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE.--24 years (water years 1944-62, 1968-72), prior to combined regulation by Lake Cypress Springs and Monticello Reservoir, 327 ft³/s (12.13 in/yr), 236,900 acre-ft/yr; 17 years (water years 1973-89) regulated, 255 ft³/s (184,700 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,500 ft³/s Mar. 30, 1945 (gage height, 28.3 ft, from floodmark, and adjusted to present site on basis of record for flood of Apr. 27, 1958), from rating curve extended above 20,000 ft³/s; no flow Aug. 20 to Oct 3, 1954, July 19 to Nov. 4, 1956. Maximum stage since at least 1895, that of Mar. 30, 1945.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1938 reached a stage of about 25 ft, present site, adjusted as explained above, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 21	0600	9,630	17.25	Mar. 2	1400	3,450	13.97
Dec. 5	0600	3,230	13.84	Mar. 10	0200	3,620	14.08
Feb. 23	0900	5,960	15.45				

07345900 LAKE O' THE PINES NEAR JEFFERSON, TX

LOCATION.--Lat 32°45'04", long 94°29'59", Marion County, Hydrologic Unit 11140305, on left bank 1,500 ft upstream from left end of Ferrell's Bridge Dam on Big Cypress Creek, on Farm Road 726, 9.0 mi west of Jefferson, and 80.1 mi upstream from mouth.

DRAINAGE AREA.--850 mi².

PERIOD OF RECORD.--August 1957 to current year.

Water-quality records.--Chemical and biochemical analyses: October 1969 to September 1984.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Nov. 12, 1957, non-recording gage at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 10,600 ft long, including a 200-foot-wide concrete spillway. Impoundment of water began Aug. 21, 1957, and the dam was completed June 25, 1958. Official operation began Dec. 11, 1959. The flood-control outlet works consist of two 10.0-foot-diameter conduits that are controlled by two 8.0- by 12.5-foot electrically driven broome-type gates. The low-flow outlet works consist of a controlled 14-inch pipe. Flow over the spillway is discharged into a 2,000-foot-long rectified channel and then into Cypress Creek. The capacity table is based on a survey made in 1950. The lake was built for conservation, flood control, and water supply. During the current year, an unknown amount of water was diverted from the lake for municipal and industrial uses. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	277.0	-
Crest of spillway.....	249.5	842,100
Top of conservation pool.....	228.5	254,900
Crest of intake to wet well (14 in).....	202.5	5,760
Lowest gated outlet (invert).....	200.0	2,860

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 694,360 acre-ft May 5, 1966 (elevation, 245.41 ft); minimum since December 1959, 210,100 acre-ft Oct. 6, 1984 (elevation, 225.98 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 326,300 acre-ft July 18 (elevation, 232.07 ft); minimum daily, 254,800 acre-ft Apr. 8 (elevation, 228.50 ft).

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

227.0	227,600	230.0	283,700	233.0	346,500
228.0	245,600	231.0	303,800	234.0	369,100
229.0	264,300	232.0	324,800	235.0	392,700

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	262000	275200	260500	256700	260900	303800	257800	256500	294300	281700	286900	276200
2	261800	272700	261100	256900	259500	307600	257800	258200	293900	281300	286500	275800
3	262200	270400	261100	258000	258400	312100	257500	259400	290900	281100	285900	275400
4	262000	268100	260500	258000	258400	316900	256500	259900	288700	280900	285300	275100
5	261600	265400	259900	257100	258800	319300	256500	259900	287500	280300	285100	275200
6	261200	261200	259400	257300	259000	319500	256200	260100	287700	279300	284700	275100
7	260900	258400	260300	257300	259000	318400	255400	260500	286700	278200	285100	275200
8	262000	257100	262000	256700	259500	316900	254800	260700	286100	277800	285300	273300
9	261200	256500	264100	256300	259900	313800	255200	261200	286300	277400	284700	272700
10	260500	256200	264300	257700	260300	310700	255200	261400	285900	277400	284300	272300
11	260100	256000	264100	258800	260900	310200	258800	261200	285700	279500	283900	271900
12	259700	256500	262000	259700	261400	310900	260700	261100	285700	290500	283700	271800
13	260500	257800	262400	260500	262000	310000	260700	262400	285700	291300	283700	271400
14	261100	259500	261400	261100	262400	307800	260300	269200	283900	295700	283500	271000
15	261200	259700	260900	261200	262600	304500	260900	272700	282700	305100	283100	270800
16	261400	262000	261100	262400	262200	301000	261200	276000	284500	315900	282700	270000
17	261200	263700	261100	264300	261100	296900	260700	279300	285500	324600	281900	269100
18	261100	264700	262200	263100	261800	292700	260500	280700	285300	326300	281300	268500
19	261800	264500	263300	262800	262600	289200	260100	282100	284900	323900	281100	268100
20	269200	263700	263300	264100	265200	285300	259400	283900	285300	321200	281100	267100
21	275800	263100	262400	264500	266200	279700	259200	285300	285500	318800	280900	266200
22	287100	263100	261100	264300	275800	275100	258800	286500	285500	314400	280500	265800
23	295100	262800	260100	264300	282700	270000	258200	286900	285700	309600	279900	265600
24	297700	262400	259200	264300	291100	266600	257700	287300	285900	304900	279300	265000
25	298100	262200	258200	265000	297900	263500	257500	285700	285300	299700	279000	264100
26	295100	261400	257300	266900	300200	263700	257300	285300	284700	295300	278400	263700
27	291500	259900	256500	268900	299500	265000	257300	285300	284300	292500	278000	262900
28	287700	260100	256300	269800	299700	263300	256700	285500	283900	290300	277800	262400
29	285900	259700	256300	268700	---	261100	257500	288100	283100	288700	277800	262200
30	283100	260100	256900	265000	---	257500	257100	290900	282100	288800	277600	261800
31	279000	---	256500	261400	---	257300	---	293300	---	287700	277000	---
MAX	298100	275200	264300	269800	300200	319500	261200	293300	294300	326300	286900	276200
MIN	259700	256000	256300	256300	258400	257300	254800	256500	282100	277400	277000	261800
(+)	229.76	228.78	228.59	228.85	230.80	228.63	228.62	230.48	229.92	230.20	229.66	228.87
(@)	+16600	-18900	-3600	+4900	+38300	-42400	-200	+36200	-11200	+5600	-10700	-15200

CAL YR 1993 MAX 373300 MIN 242500 (@) -104700
WTR YR 1994 MAX 326300 MIN 254800 (@) -600

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

07346000 BIG CYPRESS CREEK NEAR JEFFERSON, TX

LOCATION.--Lat 32°44'58", long 94°29'55", Marion County, Hydrologic Unit 11140306, on left bank 950 ft downstream from Ferrell's Bridge Dam, 7.6 mi upstream from French Creek, and 8.5 mi west of Jefferson.

DRAINAGE AREA.--850 mi².

PERIOD OF RECORD.--July 1924 to September 1959 (published as Cypress Creek), October 1979 to current year. Records of stage and discharge for the period October 1959 to September 1979 published by the U.S. Army Corps of Engineers, New Orleans District.

GAGE.--Water-stage recorder. Datum of gage is 180.00 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to Nov. 2, 1933, staff gage, and Nov. 2, 1933, to Dec. 8, 1955, water-stage recorder, at site about 950 ft upstream at datum 3.70 ft higher. After Dec. 9, 1955, at site about 550 ft downstream or at present site at datum 180.00 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow completely regulated by Lake O' the Pines (station 07345900), 950 ft upstream, since August 1957. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--33 years (water years 1925-57), prior to completion of Ferrell's Bridge Dam, 660 ft³/s (478,500 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION, (WATER YEARS, 1925-57).--Maximum discharge, 57,100 ft³/s Apr. 1, 1945 (gage height, 28.78 ft, site and datum then in use), from rating curve extended above 29,000 ft³/s; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	207	1680	602	62	1510	2010	712	74	485	77	241	81
2	209	1670	602	61	1130	1220	658	75	749	66	48	88
3	209	1670	608	60	860	776	646	103	987	66	41	98
4	209	1670	610	59	546	1060	642	89	857	66	40	99
5	209	1660	605	59	387	1880	547	78	546	66	40	99
6	208	1650	601	60	374	1990	318	77	349	66	39	100
7	209	1380	601	59	372	2230	168	76	216	66	39	100
8	209	847	601	57	372	2720	95	76	208	64	38	100
9	213	446	700	57	373	2760	93	76	150	64	38	99
10	210	212	960	57	374	2750	92	76	78	64	37	99
11	210	113	992	59	377	2760	97	76	77	64	37	99
12	210	111	988	214	377	2760	301	74	76	251	37	99
13	211	110	775	338	375	2760	435	77	75	188	37	99
14	212	134	493	339	374	2760	428	93	72	78	37	99
15	212	127	455	339	479	2750	425	121	72	200	37	98
16	213	121	450	341	613	2700	424	99	71	377	37	98
17	213	125	450	342	626	2580	422	107	71	487	37	99
18	214	249	450	342	534	2570	419	85	71	811	37	99
19	215	498	450	342	374	2550	413	77	72	1340	37	99
20	232	690	616	341	371	2550	404	75	73	1800	36	99
21	266	696	867	339	379	2540	325	74	75	2290	36	99
22	546	681	894	338	548	2530	240	74	75	2730	36	97
23	851	622	773	338	932	2520	237	182	72	2760	37	95
24	892	610	568	338	1390	2240	237	272	71	2760	34	95
25	1160	608	541	446	1900	1660	237	275	69	2740	33	94
26	1940	608	536	588	2170	1200	237	181	68	2370	79	94
27	2390	608	438	773	2210	1170	236	69	68	1760	81	48
28	2440	605	290	1250	2220	1430	235	66	68	1110	81	8.3
29	2300	603	284	1730	---	1820	176	67	70	600	81	1.3
30	1800	602	192	1800	---	1570	76	100	83	324	81	1.2
31	1710	---	67	1810	---	1020	---	225	---	302	81	---
TOTAL	20529	21406	18059	13338	22547	65836	9975	3269	6074	26007	1630	2583.8
MEAN	662	714	583	430	805	2124	332	105	202	839	52.6	86.1
MAX	2440	1680	992	1810	2220	2760	712	275	987	2760	241	100
MIN	207	110	67	57	371	776	76	66	68	64	33	1.2
AC-FT	40720	42460	35820	26460	44720	130600	19790	6480	12050	51580	3230	5120

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1994#, BY WATER YEAR (WY)

	215	390	686	853	1274	1309	1038	818	951	475	224	115
MEAN	215	390	686	853	1274	1309	1038	818	951	475	224	115
MAX	662	2690	1946	2685	2687	2645	2669	2979	3209	3057	2349	482
(WY)	1994	1958	1958	1993	1993	1988	1990	1958	1958	1958	1958	1958
MIN	3.35	4.82	4.13	4.16	127	290	137	32.4	32.5	19.9	16.2	8.70
(WY)	1981	1989	1982	1981	1981	1981	1981	1992	1987	1980	1982	1980

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1958 - 1994#

ANNUAL TOTAL	332392	211253.8	695
ANNUAL MEAN	911	579	1859
HIGHEST ANNUAL MEAN			108
LOWEST ANNUAL MEAN			1958
HIGHEST DAILY MEAN	2810	Feb 6	2760
LOWEST DAILY MEAN	26	Jul 22	1.2
ANNUAL SEVEN-DAY MINIMUM	26	Jul 22	36
INSTANTANEOUS PEAK FLOW			2810
INSTANTANEOUS PEAK STAGE			19.34
ANNUAL RUNOFF (AC-FT)	659300	419000	503500
10 PERCENT EXCEEDS	2660	1810	2530
50 PERCENT EXCEEDS	446	240	191
90 PERCENT EXCEEDS	30	60	23

Period of regulated streamflow.

07346045 BLACK CYPRESS BAYOU AT JEFFERSON, TX

LOCATION.--Lat 32°46'40", long 94°21'26", Marion County, Hydrologic Unit 11140306 near center of channel at downstream side of bridge on U.S. Highway 59, 1.1 mi north of Jefferson, 2.0 mi upstream from Texas and Pacific Railway Co. bridge, and 5.2 mi upstream from mouth.

DRAINAGE AREA.--365 mi².

PERIOD OF RECORD.--September 1968 to current year. May 1938 to September 1955 (daily gage heights) and November 1956 to August 1968 (daily gage heights and discharge measurements) published by U.S. Army Corps of Engineers as "Black Cypress Creek at Jefferson". September 1964 to August 1968 operated as low-flow partial-record station only. Water-quality records.--Chemical analyses: October 1967 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 171.47 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark).

REMARKS.--No estimated daily discharges. Records good. No known regulation or diversion in vicinity of the gage. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1938, 22.42 ft Apr. 29, 1958, from records by U.S. Army Corps of Engineers.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	160	316	158	897	1420	529	88	3020	96	68	26
2	46	133	336	156	816	1420	483	88	2740	82	59	32
3	36	127	381	153	699	1280	436	187	1890	69	50	33
4	30	132	390	150	568	1320	385	204	1380	57	44	25
5	27	134	354	150	445	1510	337	183	1030	47	39	20
6	26	133	322	150	368	1620	295	195	776	40	35	16
7	26	143	334	149	320	1490	259	224	564	35	31	13
8	26	150	359	146	288	1210	231	224	384	30	32	11
9	41	147	357	142	282	1000	213	211	282	25	28	9.8
10	83	140	345	139	278	840	203	200	246	23	24	8.5
11	93	131	336	152	283	734	200	188	231	27	20	7.4
12	104	123	321	184	288	687	356	173	194	458	18	6.2
13	129	115	298	197	287	700	387	164	160	430	16	5.9
14	145	130	274	221	297	746	359	202	139	191	14	6.4
15	135	190	252	290	322	796	363	357	125	296	13	5.2
16	124	226	241	351	338	756	391	480	125	879	12	4.1
17	120	309	261	387	337	658	377	769	129	1100	11	3.9
18	110	360	295	388	324	549	336	1260	128	1590	9.2	3.7
19	107	403	312	361	302	451	294	1100	121	1420	7.9	3.4
20	179	451	314	321	315	393	260	863	108	1100	7.3	3.1
21	274	494	306	288	421	355	220	699	134	889	11	2.8
22	335	491	284	264	630	323	196	539	153	772	27	2.7
23	478	456	259	246	1060	296	167	393	132	641	31	2.5
24	1110	409	237	234	1720	276	146	288	120	440	34	2.2
25	1610	366	220	232	2260	260	134	215	118	290	46	2.1
26	1330	329	205	277	2160	246	124	174	127	210	49	1.9
27	976	294	193	357	1860	367	114	151	130	167	56	1.8
28	721	265	186	483	1500	497	104	230	128	130	39	1.7
29	506	260	177	604	---	450	96	273	121	104	29	1.7
30	334	287	168	764	---	453	91	501	109	87	26	1.6
31	215	---	162	904	---	523	---	1870	---	76	24	---
TOTAL	9543	7488	8795	8998	19665	23626	8086	12693	15044	11801	910.4	264.6
MEAN	308	250	284	290	702	762	270	409	501	381	29.4	8.82
MAX	1610	494	390	904	2260	1620	529	1870	3020	1590	68	33
MIN	26	115	162	139	278	246	91	88	108	23	7.3	1.6
AC-FT	18930	14850	17440	17850	39010	46860	16040	25180	29840	23410	1810	525
CFSM	.84	.68	.78	.80	1.92	2.09	.74	1.12	1.37	1.04	.08	.02
IN.	.97	.76	.90	.92	2.00	2.41	.82	1.29	1.53	1.20	.09	.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1994, BY WATER YEAR (WY)

	MEAN	69.1	252	539	494	638	728	597	472	305	97.5	46.8	52.7
MAX	415	1344	2157	1508	1612	1606	2006	1934	1321	576	623	581	581
(WY)	1974	1975	1988	1991	1975	1990	1973	1991	1974	1992	1979	1974	1974
MIN	.009	13.6	62.1	99.0	156	159	109	50.8	4.68	.97	.060	.000	.000
(WY)	1979	1984	1990	1971	1981	1986	1971	1984	1984	1978	1969	1969	1969

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1969 - 1994

ANNUAL TOTAL	130574.87	126914.0	
ANNUAL MEAN	358	348	
HIGHEST ANNUAL MEAN			356
LOWEST ANNUAL MEAN			647
HIGHEST DAILY MEAN			78.3
LOWEST DAILY MEAN	1680	3020	10700
HIGHEST DAILY MEAN	.62	1.6	.00
LOWEST DAILY MEAN	.81	1.9	.00
ANNUAL SEVEN-DAY MINIMUM			
INSTANTANEOUS PEAK FLOW		3230	11600
INSTANTANEOUS PEAK STAGE		15.60	19.34
ANNUAL RUNOFF (AC-FT)	259000	251700	257900
ANNUAL RUNOFF (CFSM)	.98	.95	.98
ANNUAL RUNOFF (INCHES)	13.31	12.93	13.25
10 PERCENT EXCEEDS	903	849	875
50 PERCENT EXCEEDS	232	221	167
90 PERCENT EXCEEDS	2.8	20	1.6

07346050 LITTLE CYPRESS CREEK NEAR ORE CITY, TX

LOCATION.--Lat 32°40'21", long 94°45'03", Upshur County, Hydrologic Unit 11140307, on right bank at downstream side of bridge on U.S. Highway 259, 4 mi downstream from Clear Creek, 9 mi south of Ore City, and 12 mi north of Longview.

DRAINAGE AREA.--383 mi².

PERIOD OF RECORD.--December 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 232.67 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good except those below 3 ft³/s, which are poor. No known diversions above station. During the year, the city of Gilmer discharged a small amount of sewage effluent into a tributary above this station. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1902 occurred in March 1945; maximum stage since 1945, that of Apr. 24, 1966. The flood in April 1958 reached a stage of 19.4 ft, or 1.3 ft lower than the flood of March 1945 at a point 6 mi upstream, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 23	1530	3,010	11.64	July 18	1100	3,860	12.19
Feb. 24	2100	3,570	12.02				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	104	220	97	514	1290	632	18	99	3.3	3.6	5.0
2	2.9	95	210	96	393	1520	516	20	106	3.2	3.4	4.9
3	3.5	92	217	94	236	1220	328	324	89	3.3	3.9	5.7
4	4.1	98	249	92	147	1090	192	602	48	3.4	3.9	8.8
5	5.4	102	236	91	112	1190	127	458	25	3.4	4.3	11
6	6.4	102	205	90	97	1110	101	333	18	3.4	4.9	9.6
7	5.0	101	188	90	87	983	86	324	14	3.7	5.6	7.9
8	3.8	99	183	90	81	849	76	259	14	3.5	10	7.6
9	5.4	94	180	89	79	772	69	112	12	3.3	13	7.9
10	9.3	88	171	89	83	734	63	60	8.0	3.4	9.1	8.2
11	5.1	86	158	105	121	646	81	51	5.7	4.2	8.8	9.5
12	2.6	84	140	200	156	577	480	46	4.7	4.9	9.4	18
13	1.4	83	136	224	165	615	514	65	4.5	12	9.0	18
14	4.1	100	145	231	177	707	351	467	3.9	13	10	15
15	3.8	254	145	250	195	750	367	687	4.4	65	9.9	14
16	3.5	249	166	266	197	698	476	606	4.1	360	9.3	12
17	2.4	340	212	271	173	576	455	717	3.6	690	8.8	10
18	3.3	346	246	262	138	428	261	890	3.0	3490	8.6	9.7
19	3.6	260	256	217	107	298	112	842	4.9	2650	7.4	8.7
20	323	226	248	180	144	221	63	776	8.2	1640	6.3	7.9
21	808	216	220	169	500	172	56	744	5.2	1140	8.0	7.1
22	910	206	189	162	1220	137	69	615	5.1	823	9.3	6.4
23	2710	189	165	152	2870	117	58	356	3.2	489	14	5.7
24	2410	163	149	149	3420	104	39	114	2.3	121	15	4.5
25	1700	137	136	164	3100	92	33	42	2.1	25	12	3.8
26	1290	136	124	197	2240	85	29	27	1.5	18	11	3.2
27	974	159	115	366	1650	233	26	21	1.4	12	9.0	2.5
28	730	170	109	582	1250	522	23	20	2.5	8.5	6.9	1.9
29	480	192	104	658	---	511	21	34	4.7	6.4	6.0	1.4
30	241	214	103	604	---	489	19	120	4.0	4.7	5.1	1.0
31	129	---	100	566	---	581	---	117	---	3.9	4.7	---
TOTAL	12784.1	4785	5425	6893	19652	19317	5723	9867	512.0	11614.5	250.2	236.9
MEAN	412	159	175	222	702	623	191	318	17.1	375	8.07	7.90
MAX	2710	346	256	658	3420	1520	632	890	106	3490	15	18
MIN	1.4	83	100	89	79	85	19	18	1.4	3.2	3.4	1.0
AC-FT	25360	9490	10760	13670	38980	38320	11350	19570	1020	23040	496	470
CFSM	1.08	.42	.46	.58	1.83	1.63	.50	.83	.04	.98	.02	.02
IN.	1.24	.46	.53	.67	1.91	1.88	.56	.96	.05	1.13	.02	.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

	MEAN	50.0	178	359	347	475	574	566	469	211	69.3	25.0	58.7
MAX	412	1508	1965	1275	1321	1478	3007	1834	905	426	392	614	
(WY)	1994	1975	1988	1991	1975	1987	1966	1968	1974	1992	1979	1974	
MIN	.000	1.10	3.70	25.6	55.8	40.9	54.3	23.9	2.09	.005	.000	.000	
(WY)	1964	1966	1990	1964	1964	1966	1971	1984	1971	1984	1984	1963	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1963 - 1994

ANNUAL TOTAL	135219.11	97059.7	
ANNUAL MEAN	370	266	
HIGHEST ANNUAL MEAN			285
LOWEST ANNUAL MEAN			599
HIGHEST DAILY MEAN	2970	Jan 7	35.7
LOWEST DAILY MEAN	.04	Sep 10	21000
ANNUAL SEVEN-DAY MINIMUM	.22	Sep 9	.00
INSTANTANEOUS PEAK FLOW			.00
INSTANTANEOUS PEAK STAGE			23500
ANNUAL RUNOFF (AC-FT)	268200		20.20
ANNUAL RUNOFF (CFSM)	.97		206600
ANNUAL RUNOFF (INCHES)	13.13		.74
10 PERCENT EXCEEDS	965		10.12
50 PERCENT EXCEEDS	196		751
90 PERCENT EXCEEDS	3.4		71
			.19

07346070 LITTLE CYPRESS CREEK NEAR JEFFERSON, TX

LOCATION (REVISED).--Lat 32°42'46", long 94°20'45", Marion County, Hydrologic Unit 11140307, at downstream side of upstream bridge on U.S. Highway 59, 0.3 mi downstream from Texas and Pacific Railway Co. bridge, 3.3 mi downstream from Grays Creek, 3.5 mi south of Jefferson, and 6.8 mi upstream from mouth.

DRAINAGE AREA.--675 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 174.60 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 19, 1947, nonrecording gage at upstream side of bridge at same datum.

REMARKS.--No estimated daily discharges. Records good. There are no known diversions above station. Sewage effluent is discharged into tributaries that enter Little Cypress Creek above this station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1944 reached a stage of 21.1 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	918	255	179	492	3680	945	133	284	38	60	14
2	15	770	251	174	505	3910	853	126	302	32	50	18
3	16	626	256	171	528	3670	781	299	311	26	42	17
4	14	425	275	167	541	3400	739	410	295	23	36	17
5	13	254	292	163	537	2980	737	485	286	19	32	17
6	13	195	299	162	515	2570	729	560	297	17	29	15
7	15	175	298	157	465	2210	680	641	281	15	27	14
8	15	167	298	154	392	1890	572	693	201	14	65	13
9	19	164	294	151	322	1760	438	688	148	13	188	13
10	44	157	284	152	295	1720	349	623	119	13	62	14
11	28	152	267	160	333	1630	307	546	106	13	46	14
12	36	147	253	173	371	1470	520	467	99	1130	48	13
13	50	142	252	186	378	1300	549	351	94	899	39	12
14	49	151	260	200	373	1150	603	291	85	172	29	11
15	43	225	254	221	362	1030	712	374	75	254	24	11
16	45	391	246	244	348	930	797	577	71	572	21	11
17	53	714	238	270	339	858	802	854	64	406	19	14
18	50	715	230	290	334	826	723	1340	66	361	18	15
19	46	559	228	304	334	837	625	1730	141	376	17	14
20	89	498	237	312	376	848	580	1600	111	394	16	13
21	184	465	256	314	548	826	570	1330	125	475	17	12
22	211	434	271	311	792	767	520	1160	191	963	18	11
23	254	399	279	298	1440	682	369	1050	174	1970	16	9.6
24	299	353	280	283	1740	574	259	960	286	2110	15	9.2
25	350	312	273	272	2150	468	228	881	382	1710	15	8.9
26	418	297	257	287	2540	394	214	811	155	1270	16	8.8
27	584	297	240	362	3150	509	188	688	90	943	20	8.7
28	1040	295	223	435	3470	773	162	457	65	610	22	7.9
29	1400	284	208	479	---	872	142	268	52	222	20	6.8
30	1340	268	196	495	---	999	135	470	44	101	17	6.5
31	1100	---	186	495	---	1030	---	339	---	74	15	---
TOTAL	7845	10949	7936	8021	23970	46563	15828	21202	5000	15235	1059	369.4
MEAN	253	365	256	259	856	1502	528	684	167	491	34.2	12.3
MAX	1400	918	299	495	3470	3910	945	1730	382	2110	188	18
MIN	12	142	186	151	295	394	135	126	44	13	15	6.5
AC-FT	15560	21720	15740	15910	47540	92360	31390	42050	9920	30220	2100	733
CFSM	.37	.54	.38	.38	1.27	2.23	.78	1.01	.25	.73	.05	.02
IN.	.43	.60	.44	.44	1.32	2.57	.87	1.17	.28	.84	.06	.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1994, BY WATER YEAR (WY)

	MEAN	102	305	635	713	909	1001	1026	1025	422	133	48.5	100
MAX	927	2709	3391	2664	2853	2367	4584	4212	2354	689	667	941	
(WY)	1950	1958	1961	1991	1950	1969	1966	1958	1957	1992	1979	1979	
MIN	.000	.017	.53	8.33	91.5	100	117	61.6	4.67	.24	.000	.000	
(WY)	1953	1957	1957	1957	1964	1966	1972	1971	1971	1964	1956	1952	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1947 - 1994

ANNUAL TOTAL	239332.93	163977.4	533
ANNUAL MEAN	656	449	1260
HIGHEST ANNUAL MEAN			67.3
LOWEST ANNUAL MEAN			1958
HIGHEST DAILY MEAN	4480	3910	32700
LOWEST DAILY MEAN	.77	6.5	.00
ANNUAL SEVEN-DAY MINIMUM	1.0	8.1	.00
INSTANTANEOUS PEAK FLOW		4040	35500
INSTANTANEOUS PEAK STAGE		12.63	22.28
ANNUAL RUNOFF (AC-FT)	474700	325200	386000
ANNUAL RUNOFF (CFSM)	.97	.67	.79
ANNUAL RUNOFF (INCHES)	13.19	9.04	10.73
10 PERCENT EXCEEDS	1660	1030	1370
50 PERCENT EXCEEDS	380	273	178
90 PERCENT EXCEEDS	6.9	15	1.2

07346070 LITTLE CYPRESS CREEK NEAR JEFFERSON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: June 1964 to current year. Pesticide analyses: January 1968 to June 1981.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1967 to September 1990.

WATER TEMPERATURE: October 1967 to September 1990.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,350 microsiemens Nov. 9, 1969; minimum, 20 microsiemens Mar. 29, 30, 1989.

WATER TEMPERATURE (water years 1967-87, 1989-90): Maximum, 32.5°C on several days during July and August 1987; minimum, 0.0°C on several days during winter months of 1983, 1985.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)
NOV 04...	1115	442	125	6.2	12.0	9.0	84	1.0	26	19	6.1
DEC 16...	1030	249	142	7.5	9.0	9.8	84	2.7	29	19	6.8
FEB 04...	1015	540	135	5.9	7.0	12.0	99	0.7	24	19	5.3
MAR 30...	1000	984	85	6.9	13.5	8.0	76	1.6	18	8	4.1
MAY 19...	1810	1760	82	6.8	23.0	5.8	68	1.0	15	6	3.5
JUL 07...	1500	15	158	6.9	30.0	6.4	86	0.7	32	0	7.1

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV 04...	2.6	12	1	4.2	7.4	23	17	0.10	16	86
DEC 16...	3.0	16	1	3.2	10	23	22	<0.10	24	104
FEB 04...	2.5	13	1	3.7	5.0	23	17	<0.10	15	83
MAR 30...	1.9	8.4	0.9	2.7	10	11	12	<0.10	13	60
MAY 19...	1.4	7.4	0.8	2.8	9.0	8.9	11	<0.10	13	54
JUL 07...	3.3	15	1	3.4	35	8.8	21	0.10	21	104

DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)
NOV 04...	0.060	--	<0.010	0.060	0.060	0.020	0.48	0.50	0.110	0.030
DEC 16...	--	--	<0.010	--	<0.050	0.020	0.18	0.20	<0.010	0.010
FEB 04...	--	--	<0.010	--	<0.050	0.010	0.39	0.40	0.030	<0.010
MAR 30...	0.054	0.054	0.020	0.074	0.074	0.040	0.76	0.80	0.050	0.040
MAY 19...	0.080	--	<0.010	0.080	0.080	0.010	0.39	0.40	<0.010	0.020
JUL 07...	0.280	--	<0.010	0.280	0.280	0.070	0.33	0.40	0.030	<0.010

DATE	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)
NOV 04...	0.09	--	--	--	--	--	--	--	--	--
DEC 16...	0.03	--	--	--	--	--	--	--	--	--
FEB 04...	--	2	56	0.6	2.0	<5	<3	<10	450	<10
MAR 30...	0.12	--	--	--	--	--	--	--	--	--
MAY 19...	0.06	--	--	--	--	--	--	--	--	--
JUL 07...	--	2	73	<0.5	2.0	<5	<3	<10	1300	<10

RED RIVER BASIN

07346070 LITTLE CYPRESS CREEK NEAR JEFFERSON, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 04...	--	--	--	--	--	--	--	--	--	--
DEC 16...	--	--	--	--	--	--	--	--	--	--
FEB 04...	13	79	<0.1	<10	<10	<1	1.0	83	<6	18
MAR 30...	--	--	--	--	--	--	--	--	--	--
MAY 19...	--	--	--	--	--	--	--	--	--	--
JUL 07...	10	500	<0.1	<10	<10	<1	<1.0	130	<6	6

WESTERN GULF OF MEXICO BASINS

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SABINE RIVER MAIN STEM

08017200 COWLEECH FORK SABINE RIVER AT GREENVILLE, TX

LOCATION.--Lat 33°07'58", long 96°04'36", Hunt County, Hydrologic Unit 12010001, on left bank 103 ft downstream from centerline of downstream bridge on Interstate Highway 30 (U.S. Highway 67), 0.3 mi downstream from Horse Creek, 0.9 mi downstream from Louisiana and Arkansas Railroad Co. bridge, 1.8 mi east of Greenville, and at mile 558.3.

DRAINAGE AREA.--77.7 mi².

PERIOD OF RECORD.--February 1959 to current year. Prior to October 1963, published as Sabine River at Greenville.

REVISED RECORDS.--WSP 1732: Drainage area. WSP 2122: 1960, 1963-65.

GAGE.--Water-stage recorder. Datum of gage is 485.07 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. The city of Greenville diverted water from city lakes upstream from gage and from Lake Tawakoni for municipal use. Sewage effluent is returned to a tributary downstream from gage. Extreme low flow is largely sustained by return water from water treatment plant upstream. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1895, 22 ft in May 1935, from information by local resident and city engineer of Greenville. Flood of July 3, 1913, reached a stage of 20 ft, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	2230	5,980	16.87	May 12	1645	5,080	16.71
Dec. 3	1430	3,750	16.24	July 15	1345	5,120	16.72
Feb. 22	1800	3,580	16.19	Sep. 3	Unknown	Unknown	Unknown

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	e3.1	8.3	1.5	2.2	842	1.4	504	4.9	.43	e.75	e13
2	.04	e3.6	77	1.5	2.0	436	1.4	128	2.3	.37	e.60	e230
3	.62	e3.7	2880	1.5	1.9	55	2.0	1580	1.4	.31	e.60	e800
4	.17	e3.2	1280	1.5	1.9	22	2.0	130	1.1	.25	e.65	e100
5	.08	e3.0	57	1.4	1.9	14	2.1	18	1.1	.21	e.68	e11
6	.03	e3.3	16	1.4	1.8	12	1.7	7.4	1.1	.19	e.68	e4.1
7	.23	e3.7	7.7	1.4	1.8	19	1.4	3.9	1.2	.19	e.69	e2.5
8	.45	e2.8	4.7	1.4	1.8	171	1.3	2.8	1.1	.18	e.75	e1.8
9	.57	e2.5	3.8	1.3	1.9	1860	1.3	2.6	.98	13	e.80	e1.3
10	.45	e2.5	3.3	1.3	1.9	104	1.3	2.8	.93	.77	e.70	e1.1
11	.43	e2.6	2.7	6.6	2.0	23	14	2.3	.90	14	e.57	e.90
12	.77	e2.7	2.1	4.1	2.9	12	98	3070	1.0	33	e.39	.81
13	3.7	e2.8	532	2.8	3.1	8.3	8.1	1430	1.0	5.9	e.28	.67
14	.43	e37	104	2.3	2.6	6.3	2.5	673	1.0	1.1	e.28	.62
15	.37	e21	18	2.1	2.5	5.1	1.4	584	2.3	3330	e.26	.65
16	.47	e378	9.2	2.2	3.4	4.2	.86	69	1.7	1040	e.26	.68
17	.48	e136	5.9	21	2.1	3.7	.64	23	2.0	24	e.26	.49
18	5.0	e31	4.5	7.0	2.7	3.3	.53	9.2	1.9	6.3	e.26	.05
19	2230	e12	3.8	3.8	3.3	3.2	.47	4.6	1.3	3.0	e.23	.04
20	4190	e7.5	3.3	4.1	17	2.8	.44	2.7	.95	e1.0	e1.8	.04
21	268	e6.0	2.8	4.4	8.1	2.5	.44	1.8	.79	e.70	e10	.03
22	e24	e5.0	2.6	4.2	2080	2.3	.50	1.4	.72	e.50	e2.1	.03
23	e11	e4.3	2.3	3.8	733	2.1	.59	1.4	3.6	e.33	e.55	.03
24	e7.5	e3.8	2.2	12	39	1.9	.43	1.1	2.2	e.30	e.20	.04
25	e5.3	e4.0	2.1	35	20	1.8	.73	.94	1.0	e.24	e.14	.04
26	e4.3	e4.3	2.0	21	14	1.8	110	1.7	.65	e.20	e.12	.04
27	e3.8	e6.8	1.8	12	10	1.8	5.9	.96	.46	e.19	e.10	.04
28	e3.5	e17	1.7	6.0	8.7	1.8	1.4	140	.38	e.20	e.08	.04
29	e3.2	e44	1.6	4.1	---	3.8	40	371	.46	e.40	e.06	.04
30	e3.0	15	1.5	3.2	---	1.6	1320	541	.48	e1.2	e.05	.04
31	e3.0	---	1.5	2.6	---	1.4	---	23	---	e1.7	e.20	---
TOTAL	6770.94	772.2	5045.4	178.5	2973.5	3629.7	1622.83	9331.60	40.90	4480.16	25.09	1170.12
MEAN	218	25.7	163	5.76	106	117	54.1	301	1.36	145	.81	39.0
MAX	4190	378	2880	35	2080	1860	1320	3070	4.9	3330	10	800
MIN	.03	2.5	1.5	1.3	1.8	1.4	.43	.94	.38	.18	.05	.03
AC-FT	13430	1530	10010	354	5900	7200	3220	18510	81	8890	50	2320
CFSM	2.81	.33	2.09	.07	1.37	1.51	.70	3.87	.02	1.86	.01	.50
IN.	3.24	.37	2.42	.09	1.42	1.74	.78	4.47	.02	2.14	.01	.56

WESTERN GULF OF MEXICO BASINS

SABINE RIVER MAIN STEM--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1994, BY WATER YEAR (WY)

MEAN	55.0	42.5	93.7	55.2	84.6	97.2	97.2	142	63.4	25.4	6.35	32.6
MAX	354	206	573	193	273	390	431	540	353	264	95.2	258
(WY)	1972	1975	1972	1969	1970	1984	1966	1982	1981	1989	1977	1974
MIN	.003	.17	.11	.24	.67	.57	.85	.33	.032	.023	.000	.012
(WY)	1979	1980	1990	1986	1981	1986	1971	1988	1988	1991	1985	1983

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1960 - 1994

ANNUAL TOTAL	34282.41	36040.94	66.2	1992
ANNUAL MEAN	93.9	98.7	140	1971
HIGHEST ANNUAL MEAN			15.9	1971
LOWEST ANNUAL MEAN			9730	May 13 1982
HIGHEST DAILY MEAN	4190	4190	.00	Aug 4 1964
LOWEST DAILY MEAN	.03	.03	.00	Aug 4 1972
ANNUAL SEVEN-DAY MINIMUM	.17	.04	15300	May 13 1982
INSTANTANEOUS PEAK FLOW		5980	18.47	May 13 1982
INSTANTANEOUS PEAK STAGE		16.87	47930	
ANNUAL RUNOFF (AC-FT)	68000	71490	.85	
ANNUAL RUNOFF (CFSM)	1.21	1.27	11.57	
ANNUAL RUNOFF (INCHES)	16.41	17.26	55	
10 PERCENT EXCEEDS	71	72	1.5	
50 PERCENT EXCEEDS	3.7	2.1	.05	
90 PERCENT EXCEEDS	.60	.25		

e Estimated

SABINE RIVER BASIN

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08017300 SOUTH FORK SABINE RIVER NEAR QUINLAN, TX

LOCATION.--Lat 32°53'52", long 96°15'11", Hunt County, Hydrologic Unit 12010001, on right bank at downstream side of bridge on Farm Road 1565, 2.4 mi upstream from Dry Creek, 6.2 mi upstream from Bearpen Creek, 7 mi southwest of Quinlan, and 25 mi upstream from mouth.

DRAINAGE AREA.--78.7 mi².

PERIOD OF RECORD.--February 1959 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 461.0 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharge, which are poor. Sewage effluent was discharged by Royse City into the river above this station during the water year. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1890, 21 ft July 29, 1902, from information by local resident. Flood of Apr. 27, 1957, reached a stage of 17.76 ft, from floodmarks.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	0700	5,420	16.58	May 3	1045	3,040	16.08
Dec. 4	0100	3,600	16.22	May 12	2100	3,080	16.09
Feb. 22	1100	4,520	16.39				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	1.6	4.3	.71	2.7	528	1.2	162	4.4	.08	e.73	29
2	.00	1.6	3.6	.66	1.8	e412	1.6	117	1.9	.10	.57	90
3	.09	2.0	1120	.55	1.3	52	2.0	2230	1.1	.12	.43	1310
4	.17	2.5	1950	.52	1.0	27	1.6	559	.67	.08	.31	287
5	.11	2.8	139	.50	1.1	18	2.8	42	.46	.05	.32	30
6	.08	2.1	28	.49	1.2	14	2.4	16	.40	.01	.36	15
7	.12	1.9	13	.54	.97	14	1.9	9.4	.32	e.00	.39	9.0
8	.29	1.5	6.5	.58	1.1	45	1.6	6.6	.22	e.00	.56	9.0
9	.23	1.6	4.8	.58	1.4	1490	1.6	5.6	.20	e.00	.62	15
10	.15	1.5	3.7	.90	1.5	e158	2.2	11	.23	e.00	.55	10
11	.12	1.6	2.2	15	2.0	36	463	11	.27	e.54	.36	7.0
12	.15	1.9	1.6	e9.9	3.3	20	51	1960	.36	e31	.24	3.8
13	12	2.3	830	e5.0	2.8	15	13	1310	.41	e22	.17	2.3
14	24	31	217	e4.3	2.2	12	6.3	150	.31	e2.7	.13	2.0
15	3.5	e9.0	31	e3.9	1.8	9.6	3.4	974	.56	e237	.15	1.5
16	1.9	e283	16	e3.5	1.7	7.5	1.8	529	4.0	e1480	.18	1.2
17	4.3	e170	9.5	e33	2.4	5.9	1.2	33	3.2	e229	.19	1.1
18	193	e35	6.8	e14	1.4	4.7	1.3	15	1.3	e27	.19	.90
19	1050	e13	5.6	8.7	1.4	4.1	1.5	7.8	.67	e7.1	.12	.73
20	3220	e6.3	4.0	5.8	56	4.4	1.7	5.7	.40	2.2	.77	.65
21	647	e3.9	3.0	6.6	50	4.0	2.0	3.0	.23	e.98	12	.70
22	49	e2.5	2.5	7.0	2850	2.7	36	1.4	.13	.69	3.1	.62
23	17	e1.8	2.4	6.9	793	2.0	5.4	1.0	.10	e.44	.62	.64
24	7.7	e1.2	2.0	19	e50	2.3	2.0	.73	.09	e.41	.30	.50
25	4.2	e1.5	1.5	68	e21	1.8	73	.66	.09	e.38	.23	.41
26	2.6	e1.5	1.2	39	e15	2.4	e191	.67	.07	e.32	.17	.49
27	2.7	e4.0	1.1	25	12	7.3	e24	.81	.05	e.30	.16	.44
28	2.2	e18	1.0	19	11	3.3	4.8	1.1	.02	e.31	.14	.53
29	2.0	15	.85	11	---	2.1	343	17	.02	e.34	.12	.55
30	1.9	7.0	.78	6.7	---	1.4	1460	59	.05	e1.4	.11	.57
31	1.7	---	.73	4.2	---	1.2	---	11	---	e2.1	.11	---
TOTAL	5248.21	628.6	4413.66	321.53	3891.07	2907.7	2704.3	8250.47	22.23	2046.65	24.40	1830.63
MEAN	169	21.0	142	10.4	139	93.8	90.1	266	.74	66.0	.79	61.0
MAX	3220	283	1950	68	2850	1490	1460	2230	4.4	1480	12	1310
MIN	.00	1.2	.73	.49	.97	1.2	1.2	.66	.02	.00	.11	.41
AC-FT	10410	1250	8750	638	7720	5770	5360	16360	44	4060	48	3630
CFSM	2.15	.27	1.81	.13	1.77	1.19	1.15	3.38	.01	.84	.01	.78
IN.	2.48	.30	2.09	.15	1.84	1.37	1.28	3.90	.01	.97	.01	.87

SABINE RIVER BASIN

08017300 SOUTH FORK SABINE RIVER NEAR QUINLAN, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1994, BY WATER YEAR (WY)

MEAN	97.6	43.1	96.0	59.9	113	110	127	154	97.5	30.7	5.58	29.0
MAX	656	243	459	277	556	572	693	674	1128	490	96.8	353
(WY)	1982	1982	1972	1974	1983	1977	1966	1979	1981	1981	1974	1974
MIN	.000	.000	.000	.000	.000	.11	.062	.038	.000	.000	.000	.000
(WY)	1964	1964	1964	1976	1976	1972	1971	1988	1977	1964	1965	1963

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1960 - 1994

ANNUAL TOTAL	24859.72		32289.45		80.1	
ANNUAL MEAN	68.1		88.5		164	1981
HIGHEST ANNUAL MEAN					13.9	1964
LOWEST ANNUAL MEAN					13300	Jun 16 1981
HIGHEST DAILY MEAN	3220	Oct 20	3220	Oct 20	.00	Oct 21 1959
LOWEST DAILY MEAN	.00	Jul 23	.00	Oct 1	.00	Oct 21 1959
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 23	.02	Jul 4	.00	Jun 16 1981
INSTANTANEOUS PEAK FLOW			5420	Oct 20	23000	Apr 5 1986
INSTANTANEOUS PEAK STAGE			16.58	Oct 20	18.77	
ANNUAL RUNOFF (AC-FT)	49310		64050		58010	
ANNUAL RUNOFF (CFSM)	.87		1.12		1.02	
ANNUAL RUNOFF (INCHES)	11.75		15.26		13.82	
10 PERCENT EXCEEDS	93		80		56	
50 PERCENT EXCEEDS	2.9		2.1		.35	
90 PERCENT EXCEEDS	.00		.17		.00	

e Estimated

SABINE RIVER MAIN STEM

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08017400 LAKE TAWAKONI NEAR WILLS POINT, TX

LOCATION.--Lat 32°48'31", long 95°55'10", Van-Zandt County, Hydrologic Unit 12010001, in stairwell at left end of spillway of Iron Bridge Dam on Sabine River, 750 ft upstream from bridge on Farm Road 47, 3.8 mi upstream from McBee Creek, 9.0 mi northeast of Wills Point, and at mile 514.5.

DRAINAGE AREA.--756 mi².

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam 29,500 ft long, including a 480-foot uncontrolled concrete ogee spillway. Outlet works consist of two 4- by 6-foot sluice gates and two 20-inch steel pipes controlled by service valves. Closure of earthen dam began July 1, 1960, and deliberate impoundment of water began Oct. 7, 1960. Capacity table is based on a 1956 survey. Diversions are made for municipal use by the city of Dallas and various other users in the Sabine River basin. The lake was built for water conservation. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	454.0	-
Design flood.....	446.2	1,290,000
Crest of spillway.....	437.5	936,200
Lowest intake to wet well (invert).....	416.5	342,700
Lowest gated outlet (invert).....	378.0	0

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,130,000 acre-ft May 1, 1966 (elevation, 442.58 ft); minimum since lake first filled in May 1965, 802,700 acre-ft Oct. 21, 1972 (elevation, 433.65 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,001,000 acre-ft July 17 at 0900 hours (elevation, 439.27 ft); minimum contents, 834,600 acre-ft Oct. 12 (elevation, 434.60 ft).

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

433.0	781,200	437.0	918,200	441.0	1,067,400
435.0	848,200	439.0	991,200	443.0	1,146,900

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	842400	936600	942700	944600	940200	980200	943100	942400	955800	933000	947800	922100
2	847200	938100	943500	946400	939100	981600	943500	944200	954700	931500	946700	922900
3	845500	937000	959100	942400	937700	979800	942400	952500	953200	930800	945300	925000
4	844500	936600	983500	940600	939100	976500	941300	961000	951400	930100	944600	929000
5	843100	937700	989400	939500	938800	973500	944200	961300	950300	928300	943500	929400
6	842800	933300	984600	942000	938400	970900	938800	959900	949300	927200	941700	929000
7	841700	931900	980900	938400	938100	969500	937300	958400	947800	925400	942000	927600
8	840700	931500	977200	937000	939500	973500	936600	956500	946400	925000	940900	930500
9	840700	931500	974600	936600	938800	979800	936200	956200	944900	925000	939900	930100
10	837700	931200	972400	937700	938400	985300	936600	955100	944200	925400	939100	929000
11	837000	929400	968400	939100	936600	982000	940600	954000	944600	931200	938400	928300
12	834600	930500	963900	939900	938100	979100	939100	963500	942800	931200	937300	927600
13	839700	930500	972800	939900	935500	975400	938800	983100	942000	931200	936600	926500
14	838400	932300	974300	939100	935500	972000	938100	989400	940900	931200	935500	925800
15	837300	932600	970900	938100	935200	969800	939100	990100	941700	979100	934400	924700
16	837300	945300	968000	942000	935200	966500	937700	989800	940900	998800	933000	924700
17	838000	951800	966900	941300	934800	963200	937300	986400	940900	998800	932300	922500
18	850900	952100	963900	939900	933700	963200	936200	981600	941300	992000	931200	921400
19	878300	953200	961000	939100	934800	960600	936200	976800	940200	985300	929400	919600
20	929000	949600	959900	940200	939900	959500	936200	973200	940200	980200	934400	918500
21	950300	948200	957600	940600	942700	957300	935900	970200	938800	976100	932300	917100
22	952900	946700	956500	940900	972400	954700	936200	967200	938100	973200	930800	916400
23	951400	946000	954300	940900	986400	953600	935500	964700	940200	969500	930100	915000
24	950300	946700	952500	942800	984200	955100	934800	961700	940200	965800	929000	913200
25	948900	948200	951100	944600	982000	951400	934100	960600	938100	963500	927600	911800
26	948200	944600	950000	945300	975700	951800	935200	959100	937300	962100	926800	910700
27	945600	943800	949600	946400	972000	950700	933700	956900	936200	957600	926100	910000
28	943500	944200	948900	944600	972800	947100	933700	954300	936200	954700	925000	909300
29	947500	943800	947100	944200	---	947400	936600	958400	934400	951800	923200	908600
30	943100	943500	945300	944200	---	944900	938800	959100	933700	950700	922500	907900
31	938100	---	944600	942000	---	943800	---	957600	---	949300	922100	---
MAX	952900	953200	989400	946400	986400	985300	944200	990100	955800	998800	947800	930500
MIN	834600	929400	942700	936600	933700	943800	933700	942400	933700	925000	922100	907900
(+)	437.55	437.70	437.73	437.66	438.50	437.71	437.57	438.09	437.43	437.86	437.11	436.71
(#)	+94300	+5400	+1100	-2600	+30800	-29000	-5000	+18800	-23900	+15600	-27200	-14200
CAL YR 1993	MAX	1007000	MIN	834600	(#)	-300						
WTR YR 1994	MAX	998800	MIN	834600	(#)	+64100						

(+) Elevation, in feet, at end of month.

(#) Change in contents, in acre-feet.

08017410 SABINE RIVER NEAR WILLS POINT, TX

LOCATION.--Lat 32°48'22", long 95°55'09", Van Zandt County, Hydrologic Unit 12010001, on right bank at downstream side of bridge on Farm Road 47, 750 ft downstream from Iron Bridge Dam that forms Lake Tawakoni, 3.6 mi upstream from McBee Creek, 9.0 mi northeast of Wills Point, and at mile 514.3.

DRAINAGE AREA.--756 mi².

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 370.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those below 20.0 ft³/s, which are fair, and those for estimated daily discharges, which are poor. Flow regulated by Lake Tawakoni (see station 08017400) 750 ft upstream. Several observations of water temperature were obtained during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since construction of Iron Bridge Dam in 1960, about 21,000 ft³/s May 1, 1966, from theoretical rating curve of flow over dam 750 ft upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	e120	94	e265	181	1450	118	155	553	3.3	284	8.6
2	10	e115	90	e270	123	1740	93	166	477	3.7	236	7.3
3	10	e130	238	e260	27	1680	338	655	419	3.3	192	7.3
4	9.9	e110	1610	e225	20	1500	80	639	383	3.1	148	7.1
5	8.5	e145	2710	e160	28	1350	198	800	333	3.1	126	7.0
6	7.5	e95	2700	e185	16	1230	419	737	303	2.8	106	26
7	7.6	e40	2300	e190	8.5	1140	26	679	258	3.1	105	9.5
8	7.3	e30	2020	e135	8.2	1110	.21	621	204	13	90	12
9	8.1	e25	1760	e110	366	1570	.09	522	177	41	60	8.1
10	7.9	e20	1550	e105	279	1760	.08	495	157	4.2	43	8.2
11	8.1	e15	1340	e160	86	1780	34	459	153	121	30	7.4
12	8.2	e10	1170	e155	52	1520	121	706	136	170	13	7.3
13	9.0	e15	1540	e120	182	1380	20	1170	90	15	7.2	7.3
14	9.2	e30	e1800	e100	4.7	1250	13	2070	57	4.9	7.4	7.1
15	8.7	e40	e1650	e85	1.9	1140	121	2450	47	985	58	7.0
16	9.2	e140	e1500	e70	3.5	1050	87	2470	54	2620	6.3	43
17	63	e400	e1300	e60	3.0	920	4.7	2320	49	3560	5.4	87
18	57	e500	e1150	e55	3.1	842	.16	1960	57	3100	5.5	29
19	139	e750	e1050	e45	3.3	756	.14	1590	55	2460	5.7	9.7
20	1570	549	e900	50	21	665	.52	1350	34	1950	21	8.0
21	791	304	e850	66	88	699	.69	1190	25	1540	19	7.1
22	501	250	e700	48	887	524	4.0	1070	11	1350	6.9	83
23	457	203	e650	54	1830	441	.39	947	13	1200	6.4	16
24	394	338	e560	71	2040	433	.20	816	65	1050	6.2	48
25	341	552	e500	140	1880	459	.16	699	31	909	6.1	11
26	353	464	e470	165	1560	356	.14	647	7.8	794	6.0	5.9
27	445	155	e430	288	1300	496	.10	593	3.7	744	5.9	5.7
28	204	126	e400	385	1190	460	52	493	3.5	543	5.9	5.3
29	359	121	e350	190	---	240	28	510	3.6	432	6.0	4.8
30	e270	107	e300	179	---	342	282	661	14	368	6.2	4.6
31	e170	---	e270	310	---	165	---	640	---	334	15	---
TOTAL	6253.2	5899	33952	4701	12192.2	30448	2041.58	30280	4173.6	24330.5	1639.1	505.3
MEAN	202	197	1095	152	435	982	68.1	977	139	785	52.9	16.8
MAX	1570	750	2710	385	2040	1780	419	2470	553	3560	284	87
MIN	7.3	10	90	45	1.9	165	.08	155	3.5	2.8	5.4	4.6
AC-FT	12400	11700	67340	9320	24180	60390	4050	60060	8280	48260	3250	1000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1994, BY WATER YEAR (WY)

	MEAN	222	354	481	272	537	675	683	946	660	206	38.7	56.7
MAX	1726	2539	3377	1561	2482	1911	2090	3888	2825	1229	332	868	
(WY)	1974	1975	1992	1974	1975	1990	1986	1990	1989	1981	1979	1974	
MIN	.21	.76	.16	3.43	1.87	2.84	1.31	6.83	.81	.56	.12	.25	
(WY)	1991	1979	1991	1976	1976	1976	1971	1987	1972	1972	1986	1987	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1971 - 1994

ANNUAL TOTAL	172005.0	156415.48	
ANNUAL MEAN	471	429	427
HIGHEST ANNUAL MEAN			1064
LOWEST ANNUAL MEAN			107
HIGHEST DAILY MEAN	4170	Feb 27	20000
LOWEST DAILY MEAN	3.6	Aug 18	.00
ANNUAL SEVEN-DAY MINIMUM	4.1	Aug 16	.00
INSTANTANEOUS PEAK FLOW			20600
INSTANTANEOUS PEAK STAGE			19.11
ANNUAL RUNOFF (AC-FT)	341200	310300	309100
10 PERCENT EXCEEDS	1390	1410	1290
50 PERCENT EXCEEDS	179	135	24
90 PERCENT EXCEEDS	6.5	5.5	.21

e Estimated

SABINE RIVER MAIN STEM

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08018500 SABINE RIVER NEAR MINEOLA, TX

LOCATION.--Lat 32°36'49", long 95°29'08", Wood County, Hydrologic Unit 12010001, on left bank at downstream side of highway embankment 3 ft downstream from left end of bridge on U.S. Highway 69, 3.5 mi south of Mineola, 4.5 mi upstream from Missouri Pacific Railway Lines bridge, 16.2 mi upstream from Lake Fork Creek, and at mile 461.1.

DRAINAGE AREA.--1,357 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1939 to September 1959, October 1967 to current year. Gage-height records collected at this site since July 1946 are contained in reports published by the National Weather Service.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 304.16 ft above National Geodetic Vertical Datum of 1929. May 12, 1939, to Dec. 11, 1955, at site 55 ft upstream from downstream side of bridge; Dec. 12, 1955, to Dec. 12, 1959, at downstream side of bridge; Oct. 1, 1967, to Sept. 12, 1968, nonrecording gage at downstream side of bridge; Sept. 13, 1968, to Oct. 23, 1974, water-stage recorder at downstream side of bridge; Oct. 24, 1974, to Oct. 16, 1975, at site on right bank 75 ft downstream from bridge. All gages at present datum.

REMARKS.--No estimated daily discharges. Records good. Since October 1960, flow partly regulated by Lake Tawakoni (see station 08017400), capacity 936,200 acre-ft, 53 mi upstream, and since September 1962, by Lake Holbrook (capacity, 7,990 acre-ft), located on Keys Creek, a tributary to the Sabine River 8.0 mi upstream. Flow may also be slightly affected at times by discharge from one floodwater-retarding structure with a detention capacity of 3,570 acre-ft. This structure controls runoff from a 9.70 mi² area in the Mill Creek drainage basin.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--20 years (water years 1940-59) prior to regulation by Lake Tawakoni, (station 08017400) 1,054 ft³/s (763,600 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1940-59).--Maximum discharge 76,000 ft³/s Apr. 1, 1945 (gage height, 24.00 ft); maximum gage height, 24.37 ft June 8, 1943; no flow at times. Maximum stage since at least 1890, that of June 8, 1943.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	630	348	395	373	3520	601	295	1700	32	576	19
2	16	557	294	268	414	3350	419	650	1760	27	460	24
3	16	256	259	237	330	3160	301	1110	1510	25	372	22
4	16	126	364	299	239	2970	309	1500	1140	27	301	24
5	25	91	728	459	162	2910	434	1740	849	25	244	26
6	28	89	1080	415	123	2910	289	1910	646	21	193	24
7	22	241	1330	231	111	2740	367	1940	528	18	158	23
8	18	386	1600	174	110	2500	501	1710	446	17	139	22
9	20	225	1890	385	102	2470	258	1350	369	15	120	20
10	20	100	2140	246	121	2640	122	1140	300	17	123	26
11	16	60	2290	174	438	3090	141	1000	350	66	95	25
12	14	48	2330	282	530	4000	1090	1080	381	766	75	21
13	26	45	2320	330	400	4830	1650	1420	270	1360	61	20
14	30	58	2280	290	358	4050	1860	1790	222	1640	49	19
15	31	84	2240	241	350	3400	1710	4830	167	1740	39	18
16	79	134	2230	204	206	2860	1100	6840	140	2110	32	17
17	139	643	2270	204	129	2470	519	5620	134	2770	28	17
18	113	1050	2270	255	102	2240	310	4580	150	4150	49	15
19	144	1320	2170	537	92	1990	187	3710	150	5110	39	23
20	2050	1500	1950	505	436	1710	132	3410	150	4400	28	56
21	4130	1330	1660	288	1610	1430	115	3170	187	3720	52	41
22	7540	1060	1380	214	2510	1210	120	2770	144	3610	91	28
23	9940	715	1180	221	4320	1090	138	2570	101	3470	79	20
24	6720	460	1040	227	6700	954	152	2330	80	3090	58	16
25	4660	367	889	260	8590	791	107	2050	154	2640	43	33
26	3160	486	759	395	6630	714	92	1740	161	2330	33	37
27	1980	688	699	726	5050	868	83	1410	129	2040	27	39
28	1160	768	562	799	3900	1100	71	1170	82	1700	24	32
29	752	632	453	756	---	1130	63	1050	53	1350	20	24
30	448	455	513	709	---	1060	73	1190	40	1090	19	19
31	408	---	540	504	---	800	---	1470	---	800	18	---
TOTAL	43738	14604	42058	11230	44436	70957	13314	68645	12493	50176	3645	750
MEAN	1411	487	1357	362	1587	2289	444	2214	416	1619	118	25.0
MAX	9940	1500	2330	799	8590	4830	1860	6840	1760	5110	576	56
MIN	14	45	259	174	92	714	63	295	40	15	18	15
AC-FT	86750	28970	83420	22270	88140	140700	26410	136200	24780	99520	7230	1490

SABINE RIVER MAIN STEM

08018500 SABINE RIVER NEAR MINEOLA, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994#, BY WATER YEAR (WY)

MEAN	312	783	1137	786	1305	1607	1351	2113	1085	304	63.6	68.2
MAX	2158	5296	5873	2707	4334	4175	4086	6934	4083	1626	419	616
(WY)	1974	1975	1992	1974	1975	1969	1990	1968	1973	1992	1979	1974
MIN	3.42	9.88	10.9	28.8	53.4	110	31.8	29.6	5.72	4.87	.071	.048
(WY)	1988	1990	1990	1981	1976	1981	1971	1988	1971	1969	1987	1987

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1968 - 1994#

ANNUAL TOTAL	368478.9		376046		908	
ANNUAL MEAN	1010		1030		1904	1968
HIGHEST ANNUAL MEAN					222	1971
LOWEST ANNUAL MEAN					36200	Dec 11 1971
HIGHEST DAILY MEAN	9940	Oct 23	9940	Oct 23	.00	Aug 13 1970
LOWEST DAILY MEAN	5.9	Aug 3	14	Oct 12	.00	Sep 15 1971
ANNUAL SEVEN-DAY MINIMUM	6.3	Jul 28	18	Sep 12	37700	Dec 11 1971
INSTANTANEOUS PEAK FLOW			10700	Oct 23	21.53	Dec 11 1971
INSTANTANEOUS PEAK STAGE			18.23	Oct 23	657500	
ANNUAL RUNOFF (AC-FT)	730900		745900		2740	
10 PERCENT EXCEEDS	2280		2910		154	
50 PERCENT EXCEEDS	562		373		7.3	
90 PERCENT EXCEEDS	9.3		24			

Period of regulated streamflow.

SABINE RIVER MAIN STEM

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08018500 SABINE RIVER NEAR MINEOLA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1967 to current year. Biochemical analyses: October 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1967 to September 1991.

WATER TEMPERATURE: October 1967 to September 1991.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 11,400 microsiemens June 3, 1971; minimum daily, 64 microsiemens May 5, 1990.

WATER TEMPERATURE: Maximum daily, 36.0°C Aug. 21, 1984; minimum daily, 0.0°C Jan. 15, Feb. 1, 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 6,180 microsiemens Nov. 13; minimum daily, 96 microsiemens Nov. 26.

WATER TEMPERATURE: Maximum daily, 29.0°C July 7, Aug. 8; minimum daily, 4.0°C Dec. 26.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

		DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 07...	1014	22	463	7.4	20.5	--	--	1.8	100	33	29
DEC 03...	1126	255	269	7.8	13.5	11.6	112	2.1	87	41	25
JAN 21...	1143	282	340	7.2	6.0	13.5	108	0.3	90	47	25
MAR 18...	1328	2240	211	7.7	21.0	10.8	123	1.4	69	2	22
MAY 12...	1309	1110	243	7.2	22.0	7.8	90	2.3	69	15	21
JUN 30...	1047	41	337	7.2	28.0	5.7	74	2.3	92	31	27
DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
OCT 07...	7.3	50	2	4.6	69	45	61	0.30	8.1	248	0.210
DEC 03...	6.0	26	1	3.9	46	46	34	<0.10	9.0	178	0.190
JAN 21...	6.8	28	1	3.9	43	56	39	0.20	7.6	193	0.200
MAR 18...	3.4	14	0.7	3.5	67	19	12	0.20	1.3	116	0.059
MAY 12...	4.1	19	1	3.9	54	24	20	0.20	5.5	132	0.270
JUN 30...	6.0	27	1	5.3	61	37	34	0.20	9.9	184	0.210
DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	
OCT 07...	--	<0.010	0.210	0.210	0.020	0.28	0.30	0.020	0.020	0.06	
DEC 03...	--	<0.010	0.190	0.190	0.060	0.34	0.40	0.010	0.010	0.03	
JAN 21...	0.200	0.020	0.220	0.220	0.050	0.85	0.90	0.010	<0.010	--	
MAR 18...	0.059	0.020	0.079	0.079	0.070	0.93	1.0	0.010	0.020	0.06	
MAY 12...	0.270	0.030	0.300	0.300	0.080	0.52	0.60	0.020	0.020	0.06	
JUN 30...	--	<0.010	0.210	0.210	0.070	0.43	0.50	0.020	0.010	0.03	

SABINE RIVER BASIN

08018620 BIG CREEK AT FARM ROAD 1567 NEAR BRASHEAR, TX

LOCATION.--Lat 33°01'07", long 95°45'17", Hopkins County, Hydrologic Unit 12010003, on Farm Road 1567 bridge, over center of channel at downstream side of bridge, 2.5 mi upstream from Sand Branch, and 7.1 mi south of Farm Road 2653 and Interstate Highway 30 intersection at Brashear.

DRAINAGE AREA.--15.3 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1991 to November 1993 (discontinued).

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events from sites at mouths of agricultural basins. This study is in cooperation with the Texas Agriculture Extension Service, Texas Stabilization and Conservation Service, Texas State Soil and Water Conservation Board, and the United States Soil Conservation Service to evaluate the effectiveness of agricultural demonstration projects utilizing new or improved management practices aimed at reducing nonpoint pollution.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	ALKA- LITY WAT DIS FIX DIS FIELD CAC03 (MG/L)
OCT											
19...	1736	483	53	7.1	20.0	--	--	4.2	53000	65000	13
20...	1120	680	33	6.9	18.5	7.2	78	2.6	20000	65000	15
NOV											
02...	1033	0.22	199	7.1	9.5	5.0	44	2.1	290	880	39
DATE		NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
OCT											
19...	0.240	0.240	0.020	0.260	0.260	0.080	1.1	0.72	0.80	0.350	0.300
20...	0.120	0.120	0.010	0.130	0.130	0.040	0.73	0.56	0.60	0.270	0.150
NOV											
02...	--	--	<0.010	--	<0.050	0.070	0.70	0.63	0.70	0.110	0.050

SABINE RIVER BASIN

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08018720 BIRCH CREEK AT FARM ROAD 2297 NEAR YANTIS, TX

LOCATION.--Lat 33°01'31", long 95°38'19", Hopkins County, Hydrologic Unit 12010003, on Farm Road 2297 bridge, over center of channel at downstream side of bridge, 0.96 mi upstream from Gideon Creek, and 7.5 mi northwest of State Highway 154 and Farm Road 17 intersection in Yantis.

DRAINAGE AREA.--17.5 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1991 to November 1993 (discontinued).

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events from sites at mouths of agricultural basins. This study is in cooperation with the Texas Agriculture Extension Service, Texas Stabilization and Conservation Service, Texas State Soil and Water Conservation Board, and the United States Soil Conservation Service to evaluate the effectiveness of agricultural demonstration projects utilizing new or improved management practices aimed at reducing nonpoint pollution.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
OCT												
19...	1844	162	186	7.4	19.5	--	--	3.4	200000	110000	20	0.490
20...	1530	189	109	6.9	19.5	6.4	71	2.8	49000	30000	13	0.300
NOV												
02...	1255	58	496	6.6	10.0	7.4	66	0.5	190	280	13	0.430
DATE		NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
OCT												
19...		0.490	0.030	0.520	0.520	3.40	0.230	1.5	0.0	1.0	0.610	0.500
20...		0.300	0.020	0.320	0.320	--	0.130	1.0	0.57	0.70	0.470	0.430
NOV												
02...		--	<0.010	0.430	0.430	--	0.040	1.0	0.56	0.60	0.080	0.020

SABINE RIVER BASIN

08018785 CANEY CREEK AT FARM ROAD 269 NEAR COMO, TX

LOCATION.--Lat 33°00'10", long 95°23'40", Hopkins County, Hydrologic Unit 12010003, on Farm Road 269 bridge, over center of channel at downstream side of bridge, 3.6 mi upstream from Briar Branch, and 6.1 mi southeast of the water tower in Como.

DRAINAGE AREA.--7.47 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1991 to November 1993 (discontinued).

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events from sites at mouths of agricultural basins. This study is in cooperation with the Texas Agriculture Extension Service, Texas Stabilization and Conservation Service, Texas State Soil and Water Conservation Board, and the United States Soil Conservation Service to evaluate the effectiveness of agricultural demonstration projects utilizing new or improved management practices aimed at reducing nonpoint pollution.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)
OCT 19...	1510	107	102	7.0	19.0	--	--	6.1	140000	230000	18
20...	0920	1100	36	6.8	19.0	7.9	--	3.1	E19000	80000	13
NOV 02...	1430	0.26	215	6.9	10.0	7.6	68	1.7	580	850	33
DATE		NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)
OCT 19...	0.400	0.400	0.020	0.420	0.420	0.260	1.6	0.94	1.2	0.770	0.720
20...	0.160	0.160	0.010	0.170	0.170	0.120	0.77	0.48	0.60	0.560	0.520
NOV 02...	0.270	--	<0.010	0.270	0.270	0.050	1.5	1.2	1.2	0.450	0.290

08018800 LAKE FORK RESERVOIR NEAR QUITMAN, TX

LOCATION.--Lat 32°48'48", long 95°31'40", Wood County, Hydrologic Unit 12010003, in room at left end of gated concrete spillway structure of Lake Fork Dam on Lake Fork Creek, 2,000 ft upstream from bridge on State Highway 182, 2.3 mi upstream from Alum Branch, and 4.4 mi west-northwest of the county courthouse in Quitman.

DRAINAGE AREA.--490 mi².

PERIOD OF RECORD.--October 1979 to current year.

Water-quality records.--Chemical analyses: October 1980 to September 1984.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam 12,660 ft long, including a 260-foot gated concrete spillway. The outlet works consist of two 5- by 8-foot low flow sluice gates, five 40- by 20-foot tainter gates, and two 5- by 6-foot sluice gates that open into a wet well where there are two 36-inch and one 10-inch valve-controlled and metered-outlet pipes. Deliberate impoundment began June 29, 1979, and closure of the dam was completed in January 1980. The lake was built for water conservation and is owned by the Sabine River Authority. No known diversions were made from the lake this year. Flow is affected at times by discharge from the flood-detention pools of 21 floodwater-retarding structures with a combined detention capacity of 20,270 acre-ft. These structures control runoff 60 mi² above the lake. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	419.5	1,270,000
Top of tainter gates.....	405.0	732,900
Crest of gated spillway.....	385.0	291,900
Invert of upper sluice gate.....	383.0	260,400
Invert of lower sluice gate.....	360.5	43,120
Invert of sluice gate in two center pieces.....	360.0	40,620

COOPERATION.--Area and capacity tables were prepared and provided by URS/Forest and Cotton, Inc., Consulting Engineers for the Sabine River Authority. Observed elevations for the period Oct. 31, 1979, to Jan. 31, 1980, were provided by the Sabine River Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 737,300 acre-ft May 4, 1990 (elevation, 405.15 ft); minimum observed, 46,140 acre-ft Dec. 11-14, 1979 (elevation, 361.10 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 721,600 acre-ft July 15 at 2400 hours (elevation 404.61 ft); minimum daily, 622,900 acre-ft Oct. 12 (elevation, 401.03).

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

361.0	45,600	391.0	396,900	404.0	703,900
371.0	114,700	401.0	622,100	405.0	732,900
381.0	230,700	402.0	648,500	406.0	762,700

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	623900	666300	661900	648300	663000	669500	669800	677800	673900	672000	669800	659200
2	626300	667400	663300	649400	662700	670600	670100	676100	673100	671700	669000	658600
3	626000	666800	670100	648000	662500	673900	670100	676700	672500	671200	668500	658600
4	625800	667100	676700	647700	663000	675500	669500	677500	672300	670600	667900	658900
5	625200	667600	676900	647500	663000	673600	671500	677200	672300	670100	667600	658900
6	625000	666300	677500	648800	663000	673100	669300	676900	672300	669500	667100	658900
7	624700	665500	678300	647200	663300	673400	669000	677800	671200	668700	667900	657800
8	624200	665200	677500	646700	664100	673100	668700	677200	670600	668700	667600	658600
9	624700	665200	676400	646400	664900	686500	668700	677800	670600	668700	667100	658900
10	623700	664900	676400	647000	665200	684300	669000	680000	670900	668200	666800	658600
11	623100	664400	675500	649600	664900	680300	678300	681200	670900	671500	666500	658600
12	622900	664900	672800	650500	667100	677800	678900	683400	670100	671500	666000	658100
13	626800	665200	675300	650700	666000	674500	678900	685100	669800	670900	665700	657500
14	626800	666800	675800	650700	665700	671700	678900	685900	669500	671200	665500	657500
15	626300	666800	675300	650200	666000	669800	678100	685400	669500	671600	665200	656700
16	626600	672000	673100	653500	666000	667400	678900	683100	669800	708800	664600	655900
17	625800	675800	672000	653700	666000	665200	679200	682300	669500	695200	663800	655100
18	632700	675800	669500	654000	665700	666500	679200	681400	669500	686200	663300	654800
19	647700	675300	667400	654300	666500	666500	679500	678900	669300	681700	662500	653700
20	680900	672300	665700	655100	669500	666800	679200	675800	668700	678100	663800	653500
21	678300	669800	663300	655100	673600	666800	679200	675000	667900	676100	664100	653500
22	674700	667600	661400	655400	702000	666300	678600	674200	667900	675000	663300	652600
23	672500	665500	658900	656200	693800	666300	678300	673600	672000	673900	663000	652100
24	671700	665200	656500	656700	686500	667900	678900	672000	673400	673100	662700	651300
25	670900	664900	654000	658600	683400	668500	671700	672000	673400	672800	662700	649900
26	670400	661400	651800	661100	678600	669800	671500	672500	673600	673100	662700	649400
27	669000	660800	650500	663300	675500	671700	671200	671700	672800	671500	661900	649400
28	668200	661600	649900	663300	675300	670900	671500	671200	672500	671200	661400	648300
29	670400	661900	648800	663500	---	671200	675300	672000	672500	670400	660800	648300
30	668700	661600	648300	664100	---	670400	676700	672500	672300	670600	660000	648300
31	667100	---	648000	663500	---	670100	---	673400	---	670100	660000	---
MAX	680900	675800	678300	664100	702000	686500	679500	685900	673900	721600	669800	659200
MIN	622900	660800	648000	646400	662500	665200	668700	671200	667900	668200	660000	648300
(+)	402.68	402.48	402.00	402.55	402.98	402.79	403.03	402.91	402.87	402.79	402.42	401.99
(@)	+424.00	-550.00	-1360.00	+1550.00	+1180.00	-520.00	+660.00	-330.00	-1100.00	-2200.00	-1010.00	-1170.00
CAL YR 1993	MAX	699200	MIN	622900	(@)	-15800						
WTR YR 1994	MAX	721600	MIN	622900	(@)	+23600						

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

SABINE RIVER BASIN

08019000 LAKE FORK CREEK NEAR QUITMAN, TX

LOCATION.--Lat 32°45'47", long 95°27'46", Wood County, Hydrologic Unit 12010003, at downstream side of highway embankment near left end of bridge on State Highway 37, 0.3 mi downstream from Dry Creek, 2.4 mi south of Quitman, and 23.4 mi upstream from mouth.

DRAINAGE AREA.--585 mi².

PERIOD OF RECORD.--June 1924 to April 1926, February 1939 to current year. Discharge from some high-water periods in 1925-26 published in WSP 134. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1961, published as Lake Fork Sabine River near Quitman.

Water-quality records.--Chemical analyses: December 1961 to August 1989. Specific Conductance: November 1967 to September 1989. Water Temperature: December 1967 to September 1989.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 317.42 ft above National Geodetic Vertical Datum of 1929. From June 27, 1924, to Apr. 30, 1926, a nonrecording gage was located at site 1,000 ft downstream at same datum. Prior to Sept. 5, 1978, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Since May 1962, flow from 31.0 mi² above this station has been controlled by Lake Quitman (capacity, 7,440 acre-ft) on Dry Creek, a tributary above this station and below Lake Fork Reservoir. Construction of Lake Fork Dam and Reservoir (capacity, 675,800 acre-ft), located about 5 mi upstream from this station, began in 1975. Deliberate impoundment began June 29, 1979, and the dam was completed in January 1980. Lake Fork Reservoir controls runoff from 490 mi² above this station. The city of Quitman discharged a small amount of sewage effluent into a tributary above this station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--41 years (water years 1925, 1940-79), prior to regulation by Lake Fork Reservoir, 432 ft³/s (313,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1925, 1940-79).--Maximum discharge, 75,600 ft³/s Mar. 30, 1945 (gage height, 29.85 ft, from floodmark), from rating curve extended above 49,000 ft³/s; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1895 reached a stage of about 25.9 ft, from information by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	37	49	41	82	1260	39	18	22	27	30	24
2	21	38	42	38	72	1710	35	18	27	27	30	25
3	21	39	59	37	66	2090	33	138	31	26	29	25
4	21	34	215	39	62	2020	32	90	31	26	29	25
5	21	27	203	36	60	1500	30	44	33	26	28	24
6	21	25	167	35	59	1090	30	31	31	26	28	24
7	20	24	733	34	57	658	31	25	31	26	28	25
8	20	21	1030	36	56	398	26	23	31	25	29	25
9	20	22	1110	33	55	612	24	24	29	31	29	26
10	20	22	1130	31	63	1680	26	27	34	44	28	25
11	20	20	1130	55	83	2090	26	26	53	42	27	24
12	21	17	1130	209	100	2020	179	88	36	58	26	25
13	24	14	1230	146	86	1690	245	496	30	39	26	25
14	34	18	1410	103	70	1520	94	787	28	34	26	25
15	23	48	1300	83	64	1480	58	1440	27	4920	26	25
16	22	66	1200	72	59	1280	47	1600	29	17600	26	25
17	24	304	1160	84	56	1020	39	1260	33	12700	25	25
18	38	640	1140	129	54	603	33	1140	35	7960	25	24
19	82	936	1130	97	52	159	29	1080	48	3860	25	25
20	2630	1100	1120	80	197	61	26	1030	42	2230	25	26
21	3600	1150	1120	80	578	51	25	981	42	1990	27	25
22	3960	1150	1110	80	1460	46	24	415	37	1410	27	24
23	2540	1150	1100	78	8730	40	24	57	31	905	26	24
24	1770	1150	1090	91	8060	38	23	29	106	530	25	25
25	1260	1150	1090	118	3780	37	21	22	74	341	25	24
26	934	1170	1090	112	2290	36	22	19	40	302	25	25
27	806	1170	1080	208	2040	45	20	18	31	268	25	25
28	477	608	1070	233	1510	107	18	18	29	85	25	25
29	125	126	582	159	---	75	17	18	28	37	25	25
30	50	61	98	116	---	54	18	30	28	32	25	25
31	44	---	47	95	---	45	---	27	---	31	24	---
TOTAL	18690	12337	26165	2788	29901	25515	1294	11019	1107	55658	824	744
MEAN	603	411	844	89.9	1068	823	43.1	355	36.9	1795	26.6	24.8
MAX	3960	1170	1410	233	8730	2090	245	1600	106	17600	30	26
MIN	20	14	42	31	52	36	17	18	22	25	24	24
AC-FT	37070	24470	51900	5530	59310	50610	2570	21860	2200	110400	1630	1480

SABINE RIVER BASIN

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08019000 LAKE FORK CREEK NEAR QUITMAN, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1994#, BY WATER YEAR (WY)

MEAN	78.4	280	565	408	818	783	482	684	343	299	79.3	24.4
MAX	603	1551	2853	1478	2326	2938	1991	2807	1280	1795	940	167
(WY)	1994	1989	1992	1991	1986	1990	1990	1990	1986	1994	1992	1992
MIN	1.23	2.92	9.31	4.43	14.1	31.6	4.29	13.1	8.51	1.43	.13	.76
(WY)	1983	1981	1982	1981	1981	1981	1981	1988	1984	1985	1980	1982

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1980 - 1994#	
ANNUAL TOTAL	199260		186042			
ANNUAL MEAN	546		510		402	
HIGHEST ANNUAL MEAN					1006	
LOWEST ANNUAL MEAN					43.2	
HIGHEST DAILY MEAN	8750	Feb 26	17600	Jul 16	23600	May 18 1989
LOWEST DAILY MEAN	14	Nov 13	14	Nov 13	.00	Aug 23 1980
ANNUAL SEVEN-DAY MINIMUM	18	Jul 30	19	Apr 26	.00	Aug 23 1980
INSTANTANEOUS PEAK FLOW			18200	Jul 16	24200	May 18 1989
INSTANTANEOUS PEAK STAGE			20.49	Jul 16	21.75	May 18 1989
ANNUAL RUNOFF (AC-FT)	395200		369000		291100	
10 PERCENT EXCEEDS	1380		1260		1150	
50 PERCENT EXCEEDS	75		39		32	
90 PERCENT EXCEEDS	20		23		3.6	

Period of regulated streamflow.

08019500 BIG SANDY CREEK NEAR BIG SANDY, TX

LOCATION.--Lat 32°36'14", long 95°05'29", Upshur County, Hydrologic Unit 12010002, on downstream side of highway embankment near left end of bridge on State Highway 155, 0.5 mi upstream from St. Louis Southwestern Railway Lines bridge, 1.6 mi northeast of Big Sandy, and 6.5 mi upstream from mouth.

DRAINAGE AREA.--231 mi².

PERIOD OF RECORD.--February 1939 to current year.

Water-quality records.--Chemical analyses: March 1961 to September 1986. Chemical and biochemical analyses: October 1984 to September 1986.

REVISED RECORDS.--WSP 1732: 1941(M), 1945-46, 1956, drainage area. WSP 1922: 1944(M), 1945-46.

GAGE.--Water-stage recorder. Datum of gage is 278.38 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 5, 1940, nonrecording gage, and Oct. 5, 1940, to Nov. 26, 1951, water-stage recorder at site 1.3 mi upstream at datum 3.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges and those for May 13 to July 5, which are poor. Since June 1962, streamflow has been affected by Lake Winnsboro, about 27 miles upstream (capacity 8,100 acre-ft, drainage area 27.1 mi²) and by several other smaller lakes. Several observations of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 22	1330	4,240	16.52	July 17	1600	4,890	17.07
Feb. 25	0730	2,410	14.49				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e90	128	203	111	294	670	248	58	111	40	47	28
2	e76	114	185	111	251	708	189	75	119	33	45	35
3	e66	118	175	109	206	582	155	273	114	28	44	37
4	e60	126	172	105	179	606	137	247	88	25	47	36
5	e56	121	164	102	166	833	129	279	73	22	45	33
6	52	114	156	102	156	681	125	269	67	19	41	30
7	44	113	172	103	150	478	117	242	66	18	39	28
8	39	109	219	105	145	361	107	174	65	15	39	27
9	58	103	253	104	141	340	99	125	58	14	38	26
10	73	99	239	100	148	366	99	109	50	16	37	29
11	68	96	201	123	169	419	112	103	43	23	36	29
12	58	94	172	122	183	741	282	113	39	32	35	27
13	62	92	167	181	193	881	274	139	39	39	33	26
14	75	100	182	188	206	618	313	260	42	38	33	25
15	78	115	183	223	217	428	303	250	42	198	32	24
16	78	126	194	258	205	328	296	281	40	670	31	24
17	90	159	253	236	177	274	229	434	46	4000	30	24
18	108	178	325	193	155	233	160	625	54	3190	27	23
19	128	208	292	171	147	206	126	622	62	1550	25	22
20	896	217	212	167	223	185	108	433	89	963	25	21
21	1630	268	177	184	351	165	105	287	108	611	32	21
22	3750	301	159	182	811	151	103	218	95	388	38	20
23	2640	245	148	168	1270	139	90	155	75	251	35	20
24	1400	181	141	166	1680	131	84	112	69	170	33	21
25	919	156	135	173	2280	125	82	89	67	128	33	21
26	625	165	128	183	1560	119	76	74	74	104	34	21
27	435	170	123	271	1020	244	71	72	98	84	33	21
28	317	172	119	257	706	488	64	69	105	71	34	21
29	232	179	117	249	---	415	61	73	73	65	32	20
30	180	200	114	267	---	357	61	108	50	55	30	20
31	147	---	112	296	---	293	---	109	---	49	29	---
TOTAL	14530	4567	5592	5360	13389	12565	4405	6477	2121	12909	1092	760
MEAN	469	152	180	173	478	405	147	209	70.7	416	35.2	25.3
MAX	3750	301	325	296	2280	881	313	625	119	4000	47	37
MIN	39	92	112	100	141	119	61	58	39	14	25	20
AC-FT	28820	9060	11090	10630	26560	24920	8740	12850	4210	25600	2170	1510

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1994, BY WATER YEAR (WY)

	MEAN	66.4	133	224	237	286	319	323	320	172	80.6	33.5	50.8
MAX	469	884	884	798	915	1746	1068	977	704	416	150	441	
(WY)	1994	1975	1988	1993	1950	1945	1973	1953	1946	1994	1979	1974	
MIN	8.38	19.2	24.6	32.3	59.7	47.5	42.2	35.1	9.61	6.99	4.65	8.51	
(WY)	1957	1956	1957	1957	1967	1966	1956	1984	1984	1984	1984	1956	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1940 - 1994

ANNUAL TOTAL	99110	83767	
ANNUAL MEAN	272	229	
HIGHEST ANNUAL MEAN			187
LOWEST ANNUAL MEAN			415
HIGHEST DAILY MEAN	3750	4000	40.6
LOWEST DAILY MEAN	20	14	17900
ANNUAL SEVEN-DAY MINIMUM	21	18	3.5
INSTANTANEOUS PEAK FLOW		4890	4.0
INSTANTANEOUS PEAK STAGE		17.07	24000
ANNUAL RUNOFF (AC-FT)	196600	166200	24.10
10 PERCENT EXCEEDS	633	430	135100
50 PERCENT EXCEEDS	165	119	418
90 PERCENT EXCEEDS	29	29	81
			17

e Estimated

SABINE RIVER MAIN STEM

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08020000 SABINE RIVER NEAR GLADEWATER, TX

LOCATION.--Lat 32°31'37", long 94°57'36", Gregg County, Hydrologic Unit 12010002, on right bank 46 ft downstream from bridge on U.S. Highway 271, 0.4 mi downstream from Glade Creek, 1.2 mi southwest of Gladewater, and at mile 397.5.

DRAINAGE AREA.--2,791 mi².

PERIOD OF RECORD.--October 1932 to current year.

REVISED RECORDS.--WSP 1732: Drainage area. WDR TX-73-1: 1972.

GAGE.--Water-stage recorder. Datum of gage is 243.85 ft above National Geodetic Vertical Datum of 1929 (Texas Reclamation Department benchmark based on U.S. Geological Survey datum). Prior to Oct. 13, 1933, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow partially regulated by Lake Tawakoni (station 08017400), capacity 936,200 acre-ft, by Lake Fork Creek Reservoir (station 08018800), capacity 675,800 acre-ft, and by five tributary reservoirs with a total combined capacity of 42,370 acre-ft. There are many diversions above station for oil field operations and municipal supply. Several observations of water temperature were obtained during the year. Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--28 years (water years 1933-60) prior to regulation by Lake Tawakoni, 2,012 ft³/s (1,458,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1933-60).--Maximum discharge, 138,000 ft³/s Apr. 2, 1945 (gage height, 44.16 ft, from floodmark), from rating curve extended above 91,000 ft³/s; minimum, 5.6 ft³/s Aug. 16, 1939. Maximum stage since at least 1892, that of Apr. 2, 1945.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1914 reached a stage of about 41.7 ft (discharge, 85,900 ft³/s), from information by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e140	6520	2030	1430	1500	12600	2480	309	2090	271	5690	122
2	e139	5350	1520	1030	1270	13400	2000	343	1930	224	4230	122
3	e139	3710	1060	782	1050	13300	1570	1930	2010	192	2480	138
4	e140	2050	876	635	961	12400	1210	2880	2120	170	1220	166
5	e142	1040	814	567	879	11400	991	2880	2160	155	763	172
6	144	657	880	587	782	10400	911	2770	1960	143	624	165
7	133	497	1140	685	694	9580	929	2630	1660	137	534	155
8	123	407	1380	674	648	8940	847	2570	1410	131	505	156
9	268	430	1660	567	629	8470	852	2540	1050	124	449	153
10	273	558	2020	486	640	8040	914	2530	825	124	393	145
11	218	519	2340	637	708	7680	822	2410	705	143	353	136
12	194	416	2610	816	835	7300	1400	2140	622	235	332	133
13	210	344	2880	904	1070	7020	1970	2000	669	531	314	132
14	242	354	3130	971	1170	6840	2340	2940	683	1030	275	132
15	264	356	3340	970	1090	6740	2600	3410	589	2380	243	123
16	274	397	3500	912	998	6720	2730	3700	515	3620	217	118
17	272	593	3620	863	922	6760	2740	4220	469	4150	196	115
18	308	755	3730	800	801	6830	2440	4760	445	5150	178	109
19	403	1140	3830	737	689	6850	1710	5290	441	5980	160	114
20	1330	1490	3880	759	997	6770	1040	5780	470	6330	149	113
21	3300	1800	3870	916	2560	6590	718	6190	529	7290	172	109
22	3820	2140	3830	946	4330	6240	640	6480	556	8830	192	106
23	e4420	2400	3730	833	5910	5650	585	6630	555	10400	217	133
24	e4950	2490	3570	738	6300	4700	544	6640	502	11300	250	137
25	e5500	2380	3330	738	6550	3460	517	6530	434	11200	253	121
26	6090	2190	3010	782	6860	2390	501	6290	385	10600	227	109
27	6700	2030	2670	1310	7770	2180	439	5880	434	9780	198	101
28	7350	2000	2340	1760	9900	3000	381	5300	484	9050	174	103
29	7740	2060	2090	1890	---	3490	348	4490	425	8240	157	119
30	7660	2130	1890	1850	---	3410	324	3580	338	7480	141	123
31	7230	---	1710	1680	---	2980	---	2680	---	6690	128	---
TOTAL	70116	49203	78280	29255	68513	222130	37493	118722	27465	132080	21414	3880
MEAN	2262	1640	2525	944	2447	7165	1250	3830	915	4261	691	129
MAX	7740	6520	3880	1890	9900	13400	2740	6640	2160	11300	5690	172
MIN	123	344	814	486	629	2180	324	309	338	124	128	101
AC-FT	139100	97590	155300	58030	135900	440600	74370	235500	54480	262000	42470	7700

SABINE RIVER MAIN STEM

08020000 SABINE RIVER NEAR GLADEWATER, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1994#, BY WATER YEAR (WY)

MEAN	462	1217	2372	1947	2575	3323	2842	4077	1935	714	200	288
MAX	3361	7839	10580	6693	9664	9717	9644	17100	6745	4261	1291	2566
(WY)	1974	1975	1972	1992	1975	1992	1990	1966	1973	1994	1992	1974
MIN	29.4	86.9	101	199	319	316	241	188	49.0	17.9	18.1	27.0
(WY)	1964	1964	1966	1964	1981	1967	1971	1988	1971	1964	1964	1985

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1961 - 1994#	
ANNUAL TOTAL	825599		858551			
ANNUAL MEAN	2262		2352			
HIGHEST ANNUAL MEAN					1827	
LOWEST ANNUAL MEAN					3831	1992
HIGHEST DAILY MEAN	10200	Mar 9	13400	Mar 2	232	1964
LOWEST DAILY MEAN	45	Sep 11	101	Sep 27	51000	May 22 1989
ANNUAL SEVEN-DAY MINIMUM	46	Sep 7	112	Sep 16	7.4	Jul 20 1971
INSTANTANEOUS PEAK FLOW			13600	Mar 3	9.5	Jul 16 1971
INSTANTANEOUS PEAK STAGE			33.10	Mar 3	52300	May 22 1989
ANNUAL RUNOFF (AC-FT)	1638000		1703000		38.98	Apr 30 1966
10 PERCENT EXCEEDS	5580		6730		1323000	
50 PERCENT EXCEEDS	1870		998		5290	
90 PERCENT EXCEEDS	91		143		547	
					56	

e Estimated

Period of regulated streamflow.

LOCATION.--Lat 32°28'47", long 94°48'15", Gregg County, Hydrologic Unit 12010002, on left bank at city of Longview pumping station at the end of Swinging Bridge Road, 1.4 mi southwest of the intersection of Swinging Bridge Road and Farm Road 2206 in Longview, 2.5 mi downstream from Hawkins Creek, 2.6 mi upstream from U.S. Highway 259, and at mile 357.4.

PERIOD OF RECORD.--August 1983 to current year (operated as a low-flow station only).

REMARKS.--No estimated daily discharges. Records good. Daily discharges above 500 ft³/s are not published. Flow partially regulated by Lake Tawakoni (station 08017400), capacity 936,200 acre-ft, by Lake Fork Reservoir (station 08018800), capacity 675,800 acre-ft, and by five tributary reservoirs with a combined capacity of 42,370 acre-ft. There are many diversions above station for municipal and industrial supply, and for oil field operations.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 27.93 ft Mar. 4 at 1730 hours; minimum daily discharge, 53 ft³/s Sep. 29.

[illegible]

SABINE RIVER MAIN STEM

08022040 SABINE RIVER NEAR BECKVILLE, TX

LOCATION.--Lat 32°19'38", long 94°21'12", Panola County, Hydrologic Unit 12010002, at downstream side of highway embankment near right end of downstream bridge on U.S. Highway 59, 0.9 mi upstream from Eightmile Creek, 6.0 mi upstream from Farm Road 1794, 8.4 mi northeast of Beckville, 12.4 mi downstream from State Highway 43, and at mile 327.0.

DRAINAGE AREA.--3,589 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Prior to October 1978, published as "near Tatum" (station 08022000).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 190.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1978, at site 12.4 mi upstream at datum 14.18 ft higher. Prior to Sept. 21, 1945, non-recording gage.

REMARKS.--No estimated daily discharges. Records good. Eight major upstream reservoirs, with a combined capacity of 1,701,000 acre-ft, largely regulate the flow. There are several diversions above this station and below Lake Tawakoni for municipal, industrial and for oil field operations. Low flows are sustained by sewage effluents that are returned to the river above the station. For statement regarding regulation by Soil Conservation Service flood-water-retarding structures, see station 08018500. Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--22 years (water years 1939-60) prior to regulation by Lake Tawakoni, 2,663 ft³/s (1,929,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD PRIOR TO REGULATION (WATER YEARS 1939-60).--Maximum discharge, 123,000 ft³/s Apr. 4, 1945 (gage height, 33.80 ft), site and datum then in use, from graph based on gage readings, from rating curve extended above 66,000 ft³/s on basis of partly estimated discharge measurement of 88,900 ft³/s; minimum observed, 2.4 ft³/s Aug. 11, 1964. Maximum stage since at least 1884, that of Apr. 4, 1945.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1884 reached a stage of about 2 ft lower than flood of Apr. 4, 1945. These dates and gage heights are based on information for stations near Tatum (08022000, discontinued) and at Logansport, La. (08022500).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	165	6270	2470	2290	2240	9570	4030	605	5080	494	8180	203
2	160	6530	2490	2070	2070	10700	3540	572	3560	444	7910	225
3	150	6770	2340	1770	1870	11500	3000	1390	2670	378	7360	294
4	144	6710	1900	1410	1630	11500	2460	3110	2390	327	6090	250
5	135	5940	1600	1130	1440	11400	2020	3740	2400	289	3410	220
6	124	3730	1360	958	1320	11500	1750	3530	2490	262	1510	196
7	122	1730	1220	844	1210	11700	1540	3360	2410	254	963	214
8	128	1070	1290	844	1110	11900	1380	3130	2150	226	1090	208
9	289	818	1540	905	1040	12000	1330	2950	1830	209	1650	179
10	872	705	1800	891	1080	12200	1270	2840	1620	214	1620	172
11	778	684	2090	807	1810	12300	1280	2880	1610	217	738	166
12	451	797	2390	837	2230	12000	2570	3030	1350	307	533	150
13	357	768	2730	1010	2050	11500	3510	2820	1170	533	448	149
14	411	760	3110	1130	1710	10900	3490	2920	1060	454	393	136
15	402	1260	3280	1200	1700	10300	3220	6010	910	870	362	138
16	356	1860	3380	1230	1660	9660	3290	8530	821	3670	312	128
17	330	4280	3550	1230	1510	8980	3230	9140	803	4760	282	132
18	325	4240	3720	1250	1390	8440	3140	8470	777	4310	252	127
19	323	2610	3880	1190	1290	8040	2970	7450	675	4220	230	128
20	453	1900	4010	1100	1350	7750	2520	6340	664	4450	162	117
21	1590	2040	4110	1050	4090	7580	1870	5750	667	4830	259	106
22	3020	2210	4180	1090	6910	7430	1330	5610	923	5170	364	113
23	3610	2400	4190	1210	10200	7300	1070	5690	896	5570	355	102
24	3940	2650	4170	1220	11800	7160	932	5860	804	6010	375	111
25	4290	2820	4100	1140	11800	6940	856	6080	997	6440	274	112
26	4630	2990	3950	1210	11200	6420	807	6230	810	6890	264	109
27	4910	2970	3720	1730	10400	5380	751	6290	615	7340	286	124
28	5160	2730	3400	2780	9650	5110	687	6300	537	7730	320	109
29	5440	2530	3050	2840	---	4990	623	6290	518	8050	252	107
30	5710	2460	2750	2610	---	4550	575	6330	530	8210	206	102
31	6000	---	2500	2450	---	4340	---	6040	---	8270	176	---
TOTAL	54775	85232	90270	43426	107760	281040	61041	149287	43737	101398	46626	4627
MEAN	1767	2841	2912	1401	3849	9066	2035	4816	1458	3271	1504	154
MAX	6000	6770	4190	2840	11800	12300	4030	9140	5080	8270	8180	294
MIN	122	684	1220	807	1040	4340	575	572	518	209	162	102
AC-FT	108600	169100	179100	86140	213700	557400	121100	296100	86750	201100	92480	9180

SABINE RIVER MAIN STEM

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08022040 SABINE RIVER NEAR BECKVILLE, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1994#, BY WATER YEAR (WY)

MEAN	576	1586	3132	3025	3873	4375	3906	4848	2935	983	318	431
MAX	4325	8221	9866	10960	11930	12240	11330	21010	11580	3834	1725	3434
(WY)	1974	1975	1975	1992	1975	1992	1990	1966	1989	1992	1979	1974
MIN	42.5	82.1	144	239	448	445	355	317	77.5	32.1	36.7	33.8
(WY)	1964	1964	1966	1964	1964	1967	1971	1972	1971	1964	1969	1985

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1961 - 1994#	
ANNUAL TOTAL	1323751		1069219		2492	
ANNUAL MEAN	3627		2929		4857	
HIGHEST ANNUAL MEAN					311	
LOWEST ANNUAL MEAN					48100	
HIGHEST DAILY MEAN	33300	Jun 22	12300	Mar 11	2.4	May 2 1966
LOWEST DAILY MEAN	62	Sep 14	102	Sep 23	3.8	Aug 11 1964
ANNUAL SEVEN-DAY MINIMUM	69	Sep 9	110	Sep 20	49400	Aug 7 1964
INSTANTANEOUS PEAK FLOW			12300	Mar 11	38.87	May 2 1966
INSTANTANEOUS PEAK STAGE			25.71	Mar 11	1805000	Mar 30 1989
ANNUAL RUNOFF (AC-FT)	2626000		2121000		7230	
10 PERCENT EXCEEDS	8950		7500		880	
50 PERCENT EXCEEDS	3090		1750		84	
90 PERCENT EXCEEDS	122		209			

Period of regulated streamflow.

SABINE RIVER MAIN STEM

08022040 SABINE RIVER NEAR BECKVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: February 1952 to current year. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: March 1968 to June 1981.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1952 to current year.

WATER TEMPERATURE: February 1952 to current year.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the U.S. Geological Survey District office upon request. Formerly published as 08022000 Sabine River near Tatum.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,040 microsiemens Jan. 13, 1966; minimum daily, 53 microsiemens Mar. 31, 1979, Mar. 30, 1989.

WATER TEMPERATURE: Maximum daily, 38.0°C July 8, 1969; minimum daily, 0.0°C on several days during December 1983.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 722 microsiemens Sept. 14; minimum daily, 94 microsiemens Oct. 25.

WATER TEMPERATURE: Maximum daily, 33.5°C July 3; minimum daily, 7.5°C Jan. 18, 20, and 21.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)
NOV 02...	1545	6610	120	7.4	16.5	9.4	95	1.0	34	7	9.2
DEC 14...	1605	3160	206	7.4	12.0	8.6	81	2.8	54	8	15
FEB 04...	1515	1640	325	7.4	9.0	11.6	101	1.1	72	52	19
MAR 31...	1245	4360	158	7.2	14.5	8.4	82	1.4	37	12	10
MAY 19...	1110	7480	172	7.3	23.0	7.0	82	0.9	36	15	9.6
JUL 06...	1700	262	419	7.6	32.0	7.8	108	1.8	71	9	20

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV 02...	2.7	11	0.8	4.3	27	16	13	0.10	7.3	80
DEC 14...	3.9	17	1	4.2	46	21	18	0.20	7.6	117
FEB 04...	5.8	31	2	4.0	20	51	47	<0.10	11	183
MAR 31...	3.0	14	1	3.3	25	18	19	0.10	9.2	93
MAY 19...	3.0	15	1	3.2	21	18	21	0.10	9.2	93
JUL 06...	5.0	51	3	4.2	62	47	56	0.20	13	236

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)
NOV 02...	--	--	<0.010	--	<0.050	0.030	0.47	0.50	0.050	0.030
DEC 14...	0.440	--	<0.010	0.440	0.440	0.040	0.36	0.40	0.030	0.040
FEB 04...	0.330	--	<0.010	0.330	0.330	0.040	0.36	0.40	0.050	<0.010
MAR 31...	0.220	0.220	0.030	0.250	0.250	0.110	0.69	0.80	0.050	0.040
MAY 19...	0.210	--	<0.010	0.210	0.210	0.040	0.46	0.50	0.020	0.030
JUL 06...	0.460	--	<0.010	0.460	0.460	0.020	0.38	0.40	0.040	0.020

SABINE RIVER MAIN STEM

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE		PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV	02...	0.09	--	--	--	--	--	--	--	--	--
DEC	14...	0.12	--	--	--	--	--	--	--	--	--
FEB	04...	--	1	62	<0.5	1.0	<5	<3	<10	210	<10
MAR	31...	0.12	--	--	--	--	--	--	--	--	--
MAY	19...	0.09	--	--	--	--	--	--	--	--	--
JUL	06...	0.06	2	73	<0.5	<1.0	<5	<3	<10	88	<10
DATE		LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV	02...	--	--	--	--	--	--	--	--	--	--
DEC	14...	--	--	--	--	--	--	--	--	--	--
FEB	04...	12	79	<0.1	<10	<10	<1	<1.0	200	<6	<3
MAR	31...	--	--	--	--	--	--	--	--	--	--
MAY	19...	--	--	--	--	--	--	--	--	--	--
JUL	06...	15	74	<0.1	<10	<10	<1	<1.0	250	<6	<3
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.	1993	54775	153	85	12500	22	3180	16	2310	30	
NOV.	1993	85232	185	103	23600	26	5920	19	4410	37	
DEC.	1993	90270	223	123	30000	31	7640	23	5530	43	
JAN.	1994	43426	289	160	18700	42	4940	28	3310	53	
FEB.	1994	107760	175	97	28200	24	7120	18	5250	35	
MAR.	1994	281040	158	88	66400	22	16300	17	12700	32	
APR.	1994	61041	236	131	21500	34	5520	24	3930	45	
MAY	1994	149287	176	98	39300	24	9780	18	7420	35	
JUNE	1994	43737	233	129	15200	33	3910	24	2790	45	
JULY	1994	101398	159	88	24100	22	6000	17	4550	32	
AUG.	1994	46626	200	111	14000	28	3540	20	2580	39	
SEPT	1994	4627	516	284	3550	84	1050	43	537	78	
TOTAL		1069219	**	**	297000	**	74900	**	55300	**	
WTD.AVG.		2929	186	103	**	26	**	19	**	37	

08022040 SABINE RIVER NEAR BECKVILLE, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY EQUIVALENT MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	377	114	214	223	306	144	182	321	204	349	159	378
2	380	126	230	222	284	140	224	356	205	344	163	390
3	407	139	255	229	328	134	249	280	210	330	168	466
4	584	144	250	242	325	130	251	315	221	337	174	441
5	672	156	259	262	322	125	255	246	240	342	189	438
6	636	173	274	274	295	124	257	149	224	419	203	e420
7	571	207	280	e280	301	125	263	180	206	452	215	408
8	537	263	287	288	304	126	270	178	214	465	209	424
9	430	256	285	318	300	133	273	216	222	489	234	475
10	536	271	300	306	e280	e140	265	213	210	506	213	482
11	324	284	300	306	248	154	288	194	197	509	235	462
12	262	300	253	332	233	164	249	190	191	473	268	548
13	290	354	230	307	252	165	194	194	225	433	304	656
14	271	310	205	295	280	167	235	211	240	353	299	722
15	480	313	199	289	256	170	169	162	242	388	290	639
16	365	250	197	296	e270	177	185	144	247	254	321	575
17	319	128	193	280	280	178	205	147	243	158	343	558
18	339	163	192	281	288	170	237	168	253	149	342	539
19	349	199	205	350	308	165	250	172	252	123	358	567
20	331	198	224	420	316	165	253	142	310	126	364	578
21	298	250	223	380	227	170	268	133	340	114	342	606
22	211	255	208	369	166	174	266	137	348	124	432	588
23	124	250	204	373	113	178	252	147	289	131	e450	583
24	116	222	203	357	100	186	275	156	275	137	463	608
25	94	215	204	360	102	e190	289	165	277	139	e410	550
26	95	228	208	341	113	200	285	172	260	140	359	589
27	108	211	211	288	146	210	288	178	301	140	350	601
28	111	212	215	266	e145	220	287	183	330	143	371	586
29	111	207	224	e240	---	214	297	187	337	147	372	676
30	107	209	227	255	---	193	307	189	336	154	356	615
31	110	---	225	282	---	157	---	202	---	163	349	---
MEAN	321	220	232	300	246	164	252	194	255	275	300	539
MAX	672	354	300	420	328	220	307	356	348	509	463	722
MIN	94	114	192	222	100	124	169	133	191	114	159	378

WTR YR 1994 MEAN 275 MAX 722 MIN 94

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.5	13.0	10.5	10.0	9.5	13.0	16.5	21.0	24.0	30.0	26.0	28.5
2	24.0	13.5	11.0	---	9.0	11.0	15.0	20.5	24.5	30.0	26.0	29.0
3	24.5	12.0	12.0	---	8.5	12.0	16.0	19.0	25.0	33.5	26.0	22.0
4	21.5	13.0	12.0	---	9.5	12.0	15.0	19.0	27.5	30.5	26.5	30.0
5	25.5	13.0	12.0	---	10.5	14.0	18.0	18.5	26.0	30.5	27.0	29.0
6	25.0	10.5	12.0	---	9.5	15.0	15.0	20.0	26.5	33.0	27.0	---
7	25.5	11.5	11.5	---	10.5	---	18.0	20.0	27.0	30.5	28.0	30.5
8	26.0	10.5	12.5	---	15.0	15.0	16.5	20.0	30.0	31.0	28.0	29.0
9	23.0	12.0	14.0	9.0	12.0	13.0	18.5	20.0	29.0	30.0	26.0	29.5
10	20.5	13.5	14.0	8.0	---	---	19.0	20.0	27.0	29.0	27.0	28.0
11	21.0	12.0	12.5	9.5	8.5	13.0	20.0	20.0	25.5	31.0	28.0	30.0
12	21.5	14.0	11.5	9.5	9.5	13.0	19.5	21.5	27.0	29.0	29.0	31.5
13	21.5	16.0	12.5	10.0	10.0	14.0	19.0	22.0	28.0	29.0	29.0	28.5
14	20.0	17.0	12.0	10.5	10.5	15.0	20.0	23.0	27.5	29.0	30.0	31.5
15	19.5	15.5	12.5	9.0	---	15.0	21.0	22.0	30.0	28.0	29.5	29.0
16	19.5	16.0	11.0	8.0	---	14.0	19.5	23.0	30.0	27.0	29.0	29.0
17	21.5	14.0	12.5	9.5	12.0	15.0	20.0	24.0	28.5	27.0	28.0	27.0
18	22.5	13.0	11.5	7.5	12.0	16.0	19.0	23.0	29.0	28.0	30.0	29.5
19	22.5	14.0	10.5	8.0	13.0	16.5	21.5	24.0	29.0	28.0	30.0	29.5
20	22.5	13.0	10.5	7.5	13.0	19.0	20.0	22.0	29.0	27.0	30.0	28.0
21	21.5	13.0	10.0	7.5	15.0	19.0	21.0	22.0	28.0	28.0	28.0	29.0
22	19.5	12.0	9.5	8.0	15.0	19.0	21.5	23.0	30.0	28.0	28.0	26.0
23	19.0	12.0	9.0	8.0	15.0	19.0	22.0	23.5	31.0	28.0	---	25.0
24	18.0	12.0	9.0	9.5	14.0	20.0	22.5	23.5	31.0	28.0	29.0	21.5
25	18.0	11.0	9.0	11.5	14.0	---	23.5	23.5	29.0	30.0	---	25.0
26	17.0	10.0	9.0	12.0	13.0	19.0	25.0	23.0	29.0	29.0	29.0	26.0
27	16.0	9.0	9.5	12.0	12.0	18.5	24.5	23.5	30.0	27.5	29.5	23.0
28	15.0	10.0	9.0	---	13.0	17.0	25.0	25.0	30.0	27.0	32.0	28.0
29	15.0	10.5	8.0	10.5	---	16.5	19.5	24.0	30.5	27.0	32.0	28.5
30	14.0	11.0	8.5	10.5	---	16.0	24.5	23.5	30.0	22.0	30.5	24.0
31	14.0	---	9.5	10.5	---	15.0	---	24.0	---	27.0	30.0	---
MEAN	20.7	12.6	10.9	9.4	11.7	15.5	19.9	22.0	28.3	28.8	28.6	27.8
MAX	26.5	17.0	14.0	12.0	15.0	20.0	25.0	25.0	31.0	33.5	32.0	31.5
MIN	14.0	9.0	8.0	7.5	8.5	11.0	15.0	18.5	24.0	22.0	26.0	21.5

WTR YR 1994 MEAN 20.0 MAX 33.5 MIN 7.5

e Estimated

08022060 MARTIN LAKE NEAR TATUM, TX

LOCATION.--Lat 32°15'42", long 94°34'23", Rusk County, Hydrologic Unit 12010002, on retaining wall, 30 ft to right of intake to generating plant No. 1, 1.9 mi upstream from Martin Dam on Martin Creek, 5.8 mi southwest of Tatum, and 21.9 mi upstream from mouth.

DRAINAGE AREA.--130 mi².

PERIOD OF RECORD.--April 1974 to current year.

Water-quality records.--Chemical analyses: October 1974 to September 1984.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 15, 1976, non-recording gage near left end of dam 1.9 mi downstream at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 8,675 ft long, including a 1,000-foot uncontrolled spillway. Deliberate impoundment began in April 1974. The uncontrolled spillway is an excavated channel cut through natural ground and located at the left end of the dam. The controlled spillway is a concrete ogee design with four 14.0-by 40.0-foot-wide tainter gates located near the left end of the dam. The low-flow outlet works consist of a 3.0-by 5.0-foot conduit with a sluice gate located in one of the gate piers. There is an 8-inch pipe with sluice gate. The area and capacity tables are based on an aerial survey made in October 1971. There are no known diversions. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	321.5	-
Crest of uncontrolled spillway.....	312.0	111,500
Top of gates.....	308.0	87,960
Top of conservation pool.....	306.0	77,500
Crest of gated spillway.....	294.0	31,040
Lowest gated outlet (invert).....	284.0	10,320

COOPERATION.--Area and capacity tables provided by Forrest and Cotton, Consulting Engineers, for Texas Utilities Services, Inc.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 118,000 acre-ft Mar. 29, 1989 (elevation, 313.00 ft); minimum since first appreciable storage, 54,380 acre-ft Oct. 25, 1988 (elevation, 300.87 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 78,610 acre-ft Feb. 22 at 1700 hours (elevation, 306.22 ft); minimum, 65,690 acre-ft Oct. 8 (elevation, 303.52 ft).

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

300.0	50,960	306.0	77,500	312.0	111,500
302.0	59,040	308.0	87,960	313.0	118,000
304.0	67,880	310.0	99,300		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66320	66640	72830	73410	78000	77500	76600	75460	76850	73990	71100	70250
2	66190	66550	72920	73310	78000	76450	76500	76400	76950	73790	70870	70110
3	66100	66780	73020	73310	78050	77100	76450	77400	76950	73650	70720	69970
4	66010	66820	73020	73360	78100	77500	76500	77050	76900	73450	70630	69920
5	65960	66690	72970	73360	78200	76900	77050	76900	76950	73260	70490	69830
6	65830	66550	72920	73310	78260	77300	77200	76950	76800	73020	70440	69730
7	65780	66410	72870	73210	76950	77350	76600	77000	76900	72870	70350	69690
8	65780	66370	72920	73210	77000	76350	76600	77050	76600	72730	71820	69450
9	66230	66410	72970	73160	77150	76950	76750	77200	76400	72540	71870	69360
10	66230	66410	73020	73210	77150	77550	76850	77300	76150	72390	71770	69270
11	66190	66410	72920	73360	77450	77950	77350	77150	76550	72340	71720	69080
12	66140	66410	72970	73450	77050	76500	77100	77150	76450	72680	71630	68990
13	66280	66460	73070	73410	76400	76550	77500	77000	76250	72390	71530	68890
14	66280	67050	73120	73360	76550	76700	77650	77250	76100	72440	71390	68710
15	66280	67090	73070	73450	76750	76800	75850	77300	76000	73260	71200	68520
16	66280	70820	73070	73410	76750	76950	75900	76950	75950	73310	71010	68380
17	66280	72390	73360	73450	76850	76900	75900	76450	75850	73260	70910	68240
18	66230	72730	73360	73410	77000	76950	75950	76550	75760	73160	70770	68010
19	66190	72780	73410	73410	76350	77050	75900	76550	75710	73020	70680	67870
20	67280	72780	73450	73360	77550	77150	75900	76500	75610	72870	70820	67690
21	67510	72830	73550	73410	77100	77050	75900	76500	75560	72680	71150	67550
22	67460	72830	73450	73450	78260	77050	75900	76500	75460	72780	71150	67370
23	67370	72830	73450	73410	77000	77150	75850	76450	75310	72680	71060	67230
24	67370	72830	73500	73550	77050	77150	75850	76400	75210	72490	70960	67050
25	67320	72920	73450	74280	77200	77150	75760	76350	75160	72300	70870	66960
26	67190	72920	73500	75510	77400	77250	75710	76350	74870	71960	70770	66780
27	67140	72870	73500	77500	77600	77950	75710	76250	74620	71870	70630	66590
28	67050	72870	73450	77350	77750	77050	75560	76250	74530	71670	70490	66500
29	67000	72830	73410	77700	---	76650	75660	76800	74230	71580	70350	66410
30	66820	72920	73410	77750	---	76450	75510	76900	74130	71390	70200	66320
31	66780	---	73450	77900	---	76550	---	76950	---	71150	70160	---
MAX	67510	72920	73550	77900	78260	77950	77650	77400	76950	73990	71870	70250
MIN	65780	66370	72830	73160	76350	76350	75510	75460	74130	71150	70160	66320
(+)	303.76	305.07	305.18	306.08	306.05	305.81	305.60	305.89	305.32	304.70	304.49	303.66
(@)	+320	+6140	+530	+4450	-150	-1200	-1040	+1440	-2820	-2980	-990	-3840

CAL YR 1993 MAX 81740 MIN 65780 (@) -3400
WTR YR 1994 MAX 78260 MIN 65780 (@) -140

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

08022070 MARTIN CREEK NEAR TATUM, TX

LOCATION.--Lat 32°17'44", long 94°29'29", Panola County, Hydrologic Unit 1201002, on right bank, 35 ft downstream from right abutment, 360 ft to right of bridge on State Highway 149, 50 ft upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 1.7 mi upstream from Hogan Creek, 2.0 mi southeast of Tatum, 5.0 mi downstream from Martin Lake, and 15.0 mi upstream from mouth.

DRAINAGE AREA.--148 mi².

PERIOD OF RECORD.--April 1974 to current year.

REVISED RECORDS.--WDR TX-76-1: 1975; WDR TX-91-1: 1989 & 1990; WDR TX-93-1: 1988 - 1992.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 240.26 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 31, 1978, at site 50 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow is largely regulated by Martin Lake, located 5 mi upstream. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--The third highest stage since 1948 occurred in April 1969 and reached a stage of 18.15 ft. A flood in April 1957 reached a stage of 13.95 ft, from information by Texas Department of Public Transportation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	8.8	10	8.5	17	1250	11	9.7	12	7.4	7.0	5.0
2	5.5	8.7	10	8.5	16	1820	9.8	12	11	7.4	6.9	6.1
3	6.0	11	12	8.5	16	923	9.7	356	13	7.3	7.0	3.8
4	5.8	12	15	8.7	16	91	9.6	503	12	7.0	6.9	4.1
5	5.8	10	13	8.8	15	278	13	496	11	6.7	6.8	5.2
6	5.8	9.0	11	9.3	14	321	20	133	9.9	6.7	6.7	5.1
7	5.6	8.4	9.9	9.9	608	131	20	15	9.1	6.6	6.1	5.3
8	5.6	8.8	9.2	9.8	347	75	381	13	8.8	6.6	6.8	4.4
9	27	9.2	7.3	11	40	969	62	14	8.3	6.7	23	2.0
10	15	9.8	6.9	12	90	179	15	20	21	6.7	9.0	5.2
11	7.2	9.7	6.6	19	1330	34	23	139	516	7.7	6.3	5.3
12	6.3	9.3	6.3	23	293	64	1120	59	85	42	5.4	4.8
13	11	9.3	15	19	1100	928	655	13	16	18	5.2	4.7
14	11	38	15	18	235	93	104	166	11	10	4.9	4.9
15	7.1	30	11	17	30	23	327	1500	9.9	48	6.0	5.2
16	6.5	457	12	17	21	18	748	851	11	49	6.7	4.9
17	6.0	340	14	22	18	16	52	1290	14	13	6.6	4.8
18	5.7	40	22	21	17	15	13	186	11	9.8	6.2	4.8
19	5.5	18	18	18	41	15	11	25	11	8.7	6.5	5.0
20	52	14	15	18	621	13	11	16	10	8.1	6.8	5.2
21	52	13	15	18	1580	9.6	9.8	14	9.9	7.8	16	5.2
22	15	11	15	18	2660	7.7	9.3	13	9.8	11	11	5.3
23	10	11	15	18	3280	7.3	9.0	12	9.2	12	7.9	5.1
24	9.1	10	15	18	1250	8.2	8.9	12	11	8.8	7.3	5.1
25	8.7	11	11	26	180	7.0	8.5	11	12	7.8	7.0	4.9
26	8.4	14	9.0	78	32	6.6	8.3	11	8.9	7.6	7.0	4.8
27	8.2	14	7.7	177	23	37	7.9	12	8.1	7.4	5.7	4.8
28	8.1	12	7.5	594	20	64	7.3	13	7.7	7.3	4.4	4.6
29	8.1	11	7.3	390	---	920	7.1	13	7.7	7.2	4.2	4.5
30	9.1	11	7.5	38	---	152	10	25	7.5	7.2	4.6	4.6
31	9.2	---	7.9	20	---	15	---	15	---	7.3	3.8	---
TOTAL	351.7	1179.0	357.1	1682.0	13910	8490.4	3701.2	5967.7	902.8	374.8	286.9	144.7
MEAN	11.3	39.3	11.5	54.3	497	274	123	193	30.1	12.1	9.25	4.82
MAX	52	457	22	594	3280	1820	1120	1500	516	49	68	6.1
MIN	5.4	8.4	6.3	8.5	14	6.6	7.1	9.7	7.5	6.6	3.8	2.0
AC-FT	698	2340	708	3340	27590	16840	7340	11840	1790	743	569	287

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1994, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	18.3	41.7	148	169	307	225	160	157	187	22.4	11.6	7.68								
MAX	151	323	640	713	880	1045	1098	617	1360	198	119	37.4								
(WY)	1992	1991	1988	1991	1983	1989	1991	1990	1993	1976	1977	1979								
MIN	1.40	2.15	3.72	3.07	12.2	5.46	4.12	5.84	3.51	1.85	1.65	1.37								
(WY)	1981	1978	1981	1981	1981	1986	1981	1977	1978	1977	1982	1980								

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1975 - 1994

ANNUAL TOTAL	88677.2	37348.3	
ANNUAL MEAN	243	102	
HIGHEST ANNUAL MEAN			120
LOWEST ANNUAL MEAN			280
HIGHEST DAILY MEAN	22900	Jun 21	21.6
LOWEST DAILY MEAN	2.5	Aug 26	22900
ANNUAL SEVEN-DAY MINIMUM	3.0	Aug 25	.42
INSTANTANEOUS PEAK FLOW			.91
INSTANTANEOUS PEAK STAGE			31900
ANNUAL RUNOFF (AC-FT)	175900	74080	20.09
10 PERCENT EXCEEDS	583	182	278
50 PERCENT EXCEEDS	14	11	10
90 PERCENT EXCEEDS	5.0	5.4	2.8

LOCATION.--Lat 31°58'20", long 94°00'22", De Soto Parish, Louisiana-Shelby County, Texas State line at Logansport, Hydrologic Unit 12010004, on left bank just upstream from bridge on U.S. Highway 84, 3 mi upstream from Bayou Castor, 111 mi upstream from Toledo Bend Dam, and at mile 267.1.

PERIOD OF RECORD.--Gage-height record March 1968 to current year. Daily discharge record July 1903 to February 1968.

GAGE.--Water-stage recorder. Datum of gage is 147.72 ft above National Geodetic Vertical Datum of 1929. July 1, 1903, to Sept. 30, 1956, nonrecording gage. Oct. 1, 1956, to Jan. 16, 1964, water-stage recorder 4,600 ft upstream. Jan. 16, 1964, to Dec. 10, 1968, water-stage recorder 4,700 ft upstream. All gages to present datum except prior to Dec. 31, 1906 when datum was 2.00 ft lower.

REMARKS.--Records good. Station discontinued as a daily streamflow station on Mar. 1, 1968, due to backwater from storage in Toledo Bend Reservoir (station 08025350). Ten major reservoirs, with a combined capacity of 1,824,000 acre-ft, largely regulate the flow. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08018500. Numerous diversions above station for oil field operations, municipal, and industrial uses. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height (1968-91), 34.78 ft Apr. 16, 1991; minimum since initial filling of Toledo Bend Reservoir in June 1968, 16.85 ft Nov. 9, 1987. Maximum discharge (1903-67), 92,000 ft³/s Apr. 8, 1945 (gage height, 44.07 ft, from floodmark); minimum, 16 ft³/s Sept. 26-28, Oct. 3, 4, 1939. Maximum stage since at least 1884, that of Apr. 8, 1945.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 26.44 ft Mar. 11 at 1330 hours; minimum, 17.29 ft at 0230 on Oct. 22.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.96	19.48	17.96	18.39	19.98	26.14	23.33	23.02	24.99	23.30	24.05	22.46
2	17.51	19.57	17.93	18.42	19.82	26.14	23.32	23.11	24.88	23.14	24.10	22.61
3	17.60	19.68	18.10	18.15	19.99	26.05	22.70	23.42	24.61	23.10	24.27	22.52
4	17.74	19.86	18.02	18.19	19.82	25.84	22.74	23.63	24.48	23.12	24.23	22.52
5	17.74	19.71	17.92	18.54	19.71	25.90	22.51	23.82	24.47	23.09	24.09	22.64
6	17.72	19.44	17.82	18.12	19.78	25.92	22.55	23.98	24.32	23.00	23.81	22.25
7	17.71	18.54	17.78	17.79	19.88	25.87	22.68	23.96	24.22	23.09	23.67	22.19
8	17.67	17.99	17.72	18.06	19.91	25.75	22.81	23.90	24.30	22.97	24.01	22.06
9	17.54	17.81	18.08	18.18	19.67	26.06	22.81	23.91	24.32	22.90	24.09	21.90
10	17.72	17.73	17.86	18.07	21.42	26.34	22.87	23.95	24.23	22.95	23.97	21.83
11	17.82	17.77	17.95	18.08	22.83	26.35	22.87	24.03	24.13	22.78	23.92	21.79
12	17.87	17.76	18.28	18.06	22.51	26.20	22.86	24.06	24.16	22.98	23.75	21.74
13	17.79	17.78	18.10	18.07	22.27	26.10	23.11	24.24	24.08	23.00	23.65	21.68
14	17.91	17.80	18.26	18.11	22.11	26.07	23.28	24.43	24.11	22.74	23.67	21.63
15	17.88	17.81	18.43	18.22	21.90	26.02	23.23	24.46	23.99	22.86	23.45	21.52
16	17.84	17.86	18.56	18.44	21.78	25.90	23.47	24.74	23.90	22.91	23.43	21.43
17	17.82	18.35	18.59	18.27	21.67	25.88	23.48	24.90	23.77	23.15	23.38	21.35
18	18.00	19.00	18.59	18.34	21.75	25.60	23.39	25.19	23.69	23.33	23.45	21.32
19	18.02	18.80	18.75	18.47	21.72	25.50	23.27	25.46	23.70	23.33	23.33	21.27
20	17.84	18.28	18.58	18.26	21.74	25.26	23.23	25.56	23.64	23.44	23.38	21.16
21	17.65	18.10	18.78	18.29	22.19	24.95	23.11	25.47	23.65	23.53	23.27	21.12
22	17.90	18.07	18.75	18.30	23.44	24.82	23.13	25.22	23.75	23.46	23.48	20.62
23	18.29	18.12	18.87	18.34	24.02	24.70	23.08	25.03	23.80	23.49	23.45	21.00
24	18.47	17.99	18.86	18.44	24.66	24.40	23.18	24.91	23.52	23.62	23.40	20.71
25	18.54	17.95	18.86	18.50	24.91	24.36	23.22	24.94	23.67	23.74	23.32	20.74
26	18.61	17.99	19.02	18.69	25.52	24.35	23.14	24.79	23.69	23.73	23.32	20.66
27	18.72	18.16	18.91	19.83	25.90	23.97	23.19	24.78	23.58	23.61	23.12	20.59
28	19.00	18.12	18.64	20.67	25.91	23.83	23.04	24.82	23.42	23.73	22.78	20.48
29	18.90	18.03	18.58	20.96	---	23.84	23.10	24.99	23.39	23.84	22.72	20.43
30	18.81	17.99	18.53	20.59	---	23.46	22.78	24.88	23.25	23.86	22.70	20.36
31	19.21	---	18.55	20.24	---	23.42	---	24.91	---	23.98	22.58	

08025350 TOLEDO BEND RESERVOIR NEAR BURKEVILLE, TX

LOCATION.--Lat 31°10'25", long 93°33'57", Newton County, Hydrologic Unit 12010004, in powerhouse at right end of Toledo Bend Dam on Sabine River, 15 mi northeast of Burkeville, and at mile 156.5.

DRAINAGE AREA.--7,178 mi².

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Sabine River Authority). Prior to July 20, 1967, nonrecording gage at same site and datum. July 20, 1967, to June 30, 1973, recording gage at right end of spillway 1.6 mi north of present site and at same datum.

REMARKS.--The reservoir is formed by a rolled earthfill dam. Closure of embankment completed and deliberate impoundment began Oct. 3, 1966. The reservoir is operated for hydro-electric power generation and water conservation. Releases during high inflow periods are controlled by eleven 40- x 28-foot tainter gates. An 8.33- x 12-foot gated conduit through the dam is used for low-flow releases. Two additional 20-inch-diameter conduits, that bypass the larger conduit, may also be used for low-flow releases. Water for turbines is admitted through four 16.75- x 29-foot penstocks and controlled by vertically operated caterpillar-type gates. The capacity table is based on U.S. Geological Survey topographic maps. For statement regarding regulation by upstream reservoirs, see station 08020000. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	185.0	-
Design flood.....	175.3	5,102,000
Top of gates.....	173.0	4,660,000
Top of power drawdown storage.....	172.0	4,476,000
Top of power head storage.....	162.2	2,922,000
Crest of spillway (controlled).....	145.0	1,162,000
Lowest gated outlet (invert).....	100.0	4,090

COOPERATION.--Capacity table furnished by the Sabine River Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 4,840,000 acre-ft May 18, 1989 (elevation, 173.95 ft); minimum since initial filling of reservoir in June 1968, 3,290,000 acre-ft Nov. 14, 15, 1987 and Oct. 20, 1994 (elevation, 164.78 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,498,000 acre-ft May 30 at 0700 hours (elevation, 172.12 ft); minimum, 3,290,000 acre-ft Oct. 20 (elevation, 164.78 ft).

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

164.0	3,175,000	168.0	3,788,000	172.0	4,476,000
166.0	3,473,000	170.0	4,123,000	173.0	4,660,000

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3318000	3352000	3349000	3413000	3641000	4203000	4113000	4243000	4476000	4335000	4267000	4160000
2	3325000	3352000	3345000	3408000	3646000	4194000	4072000	4333000	4478000	4333000	4276000	4163000
3	3336000	3375000	3352000	3408000	3646000	4208000	4070000	4301000	4474000	4326000	4281000	4158000
4	3322000	3378000	3370000	3413000	3654000	4210000	4070000	4318000	4458000	4310000	4299000	4140000
5	3322000	3420000	3370000	3394000	3665000	4210000	4149000	4331000	4458000	4304000	4315000	4130000
6	3318000	3397000	3364000	3413000	3665000	4213000	4130000	4336000	4449000	4292000	4310000	4120000
7	3306000	3382000	3358000	3428000	3665000	4227000	4113000	4344000	4438000	4281000	4311000	4094000
8	3303000	3381000	3352000	3397000	3674000	4245000	4108000	4363000	4421000	4281000	4383000	4072000
9	3345000	3378000	3352000	3390000	3732000	4331000	4121000	4369000	4401000	4287000	4381000	4053000
10	3325000	3367000	3384000	3397000	3806000	4333000	4106000	4370000	4422000	4290000	4374000	4038000
11	3318000	3352000	3382000	3413000	3846000	4347000	4120000	4381000	4415000	4278000	4367000	4023000
12	3315000	3349000	3349000	3413000	3928000	4351000	4158000	4386000	4421000	4273000	4354000	4007000
13	3313000	3336000	3405000	3414000	3953000	4351000	4154000	4383000	4422000	4266000	4351000	3999000
14	3310000	3376000	3404000	3413000	3965000	4349000	4161000	4431000	4410000	4264000	4351000	3987000
15	3306000	3366000	3405000	3410000	3985000	4351000	4210000	4440000	4415000	4260000	4333000	3982000
16	3300000	3413000	3410000	3426000	3980000	4345000	4219000	4444000	4419000	4250000	4317000	3973000
17	3304000	3404000	3414000	3455000	3970000	4317000	4220000	4458000	4417000	4252000	4297000	3961000
18	3300000	3390000	3413000	3444000	3955000	4327000	4227000	4460000	4410000	4257000	4278000	3946000
19	3288000	3435000	3414000	3443000	3941000	4311000	4233000	4465000	4404000	4250000	4260000	3932000
20	3322000	3402000	3444000	3446000	3965000	4301000	4234000	4476000	4404000	4245000	4276000	3913000
21	3327000	3387000	3420000	3444000	3970000	4302000	4240000	4469000	4395000	4245000	4276000	3900000
22	3322000	3382000	3458000	3447000	4041000	4283000	4245000	4472000	4386000	4245000	4266000	3897000
23	3318000	3381000	3426000	3444000	4121000	4262000	4238000	4472000	4385000	4245000	4259000	3882000
24	3318000	3404000	3431000	3447000	4108000	4278000	4226000	4471000	4383000	4247000	4245000	3857000
25	3322000	3397000	3420000	3458000	4140000	4248000	4213000	4460000	4365000	4247000	4231000	3841000
26	3325000	3382000	3410000	3468000	4142000	4227000	4215000	4472000	4365000	4264000	4220000	3828000
27	3334000	3364000	3414000	3555000	4140000	4260000	4213000	4478000	4360000	4259000	4210000	3816000
28	3322000	3360000	3429000	3574000	4128000	4207000	4213000	4474000	4354000	4250000	4208000	3808000
29	3404000	3352000	3434000	3597000	---	4175000	4217000	4493000	4351000	4252000	4193000	3803000
30	3385000	3352000	3425000	3614000	---	4175000	4248000	4493000	4335000	4257000	4175000	3800000
31	3352000	---	3414000	3639000	---	4147000	---	4494000	---	4264000	4173000	---
MAX	3404000	3435000	3458000	3639000	4142000	4351000	4248000	4494000	4478000	4335000	4383000	4163000
MIN	3288000	3336000	3345000	3390000	3641000	4147000	4070000	4243000	4335000	4245000	4173000	3800000
(+)	165.20	165.20	165.61	167.07	170.03	170.14	170.72	172.10	171.21	170.81	170.29	168.07
(@)	+28000	0	+62000	+225000	+489000	+19000	+101000	+246000	-159000	-71000	-91000	-373000

CAL YR 1993 MAX 4642000 MIN 3288000 (@) -694000
WTR YR 1994 MAX 4494000 MIN 3288000 (@) +476000

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

08025360 SABINE RIVER AT TOLEDO BEND RESERVOIR NEAR BURKEVILLE, TX

LOCATION.--Lat 31°10'25", long 93°33'57", Newton County, Hydrologic Unit 12010005, in powerhouse at right end of Toledo Bend Dam, 10 mi upstream from Sabine River near Burkeville gage, and at mile 156.5.

DRAINAGE AREA.--7,178 mi².

PERIOD OF RECORD.--October 1971 to current year.

Water-quality records.--Chemical and biochemical analyses: October 1967 to September 1986.

GAGE.--Water-stage recorders. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Sabine River Authority).

REMARKS.--Records poor. Daily discharges are a combination of releases from various outlets at the dam. Discharges for releases through the turbines are computed using scroll case differential pressure relationships and operation logs. Tainter gate releases, low-flow sluiceway releases, bypass gate releases, and turbine leakages are based on discharge measurements and operation logs.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	1540	4200	4010	167	15200	e15800	204	e6400	3720	4030	e6000
2	769	3320	4250	4010	174	15200	e16000	204	e6670	3930	4030	e6330
3	144	4490	174	3950	174	15200	e16000	204	e6300	204	3950	3540
4	782	4470	4230	764	174	15300	8190	204	e6200	3940	4220	e6000
5	1140	4520	4290	1550	831	e15000	204	204	e6780	4040	4000	6790
6	1140	4320	4060	1620	204	e14900	204	1860	e6180	4100	4010	e9200
7	1900	4350	4180	1550	204	e14400	204	204	e6810	4290	204	e9400
8	1560	4050	4120	1550	204	e14500	204	204	e6760	3880	e6500	e9400
9	174	4370	155	1620	204	e14900	204	3390	e7040	3440	6770	e9900
10	174	4390	153	1350	204	e15100	204	3520	e7040	204	e6700	7340
11	1700	4420	3850	1620	204	e15200	204	1650	4010	3860	e6500	7540
12	1620	4350	3860	921	204	e15500	2340	1700	4110	3170	e6200	5460
13	1670	4230	886	926	204	e15400	2920	1780	4080	4240	3290	e4700
14	1640	4180	174	883	204	e15100	2960	174	3420	3960	204	e4300
15	1650	4190	3910	915	4560	e15000	2790	174	4180	4000	e6000	e5220
16	174	2680	204	1010	7220	e15000	2880	4010	4110	3910	e6200	e4450
17	174	174	3910	936	7140	e14400	2960	e6360	4210	204	e6450	e6290
18	1690	1770	3900	1490	7270	e14900	2860	e6320	4100	3440	e6200	4540
19	1620	6270	3870	2290	7460	e15000	2860	e6200	4260	4240	e6100	e4400
20	1730	4120	3970	1180	7160	e15100	2860	e6000	4210	4450	3510	e5000
21	1630	4300	3470	942	7110	e15000	2820	e5950	4130	3650	204	4620
22	1570	4150	3940	174	7180	e14900	2890	e5980	4100	3960	e6270	e5000
23	174	4310	4190	657	7280	e14800	2750	e6000	4260	4060	e6280	4990
24	174	4280	3850	923	12100	e15500	2860	e6000	4010	204	e6100	e3100
25	1610	4300	3910	923	15200	e15300	2820	e6100	204	e3130	e6260	e3030
26	1630	4270	3910	974	15200	e15000	2770	e6410	204	e3000	e6180	e4280
27	1670	4110	2180	174	15300	e14700	2990	e6390	3750	e3270	3580	e3580
28	1620	4190	4250	174	15200	e15000	2920	e6400	4020	e3400	287	e4090
29	1640	4260	4050	174	---	e15000	3150	e6400	3960	e3500	e6200	e4080
30	174	4250	4010	174	---	e15700	204	e6380	3730	3390	e6100	e4140
31	174	---	4210	174	---	e15700	---	e6380	---	204	e6300	---
TOTAL	34657	118624	100316	39608	138736	466900	109022	112956	139238	98990	148829	166710
MEAN	1118	3954	3236	1278	4955	15060	3634	3644	4641	3193	4801	5557
MAX	1900	6270	4290	4010	15300	15700	16000	6410	7040	4450	6770	9900
MIN	144	174	153	174	167	14400	204	174	204	204	204	3030
AC-FT	68740	235300	199000	78560	275200	926100	216200	224000	276200	196300	295200	330700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1994, BY WATER YEAR (WY)

	MEAN	1111	1869	5554	9013	9802	9979	8015	8102	6571	4954	3659	3075
MAX	6809	6567	17720	27680	20510	21450	19270	22170	24960	18790	6732	7323	
(WY)	1992	1974	1975	1974	1975	1992	1991	1991	1989	1989	1976	1991	
MIN	59.0	50.7	74.5	90.0	339	231	247	311	1999	1004	764	424	
(WY)	1976	1976	1976	1978	1981	1972	1978	1984	1982	1988	1984	198	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1972 - 1994

ANNUAL TOTAL	2919726	1674586		
ANNUAL MEAN	7999	4588		
HIGHEST ANNUAL MEAN			5959	
LOWEST ANNUAL MEAN			10070	
HIGHEST DAILY MEAN	26300	16000	1588	1975
114000	May 19 1989			1981
LOWEST DAILY MEAN	144	144		
30	Oct 1 1972			
ANNUAL SEVEN-DAY MINIMUM	296	173	34	Nov 21 1975
ANNUAL RUNOFF (AC-FT)	5791000	3322000	4317000	
10 PERCENT EXCEEDS	15100	14400	14800	
50 PERCENT EXCEEDS	7020	4010	3910	
90 PERCENT EXCEEDS	204	204	130	

e Estimated

08026000 SABINE RIVER NEAR BURKEVILLE, TX

LOCATION.--Lat 31°03'50", long 93°31'10", Newton County, Texas-Vernon Parish, Louisiana State line, Hydrologic Unit 12010005, near left edge of low-water channel at downstream side of bridge on State Highway 63, about 200 ft downstream from Pearl Creek, 10 mi northeast of Burkeville, 16 mi downstream from Bayou Toro, and at mile 139.7.

DRAINAGE AREA.--7,482 mi².

PERIOD OF RECORD.--September 1955 to current year. Published as "below Toledo Bend near Burkeville" for period 1955-75. Water-quality records.--Chemical and biochemical analyses: May 1968 to September 1986. Pesticide analyses: October 1972 to September 1981.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 60.59 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 23, 1958, nonrecording gage at current site. Prior to Jan. 1, 1989, at datum 10.00 ft higher.

REMARKS.--Records fair. Flow regulated by Toledo Bend Reservoir (station 08025350) 16.8 mi upstream. Rain gage at station. Telephone telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--11 years (water years 1956-66) prior to completion of Toledo Bend Reservoir, 4,653 ft³/s (3,371,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1956-66).--Maximum discharge, 52,900 ft³/s May 15, 1957 (gage height, 32.43 ft); minimum, 60 ft³/s Sept. 26-30, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1860: Flood in May 1884 reached a stage of 45.9 ft, current datum, from information by local resident. Flood of Apr. 15, 1945, reached a stage of 45.8 ft, current datum. Flood of May 23, 1953, reached a stage of 45.3 ft, current datum, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	893	766	4270	4320	922	15300	15100	902	6610	4010	2090	6170
2	1060	2490	4300	4460	825	16000	15200	1180	6710	3870	3720	6220
3	493	4090	1730	4500	769	15500	15300	1810	6580	2210	3750	5120
4	369	3600	3040	2420	751	14800	12300	3610	6530	2390	3790	4420
5	992	5220	4410	1890	1150	14500	1600	3590	6420	4030	3900	5720
6	1020	4570	4490	2170	1230	14600	1260	2640	6500	4170	3640	7460
7	1760	4350	4220	2140	843	14500	1710	1410	6530	4170	1960	9260
8	410	2890	4230	2140	857	14500	1110	675	6570	4240	3400	9020
9	1100	5700	1740	1930	784	17700	710	2560	6580	3550	6420	9260
10	376	4310	566	1970	871	19700	613	4320	6680	2290	6550	7250
11	872	4300	3160	1940	1490	18800	566	2920	3980	2460	6520	6450
12	1670	4480	4430	1880	1760	17400	3100	2060	4280	3560	6010	5780
13	1650	4260	2670	1320	1240	16000	5840	2030	3960	3720	5450	4420
14	1820	4420	769	1240	993	15600	4540	1160	3390	4170	1660	4380
15	1490	4410	3270	1200	2900	15500	e4000	561	3630	4130	3300	4570
16	1070	5620	1830	1270	7340	15100	e3700	1930	3840	3880	6230	4890
17	329	912	2900	1690	7750	14800	e3300	6210	4080	2210	6500	5140
18	844	616	4370	1820	7710	15000	e3350	6480	4150	2160	6300	4920
19	1600	6180	4260	2560	7970	15300	e3200	6420	4260	4050	5950	4250
20	1580	4270	4240	1640	7800	15300	e3000	6190	4260	4160	4790	4330
21	1640	4260	3700	1290	8230	15300	2820	6220	4190	4160	1660	4150
22	1530	4350	4030	631	8470	15200	2750	6240	4060	3970	3320	4380
23	1030	4150	4420	905	10600	15100	2720	6360	4070	3920	6300	4340
24	298	4000	4310	1210	12000	15000	2800	6170	4130	2210	6220	3450
25	782	4160	4170	794	15800	14500	2740	6350	2430	2250	6000	3000
26	1560	4090	4050	1230	15400	14600	2720	6580	604	e2800	6670	4190
27	1540	3950	3270	4110	15100	14200	2640	6660	2310	e3600	4750	4010
28	1570	4060	3440	7930	15000	14300	2720	6760	3370	3740	1720	4240
29	1530	4140	3450	3510	---	14300	2700	6660	3720	3740	3100	4340
30	1090	4220	4960	2120	---	14900	2040	6780	4150	3530	6440	4380
31	310	---	4280	1170	---	15100	---	6690	---	1840	6570	---
TOTAL	34278	118834	108975	69400	156555	478400	126149	130128	138574	105190	144680	159510
MEAN	1106	3961	3515	2239	5591	15430	4205	4198	4619	3393	4667	5317
MAX	1820	6180	4960	7930	15800	19700	15300	6780	6710	4240	6670	9260
MIN	298	616	566	631	751	14200	566	561	604	1840	1660	3000
AC-FT	67990	235700	216200	137700	310500	948900	250200	258100	274900	208600	287000	316400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1994#, BY WATER YEAR (WY)

	MEAN	1154	1814	5463	8344	9012	9933	8410	8208	6404	4715	3312	2910
MAX	6846	6737	17940	28510	21470	22180	26530	23660	25310	23750	6662	7099	
(WY)	1992	1974	1975	1974	1975	1969	1969	1991	1989	1989	1976	1991	
MIN	82.5	86.2	247	484	266	485	231	471	400	292	91.7	77.6	
(WY)	1968	1968	1968	1968	1968	1968	1971	1967	1970	1967	1967	1967	

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1967 - 1994#
ANNUAL TOTAL	2983533	1770673	
ANNUAL MEAN	8174	4851	5793
HIGHEST ANNUAL MEAN			10730
LOWEST ANNUAL MEAN			548
HIGHEST DAILY MEAN	29400	19700	111000
LOWEST DAILY MEAN	298	298	38
ANNUAL SEVEN-DAY MINIMUM	563	861	41
INSTANTANEOUS PEAK FLOW		20400	116000
INSTANTANEOUS PEAK STAGE		29.57	47.45
ANNUAL RUNOFF (AC-FT)	5918000	3512000	4196000
10 PERCENT EXCEEDS	15100	14300	15300
50 PERCENT EXCEEDS	7170	4030	2990
90 PERCENT EXCEEDS	1080	1010	251

e Estimated

Period of regulated streamflow.

SABINE RIVER MAIN STEM

197

08028500 SABINE RIVER NEAR BON WIER, TX

LOCATION.--Lat 30°44'49", long 93°36'30". Beauregard Parish, Louisiana-Newton County, Texas State line, Hydrologic Unit 12010005, near left bank at downstream side of bridge on U.S. Highway 190, 0.7 mi upstream from Quicksand Creek, 0.8 mi upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 2.0 mi east of Bon Wier, 2.4 mi upstream from Caney Creek, and at mile 97.7.

DRAINAGE AREA.--8,229 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1312. Gage-height records collected in this vicinity since 1913 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1342: 1953. WSP 1442: 1924, 1926-27(M), 1929(M), 1939. WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 33.42 ft above National Geodetic Vertical Datum of 1929. Prior to July 8, 1931, nonrecording gage at site 0.8 mi downstream at datum 13.00 ft higher. July 8, 1931, to Oct. 15, 1958, nonrecording gage at present site at datum 13.00 ft higher. Oct. 16, 1958, to Sept. 30, 1975, water-stage recorder at present site at datum 13.00 ft higher. Oct. 1, 1975, to Dec. 31, 1988, at present site at datum 10.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since October 1966, flow regulated by Toledo Bend Reservoir (station 08025350) 58.8 mi upstream. Telephone telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--43 years (water years 1924-66) prior to completion of Toledo Bend Reservoir, 6,846 ft³/s (4,960,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1924-66).--Maximum discharge, 115,000 ft³/s May 19, 1953 (gage height, 38.70 ft, current datum); minimum, 160 ft³/s Sept. 29, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1833, 43.5 ft Apr. 23 or 24, 1913, from information by Gulf, Colorado, and Santa Fe Railway Co. and local residents. Flood in May 1884 reached a stage of 39 ft. Floods occurring about 1844 and 1860 were higher than flood in May 1884, from information by local residents. All flood data referenced to current datum.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	544	611	4300	e4450	9460	16600	16800	2750	7870	4390	2270	7700
2	963	977	4270	e4450	5860	17900	16700	1960	7700	4310	2880	7390
3	1210	2840	4270	e4500	3450	18500	16900	2950	7690	4270	4120	7600
4	771	4250	2210	e4500	2690	18000	16800	5210	7470	2450	4330	5420
5	547	4140	3740	2510	2460	17200	10000	5730	7670	3150	4580	6000
6	1080	4770	4600	2130	2470	16800	3370	4960	7800	4280	4650	7040
7	1200	4380	4540	2240	2330	16700	3570	4020	7550	4410	4300	9790
8	1820	4260	4260	2170	1890	16400	3900	2600	7330	4440	2450	10800
9	1720	3640	4240	2150	1760	18300	2870	1870	7180	4490	4740	10700
10	1310	4940	2410	2040	1780	25200	2220	6070	7230	4070	6860	10600
11	725	4450	2130	2080	2490	25600	1940	7880	6910	2720	7110	8410
12	1120	4350	3830	2220	3240	24300	3450	4830	4930	3490	7050	7890
13	1890	4380	e4850	2190	3190	22300	8240	3600	5210	4110	6800	6480
14	1910	4300	e3100	1800	2470	19800	8030	3350	4790	4520	5280	5550
15	2010	4980	e1550	1680	1990	18600	6700	2710	4090	4740	2300	5380
16	1790	5240	e3600	1630	4350	18100	5510	2590	4270	4650	4530	5980
17	1280	5580	e2400	2730	7360	17600	5040	4820	4450	4510	6700	5580
18	629	3270	e3200	5520	7580	17000	4740	7930	4570	2670	7030	6680
19	1050	2800	e4650	4750	7650	17100	4380	7950	4600	3160	6710	5710
20	1790	5670	e4550	4030	7830	17100	4170	7660	4670	4500	6490	5120
21	1910	4580	e4500	2790	8520	17100	4090	7340	4690	4630	5080	5310
22	1990	4500	e4150	2260	9640	17000	4030	7220	4770	4370	2450	5220
23	1890	4470	e4500	1620	12900	16900	3950	7230	4740	4340	4880	5360
24	1300	4360	e4850	1620	14700	16800	3900	7190	4630	4240	6950	5370
25	630	4260	e4700	1810	16800	16500	3890	7030	4840	2430	6920	4250
26	1010	4320	e4600	1540	18200	16400	3840	7250	3050	2980	6840	3930
27	1780	4200	e4500	5200	17400	16300	3730	7450	1710	4020	6990	5180
28	1800	4170	e3650	23000	16800	16000	3680	7690	3240	4260	4960	4890
29	1850	4230	e3700	21500	---	16100	3670	7970	4060	4260	2320	5180
30	1830	4290	e3700	19400	---	16200	3700	7860	4230	4280	4970	5270
31	1250	---	e5000	14700	---	16600	---	7880	---	4000	7570	---
TOTAL	42599	123208	120550	155210	197260	561000	183810	173550	163940	123140	161110	195780
MEAN	1374	4107	3889	5007	7045	18100	6127	5598	5465	3972	5197	6526
MAX	2010	5670	5000	23000	18200	25600	16900	7970	7870	4740	7570	10800
MIN	544	611	1550	1540	1760	16000	1940	1870	1710	2430	2270	3930
AC-FT	84500	244400	239100	307900	391300	1113000	364600	344200	325200	244200	319600	388300

SABINE RIVER MAIN STEM

08028500 SABINE RIVER NEAR BON WIER, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1994#, BY WATER YEAR (WY)

MEAN	1668	2548	6778	9939	10860	11590	9993	9427	7409	5608	3840	3410
MAX	7315	8913	21420	30930	23200	24470	27370	28150	26340	31490	7288	8247
(WY)	1992	1987	1983	1974	1975	1992	1969	1991	1989	1989	1976	1991
MIN	188	217	822	1000	746	1288	634	1186	663	621	211	206
(WY)	1968	1968	1981	1981	1968	1981	1971	1971	1970	1967	1967	1967

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1967 - 1994#	
ANNUAL TOTAL	3301550		2201157		6904	
ANNUAL MEAN	9045		6031		12670	
HIGHEST ANNUAL MEAN					1172	
LOWEST ANNUAL MEAN					1967	
HIGHEST DAILY MEAN	31200	Apr 11	25600	Mar 11	98000	Jul 4 1989
LOWEST DAILY MEAN	544	Oct 1	544	Oct 1	134	Nov 9 1966
ANNUAL SEVEN-DAY MINIMUM	758	Sep 29	902	Oct 1	142	Nov 3 1966
INSTANTANEOUS PEAK FLOW			26800	Jan 28	98200	Jul 4 1989
INSTANTANEOUS PEAK STAGE			30.45	Jan 28	37.90	Jul 4 1989
ANNUAL RUNOFF (AC-FT)	6549000		4366000		5002000	
10 PERCENT EXCEEDS	16900		16400		16900	
50 PERCENT EXCEEDS	7320		4500		3990	
90 PERCENT EXCEEDS	1790		1830		736	

e Estimated

Period of regulated streamflow.

SABINE RIVER MAIN STEM

199

08028500 SABINE RIVER NEAR BON WIER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year. Chemical and biochemical analyses: October 1969 to May 1973. Sediment analyses: April 1957 to September 1962.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1969 to June 1983.

WATER TEMPERATURE: November 1969 to June 1983.

COLOR: November 1969 to June 1983.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 407 microsiemens Aug. 31, 1978; minimum daily, 34 microsiemens Feb. 3, 1983.

WATER TEMPERATURE: Maximum daily, 33.0°C July 17, 1978, and July 14, 26, 1980; minimum daily, 4.0°C Feb. 2, 1980.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT							
07...	1825	1210	169	26.0	40	21	17
16...	1710	2020	168	24.0	40	20	20
23...	1610	2020	168	24.0	50	23	19
30...	1735	2080	163	16.0	45	21	15
NOV							
04...	1230	4900	146	18.0	30	19	17
10...	1240	5410	148	17.0	30	19	18
18...	1630	2870	151	18.0	140	26	16
25...	1350	4760	151	15.0	40	19	17
DEC							
03...	1610	4630	151	17.0	30	18	20
13...	1720	4870	154	13.5	50	19	18
21...	1550	4760	158	13.0	40	20	19
29...	1330	4530	157	13.0	40	19	18
JAN							
08...	1450	2200	180	13.0	50	25	20
12...	1615	2360	169	12.0	40	22	18
22...	1615	2260	165	11.0	100	25	17
29...	1620	20200	26	13.0	280	4.2	2.8
FEB							
12...	1600	3370	98	14.0	120	13	11
19...	1705	7740	142	15.0	50	17	16
25...	1700	18100	128	13.0	70	16	14
MAR							
06...	1540	16800	137	14.5	40	17	16
11...	1750	25200	107	13.0	70	14	12
21...	1545	17200	140	13.0	40	17	16
26...	1735	16400	139	18.0	40	17	16
APR							
02...	1805	16800	140	18.0	40	17	16
08...	1940	3700	133	22.0	120	20	14
27...	1415	3870	151	25.0	50	21	17
MAY							
03...	1840	3700	134	20.0	70	18	14
06...	1750	4600	54	22.0	140	8.5	5.2
10...	1655	8580	131	26.0	90	19	13
18...	2000	8050	135	24.0	50	18	15
28...	1655	7750	134	25.0	50	17	15
JUN							
05...	1945	8020	138	26.0	50	19	16
11...	1225	7240	137	25.0	50	18	16
19...	1600	5310	138	28.0	50	18	16
23...	2010	5030	142	28.0	60	19	16
30...	1520	4800	145	28.0	60	19	17
JUL							
20...	1915	5020	145	30.0	60	19	17
26...	1745	4440	140	31.0	50	16	15
AUG							
03...	1950	4620	140	20.0	60	17	17
07...	2000	4680	145	30.0	60	19	17
16...	1840	6600	142	29.0	60	18	16
28...	1505	5120	143	30.0	60	18	17
SEP							
03...	1440	8860	135	28.0	20	17	16
10...	1200	11800	138	28.0	20	17	16
17...	1315	6170	139	20.0	20	17	16
25...	1425	4640	147	25.0	20	18	17
30...	1215	5760	146	26.0	20	18	17

08029500 BIG COW CREEK NEAR NEWTON, TX

LOCATION.--Lat 30°49'08", long 93°47'07", Newton County, Hydrologic Unit 12010005, near center of span at downstream side of bridge on State Highway 87, 2.6 mi southwest of Newton, 5.0 mi downstream from Melhones Creek, and 8.0 mi upstream from White Oak Creek.

DRAINAGE AREA.--128 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 134.69 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 19, 1957, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. No known diversion above station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1907, 27.5 ft in April 1922, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 28	0300	11,300	18.13	May 1	1300	1,180	14.27
Feb. 23	2000	1,390	14.69	May 4	0500	1,390	14.68
Mar. 10	0400	2,570	15.61				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	63	54	67	197	212	97	941	94	56	45	85
2	38	56	54	75	172	563	95	217	77	53	42	62
3	39	57	56	74	158	310	94	774	72	51	47	69
4	41	68	158	64	150	190	94	1080	69	50	57	95
5	41	77	170	59	153	162	95	307	94	49	77	71
6	40	64	95	58	158	149	153	145	92	50	114	59
7	40	57	69	59	141	141	195	113	65	50	71	55
8	39	54	61	58	136	135	126	103	58	48	57	48
9	49	62	59	55	136	818	106	107	54	58	115	45
10	122	97	140	54	215	1890	101	379	215	91	117	43
11	131	75	230	58	366	570	98	310	835	90	66	45
12	73	62	124	74	240	248	381	141	554	104	54	50
13	89	59	103	72	166	201	297	104	403	83	51	56
14	74	110	196	62	139	178	148	182	176	66	47	46
15	61	384	127	56	126	164	116	203	120	59	49	42
16	56	284	82	55	121	155	148	291	99	62	51	41
17	53	782	72	403	117	145	123	253	89	59	49	42
18	51	357	74	427	114	137	101	146	81	51	44	45
19	50	122	104	150	111	134	92	102	75	48	47	43
20	50	88	119	101	121	130	89	82	73	51	73	39
21	85	75	109	85	530	126	93	73	91	48	76	38
22	167	67	116	76	469	121	92	69	103	46	148	37
23	96	63	248	71	1160	118	91	66	107	48	114	37
24	62	61	137	68	753	117	88	64	107	48	79	37
25	55	60	94	66	260	116	101	62	87	44	58	36
26	53	59	79	82	192	111	103	60	72	42	67	36
27	52	58	72	891	162	113	88	91	63	41	59	36
28	50	58	69	5790	148	119	81	106	59	40	49	36
29	51	56	67	1290	---	114	76	105	55	40	46	35
30	61	54	64	374	---	103	177	79	55	39	50	35
31	84	---	61	243	---	99	---	88	---	40	65	---
TOTAL	1991	3589	3263	11117	6911	7889	3739	6843	4194	1705	2084	1444
MEAN	64.2	120	105	359	247	254	125	221	140	55.0	67.2	48.1
MAX	167	782	248	5790	1160	1890	381	1080	835	104	148	95
MIN	38	54	54	54	111	99	76	60	54	39	42	35
AC-FT	3950	7120	6470	22050	13710	15650	7420	13570	8320	3380	4130	2860
CFSM	.50	.93	.82	2.80	1.93	1.99	.97	1.72	1.09	.43	.53	.38
IN.	.58	1.04	.95	3.23	2.01	2.29	1.09	1.99	1.22	.50	.61	.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1994, BY WATER YEAR (WY)

	MEAN	63.2	104	158	180	213	170	160	158	115	71.6	55.4	63.2
MAX	243	440	489	645	743	345	533	817	414	426	221	353	
(WY)	1974	1987	1983	1974	1984	1990	1953	1953	1993	1989	1973	1961	
MIN	17.4	27.3	39.3	42.2	58.6	57.5	29.4	31.7	16.6	14.2	14.5	17.3	
(WY)	1957	1968	1982	1982	1968	1955	1971	1971	1971	1971	1956	1956	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1953 - 1994

ANNUAL TOTAL	59726	54769	126
ANNUAL MEAN	164	150	246
HIGHEST ANNUAL MEAN			46.1
LOWEST ANNUAL MEAN			1973
HIGHEST DAILY MEAN	2280	5790	9720
LOWEST DAILY MEAN	36	35	10
ANNUAL SEVEN-DAY MINIMUM	37	36	11
INSTANTANEOUS PEAK FLOW		11300	20200
INSTANTANEOUS PEAK STAGE		18.13	19.45
ANNUAL RUNOFF (AC-FT)	118500	108600	90950
ANNUAL RUNOFF (CFSM)	1.28	1.17	.98
ANNUAL RUNOFF (INCHES)	17.36	15.92	13.33
10 PERCENT EXCEEDS	282	245	222
50 PERCENT EXCEEDS	96	81	63
90 PERCENT EXCEEDS	48	45	27

SABINE RIVER MAIN STEM

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08030500 SABINE RIVER NEAR RULIFF, TX
(Hydrologic benchmark station)

LOCATION.--Lat 30°18'13", long 93°44'37", Calcasieu Parish, Louisiana-Newton County, Texas State line, Hydrologic Unit 12010005, at downstream side of bridge on State Highway 12, 2.4 mi north of Ruliff, 4.2 mi upstream from the Kansas City Southern Railway Co. bridge, 4.5 mi downstream from Cypress Creek, and at mile 40.2.

DRAINAGE AREA.--9,329 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1924 to current year.

REVISED RECORDS.--WSP 1282: 1941(M), 1942. WSP 1442: 1925-29, 1937-39, 1943. WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5.92 ft below National Geodetic Vertical Datum of 1929. Prior to Mar. 1, 1941, nonrecording gage at Kansas City Southern Railway Co. bridge, 4.2 mi downstream and at datum 7.98 ft higher than current datum. Mar. 1, 1941, to Dec. 8, 1948, nonrecording gage at present site and at datum 10.00 ft higher than current datum. Dec. 9, 1948, to Dec. 31, 1989, recording gage at present site and at datum 10.00 ft higher than current datum.

REMARKS.--No estimated daily discharges. Records good. Flow is partly regulated by Toledo Bend Reservoir (station 08025350) 116.3 mi upstream. Telephone telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--42 years (water years 1925-66) prior to completion of Toledo Bend Reservoir, 8,422 ft³/s (6,102,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1925-66).--Maximum discharge, 121,000 ft³/s May 22, 1953, (gage-height, 29.98 ft, current datum); minimum, 270 ft³/s Sept. 27-30, Oct. 1-3, 17-20, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1835, 32.2 ft in May or June 1884 (adjusted to present site and datum on basis of slope of flood of June 8, 9, 1950); flood of Apr. 26-29, 1913, reached a stage of 29.5 ft, present site and datum, from information by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1250	1890	4780	4900	27900	18500	13500	3770	8610	4180	4420	5510
2	1140	1450	4830	5140	24200	17400	13400	3690	8900	4340	3680	6650
3	1130	1170	4840	5150	19300	16900	13600	3240	8910	4410	2460	7290
4	1400	1760	5190	5270	14200	17400	13500	3570	8820	4370	3360	7670
5	1410	3090	5010	5380	9490	17800	13700	4930	8630	3950	4150	7790
6	1150	3770	4160	4740	6870	17600	14400	6100	8560	2900	4620	7260
7	1110	4300	5100	3310	5510	16900	13000	6750	8640	3510	5040	7060
8	1370	4560	5610	2830	4770	16000	9640	6560	8610	4080	5220	7380
9	1550	4530	5590	2660	4000	16300	7210	5400	8370	4360	4480	8130
10	1890	4130	5450	2570	3480	16500	5570	3710	8150	4520	3650	8890
11	1880	4400	4880	2480	3370	17200	4050	3920	8510	4580	5560	9470
12	1510	4730	3860	2480	3670	19300	3770	5880	8930	4100	6740	9740
13	1320	4750	4110	2550	4350	23300	4520	6950	9050	3240	7290	9520
14	1780	4760	5230	2700	4680	24500	6090	6820	8520	3860	7550	8860
15	2110	5020	5600	2480	4280	22600	7330	5700	7790	4420	7520	7940
16	2220	5450	4690	2200	3540	20200	7980	4940	6970	4880	6350	7010
17	2180	6330	3930	2770	3630	18300	7720	4790	6030	5130	4290	6410
18	1990	7210	4140	4610	5330	17400	7020	5470	5560	5110	5480	6290
19	1470	7490	3600	6580	6570	16500	6270	6660	5650	4510	6560	6250
20	1160	6860	4420	7760	7300	16000	5610	7740	5570	3100	7150	6460
21	1590	6460	5040	7980	7830	15700	5030	8370	5460	3710	7410	6280
22	1920	6440	5350	6840	8390	15200	4620	8380	5530	4450	7400	5930
23	2090	6170	5460	5180	10000	14400	4420	7960	5660	4810	6440	5740
24	2190	5820	5540	3680	12000	15000	4280	7600	6170	4770	4960	5690
25	2080	5550	5930	2840	14400	15000	4190	7420	6410	4660	5950	5690
26	1500	5290	6130	2600	16500	14700	4110	7300	6510	4010	6920	5410
27	1180	5110	5990	2960	17700	14600	4070	7230	6330	2670	7410	4580
28	1530	5010	5710	6040	18100	14300	3990	7210	4500	3410	7610	4590
29	1840	4840	5220	10100	---	14000	3830	7390	3400	4020	7540	5090
30	1980	4770	4490	14500	---	13900	3750	7870	3870	4340	6190	5220
31	2000	---	4490	22500	---	13600	---	8310	---	4410	4170	---
TOTAL	50920	143110	154370	163780	271360	527000	220170	191630	212620	128810	177570	205800
MEAN	1643	4770	4980	5283	9691	17000	7339	6182	7087	4155	5728	6860
MAX	2220	7490	6130	22500	27900	24500	14400	8380	9050	5130	7610	9740
MIN	1110	1170	3600	2200	3370	13600	3750	3240	3400	2670	2460	4580
AC-FT	101000	283900	306200	324900	538200	1045000	436700	380100	421700	255500	352200	408200

SABINE RIVER MAIN STEM

08030500 SABINE RIVER NEAR RULIFF, TX--Continued
(Hydrologic benchmark station)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1994#, BY WATER YEAR (WY)

MEAN	2366	3307	8330	11850	12610	13350	11970	10590	8867	6734	4426	3947
MAX	7222	11850	22070	32800	27990	27480	33240	29510	26240	42320	7982	10530
(WY)	1992	1987	1983	1974	1974	1969	1969	1991	1989	1989	1975	1973
MIN	292	327	1366	1422	1559	2287	1030	1505	1428	805	382	333
(WY)	1968	1968	1981	1981	1968	1981	1971	1971	1970	1967	1967	1967

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1967 - 1994#	
ANNUAL TOTAL	3730830		2447140		8175	
ANNUAL MEAN	10220		6704		14210	
HIGHEST ANNUAL MEAN					1959	
LOWEST ANNUAL MEAN					1975	
HIGHEST DAILY MEAN	36100	Apr 12	27900	Feb 1	108000	Jul 6 1989
LOWEST DAILY MEAN	1100	Sep 30	1110	Oct 7	278	Oct 28 1967
ANNUAL SEVEN-DAY MINIMUM	1230	Sep 30	1230	Oct 1	282	Oct 9 1967
INSTANTANEOUS PEAK FLOW			28700	Feb 1	109000	Jul 6 1989
INSTANTANEOUS PEAK STAGE			24.81	Feb 1	29.15	Jul 6 1989
ANNUAL RUNOFF (AC-FT)	7400000		4854000		5922000	
10 PERCENT EXCEEDS	18900		14400		18700	
50 PERCENT EXCEEDS	7630		5450		5080	
90 PERCENT EXCEEDS	2100		2360		1220	

Period of regulated streamflow.

08030500 SABINE RIVER NEAR RULIFF, TX--Continued
(Hydrologic benchmark station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: September 1945 to September 1946, October 1947 to current year. Chemical and biochemical analyses: February 1968 to current year. Pesticide analyses: January 1968 to May 1982. Radiochemical analyses: October 1969 to current year. Sediment analyses: October 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: September 1945 to September 1946, October 1947 to current year.

WATER TEMPERATURE: October 1947 to current year.

pH: July 1968 to May 1975

COLOR: November 1969 to December 1975.

DISSOLVED OXYGEN: July 1968 to May 1975.

CHLORIDE: July 1968 to September 1968.

INSTRUMENTATION.--From October 31, 1992 to September 30, 1993 a water-quality monitor continuously recorded specific conductance and water temperature at this station.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equation developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 779 microsiemens Aug. 31, 1966; minimum, 27 microsiemens Feb. 16, 1984.

WATER TEMPERATURE: Maximum, 36.0°C Aug. 14, 1962; minimum, 1.0°C Jan. 28, 1948.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

		DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML)
JAN 11...	1140	2480	161	6.6	11.0	3.5	11.0	99	1.2	92	60
APR 12...	1135	3750	121	6.8	22.0	7.5	6.8	77	1.0	100	150
JUL 27...	0910	2520	135	6.6	29.0	3.9	7.6	99	1.1	K2	20
AUG 30...	1022	6510	140	6.8	28.0	3.0	7.4	94	0.9	48	40
DATE	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CAC03)	SULFATE DIS-SOLVED (MG/L AS SO4)
JAN 11...	31	8	8.2	2.6	18	1	2.6	0	29	23	20
APR 12...	23	4	5.9	1.9	13	1	2.1	0	23	19	16
JUL 27...	27	10	6.8	2.4	13	1	2.3	0	21	14	16
AUG 30...	28	10	6.7	2.6	15	1	2.6	0	22	18	17
DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)
JAN 11...	18	<0.10	11	109	96	0.140	<0.010	0.140	0.140	0.040	0.44
APR 12...	13	<0.10	11	76	75	0.089	<0.010	0.089	0.089	0.080	0.59
JUL 27...	18	0.10	8.0	93	77	--	<0.010	--	<0.050	0.020	0.40
AUG 30...	18	<0.10	6.6	88	80	--	<0.010	--	<0.050	0.020	0.30
DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	BARIUM, DIS-SOLVED (UG/L AS BA)	COBALT, DIS-SOLVED (UG/L AS CO)
JAN 11...	0.26	0.30	0.020	0.020	<0.010	19	127	90	40	42	<3
APR 12...	0.42	0.50	0.040	<0.010	<0.010	87	881	99	140	47	<3
JUL 27...	0.38	0.40	0.040	0.010	<0.010	32	218	99	70	41	<3
AUG 30...	0.28	0.30	0.020	<0.010	<0.010	22	387	97	110	44	<3

SABINE RIVER MAIN STEM

08030500 SABINE RIVER NEAR RULIFF, TX--Continued
(Hydrologic benchmark station)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
JAN 11...	170	<4	62	<10	1	<1	<1.0	92	<6	0.09	0.03
APR 12...	280	<4	150	<10	1	<1	<1.0	71	<6	--	--
JUL 27...	170	4	18	<10	2	<1	<1.0	84	<6	--	--
AUG 30...	110	<4	21	<10	<1	<1	<1.0	91	<6	0.05	0.04

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	126	110	120	139	134	136	186	178	182	162	149	154
2	141	125	131	144	134	138	193	172	181	155	148	151
3	146	136	143	140	135	137	181	140	162	157	147	151
4	144	137	140	149	132	137	146	136	139	154	141	147
5	---	---	e143	153	125	136	186	139	168	160	143	148
6	---	---	e149	131	123	126	175	155	164	161	143	151
7	166	160	163	144	123	129	178	158	167	156	142	147
8	---	---	e160	132	125	127	182	169	175	182	156	171
9	---	---	e159	131	124	127	189	175	183	182	167	172
10	168	156	158	133	126	130	199	162	184	171	165	167
11	158	143	149	141	132	136	191	144	174	158	151	152
12	156	147	152	150	134	137	178	122	159	---	---	---
13	150	142	147	156	134	138	130	114	123	---	---	---
14	156	134	141	142	133	137	139	114	126	---	---	---
15	169	139	154	139	132	135	141	128	134	---	---	---
16	142	135	139	137	129	132	129	118	123	---	---	---
17	154	140	149	132	118	125	151	118	128	---	---	---
18	160	148	154	154	108	130	---	---	e130	---	---	---
19	157	147	153	142	118	136	151	130	138	---	---	---
20	164	150	153	141	103	116	---	---	e142	---	---	---
21	160	147	150	---	---	e144	158	146	151	---	---	---
22	---	---	e149	140	126	132	158	144	150	---	---	---
23	153	145	148	140	129	133	153	140	145	---	---	---
24	151	141	145	139	130	134	153	142	147	---	---	---
25	147	141	143	173	136	154	151	135	142	---	---	---
26	150	144	147	180	170	175	146	135	139	---	---	---
27	149	145	147	192	180	186	148	138	142	---	---	---
28	163	148	151	193	177	183	149	140	143	---	---	---
29	---	---	e146	187	163	169	152	140	144	---	---	---
30	146	138	143	188	170	184	150	142	144	---	---	---
31	---	---	e141	---	---	---	162	145	151	---	---	---
MONTH	169	110	147	193	103	141	199	114	151	182	141	156

e Estimated

SABINE RIVER MAIN STEM

205

08030500 SABINE RIVER NEAR RULIFF, TX--Continued
(Hydrologic benchmark station)

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	---	---	---	---	---	---	132	129	130	---	---	---
2	---	---	---	120	109	116	135	130	133	---	---	---
3	---	---	---	---	---	---	136	133	134	---	---	---
4	---	---	---	118	115	117	135	132	134	---	---	---
5	---	---	---	106	105	106	138	133	135	---	---	---
6	---	---	---	91	89	90	134	128	131	---	---	---
7	---	---	---	96	85	88	129	124	127	---	---	---
8	---	---	---	100	96	98	126	122	124	---	---	---
9	---	---	---	100	96	98	128	115	124	---	---	---
10	---	---	---	97	96	97	123	114	117	---	---	---
11	---	---	---	96	86	92	125	121	123	---	---	---
12	---	---	---	87	80	83	142	111	120	---	---	---
13	---	---	---	81	77	78	112	108	110	---	---	---
14	---	---	---	78	75	77	116	69	94	---	---	---
15	---	---	---	81	77	79	106	103	104	---	---	---
16	---	---	---	90	81	86	---	---	---	---	---	---
17	---	---	---	104	89	96	---	---	---	---	---	---
18	---	---	---	109	104	107	---	---	---	---	---	---
19	---	---	---	113	109	111	---	---	---	---	---	---
20	---	---	---	117	112	114	---	---	---	---	---	---
21	---	---	---	121	116	117	---	---	---	---	---	---
22	---	---	---	122	119	121	---	---	---	---	---	---
23	---	---	---	123	121	122	---	---	---	---	---	---
24	---	---	---	124	122	123	---	---	---	---	---	---
25	---	---	---	129	123	126	---	---	---	---	---	---
26	---	---	---	129	128	128	---	---	---	---	---	---
27	---	---	---	132	128	130	---	---	---	---	---	---
28	---	---	---	130	127	128	---	---	---	---	---	---
29	---	---	---	130	127	128	---	---	---	---	---	---
30	---	---	---	130	127	128	---	---	---	---	---	---
31	---	---	---	130	127	128	---	---	---	---	---	---
MONTH	---	---	---	132	75	107	142	69	123	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	e133	131	123	127	---	---	e141
2	---	---	---	---	---	e134	134	125	128	---	---	e147
3	---	---	---	---	---	e131	134	125	130	---	---	e142
4	---	---	---	---	---	e134	130	122	127	---	---	e140
5	---	---	---	---	---	e136	133	121	126	---	---	e135
6	---	---	---	---	---	e134	143	125	132	---	---	e133
7	---	---	---	---	---	e133	136	121	128	---	---	e134
8	---	---	---	---	---	e138	139	115	123	---	---	e134
9	---	---	---	---	---	e137	131	115	120	130	122	125
10	---	---	---	---	---	e138	125	115	123	134	124	128
11	---	---	---	---	---	e139	128	120	126	139	122	130
12	---	---	---	---	---	e240	134	125	130	142	125	134
13	---	---	---	---	---	e141	136	126	129	139	125	134
14	---	---	---	---	---	e142	156	125	132	143	127	135
15	---	---	---	---	---	e143	156	127	132	142	125	133
16	131	124	125	---	---	e144	141	127	134	142	126	135
17	141	126	131	160	137	146	137	126	131	139	125	133
18	134	126	130	144	136	139	164	123	129	143	132	138
19	136	128	131	145	135	138	---	---	e128	151	138	144
20	138	129	132	148	143	146	---	---	e120	152	139	147
21	139	126	132	---	---	---	121	114	118	157	146	152
22	135	118	128	---	---	---	125	119	122	160	149	155
23	131	114	124	---	---	---	128	117	123	172	149	159
24	148	122	133	---	---	---	126	115	120	---	---	---
25	152	109	136	---	---	---	120	115	117	---	---	---
26	150	109	128	145	143	145	---	---	e118	---	---	---
27	---	---	e127	146	134	138	---	---	e121	---	---	---
28	---	---	e129	---	---	e139	---	---	e130	---	---	---
29	---	---	e130	---	---	e138	---	---	e135	---	---	---
30	---	---	e128	132	129	130	---	---	e140	---	---	---
31	---	---	---	131	127	129	---	---	e140	---	---	---
MONTH	152	109	130	160	127	142	164	114	127	172	122	139
YEAR	199	69	136									

e Estimated

SABINE RIVER MAIN STEM

08030500 SABINE RIVER NEAR RULIFF, TX--Continued
(Hydrologic benchmark station)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	23.5	22.5	23.0	16.0	15.0	15.5	14.5	13.0	14.0	11.5	11.0	11.0
2	24.0	22.5	23.5	15.5	15.0	15.5	15.0	14.5	14.5	11.5	11.0	11.0
3	25.0	23.5	24.0	16.0	15.5	16.0	16.0	13.0	14.5	12.0	11.5	11.5
4	24.5	24.0	24.5	17.0	16.0	16.0	17.0	16.0	16.5	12.0	11.0	11.5
5	27.0	23.5	25.5	17.5	16.0	16.5	17.0	16.0	16.5	11.5	10.5	11.0
6	---	---	---	18.0	17.5	18.0	16.5	15.0	16.0	12.0	9.5	11.0
7	---	---	---	17.5	17.0	17.5	15.0	14.5	15.0	13.0	11.5	12.0
8	27.5	27.5	27.5	17.0	15.5	16.0	14.5	14.0	14.5	13.0	12.0	12.5
9	27.5	27.0	27.5	15.5	15.5	15.5	14.5	12.5	13.0	12.5	11.0	12.0
10	27.0	25.5	26.0	16.0	15.5	16.0	16.5	14.5	15.0	12.0	11.0	11.5
11	25.5	24.5	25.0	17.0	16.0	16.5	17.0	15.0	16.0	12.0	11.0	11.5
12	24.5	23.5	24.0	18.0	17.0	17.5	16.5	15.5	16.0	---	---	---
13	23.5	23.0	23.5	19.0	18.0	18.5	15.5	14.0	15.5	---	---	---
14	23.5	23.0	23.0	20.5	19.0	20.0	14.5	13.0	14.0	---	---	---
15	23.0	22.5	23.0	20.5	19.5	20.0	14.5	13.5	14.0	---	---	---
16	23.5	22.5	23.0	19.5	18.5	19.5	14.0	12.0	13.0	---	---	---
17	25.0	23.5	24.5	18.5	17.5	18.0	13.5	12.5	13.0	---	---	---
18	25.5	25.0	25.0	18.0	16.5	17.5	12.5	12.5	12.5	---	---	---
19	26.0	25.5	26.0	17.5	16.5	17.0	13.0	12.5	13.0	---	---	---
20	26.5	26.0	26.0	17.0	16.5	17.0	13.5	13.0	13.0	---	---	---
21	26.0	24.5	25.5	16.5	15.5	16.0	14.0	13.0	13.5	---	---	---
22	24.5	23.0	23.5	16.0	14.5	15.0	13.5	12.5	13.0	---	---	---
23	23.0	21.5	22.0	14.5	13.5	14.5	12.5	11.5	12.0	---	---	---
24	21.5	20.5	21.0	15.0	14.5	14.5	11.5	11.0	11.5	---	---	---
25	21.0	20.0	20.5	15.5	14.5	15.0	11.5	10.0	10.5	---	---	---
26	21.5	20.0	21.0	15.5	14.0	15.0	10.5	10.0	10.5	---	---	---
27	21.5	19.0	20.5	14.0	13.5	13.5	11.0	9.5	10.5	---	---	---
28	21.0	20.0	20.5	13.5	12.0	12.5	12.5	11.0	11.5	---	---	---
29	20.5	20.0	20.5	13.0	12.5	12.5	13.0	12.0	12.5	---	---	---
30	20.5	18.0	19.0	14.0	13.0	13.5	12.5	12.0	12.0	---	---	---
31	18.0	16.0	17.0	---	---	---	12.0	11.5	12.0	---	---	---
MONTH	27.5	16.0	23.5	20.5	12.0	16.0	17.0	9.5	13.5	13.0	9.5	11.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	15.0	13.5	14.0	---	---	---
2	---	---	---	12.0	11.0	11.5	15.5	14.5	15.0	---	---	---
3	---	---	---	11.5	11.0	11.0	15.0	14.0	14.5	---	---	---
4	---	---	---	12.0	11.0	11.5	16.5	15.5	16.0	---	---	---
5	---	---	---	---	---	---	16.5	16.0	16.5	---	---	---
6	---	---	---	12.5	12.5	12.5	16.5	14.0	15.0	---	---	---
7	---	---	---	14.0	13.5	14.0	---	---	---	---	---	---
8	---	---	---	14.5	13.5	14.0	16.0	15.0	15.5	---	---	---
9	---	---	---	14.5	12.5	13.5	16.5	14.0	15.0	---	---	---
10	---	---	---	13.0	11.5	12.0	17.0	16.0	16.5	---	---	---
11	---	---	---	12.0	11.5	11.5	19.5	17.0	18.0	---	---	---
12	---	---	---	12.0	11.0	11.5	21.5	19.5	21.0	---	---	---
13	---	---	---	13.0	11.5	12.0	21.5	21.0	21.0	---	---	---
14	---	---	---	13.5	11.5	13.0	21.5	21.0	21.0	---	---	---
15	---	---	---	---	---	---	21.0	20.5	21.0	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	14.0	13.5	14.0	---	---	---	---	---	---
18	---	---	---	14.5	12.0	13.5	---	---	---	---	---	---
19	---	---	---	15.0	15.0	15.0	---	---	---	---	---	---
20	---	---	---	16.5	15.5	16.0	---	---	---	---	---	---
21	---	---	---	16.5	15.0	16.0	---	---	---	---	---	---
22	---	---	---	16.0	15.5	16.0	---	---	---	---	---	---
23	---	---	---	16.5	15.5	15.5	---	---	---	---	---	---
24	---	---	---	16.5	15.0	16.0	---	---	---	---	---	---
25	---	---	---	16.0	15.5	15.5	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	16.5	16.5	16.5	---	---	---	---	---	---
28	---	---	---	16.0	13.5	15.0	---	---	---	---	---	---
29	---	---	---	15.0	14.5	15.0	---	---	---	---	---	---
30	---	---	---	15.0	12.5	14.0	---	---	---	---	---	---
31	---	---	---	15.0	13.0	14.0	---	---	---	---	---	---
MONTH	---	---	---	16.5	11.0	14.0	21.5	13.5	17.0	---	---	---

NECHES RIVER MAIN STEM

08031400 LAKE PALESTINE NEAR FRANKSTON, TX

LOCATION.--Lat 32°03'12", long 95°26'12", Anderson-Cherokee County line, Hydrologic Unit 12020001, in outlet tower near right bank, 140 ft upstream from Blackburn Crossing Dam on Neches River, 5 mi east of Frankston, 21 mi upstream from Neches River near Neches (station 08032000), and at mile 354.0.

DRAINAGE AREA.--839 mi².

PERIOD OF RECORD.--February 1962 to current year.

Water-quality records.--Chemical analyses: October 1976 to September 1984.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Sept. 20, 1962, non-recording gage read once daily.

REMARKS.--The lake is formed by a rolled earthfill dam with a 500-foot-wide uncontrolled spillway near left end of dam. Deliberate impoundment began May 1, 1962. The enlargement of lake began Sept. 26, 1969, and was completed on Mar. 3, 1971. The outlet works consist of two 5- x 7-foot gates located in concrete tower near center of dam and connected to an 8.5-foot-diameter concrete conduit through the dam. The low-flow outlet consists of two 3-foot iron pipes connected to the tower structure for low-flow releases. Water is used for municipal and industrial purposes in the Palestine area. The diversion point is downstream from gage (station 08032000). There are no large diversions above station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	364.0	-
Design flood.....	355.3	726,000
Crest of spillway (top of conservation pool).....	345.0	412,000
Lowest gated outlet (invert).....	298.0	550

COOPERATION.--The capacity table, furnished by the Upper Neches River Municipal Water Authority, is based on U.S. Geological Survey topographic maps dated 1946 and 1948-49.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 531,100 acre-ft May 19, 1989 (elevation, 349.31 ft); minimum since first appreciable storage, 11,450 acre-ft Nov. 28, 1970 (elevation, 310.00 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 475,500 acre-ft Feb. 23 at 2200 hours (elevation, 347.38 ft); minimum, 359,400 acre-ft Oct. 12 (elevation, 342.86 ft).

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

342.0	339,500	345.0	411,800	347.0	464,900
343.0	362,600	346.0	437,900	348.0	492,900
344.0	386,700				

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	362400	401300	405500	411300	416500	451700	425600	410000	425900	405300	390700	380400
2	362600	402800	408500	414100	416500	447600	424300	414400	424600	404300	390200	380700
3	363600	402500	410500	410000	414900	444400	424600	416200	424100	401000	389700	380000
4	363100	402000	409800	410000	416000	441900	421700	419100	422200	400500	388700	379200
5	362600	404800	410000	405500	413900	439000	425600	419100	421500	401500	389000	379000
6	362400	402000	409500	412800	413600	436900	419900	420200	419400	399500	387700	378700
7	361200	401500	409800	409300	412100	434500	418600	422000	418300	399800	387500	378000
8	360500	402000	409000	409000	413400	435600	416800	421200	417300	400000	388700	377300
9	362400	402000	410300	408300	414400	432400	416200	422000	416800	399800	388000	376800
10	361200	402500	410300	410000	413600	429800	416200	420200	416500	397700	387500	375400
11	360800	401800	409800	411300	413100	428000	419100	421500	414900	399500	386900	375600
12	359400	402800	410000	411500	416000	428200	417500	419400	413600	399800	386200	375100
13	364500	402300	411000	411800	413400	427700	416500	423000	412100	399500	385500	374200
14	363800	404300	411000	411500	413900	426700	417000	423800	413100	399200	385300	373900
15	363800	404500	410800	411300	413400	425600	419600	431600	413400	398500	385000	373400
16	363600	408500	411300	411500	413400	424100	419600	445500	412800	e398700	384000	373700
17	363300	404300	412100	413400	413100	422800	419100	450900	412800	e398200	382600	372500
18	363100	404500	412100	412100	411300	422200	418300	450000	411000	e397700	381900	371300
19	363800	407000	412600	411300	413100	420200	418100	446300	414400	397200	380700	370600
20	372500	405300	412300	412100	429500	419600	417800	441700	412600	396200	385500	369600
21	376600	405300	411800	411800	440900	419400	417000	437900	412100	395500	385300	368600
22	389500	405000	413400	411800	464400	418100	417000	434200	410000	397500	384500	367900
23	397000	405300	412600	412100	474400	417800	416200	430300	411800	396700	384000	367200
24	400300	408000	411800	412100	471600	417500	413400	428500	409300	397200	383300	366200
25	402500	409000	412100	412300	470200	416500	412800	425900	408000	395500	382600	365300
26	405000	407000	410500	417000	459500	416800	414700	425600	407000	398000	382100	364300
27	403500	406000	412600	418300	453000	421700	413100	424300	407300	395500	381600	363600
28	403000	406500	413100	418100	448700	423000	413100	422800	407300	394700	380900	363300
29	407800	407000	412100	418600	---	425900	413100	426400	406800	393500	380400	362800
30	402500	406800	411500	418800	---	427700	412800	426700	406000	392000	379500	362600
31	402000	---	411000	417800	---	427700	---	425900	---	391500	379700	---
MAX	407800	409000	413400	418800	474400	451700	425600	450900	425900	405300	390700	380700
MIN	359400	401300	405500	405500	411300	416500	412800	410000	406000	391500	379500	362600
(+)	344.61	344.80	344.97	345.23	346.40	345.61	345.04	345.54	344.77	344.19	343.71	343.00
(@)	+39200	+4800	+4200	+6800	+30900	-21000	-14900	+13100	-19900	-14500	-11800	-17100

CAL YR 1993 MAX 465200 MIN 359400 (@) -15200

WTR YR 1994 MAX 474400 MIN 359400 (@) -200

e Estimated

(+) Elevation, in feet, at end of month.

(@) Change in contents, in acre-feet.

08032000 NECHES RIVER NEAR NECHES, TX

LOCATION.--Lat 31°53'32", long 95°25'50", Anderson-Cherokee County line, Hydrologic Unit 12020001, on left bank just downstream from bridge on U.S. Highway 79, 1.0 mi downstream from Missouri Pacific Railroad Co. bridge, 1.4 mi downstream from Walnut Creek, 4.4 mi northeast of Neches, and at mile 333.2.

DRAINAGE AREA.--1,145 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1939 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 264.06 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1945, nonrecording gage at present site and datum.

REMARKS.--Records good. Some regulation by Lake Palestine (station 08031400) 11 mi upstream and by Lake Athens 50 mi upstream (combined capacity 454,600 acre-ft). There are no large diversions above station. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--22 years (water years 1940-61) unregulated, 804 ft³/s (502,500 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1940-61).--Maximum discharge, 45,500 ft³/s Apr. 2, 1945 (gage height, 22.07 ft); no flow Oct. 3-5, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1908 (stage 24.3 ft) was the highest since flood in May 1884, which was probably higher.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140	199	232	285	657	5770	1360	539	1180	198	169	243
2	131	175	228	291	591	5320	1430	475	1160	193	169	594
3	127	191	242	320	528	5160	1410	597	1120	189	167	556
4	129	212	291	361	473	4640	1360	758	1070	187	166	410
5	e130	199	370	342	458	4050	1290	760	1020	183	169	290
6	e131	241	332	258	461	3610	1180	769	950	180	175	235
7	e130	243	313	271	445	3260	1140	774	857	177	175	225
8	e128	188	275	336	425	2910	1020	803	749	175	357	212
9	e135	180	270	267	408	2610	851	846	635	178	420	202
10	e142	185	275	234	553	2460	741	856	589	190	264	197
11	e146	187	303	235	633	2320	680	853	867	192	217	195
12	e152	186	289	272	577	2100	836	834	918	229	197	195
13	e152	195	278	290	555	1910	990	805	659	226	188	191
14	e150	212	350	309	568	1780	930	939	479	205	183	184
15	e148	266	395	301	484	1680	827	1060	394	208	179	183
16	e149	300	341	300	449	1580	813	1120	373	199	178	182
17	e154	436	301	308	440	1470	848	1220	373	188	176	179
18	e154	412	335	410	428	1350	848	1410	369	182	174	177
19	153	336	387	366	404	1200	826	1510	364	177	171	174
20	207	323	375	305	443	1100	788	1590	360	174	169	173
21	410	303	405	305	856	1010	760	1620	384	172	356	172
22	362	255	374	310	1500	967	738	1630	374	172	446	170
23	299	239	402	304	4010	901	777	1610	345	199	316	168
24	245	230	389	305	7920	813	708	1570	310	194	248	168
25	215	271	381	320	8860	782	636	1540	310	180	215	168
26	200	334	371	363	8330	769	552	1490	278	174	196	168
27	195	331	324	544	7540	733	524	1320	237	174	187	167
28	202	271	313	628	6260	867	488	1170	216	181	183	167
29	174	248	374	710	---	1010	505	1100	207	171	179	166
30	257	238	373	722	---	1130	495	1110	204	169	177	165
31	317	---	316	681	---	1230	---	1160	---	169	178	---
TOTAL	5764	7586	10204	11253	55256	66492	26301	33838	17351	5785	6744	6676
MEAN	186	253	329	363	1973	2145	877	1092	578	187	218	223
MAX	410	436	405	722	8860	5770	1430	1630	1180	229	446	594
MIN	127	175	228	234	404	733	488	475	204	169	166	165
AC-FT	11430	15050	20240	22320	109600	131900	52170	67120	34420	11470	13380	13240

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994#, BY WATER YEAR (WY)

	MEAN	208	392	740	789	1065	1256	1262	1284	814	219	119	204
MAX	2064	2559	3344	3097	3097	2879	4162	5289	4129	1076	617	1313	
(WY)	1974	1975	1992	1991	1992	1987	1966	1968	1973	1976	1979	1973	
MIN	12.8	16.0	82.1	102	180	92.0	60.1	43.3	23.7	12.5	9.70	8.37	
(WY)	1964	1964	1990	1981	1981	1972	1972	1972	1971	1964	1964	1964	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1962 - 1994#

ANNUAL TOTAL	328245	253250	693
ANNUAL MEAN	899	694	1265
HIGHEST ANNUAL MEAN			106
LOWEST ANNUAL MEAN			26200
HIGHEST DAILY MEAN	6460	Jan 8	May 13 1968
LOWEST DAILY MEAN	111	Sep 11	Nov 1 1963
ANNUAL SEVEN-DAY MINIMUM	120	Sep 20	Oct 29 1963
INSTANTANEOUS PEAK FLOW		9040	May 13 1968
INSTANTANEOUS PEAK STAGE		16.73	May 13 1968
INSTANTANEOUS LOW FLOW			Oct 3 1939
ANNUAL RUNOFF (AC-FT)	651100	502300	502300
10 PERCENT EXCEEDS	2150	1360	1690
50 PERCENT EXCEEDS	371	332	267
90 PERCENT EXCEEDS	144	171	52

e Estimated

Period of regulated streamflow.

NECHES RIVER MAIN STEM

08032000 NECHES RIVER NEAR NECHES, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: December 1969 to current year. Biochemical analyses: October 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1969 to September 1991.

WATER TEMPERATURES: December 1983 to September 1991.

INSTRUMENTATION.--Specific conductance was recorded from December 1969 to September 1991. Water temperature was recorded continuously from December 1983 to September 1991.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (1974-88): Maximum, 1,190 microsiemens Aug. 29, 1976; minimum 65 microsiemens June 1, 1990.

WATER TEMPERATURE: Maximum, 36.0°C July 16, 1985; minimum, 0.0°C Dec. 24, 25, 1989.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)
FEB 11...	0815	639	190	7.3	6.0	11.5	93	1.0	41	16	10
MAR 31...	1618	1260	170	7.2	16.0	9.6	98	1.2	41	18	10
MAY 26...	1520	1490	173	7.3	23.5	6.0	72	1.9	40	22	10
JUL 20...	1930	174	173	7.2	30.5	7.7	104	1.4	47	17	12
AUG 11...	1813	210	176	6.6	28.5	7.5	97	2.4	40	11	9.6
SEP 06...	1804	227	186	7.5	28.5	6.8	87	2.1	41	10	10

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
FEB 11...	3.9	17	1	3.7	25	21	28	<0.10	11	110	0.120
MAR 31...	4.0	15	1	4.0	23	23	22	0.10	1.7	94	--
MAY 26...	3.6	12	0.8	3.4	18	21	19	0.10	3.3	84	0.140
JUL 20...	4.1	13	0.8	4.0	30	19	20	0.10	6.8	97	--
AUG 11...	3.9	14	1	4.6	29	20	21	0.10	11	102	0.094
SEP 06...	4.0	16	1	4.6	31	14	23	0.10	13	104	0.079

DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)
FEB 11...	0.120	0.010	0.130	0.130	0.070	0.43	0.50	0.010	<0.010	--
MAR 31...	--	<0.010	--	<0.050	0.030	0.47	0.50	0.010	0.010	0.03
MAY 26...	--	<0.010	0.140	0.140	0.070	0.43	0.50	<0.010	0.010	0.03
JUL 20...	--	<0.010	--	<0.050	0.010	0.29	0.30	<0.010	<0.010	--
AUG 11...	--	<0.010	0.094	0.094	0.040	0.36	0.40	0.040	0.010	0.03
SEP 06...	0.079	0.010	0.089	0.089	0.030	0.27	0.30	<0.010	<0.010	--

NECHES RIVER MAIN STEM

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08033000 NECHES RIVER NEAR DIBOLL, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 31°07'58", long 94°48'35", Angelina-Polk County line, Hydrologic Unit 12020002, near center of main span of downstream bridge on U.S. Highway 59, 700 ft downstream from Texas and New Orleans Railroad Co. bridge, 2.9 mi downstream from Alabama Creek, 3.8 mi south of Diboll, and at mile 203.5

DRAINAGE AREA.--2,724 mi².

PERIOD OF RECORD.--October 1923 to September 1925, March 1939 to September 1985. Monthly discharge only for some periods, published in WSP 1312. October 1985 to September 1989 (annual maximum), October 1989 to present (peaks above base discharge and maximum).

Water-quality records: Chemical and biochemical analyses: October 1969 to September 1981.

REVISED RECORDS.--WSP 1242: 1950. WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 136.46 ft above National Geodetic Vertical Datum of 1929. Prior to July 10, 1925, nonrecording gage at site 630 ft upstream; July 10 to Aug. 31, 1925, and Mar. 30, 1939, to Sept. 24, 1943, nonrecording gage at site 500 ft upstream; Sept. 25, 1943, to Aug. 16, 1973, nonrecording gage at site 70 ft upstream; all at present datum.

REMARKS.--Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE.--24 years (water years 1923-25, 1939-61) unregulated, 1,807 ft³/s (1,309,000 acre-ft/yr); 24 years (water years 1962-85) regulated, 1,353 ft³/s (980,200 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,900 ft³/s May 4, 1944 (gage height, 18.70 ft); no flow Aug. 15-22, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1874, 21 ft in May 1884 (discharge, about 110,000 ft³/s) from rating curve extended above 40,000 ft³/s; flood in 1900 reached a stage of 19.9 ft (discharge, about 80,000 ft³/s), from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges above base of 6,000 ft³/s and maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 24	0100	6,300	13.63	Mar. 10	1300	8,950	14.41

NECHES RIVER MAIN STEM

08033500 NECHES RIVER NEAR ROCKLAND, TX

LOCATION.--Lat 31°01'29", long 94°23'55", Tyler County, Hydrologic Unit 12020003, at downstream side of bridge at U.S. Highway 69, 2,200 ft upstream from abandoned ferry crossing, 0.8 mi upstream from Texas and New Orleans Railway Co. bridge, 1.2 mi north of Rockland, 3.2 mi downstream from Billiams Creek, and 32.4 mi upstream from Angelina River.

DRAINAGE AREA.--3,636 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1903 to current year.

REVISED RECORDS.--WSP 878: 1926-27. WSP 1342: 1922(M), 1935. WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 88.41 ft above National Geodetic Vertical Datum of 1929. Prior to May 23, 1973, nonrecording gage located 2,200 ft downstream at datum 3.00 ft higher. May 23, 1973, to Sept. 30, 1975, recording gage at present site at datum 3.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. At times, low flow may be affected by regulation from Lake Athens, by Lake Palestine (station 08031400), and by Lake Jacksonville, with a combined capacity of 130,700 acre-ft. Between October and September of the current year, the Upper Neches Municipal Water Authority diverted 2,820 acre-ft from the Neches River at a diversion point about 10 mi downstream from station Neches River near Neches (08032000). Additional diversions occurred between October and March, but amounts are unknown. This water is used for municipal and industrial purposes in the Palestine area. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--58 years (water years 1904-61) 2,362 (1,711,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1904-61).--Maximum discharge, 49,800 ft³/s May 6, 1944 (gage height, 35.04 ft), present site; minimum observed during period of daily records, 1.6 ft³/s Sept. 28-30, and Oct. 1, 2, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Historical flood information begins with flood in May 1884, which reached a stage of 38.0 ft, present site, from information by local resident (discharge, about 62,000 ft³/s).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	187	456	617	1050	3550	8550	2520	2240	3280	716	265	677
2	205	410	609	991	3290	8440	2330	1520	3450	637	250	1010
3	253	386	611	926	3130	8250	2090	3740	3600	579	235	1740
4	280	378	857	870	2990	8190	1900	4950	3770	520	239	1740
5	287	368	1280	833	2850	8130	1920	4630	3810	474	249	1350
6	285	374	1190	817	2620	8000	2870	3340	3830	441	253	1250
7	276	409	1070	787	2430	7960	3430	2480	3820	416	234	1290
8	252	448	980	739	2230	8190	3070	2120	3780	412	393	1350
9	235	511	831	713	1990	10900	2480	2190	3640	407	415	1380
10	220	499	741	696	6190	11500	2230	4250	3740	377	617	1380
11	209	466	977	777	9960	11300	2130	4950	4780	443	755	1300
12	269	429	987	865	10100	11200	2930	4030	5210	562	883	1120
13	372	394	1180	826	9860	10900	3590	3160	5120	391	970	938
14	292	540	1820	807	8910	10500	3960	6030	3990	395	1020	777
15	289	776	2100	811	7390	9910	3810	7010	2980	418	1040	670
16	304	800	1890	786	5840	9180	3940	8220	2430	390	1010	610
17	308	1210	1850	862	4620	8310	3940	7870	2130	413	878	569
18	314	843	2080	836	3830	7480	3610	6640	1890	436	686	528
19	341	887	1980	812	3200	6710	3270	4870	1810	423	546	499
20	432	965	2020	801	2770	5970	3000	3620	1880	400	454	466
21	813	1060	1930	777	4610	5390	2530	3090	1790	382	616	434
22	798	1140	1980	746	5960	4920	2190	2760	1680	364	915	405
23	889	1180	2180	724	8360	4560	1980	2570	1530	346	1010	375
24	925	1180	2170	718	8800	4280	1820	2560	1320	321	752	350
25	912	1120	1970	787	9540	3980	1680	2600	1160	300	888	327
26	887	1020	1820	939	9670	3760	1580	2650	1090	281	1080	314
27	865	895	1720	3230	9390	3500	1560	2780	1050	267	1010	304
28	794	784	1620	6500	8920	3280	1560	3050	981	258	1120	291
29	675	699	1490	5670	---	3060	1550	3270	888	259	1120	282
30	592	644	1320	4780	---	2890	2250	3140	799	264	972	277
31	517	---	1150	4050	---	2680	---	3140	---	269	779	---
TOTAL	14277	21271	45020	45526	163000	221870	77720	119470	81228	12561	21654	24003
MEAN	461	709	1452	1469	5821	7157	2591	3854	2708	405	699	800
MAX	925	1210	2180	6500	10100	11500	3960	8220	5210	716	1120	1740
MIN	187	368	609	696	1990	2680	1550	1520	799	258	234	277
AC-FT	28320	42190	89300	90300	323300	440100	154200	237000	161100	24910	42950	47610

NECHES RIVER MAIN STEM

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08033500 NECHES RIVER NEAR ROCKLAND, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994#, BY WATER YEAR (WY)

MEAN	536	1111	2262	3306	3725	3813	3731	4067	2750	1221	385	468
MAX	4832	6142	7805	12570	13930	13750	11990	12730	10360	11260	2673	3042
(WY)	1974	1974	1974	1991	1992	1992	1979	1969	1990	1989	1991	1979
MIN	36.6	65.8	213	263	368	475	282	469	102	42.9	34.2	43.1
(WY)	1964	1965	1981	1981	1971	1967	1971	1971	1971	1971	1964	1964

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1962 - 1994#

ANNUAL TOTAL	1334501			847600				2273				
ANNUAL MEAN	3656			2322				4542				1992
HIGHEST ANNUAL MEAN								352				1971
LOWEST ANNUAL MEAN								41600		Jul	2	1989
HIGHEST DAILY MEAN	21500	Jun	29	11500	Mar	10		18		Aug	30	1970
LOWEST DAILY MEAN	187	Oct	1	187	Oct	1		23		Jul	21	1971
ANNUAL SEVEN-DAY MINIMUM	203	Sep	9	246	Aug	1		42000		Jul	2	1989
INSTANTANEOUS PEAK FLOW				12000	Mar	10		33.20		Jul	2	1989
INSTANTANEOUS PEAK STAGE				21.01	Mar	10						
ANNUAL RUNOFF (AC-FT)	2647000			1681000				1647000				
10 PERCENT EXCEEDS	9650			6090				6040				
50 PERCENT EXCEEDS	1940			1150				910				
90 PERCENT EXCEEDS	233			318				105				

Period of regulated streamflow.

NECHES RIVER MAIN STEM

08033500 NECHES RIVER NEAR ROCKLAND, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: April 1941 to September 1942, September 1945 to September 1947. Chemical and biochemical analyses: December 1967 to current year. Sediment analyses: 1961 to 1963.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1941 to September 1942, and September 1945 to September 1947.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	HARDNESS TOTAL (MG/L AS CaCO3)	HARDNESS NONCARBONATE (MG/L AS CaCO3)
JAN 13...	1350	822	202	6.7	10.5	11.8	106	1.1	41	21
MAR 04...	0955	8180	106	6.4	10.0	9.2	81	8.3	23	15
APR 14...	1700	3940	180	6.9	20.0	7.8	87	2.0	37	21
JUN 08...	0902	3810	158	6.2	27.0	6.6	83	2.2	36	13
JUL 28...	1410	258	205	6.5	31.0	7.8	105	0.6	44	13
AUG 30...	1615	946	138	7.2	29.5	6.8	89	1.0	25	4

DATE	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WAT DIS-FIX END FIELD CaCO3 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
JAN 13...	10	3.9	20	1	3.2	20	27	27	<0.10	16
MAR 04...	5.8	2.1	11	1	2.6	8.0	21	13	<0.10	11
APR 14...	9.4	3.2	18	1	3.1	16	33	20	<0.10	7.9
JUN 08...	8.3	3.7	15	1	3.3	23	17	19	0.10	10
JUL 28...	11	4.1	19	1	3.8	31	18	28	0.10	13
AUG 30...	6.0	2.5	15	1	3.7	21	17	15	0.10	12

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOSPHORUS, DIS-SOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DIS-SOLVED (MG/L AS P)
JAN 13...	120	0.200	<0.010	0.200	0.200	0.020	0.18	0.20	0.020	<0.010
MAR 04...	71	--	<0.010	--	<0.050	0.020	0.38	0.40	0.040	<0.010
APR 14...	105	0.095	<0.010	0.095	0.095	0.050	0.45	0.50	0.030	0.010
JUN 08...	91	0.130	<0.010	0.130	0.130	0.070	0.63	0.70	0.040	0.020
JUL 28...	116	0.130	<0.010	0.130	0.130	0.010	0.29	0.30	0.010	<0.010
AUG 30...	85	0.170	<0.010	0.170	0.170	0.030	0.27	0.30	0.010	0.020

DATE	PHOSPHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYLLIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)
JAN 13...	--	<1	47	<0.5	<1.0	<5	<3	<10	250	<10
MAR 04...	--	--	--	--	--	--	--	--	--	--
APR 14...	0.03	--	--	--	--	--	--	--	--	--
JUN 08...	0.06	--	--	--	--	--	--	--	--	--
JUL 28...	--	--	--	--	--	--	--	--	--	--
AUG 30...	0.06	1	37	<0.5	<1.0	<5	<3	<10	150	<10

NECHES RIVER MAIN STEM
08033500 NECHES RIVER NEAR ROCKLAND, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994										
DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
JAN 13...	11	54	<0.1	<10	<10	<1	<1.0	100	<6	9
MAR 04...	--	--	--	--	--	--	--	--	--	--
APR 14...	--	--	--	--	--	--	--	--	--	--
JUN 08...	--	--	--	--	--	--	--	--	--	--
JUL 28...	--	--	--	--	--	--	--	--	--	--
AUG 30...	6	17	<0.1	<10	<10	<1	<1.0	69	<6	4

NECHES RIVER BASIN

08036500 ANGELINA RIVER NEAR ALTO, TX

LOCATION.--Lat 31°40'10", long 94°57'24", Nagogdoches-Cherokee County line, Hydrologic Unit 12020004, near center of rectified channel at downstream side of bridge on State Highway 21, 0.4 mi upstream from Allen Creek, 1.5 mi upstream from Bingham Creek, 7.5 mi east of Alto, and 149.3 mi upstream from mouth.

DRAINAGE AREA.--1.276 mi².

PERIOD OF RECORD.--May to August 1940 (discharge measurements only), September 1940 to March 1949 (fragmentary for 1941-42, 1944-49), February 1959 to current year.

Water-quality records.--Chemical analyses: November 1961 to September 1963.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 204.30 ft above National Geodetic Vertical Datum of 1929. May 9, 1940, to Mar. 31, 1949, nonrecording gage on bridge at natural channel 1,400 ft to right at same datum. Feb. 18 to Sept. 15, 1959, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. No large diversions above station. Flow partly regulated since May 1957 by Lake Striker, 35.5 mi upstream and by Lake Tyler, 69.9 mi upstream since January 1949 (combined capacity, 110,700 acre-ft). Rain gage at station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1905, that of Mar. 31, 1989. A flood in May 1908 reached a stage of about 22 ft, from information by local residents. Flood in 1932 reached a stage of 21.5 ft, from floodmarks and from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	209	221	302	270	2390	5520	705	284	693	139	65	101
2	186	223	297	263	2340	4460	664	273	716	134	58	274
3	171	240	288	259	2100	3800	653	448	613	132	57	836
4	119	264	278	258	1740	3570	660	557	505	129	55	1050
5	74	277	268	253	1340	3680	727	731	450	128	51	1360
6	66	299	266	252	972	3730	796	912	408	129	48	1590
7	62	305	274	252	711	3540	802	997	402	135	44	1590
8	62	286	277	295	562	3230	798	925	367	141	411	1330
9	68	272	279	345	469	3020	736	754	293	166	313	807
10	76	264	281	374	477	2880	608	792	264	166	312	361
11	76	256	275	389	676	2730	522	854	273	227	432	237
12	126	250	268	394	899	2560	607	857	296	276	391	206
13	161	245	303	397	1090	2320	673	841	456	235	231	189
14	159	274	342	406	1220	2100	869	805	509	166	190	172
15	150	358	360	369	1280	1880	1040	754	517	160	129	160
16	169	479	440	304	1280	1700	1280	988	420	165	88	141
17	179	765	516	281	1170	1520	1490	1460	350	211	77	126
18	171	877	525	276	965	1360	1560	1740	371	340	70	115
19	161	1030	507	267	764	1190	1490	1830	289	276	65	104
20	175	1110	502	276	724	969	1330	1810	223	175	60	95
21	271	1120	505	287	1020	789	1100	1670	221	135	272	87
22	295	1060	511	275	1760	695	814	1450	244	107	533	82
23	364	900	523	266	2750	660	595	1250	362	99	589	76
24	420	669	487	259	3500	694	453	1090	331	99	698	71
25	385	485	427	255	6690	719	394	995	253	112	562	68
26	304	380	389	291	8430	719	365	902	210	140	323	67
27	266	332	353	1030	7690	739	353	778	182	149	213	66
28	251	316	327	1570	6560	744	345	647	163	148	151	64
29	243	314	307	1810	---	682	323	489	152	145	119	61
30	240	310	290	2040	---	690	301	514	145	110	103	59
31	229	---	278	2260	---	724	---	591	---	78	92	---
TOTAL	5888	14181	11245	16523	61569	63614	23053	28988	10678	4952	6802	11545
MEAN	190	473	363	533	2199	2052	768	935	356	160	219	385
MAX	420	1120	525	2260	8430	5520	1560	1830	716	340	698	1590
MIN	62	221	266	252	469	660	301	273	145	78	44	59
AC-FT	11680	28130	22300	32770	122100	126200	45730	57500	21180	9820	13490	22900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1994, BY WATER YEAR (WY)

MEAN	233	502	1129	1332	1569	1568	1473	1325	871	290	132	192
MAX	2350	2081	4836	4874	4642	4622	4301	4484	4316	1718	519	950
(WY)	1974	1986	1961	1991	1983	1969	1969	1966	1993	1976	1979	1973
MIN	5.56	18.0	67.8	150	158	183	172	119	34.2	18.0	22.4	16.2
(WY)	1968	1968	1965	1981	1967	1967	1972	1972	1971	1971	1972	1972

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1960 - 1994

ANNUAL TOTAL	483694		259038				
ANNUAL MEAN	1325		710			881	
HIGHEST ANNUAL MEAN						1917	1991
LOWEST ANNUAL MEAN						154	1964
HIGHEST DAILY MEAN	26500	Jun 23	8430	Feb 26	41600		Mar 31 1989
LOWEST DAILY MEAN	34	Sep 13	44	Aug 7	2.1		Aug 14 1964
ANNUAL SEVEN-DAY MINIMUM	38	Sep 9	54	Aug 1	3.5		Aug 8 1964
INSTANTANEOUS PEAK FLOW			8580	Feb 26	42500		Mar 31 1989
INSTANTANEOUS PEAK STAGE			18.50	Feb 26	23.20		Mar 31 1989
ANNUAL RUNOFF (AC-FT)	959400		513800		638200		
10 PERCENT EXCEEDS	2770		1580		2220		
50 PERCENT EXCEEDS	523		353		330		
90 PERCENT EXCEEDS	128		104		48		

08036700 LAKE MACOGDOCHES NEAR MACOGDOCHES, TX

LOCATION.--Lat 31°35'19", long 94°49'31", Macogdoches County, Hydrologic Unit 12020004, at upstream side of dam on Bayou Loco near service outlet tower and 10 mi west of Macogdoches.

DRAINAGE AREA.--87.9 mi².

PERIOD OF RECORD.--March 1977 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam. Deliberate impoundment began July 14, 1976. Water is used for industrial and municipal supply by the city of Macogdoches. The spillway is an uncontrolled 500-foot-wide cut through natural ground located near the right end of dam. There is an uncontrolled drop inlet with a 20.5-foot-diameter top opening that is connected to an 8- x 7-foot conduit that extends through the dam. A separate multi-gated inlet tower is connected to a valve by a 30-inch conduit through the dam. The valve box directs water to a purification plant. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	303.0	-
Top of design flood.....	298.5	102,900
Crest of spillway.....	286.0	59,570
Crest of drop inlet (top of conservation pool).....	279.0	42,320
Lowest gated outlet (invert of 30 in. conduit).....	238.25	254

COOPERATION.--The capacity table, furnished by the city of Macogdoches, is based on Geological Survey topographic maps dated 1952.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 53,550 acre-ft June 3, 1979 (elevation, 283.76 ft); minimum since first appreciable storage, 20,540 acre-ft Nov. 26, 1977 (elevation, 266.62 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 42,760 acre-ft April 17 at 1000 hours (elevation, 279.20 ft); minimum, 28,070 acre-ft Jan. 22 (elevation, 271.55 ft).

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

270.0	25,560	275.0	34,220	279.0	42,320
271.0	27,160	276.0	34,140	280.0	44,500
272.0	28,820	277.0	38,140	281.0	47,770
273.0	30,560	278.0	40,200	282.0	49,140
274.0	32,360				

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38020	33120	e29550	e28360	e29190	39150	41960	42170	42110	41300	39620	40520
2	37840	32940	e29450	e28370	e29290	39400	41960	42090	42040	41300	39560	41010
3	37700	32990	e29320	e28390	e29460	39520	41960	42210	42000	41180	39500	41090
4	37300	32840	e29220	e28390	e29570	39660	41940	42320	41940	41180	39480	41110
5	37160	32490	e29100	e28400	e29690	39810	42020	42280	41830	41090	39460	41090
6	37020	32490	e28980	e28370	e29810	39930	42090	42210	41850	40980	39420	41150
7	36800	32290	e28850	e28320	e29990	39990	42000	42190	41790	40940	39380	41150
8	36600	32180	e28740	e28290	30160	40140	41980	42170	41710	40920	40280	41110
9	36540	32180	e28620	e28260	30230	40520	41980	42210	41620	40860	40310	41050
10	36380	32110	e28490	e28190	30690	40770	42020	42280	41680	40810	40260	41070
11	36220	e31960	e28370	e28140	31240	40960	42300	42320	41710	40770	40260	41070
12	36010	e31800	e28270	e28120	31500	41090	42540	42280	41900	40670	40240	41050
13	35910	e31620	e28190	e28110	31640	41220	42670	42260	41850	40600	40200	41030
14	35780	e31460	e28140	e28120	31780	41280	42600	42300	41850	40620	40160	40980
15	35560	e31320	e28120	e28140	31860	41390	42520	42300	41790	40560	40160	40960
16	35350	e31300	e28160	e28160	31950	41470	42630	42340	41770	40480	40080	40920
17	35180	31280	e28210	e28160	31960	41490	42730	42280	41730	40450	40040	40880
18	35050	31210	e28260	e28160	32050	41560	42600	42240	41980	40390	39970	40810
19	34850	30810	e28310	e28140	32130	41620	42520	42190	41980	40350	39930	40770
20	35240	30850	e28310	e28110	32380	41730	42450	42130	41940	40260	40040	40710
21	35120	30650	e28320	e28090	32770	41770	42390	42020	41920	40200	40670	40650
22	34910	30490	e28340	e28070	35450	41770	42300	41940	41830	40180	40690	40580
23	34800	30330	e28340	e28090	37820	41810	42450	41870	41750	40180	40650	40500
24	34570	30250	e28340	e28090	38160	41870	42430	41790	41750	40100	40620	40450
25	34390	30190	e28340	e28090	38430	41870	42320	41730	41680	40040	40620	40410
26	34200	30120	e28360	e28170	38630	41900	42280	41680	41600	39970	40560	40350
27	33980	e30000	e28360	e28390	38760	42070	42240	41920	41560	39910	40540	40260
28	33850	e29880	e28360	e28640	38920	42040	42190	42210	41450	39870	40450	40260
29	33490	e29780	e28370	e28820	---	42000	42170	42190	41390	39770	40370	40240
30	33480	e29670	e28390	e28960	---	42070	42130	42210	41340	39750	40260	40220
31	33350	---	e28370	e29080	---	42020	---	42150	---	39660	40430	---
MAX	38020	33120	29550	29080	38920	42070	42730	42340	42110	41300	40690	41150
MIN	33350	29670	28120	28070	29190	39150	41940	41680	41340	39660	39380	40220
(+)	274.53	272.49	271.73	272.15	277.38	278.86	278.91	278.92	278.54	277.74	278.11	278.01
(@)	-4790	-3680	-1300	+710	+9840	+3100	+110	+20	-810	-1680	+770	-210
(++)	238	156	148	206	203	215	218	216	297	460	332	304

CAL YR 1993 MAX 48020 MIN 28120 (@) -9390 (++) 3116
WTR YR 1994 MAX 42730 MIN 28070 (@) +2080 (++) 2993

e Estimated
(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.
(++) Diversions, in acre-feet, by the city of Macogdoches.

LOCATION.--Lat 31°27'26", long 94°43'34", Angelina-Nacogdoches County line, Hydrologic Unit 12020004, near right bank at downstream side of bridge on U.S. Highway 59, 100 ft upstream from Procella Creed, 1.5 mi² downstream from Bayou Loco, 1.5 mi upstream from Southern Pacific Transportation Co. (formerly Southern Pacific Lines) bridge, 8 mi north of Lufkin, and 109.5 mi upstream from mouth.

DRAINAGE AREA.--1,600 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1954 to September 1978, January 1994 to August 1994.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1954 to September 1978.

WATER TEMPERATURES: October 1954 to September 1978.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE : Maximum, 1,090 microsiemens Nov. 10,11, 1963; minimum 38 microsiemens Sept. 21, 1958, May 2, 1962.

WATER TEMPERATURE : Maximum, 32.0°C on several day during Jul. 1966; minimum, 0.0°C Jan. 11,12, 1962, Jan. 19, 1977.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CaCO3)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)
JAN 27...	1236	442	160	7.5	10.0	58	18	9.5	84	1.4	33	15
MAR 22...	1115	1220	163	6.8	18.0	76	--	7.2	76	1.6	37	20
APR 22...	0930	1400	148	6.4	20.0	96	8.0	6.8	75	1.9	35	17
JUN 09...	0850	410	155	6.3	27.0	180	38	6.0	76	2.4	34	9
JUL 29...	1115	E175	172	6.3	25.5	130	--	5.8	71	0.7	34	5
AUG 25...	1515	654	105	6.2	25.0	130	42	7.8	95	1.7	21	6

DATE	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CaCO3 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS Cl)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)
JAN 27...	7.1	3.7	16	1	2.6	18	24	18	<0.10	12	96	19
MAR 22...	7.7	4.4	13	0.9	2.6	17	27	18	<0.10	13	96	12
APR 22...	7.0	4.1	14	1	2.7	18	23	17	<0.10	13	94	20
JUN 09...	7.0	4.0	14	1	3.2	25	17	15	0.10	19	96	20
JUL 29...	7.5	3.8	16	1	3.6	29	18	18	0.10	18	104	34
AUG 25...	4.7	2.3	10	0.9	4.6	15	18	11	<0.10	13	76	34

DATE	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)
JAN 27...	9	10	0.180	0.180	0.020	0.200	0.200	0.020	0.28	0.30	0.020
MAR 22...	8	4	--	--	<0.010	--	<0.050	0.010	0.49	0.50	0.040
APR 22...	11	9	0.180	--	<0.010	0.180	0.180	0.060	0.34	0.40	0.020
JUN 09...	10	10	0.380	0.380	0.010	0.390	0.390	0.040	0.56	0.60	0.060
JUL 29...	13	21	0.320	--	<0.010	0.320	0.320	0.020	0.38	0.40	0.030
AUG 25...	14	20	0.420	0.420	0.010	0.430	0.430	0.050	0.35	0.40	0.050

NECHES RIVER BASIN

219

08037000 ANGELINA RIVER NEAR LUFKIN, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JAN 27...	0.010	0.03	4.6	1	39	<0.5	<1.0	<5	<3	<10	330
MAR 22...	0.020	0.06	8.8	--	--	--	--	--	--	--	--
APR 22...	0.020	0.06	10	1	52	<0.5	<1.0	<5	<3	<10	710
JUN 09...	0.040	0.12	8.7	--	--	--	--	--	--	--	--
JUL 29...	<0.010	--	7.0	--	--	--	--	--	--	--	--
AUG 25...	0.040	0.12	9.4	2	49	<0.5	<1.0	<5	<3	<10	880
DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
JAN 27...	<10	9	94	<0.1	<10	<10	<1	<1.0	88	<6	7
MAR 22...	--	--	--	--	--	--	--	--	--	--	--
APR 22...	10	8	130	<0.1	<10	<10	<1	3.0	110	<6	5
JUN 09...	--	--	--	--	--	--	--	--	--	--	--
JUL 29...	--	--	--	--	--	--	--	--	--	--	--
AUG 25...	<10	8	110	<0.1	<10	<10	<1	<1.0	65	<6	18

NECHES RIVER BASIN

08038000 ATTOYAC BAYOU NEAR CHIRENO, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 31°30'15", long 94°18'15", Macogdoches-San Augustine County Line, Hydrologic Unit 12020005, near right bank at downstream side of bridge on State Highway 21, 2.2 mi upstream from Amaladeros Creek, 2.8 mi east of Chireno, 5.4 mi downstream from Arenoso Creek, and 41 mi upstream from mouth.

DRAINAGE AREA.--503 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1924 to September 1925, July 1939 to November 1954, and October 1955 to Sept. 30, 1985. Monthly discharge only for some periods, published in WSP 1312 and 1732. October 1985 to September 1989 (annual maximum). October 1989 to current year (peak discharges greater than base discharge).

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 169.58 ft above National Geodetic Vertical Datum of 1929. Jan. 24, 1924, to Aug. 29, 1925, and Sept. 6, 1957, to Oct. 27, 1958, nonrecording gage at same site and datum.

REMARKS.--Flow is affected at times by discharge from the flood-detention pools of twelve floodwater-retarding structures with a combined detention capacity of 15,870 acre-ft. These structures control runoff from 46.7 mi² above this station. Satellite telemeter at station.

AVERAGE DISCHARGE.--45 years (water years 1940-54, 1956-1985) 479 ft³/s (12.93 in/yr), 347,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,900 ft³/s Nov. 24, 1940 (gage height, 25.97 ft); minimum, 0.8 ft³/s Aug. 26, 27, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1865, 29.9 ft June 29, 1902, from information by local residents. Flood in July 1933 reached a stage of 25.2 ft from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 25	2000	2,580	16.85				

MECHES RIVER BASIN

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08038000 ATTOYAC BAYOU NEAR CHIRENO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1994 to August 1994.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

		DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	HARDNESS TOTAL (MG/L AS CaCO3)	HARDNESS NONCARB DISSOLVED, AS CaCO3 (MG/L)	
DATE	TIME												
JAN 27...	1545	540	200	7.4	10.0	110	65	9.4	83	2.2	66	41	
MAR 22...	1501	364	145	7.0	18.5	70	--	8.2	88	1.4	38	22	
APR 21...	1625	536	130	6.7	22.0	110	27	7.2	83	1.6	34	13	
JUN 08...	1625	259	122	7.0	25.5	120	35	7.0	86	1.5	33	10	
JUL 29...	0840	76	108	6.6	24.0	120	--	7.0	84	0.5	29	1	
AUG 25...	1130	172	96	6.8	25.0	110	36	8.3	100	1.5	26	9	
DATE		CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WAT DIS FIX END FIELD CaCO3 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L)
JAN 27...	14	7.4	12	0.6	2.2	25	47	13	<0.10	12	125	100	
MAR 22...	7.3	4.7	11	0.8	1.7	16	26	12	<0.10	16	90	40	
APR 21...	6.6	4.3	10	0.7	2.3	21	23	10	<0.10	13	84	62	
JUN 08...	6.4	4.2	10	0.8	2.0	23	17	9.9	<0.10	16	81	36	
JUL 29...	5.8	3.6	8.3	0.7	1.9	28	6.7	9.5	<0.10	16	71	19	
AUG 25...	5.4	2.9	7.2	0.6	3.2	17	13	10	<0.10	12	67	48	
DATE		RESIDUE VOLATILE, SUSPENDED (MG/L)	RESIDUE FIXED NON FILTERABLE (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	GEN. NITRATE DIS-SOLVED (MG/L AS N)	GEN. NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	GEN. NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	GEN. ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOSPHORUS, DIS-SOLVED (MG/L AS P)	
JAN 27...		18	82	0.270	0.270	0.010	0.280	0.280	0.030	0.37	0.40	0.040	
MAR 22...		12	28	0.310	--	<0.010	0.310	0.310	0.040	0.26	0.30	0.020	
APR 21...		22	40	0.260	--	<0.010	0.260	0.260	0.070	0.33	0.40	0.020	
JUN 08...		16	20	0.340	0.340	0.010	0.350	0.350	0.050	0.55	0.60	0.040	
JUL 29...		9	10	0.620	--	<0.010	0.620	0.620	0.030	0.27	0.30	0.040	
AUG 25...		22	26	0.430	--	<0.010	0.430	0.430	0.040	0.36	0.40	<0.010	
DATE		PHOSPHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOSPHATE ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYLLIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	
JAN 27...		0.030	0.09	11	1	42	<0.5	<1.0	<5	<3	<10	300	
MAR 22...		0.020	0.06	6.4	--	--	--	--	--	--	--	--	
APR 21...		0.020	0.06	6.2	1	49	<0.5	<1.0	<5	<3	<10	680	
JUN 08...		0.010	0.03	9.2	--	--	--	--	--	--	--	--	
JUL 29...		0.010	0.03	5.3	--	--	--	--	--	--	--	--	
AUG 25...		0.020	0.06	9.4	1	43	<0.5	<1.0	6	5	<10	730	

NECHES RIVER BASIN

08038000 ATTOYAC BAYOU NEAR CHIRENO, TX--Continued--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
JAN 27...	<10	10	67	<0.1	<10	<10	<1	<1.0	160	<6	4
MAR 22...	--	--	--	--	--	--	--	--	--	--	--
APR 21...	<10	5	91	<0.1	<10	10	<1	2.0	92	<6	11
JUN 08...	--	--	--	--	--	--	--	--	--	--	--
JUL 29...	--	--	--	--	--	--	--	--	--	--	--
AUG 25...	<10	4	62	<0.1	<10	<10	<1	3.0	71	<6	20

NECHES RIVER BASIN

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08039100 AYISH BAYOU NEAR SAN AUGUSTINE, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 31°23'46", Long 94°09'03", San Augustine County, Hydrologic Unit 12020005, near center of span at downstream side of bridge on State Highway 103, 3.0 mi upstream from Turkey Creek, and 9.5 mi south of San Augustine.

DRAINAGE AREA.--89.0 mi².

PERIOD OF RECORD.--February 1959 to September 1985. October 1985 to September 1989 (annual maximum), October 1989 to current year (peak discharges greater than base discharge).

REVISED RECORDS.--WSP 1922: 1959(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 190.22 ft above National Geodetic Vertical Datum of 1929. Prior to June 2, 1959, nonrecording gage at same site and datum.

REMARKS.--Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE.--26 years (water years 1960-85), 83.7 ft³/s, 12.77 in/yr, 60,640 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,200 ft³/s Sept. 14, 1978 (gage height, 18.02 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since October 1957, 15,900 ft³/s on Sept. 21 or 22, 1958 (gage height, 17.5 ft, from floodmarks).

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 11	0300	4,030	13.48	May 4	0200	1,680	12.03
Feb. 23	0500	4,470	13.70				

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX

LOCATION.--Lat 31°03'38", long 94°06'21", Jasper County, Hydrologic Unit 12020005, in the powerhouse-intake structure of Sam Rayburn Dam on the Angelina River, 10 mi northwest of Jasper, and 25.2 mi upstream from mouth.

DRAINAGE AREA.--3,449 mi².

WATER-CONTENT RECORDS

PERIOD OF RECORD.--January 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Apr. 20, 1965, nonrecording gage at same site and datum.

REMARKS.--The reservoir is formed by a rolled earthfill dam 19,430 ft long, including spillway and dikes. The dam was completed and deliberate impoundment began Mar. 29, 1965. The spillway is an uncontrolled broad-crested weir 2,200 ft wide, on right bank 7,000 ft to right of outlet works, and is designed to discharge 125,300 ft³/s at maximum flood design. The flood-control outlet works consists of two 10.0- by 20.0-foot rectangular concrete-lined conduits controlled by two 10.0- by 20.0-foot tractor-type service gates and one 10.0- by 20.0-foot tractor-type emergency gate. Water for turbines is admitted through four 18.0- by 26.0-foot penstocks and controlled by two wheeled-leaf-type headgates. The reservoir is operated for flood control and power generation. The area-capacity tables are based on topographic maps prepared by the U.S. Army Corps of Engineers and detailed sedimentation ranges established in 1961 and dated February 1965. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08038000. Satellite telemeter at station. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	190.0	-
Design flood.....	183.0	5,610,000
Crest of spillway.....	176.0	4,442,400
Top of flood-control pool.....	173.0	3,997,600
Top of conservation pool (power pool).....	164.0	2,852,600
Top of power head and sediment pool.....	149.0	1,452,000
Lowest gated outlet (invert).....	105.0	21,940

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,881,000 acre-ft Feb. 7, 1974 (elevation, 172.17 ft); minimum since conservation storage was reached in 1968, 1,797,000 acre-ft Nov. 15, 1977 (elevation, 153.35 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 3,038,000 acre-ft Mar. 11 (elevation, 165.60 ft); minimum daily, 2,274,000 acre-ft Nov. 13 (elevation, 158.54 ft).

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

155.0	1,941,200	166.0	3,085,000	171.0	3,720,000
158.0	2,221,000	168.0	3,329,000	172.0	3,857,000
162.0	2,631,000	170.0	3,586,000	173.0	3,998,000

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2400000	2317000	2296000	2369000	2429000	2890000	2900000	2889000	2904000	2828000	2631000	2511000
2	2400000	2316000	2294000	2367000	2434000	2898000	2892000	2882000	2900000	2821000	2623000	2517000
3	2400000	2318000	2293000	2367000	2436000	2910000	2899000	2915000	2904000	2815000	2618000	2521000
4	2390000	2314000	2305000	2364000	2443000	2923000	2894000	2915000	2899000	2805000	2616000	2522000
5	2386000	2319000	2301000	2355000	2448000	2933000	2933000	2918000	2895000	2798000	2612000	2526000
6	2380000	2313000	2299000	2357000	2450000	2937000	2920000	2914000	2890000	2791000	2599000	2528000
7	2374000	2303000	2294000	2359000	2454000	2942000	2914000	2912000	2884000	2781000	2594000	2528000
8	2368000	2303000	2294000	2347000	2458000	2947000	2911000	2914000	2879000	2779000	2603000	2528000
9	2389000	2301000	2293000	2341000	2487000	3020000	2907000	2919000	2878000	2778000	2603000	2526000
10	2380000	2297000	2308000	2343000	2551000	3035000	2905000	2919000	2887000	2775000	2599000	2522000
11	2371000	2288000	2309000	2348000	2584000	3038000	2903000	2915000	2884000	2771000	2592000	2522000
12	2368000	2285000	2299000	2348000	2603000	3034000	2927000	2910000	2881000	2760000	2589000	2520000
13	2368000	2274000	2339000	2348000	2616000	3027000	2919000	2904000	2879000	2753000	2580000	2516000
14	2359000	2297000	2336000	2348000	2620000	3020000	2907000	2915000	2878000	2752000	2576000	2510000
15	2357000	2295000	2333000	2348000	2631000	3018000	2930000	2917000	2875000	2748000	2571000	2508000
16	2354000	2319000	2333000	2345000	2638000	3009000	2923000	2913000	2874000	2743000	2559000	2508000
17	2350000	2316000	2340000	2354000	2643000	2998000	2921000	2910000	2875000	2738000	2547000	2499000
18	2347000	2316000	2343000	2350000	2643000	2986000	2915000	2905000	2875000	2731000	2541000	2493000
19	2345000	2325000	2346000	2346000	2651000	2977000	2912000	2900000	2872000	2727000	2535000	2485000
20	2368000	2318000	2356000	2348000	2675000	2972000	2905000	2891000	2875000	2720000	2527000	2479000
21	2370000	2318000	2351000	2347000	2686000	2972000	2902000	2887000	2871000	2716000	2550000	2472000
22	2364000	2316000	2364000	2345000	2741000	2964000	2902000	2884000	2864000	2710000	2545000	2470000
23	2357000	2314000	2364000	2341000	2785000	2960000	2903000	2881000	2862000	2702000	2544000	2454000
24	2352000	2322000	2367000	2336000	2797000	2959000	2903000	2878000	2859000	2693000	2541000	2450000
25	2348000	2319000	2367000	2343000	2820000	2949000	2900000	2875000	2855000	2684000	2539000	2439000
26	2347000	2315000	2366000	2344000	2830000	2944000	2896000	2878000	2848000	2679000	2537000	2430000
27	2341000	2307000	2370000	2392000	2837000	2956000	2894000	2887000	2842000	2676000	2535000	2421000
28	2333000	2305000	2377000	2403000	2846000	2938000	2891000	2887000	2842000	2662000	2531000	2413000
29	2359000	2304000	2372000	2413000	---	2921000	2889000	2889000	2834000	2653000	2521000	2406000
30	2349000	2301000	2369000	2417000	---	2920000	2904000	2905000	2832000	2646000	2514000	2400000
31	2327000	---	2367000	2428000	---	2907000	---	2907000	---	2640000	2510000	---
MAX	2400000	2325000	2377000	2428000	2846000	3038000	2933000	2919000	2904000	2828000	2631000	2528000
MIN	2327000	2274000	2293000	2336000	2429000	2890000	2889000	2875000	2832000	2640000	2510000	2400000
(+)	159.08	158.82	159.47	160.07	163.94	164.48	164.45	164.48	163.82	162.08	160.86	159.80
(@)	-83000	-26000	+66000	+6100	+418000	+61000	-3000	+3000	-75000	-192000	-130000	-110000
CAL YR 1993	MAX 3251000	MIN 2274000	(@) +26000									
WTR YR 1994	MAX 3038000	MIN 2274000	(@) -10000									

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD---Chemical analyses: October 1964 to September 1984, September 1993 to current year. Chemical and Biochemical analyses: November 1967 to September 1984, September 1993 to current year.

310816094041401 - SAM RAYBURN RESERVOIR SITE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN, DIS- SOLVED (MG/L)
JAN									
25...	1445	2340000	1.00	130	7.0	11.0	--	10.0	91
25...	1447	--	10.0	130	7.0	10.0	--	9.8	87
25...	1449	--	20.0	130	7.0	10.0	--	9.6	85
25...	1451	--	30.0	130	7.0	10.0	--	9.6	85
25...	1453	--	40.0	130	7.0	10.0	--	9.4	83
25...	1455	--	50.0	130	7.0	10.0	--	9.2	81
APR									
20...	1650	2900000	1.00	115	6.9	23.5	1.60	11.6	137
20...	1652	--	10.0	115	6.7	20.5	--	11.3	126
20...	1654	--	20.0	115	6.6	19.5	--	11.0	120
20...	1656	--	30.0	125	6.6	17.5	--	7.2	75
20...	1658	--	40.0	125	6.6	16.0	--	5.8	59
20...	1700	--	53.0	125	6.7	16.0	--	5.8	59
AUG									
24...	1520	2540000	1.00	135	7.8	31.0	2.70	7.3	98
24...	1522	--	10.0	135	7.4	29.5	--	7.3	95
24...	1524	--	20.0	135	7.0	29.0	--	6.7	87
24...	1526	--	30.0	135	6.7	27.0	--	6.0	75
24...	1528	--	40.0	160	6.9	22.0	--	6.0	68
24...	1530	--	53.0	160	6.9	21.5	--	5.8	65

310437094065501 - SAM RAYBURN RESERVOIR SITE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
AN												
25...	1300	1.00	135	6.9	11.0	1.90	10.0	91	<1	290	--	--
25...	1302	10.0	135	6.9	10.5	--	9.9	89	--	--	--	--
25...	1304	20.0	135	6.9	10.0	--	9.8	87	--	--	--	--
25...	1306	30.0	135	6.9	10.0	--	9.8	87	--	--	--	--
25...	1308	40.0	135	6.9	10.0	--	9.8	87	--	--	--	--
25...	1310	50.0	135	6.9	10.0	--	9.8	87	--	--	--	--
25...	1312	60.0	135	6.8	10.0	--	9.7	86	--	--	--	--
25...	1314	70.0	135	6.8	10.0	--	9.7	86	--	--	--	--
25...	1316	84.0	135	6.8	10.0	--	9.5	84	--	--	30	10
PR												
20...	1800	1.00	125	7.0	22.0	1.70	11.7	134	K1	K1	26	7
20...	1802	10.0	130	6.8	19.0	--	11.7	127	--	--	--	--
20...	1804	20.0	130	6.8	18.5	--	11.4	122	--	--	--	--
20...	1806	30.0	130	6.7	18.5	--	11.4	122	--	--	--	--
20...	1808	40.0	130	6.6	17.5	--	10.8	113	--	--	--	--
20...	1810	50.0	130	6.5	16.0	--	9.5	97	--	--	--	--
20...	1812	60.0	130	6.5	15.5	--	8.0	80	--	--	--	--
20...	1814	70.0	130	6.5	15.0	--	7.9	79	--	--	--	--
20...	1816	82.0	130	6.8	14.5	--	7.2	71	--	--	27	7
JG												
24...	1830	1.00	135	7.6	31.0	2.70	7.5	101	K3	K7	29	10
24...	1832	10.0	135	7.6	29.0	--	7.5	97	--	--	--	--
24...	1834	20.0	140	7.0	28.0	--	7.1	90	--	--	--	--
24...	1836	30.0	140	6.7	27.0	--	6.4	80	--	--	--	--
24...	1838	40.0	150	6.8	24.5	--	6.4	76	--	--	--	--
24...	1840	50.0	150	6.8	19.5	--	6.4	69	--	--	--	--
24...	1842	60.0	155	6.8	19.0	--	6.4	69	--	--	--	--
24...	1844	65.0	155	6.8	19.0	--	6.4	69	--	--	31	0

NECHES RIVER BASIN

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

310437094065501 - SAM RAYBURN RESERVOIR SITE CC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
JAN												
25...	--	--	--	--	--	20	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	6.7	3.1	14	1	2.4	20	19	15	<0.10	6.6	79	--
PR												
20...	5.9	2.7	12	1	2.0	19	18	14	<0.10	6.6	73	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	0.062
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	6.1	2.9	12	1	2.2	20	18	14	<0.10	8.6	77	0.120
JUG												
24...	7.1	2.8	14	1	2.4	19	18	16	<0.10	7.1	79	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	7.2	3.1	14	1	2.4	33	13	18	<0.10	11	94	--
DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	
JAN												
25...	--	--	--	--	--	--	--	--	--	--	--	
25...	--	--	--	--	--	--	--	--	--	--	--	
25...	--	--	--	--	--	--	--	--	--	--	--	
25...	--	--	--	--	--	--	--	--	--	--	--	
25...	--	--	--	--	--	--	--	--	--	--	--	
25...	--	--	--	--	--	--	--	--	--	--	--	
25...	0.010	--	<0.050	0.040	0.46	0.50	0.040	<0.010	--	29	46	
APR												
20...	<0.010	--	<0.050	<0.010	--	<0.20	<0.010	<0.010	--	54	3	
20...	--	--	--	--	--	--	--	--	--	--	--	
20...	<0.010	--	<0.050	0.020	0.28	0.30	<0.010	<0.010	--	60	<10	
20...	--	--	--	--	--	--	--	--	--	--	--	
20...	<0.010	0.062	0.062	0.010	0.19	0.20	<0.010	<0.010	--	60	20	
20...	--	--	--	--	--	--	--	--	--	--	--	
20...	<0.010	0.120	0.120	0.010	0.19	0.20	<0.010	<0.010	--	89	200	
AUG												
24...	<0.010	--	<0.050	0.010	0.19	0.20	<0.010	<0.010	--	17	64	
24...	--	--	--	--	--	--	--	--	--	--	--	
24...	--	--	--	--	--	--	--	--	--	--	--	
24...	<0.010	--	<0.050	0.020	0.28	0.30	<0.010	<0.010	--	230	370	
24...	--	--	--	--	--	--	--	--	--	--	--	
24...	--	--	--	--	--	--	--	--	--	--	--	
24...	<0.010	--	<0.050	0.360	0.14	0.50	0.070	0.070	0.21	2300	2300	

NECHES RIVER BASIN

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08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

310802094112201 - SAM RAYBURN RESERVOIR SITE FC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
26...	0900	1.00	135	7.1	11.0	--	10.5	95
26...	0902	10.0	135	7.1	11.0	--	10.5	95
26...	0904	20.0	135	7.1	10.5	--	10.3	93
26...	0906	30.0	135	7.0	10.5	--	9.6	86
26...	0908	40.0	135	7.1	10.0	--	9.6	85
26...	0910	50.0	135	7.1	10.0	--	9.6	85
26...	0912	60.0	135	7.1	10.0	--	9.8	87
26...	0914	74.0	135	7.1	10.0	--	9.7	86
APR								
21...	0905	1.00	125	6.9	21.5	--	7.5	85
21...	0907	10.0	130	6.8	20.5	--	7.6	85
21...	0909	20.0	135	6.6	19.5	--	7.2	79
21...	0911	30.0	135	6.5	17.5	--	6.5	68
21...	0913	40.0	135	6.5	17.0	--	6.4	66
21...	0915	50.0	130	6.4	16.0	--	5.8	59
21...	0917	60.0	130	6.4	16.0	--	5.8	59
21...	0919	70.0	130	6.4	15.5	--	5.6	56
21...	0921	75.0	130	6.4	15.5	--	5.6	56
AUG								
25...	0920	1.00	140	7.9	30.0	2.70	7.8	102
25...	0922	10.0	140	7.6	29.5	--	7.7	100
25...	0924	20.0	140	6.8	28.5	--	7.3	93
25...	0926	30.0	140	6.4	26.5	--	6.2	76
25...	0928	40.0	150	6.6	22.0	--	6.5	74
25...	0930	50.0	155	6.6	19.5	--	6.6	71
25...	0932	60.0	155	6.6	19.0	--	6.6	71
25...	0934	70.0	155	6.6	18.5	--	6.7	71
25...	0936	75.0	155	6.6	18.5	--	6.7	71

311039094141201 - SAM RAYBURN RESERVOIR SITE GC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
26...	0935	1.00	135	7.1	10.5	--	10.3	93
26...	0937	10.0	135	7.1	10.5	--	10.3	93
26...	0939	20.0	135	7.0	10.5	--	9.7	87
26...	0941	30.0	135	7.0	10.0	--	9.5	84
26...	0943	40.0	135	7.0	9.5	--	9.2	81
26...	0945	56.0	135	7.1	9.5	--	9.2	81
APR								
21...	0947	1.00	135	7.0	22.0	--	7.3	84
21...	0949	10.0	135	6.8	20.5	--	7.3	81
21...	0951	20.0	150	6.7	19.0	--	6.4	69
21...	0953	30.0	150	6.6	18.5	--	6.1	65
21...	0955	40.0	140	6.7	18.0	--	6.1	65
21...	0957	50.0	140	6.7	17.5	--	5.4	57
21...	0959	60.0	140	6.7	16.0	--	4.3	44
21...	1001	68.0	140	6.7	16.0	--	4.3	44
AUG								
25...	1000	1.00	145	8.0	29.5	2.20	7.8	102
25...	1002	10.0	145	7.8	29.5	--	7.7	100
25...	1004	20.0	145	7.4	29.0	--	7.5	97
25...	1006	30.0	145	6.5	26.5	--	5.9	73
25...	1008	40.0	155	6.7	21.5	--	6.3	71
25...	1010	50.0	155	6.7	20.0	--	6.4	70
25...	1012	60.0	155	6.7	19.5	--	6.5	70
25...	1014	70.0	155	6.7	19.5	--	6.6	71

NECHES RIVER BASIN

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

311828094191801 - SAM RAYBURN RESERVOIR SITE IC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	
IAN													
26...	1015	1.00	150	7.0	10.5	1.90	10.3	93	<1	<1	31	10	
26...	1017	10.0	150	6.9	10.0	--	9.8	87	--	--	--	--	
26...	1019	20.0	150	6.9	10.0	--	9.4	83	--	--	--	--	
26...	1021	30.0	150	6.9	9.5	--	8.7	76	--	--	--	--	
26...	1023	40.0	150	6.9	9.5	--	8.6	75	--	--	--	--	
26...	1025	54.0	150	6.9	9.5	--	8.6	75	--	--	29	9	
VPR													
21...	1032	1.00	145	7.0	23.0	1.75	7.2	84	K1	K1	26	8	
21...	1034	10.0	145	6.8	21.5	--	7.1	81	--	--	--	--	
21...	1036	20.0	150	6.6	19.5	--	6.1	67	--	--	--	--	
21...	1038	30.0	150	6.5	19.0	--	5.1	55	--	--	--	--	
21...	1040	40.0	155	6.6	18.0	--	4.5	48	--	--	--	--	
21...	1042	50.0	155	6.6	17.5	--	4.4	46	--	--	--	--	
21...	1044	60.0	160	6.8	17.5	--	3.6	38	--	--	--	--	
21...	1046	62.0	160	6.8	17.5	--	3.6	38	--	--	29	11	
WUG													
25...	1040	1.00	145	8.3	30.0	1.90	7.7	101	K1	K1	27	8	
25...	1042	10.0	145	8.1	29.5	--	7.6	99	--	--	--	--	
25...	1044	20.0	150	6.9	28.5	--	7.0	90	--	--	--	--	
25...	1046	30.0	160	6.7	26.5	--	6.0	74	--	--	--	--	
25...	1048	40.0	175	6.8	22.0	--	6.2	70	--	--	--	--	
25...	1050	50.0	180	6.8	21.0	--	6.4	71	--	--	--	--	
25...	1052	56.0	180	6.8	21.0	--	6.4	71	--	--	34	0	
DATE		CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
IAN													
26...	7.0	3.2	16	1	2.5	21	20	18	0.10	8.2	88	--	
26...	--	--	--	--	--	--	--	--	--	--	--	--	
26...	--	--	--	--	--	--	--	--	--	--	--	--	
26...	--	--	--	--	--	--	--	--	--	--	--	--	
26...	6.5	3.1	17	1	2.6	20	20	19	<0.10	9.5	90	--	
VPR													
21...	5.9	2.8	15	1	2.2	18	21	17	<0.10	6.7	81	--	
21...	--	--	--	--	--	--	--	--	--	--	--	--	
21...	--	--	--	--	--	--	--	--	--	--	--	--	
21...	--	--	--	--	--	--	--	--	--	--	--	--	
21...	--	--	--	--	--	--	--	--	--	--	--	0.067	
21...	--	--	--	--	--	--	--	--	--	--	--	--	
21...	6.4	3.1	17	1	2.4	18	24	19	<0.10	11	95	0.057	
WUG													
25...	6.0	2.9	15	1	2.5	19	19	17	<0.10	8.1	82	--	
25...	--	--	--	--	--	--	--	--	--	--	--	--	
25...	--	--	--	--	--	--	--	--	--	--	--	--	
25...	--	--	--	--	--	--	--	--	--	--	--	--	
25...	--	--	--	--	--	--	--	--	--	--	--	--	
25...	8.2	3.4	14	1	2.5	44	12	20	<0.10	13	111	--	

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

311828094191801 - SAM RAYBURN RESERVOIR SITE IC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
26...	<0.010	--	<0.050	<0.010	--	0.30	<0.010	<0.010	--	19	2
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	<0.010	--	<0.050	0.030	0.37	0.40	0.020	0.010	0.03	81	18
APR											
21...	<0.010	--	<0.050	0.020	--	<0.20	<0.010	<0.010	--	52	5
21...	--	--	--	--	--	--	--	--	--	--	--
21...	<0.010	--	<0.050	0.030	--	<0.20	<0.010	<0.010	--	150	30
21...	--	--	--	--	--	--	--	--	--	--	--
21...	<0.010	0.067	0.067	0.100	0.20	0.30	<0.010	<0.010	--	220	130
21...	--	--	--	--	--	--	--	--	--	--	--
21...	<0.010	0.057	0.057	0.220	0.28	0.50	<0.010	<0.010	--	330	400
AUG											
25...	<0.010	--	<0.050	0.010	0.29	0.30	<0.010	<0.010	--	10	20
25...	--	--	--	--	--	--	--	--	--	--	--
25...	<0.010	--	<0.050	0.070	0.23	0.30	0.020	0.020	0.06	130	160
25...	--	--	--	--	--	--	--	--	--	--	--
25...	<0.010	--	<0.050	0.850	0.25	1.1	0.190	0.180	0.55	5800	2500
25...	<0.010	--	--	--	--	--	--	--	--	--	--
25...	<0.010	--	<0.050	1.20	0.30	1.5	0.330	0.300	0.92	6600	2200

311804094234901 - SAM RAYBURN RESERVOIR SITE JC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
26...	1210	1.00	210	6.9	10.5	--	9.7	87
26...	1212	10.0	210	6.9	10.0	--	8.6	76
26...	1214	20.0	210	6.9	9.5	--	8.3	73
26...	1216	30.0	215	6.9	9.5	--	8.1	71
26...	1218	37.0	215	6.9	10.0	--	8.3	74
APR								
21...	1210	1.00	150	7.1	24.0	--	7.2	86
21...	1212	10.0	150	6.9	21.5	--	6.3	72
21...	1214	20.0	150	6.9	20.0	--	5.3	58
21...	1216	30.0	150	7.1	19.5	--	4.6	50
21...	1218	38.0	150	7.5	19.0	--	4.7	51
AUG								
25...	1220	1.00	160	8.5	31.5	1.10	7.6	102
25...	1222	10.0	170	7.0	29.5	--	6.8	89
25...	1224	20.0	180	6.8	29.0	--	6.1	79
25...	1226	30.0	185	6.7	28.5	--	5.8	74
25...	1228	37.0	235	6.8	26.5	--	5.8	72

312216094280601 - SAM RAYBURN RESERVOIR SITE KC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
IN												
27...	0820	1.00	300	7.3	9.0	1.80	10.3	90	K1	K15	37	11
27...	0822	20.0	300	7.2	8.5	--	9.7	84	--	--	36	10
JR												
21...	1230	1.00	220	6.7	24.5	1.00	6.0	72	K1	K1	36	10
21...	1232	10.0	225	6.7	22.5	--	5.1	59	--	--	--	--
21...	1234	20.0	215	6.7	21.5	--	4.5	51	--	--	--	--
21...	1236	30.0	215	7.0	21.0	--	4.1	46	--	--	38	13
JG												
25...	1300	1.00	275	8.5	31.5	0.90	7.7	104	K1	K2	31	0
25...	1302	10.0	325	7.1	29.0	--	6.5	84	--	--	--	--
25...	1304	20.0	325	7.0	29.0	--	6.4	83	--	--	--	--
25...	1306	25.0	330	7.1	28.5	--	6.2	80	--	--	36	0

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

312216094280601 - SAM RAYBURN RESERVOIR SITE KC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
JAN												
27...	8.7	3.6	44	3	3.2	26	36	48	<0.10	15	176	0.360
27...	8.5	3.5	42	3	3.1	26	36	49	<0.10	16	176	0.350
APR												
21...	7.7	4.0	26	2	3.1	26	28	30	<0.10	10	125	0.056
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	0.090
21...	8.2	4.3	23	2	3.1	25	29	27	<0.10	12	123	0.130
AUG												
25...	7.1	3.3	36	3	3.6	43	22	38	0.10	15	151	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	8.4	3.7	51	4	4.0	48	29	51	0.10	15	193	--
DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN												
27...	0.360	0.010	0.370	0.370	0.040	0.26	0.30	0.030	0.030	0.09	480	71
27...	0.350	0.010	0.360	0.360	0.040	0.26	0.30	0.040	0.030	0.09	730	69
APR												
21...	--	<0.010	0.056	0.056	0.020	0.28	0.30	<0.010	<0.010	--	190	35
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	<0.010	0.090	0.090	0.080	0.32	0.40	<0.010	<0.010	--	360	110
21...	--	<0.010	0.130	0.130	0.110	0.29	0.40	<0.010	<0.010	--	430	120
AUG												
25...	--	<0.010	--	<0.050	<0.010	--	0.30	<0.010	<0.010	--	140	6
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	<0.010	--	<0.050	0.010	0.29	0.30	0.020	0.010	0.03	700	130
25...	--	<0.010	--	<0.050	0.120	0.38	0.50	0.060	0.030	0.09	1600	270

31100094010301 - SAM RAYBURN RESERVOIR SITE LC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
JAN									
25...	1620	1.00	135	7.0	11.5	1.30	8.8	81	0.040
25...	1622	10.0	135	7.0	10.0	--	8.6	76	--
25...	1624	20.0	135	7.0	10.0	--	9.6	85	--
25...	1626	30.0	140	7.1	10.0	--	9.6	85	0.040
APR									
20...	1618	1.00	110	6.5	22.5	1.62	7.2	83	<0.010
20...	1620	10.0	110	6.4	21.0	--	6.9	78	--
20...	1622	25.0	120	6.3	22.5	--	7.2	83	<0.010
AUG									
24...	1650	1.00	135	8.0	31.0	1.80	7.3	99	<0.010
24...	1652	10.0	135	7.4	29.5	--	7.3	97	--
24...	1654	20.0	135	6.8	29.0	--	6.6	87	--
24...	1656	30.0	135	6.9	29.0	--	6.5	85	<0.010

NECHES RIVER BASIN

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08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

311000094010301 - SAM RAYBURN RESERVOIR SITE LC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN								
25...	<0.050	0.020	0.28	0.30	0.030	<0.010	60	20
25...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
25...	<0.050	0.030	0.27	0.30	0.010	<0.010	110	50
APR								
20...	<0.050	0.020	0.38	0.40	0.030	<0.010	160	10
20...	--	--	--	--	--	--	--	--
20...	<0.050	0.010	0.39	0.40	0.010	<0.010	130	20
AUG								
24...	<0.050	<0.010	--	<0.20	<0.010	<0.010	10	10
24...	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--
24...	<0.050	0.010	0.19	0.20	0.010	<0.010	20	110

311137094051401 - SAM RAYBURN RESERVOIR SITE MC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
JAN									
25...	1535	1.00	125	7.0	12.0	2.10	10.2	95	0.010
25...	1537	10.0	125	7.0	9.5	--	9.5	84	--
25...	1539	20.0	130	7.0	9.5	--	9.5	83	--
25...	1541	31.0	130	7.1	10.0	--	9.6	85	0.010
APR									
20...	1725	1.00	105	6.8	24.5	1.43	11.7	141	<0.010
20...	1727	10.0	105	6.5	21.0	--	10.0	113	--
20...	1729	20.0	110	6.5	19.5	--	8.9	97	--
20...	1731	30.0	115	6.5	19.0	--	8.6	93	--
20...	1733	37.0	115	6.8	19.0	--	9.4	102	<0.010
AUG									
24...	1605	1.00	135	8.0	31.5	2.20	7.3	99	<0.010
24...	1607	10.0	135	7.8	29.5	--	7.4	97	--
24...	1609	20.0	134	6.9	29.0	--	6.8	88	--
24...	1611	29.0	135	6.9	28.5	--	6.3	81	<0.010

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
25...	<0.050	<0.010	--	0.40	<0.010	0.010	0.03	60	10
25...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
25...	<0.050	<0.010	--	0.20	<0.010	<0.010	--	50	20
APR									
20...	<0.050	0.050	0.55	0.60	0.110	<0.010	--	190	<10
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	<0.050	0.010	0.29	0.30	0.020	<0.010	--	150	40
AUG									
24...	<0.050	0.020	0.48	0.50	0.050	<0.010	--	<10	10
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	<0.050	0.020	0.58	0.60	0.050	<0.010	--	70	160

NECHES RIVER BASIN

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

311817094190701 - SAM RAYBURN RESERVOIR SITE NC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
JAN										
26...	1100	1.00	125	7.0	11.5	1.45	10.6	97	--	--
26...	1102	10.0	120	6.9	11.0	--	9.3	85	--	--
26...	1104	20.0	120	7.0	10.0	--	8.9	79	--	--
26...	1106	27.0	120	7.0	10.0	--	9.1	81	0.120	0.120
APR										
21...	1125	1.00	135	7.0	24.0	1.40	6.8	81	--	--
21...	1127	10.0	130	6.9	21.5	--	6.4	73	--	--
21...	1129	20.0	130	6.9	20.0	--	4.2	46	--	--
21...	1131	30.0	140	7.3	20.0	--	4.8	53	--	--
21...	1133	34.0	140	7.3	20.0	--	4.8	53	--	--
AUG										
25...	1125	1.00	145	8.5	31.0	1.00	7.8	104	--	--
25...	1127	10.0	140	7.0	29.5	--	7.0	91	--	--
25...	1129	20.0	135	6.7	29.0	--	6.2	80	--	--
25...	1131	29.0	135	6.7	29.0	--	6.1	79	--	--

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN										
26...	0.020	--	<0.050	<0.010	--	0.30	<0.010	<0.010	110	10
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
26...	0.020	0.140	0.140	0.060	0.34	0.40	0.030	<0.010	260	20
APR										
21...	<0.010	--	<0.050	0.020	0.38	0.40	0.010	<0.010	170	<10
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	<0.010	--	<0.050	0.140	0.26	0.40	<0.010	<0.010	270	150
AUG										
25...	0.010	--	<0.050	0.020	0.28	0.30	0.010	<0.010	10	10
25...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
25...	<0.010	--	<0.050	0.130	0.27	0.40	0.010	<0.010	30	140

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

Sam Rayburn Reservoir Site CC (310439094065501)

Phytoplankton Analyses October 1993 to September 1994

Date	1-25-94
Time	1300

TOTAL CELLS/mL	4,461
NUMBER OF SPECIES	14
DEPTH COLLECTED (ft.)	3.1

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Pennales	
<i>Diatoma hiemale</i>	95
<i>Fragilaria crotonensis</i> var. <i>prolongata</i>	95
<i>Navicula gracilis</i>	48
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	119
<i>Chlamydomonas</i> sp.	89
<i>Closterium diana</i>	59
<i>Groenbladia neglecta</i>	3,152
<i>Scenedesmus quadricauda</i>	30
<i>Selenastrum Westii</i>	30
<i>Staurastrum</i> sp.	30
CYANOPHYTA	
<i>Aphanocapsa elachista</i>	595
CHRYSOPHYTA	
<i>Mallomonas</i> sp.	30
EUGLENOPHYTA	
<i>Trachelomonas</i> spp.	59
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	30

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

Sam Rayburn Reservoir Site IC (311828094191801)

Phytoplankton Analyses October 1993 to September 1994

Date	1-26-94
Time	1015

TOTAL CELLS/mL	21,144
NUMBER OF SPECIES	24
DEPTH COLLECTED (ft.)	3.1

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Pennales	
<i>Diatoma hiemale</i>	52
<i>Fragilaria crotonensis</i> var. <i>prolongata</i>	104
<i>Navicula gracilis</i>	156
<i>Synedra ulna</i>	104
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	1,844
<i>Chlamydomonas</i> sp.	506
<i>Closterium diana</i>	327
<i>Cosmarium</i> sp.	119
<i>Chrysosphaerella longispina</i>	119
<i>Groenbladia neglecta</i>	5,115
<i>Pediastrum</i> sp.	119
<i>Scenedesmus bijuga</i>	59
<i>Scenedesmus opoliensis</i>	59
<i>Scenedesmus perforatus</i>	268
<i>Scenedesmus quadricauda</i>	119
<i>Selenastrum Westii</i>	59
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	7,732
<i>Aphanocapsa elachista</i>	744
<i>Aphanothece saxicola</i>	892
<i>Chroococcus limneticus</i>	952
<i>Merismopedia tenuissima</i>	1,190
CHRYSTOPHYTA	
<i>Dinobryon sociale</i>	59
EUGLENOPHYTA	
<i>Trachelomonas</i> spp.	327
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	119

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

Sam Rayburn Reservoir Site KC (312216094280601)

Phytoplankton Analyses October 1993 to September 1994

Date	1-27-94
Time	0820

TOTAL CELLS/mL	1,368
NUMBER OF SPECIES	15
DEPTH COLLECTED (ft.)	3.0

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	10
Order Pennales	
<i>Cocconeis placentula</i>	16
<i>Diatoma hiemale</i>	32
<i>Navicula gracilis</i>	16
<i>Pinnularia brevicostata</i>	16
<i>Synedra ulna</i>	48
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	129
<i>Chlamydomonas</i> sp.	30
<i>Closterium diana</i>	10
<i>Groenbladia neglecta</i>	129
<i>Selenastrum Westii</i>	20
CYANOPHYTA	
<i>Aphanocapsa elachista</i>	793
<i>Chroococcus limneticus</i>	59
EUGLENOPHYTA	
<i>Trachelomonas</i> spp.	30
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	30

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

Sam Rayburn Reservoir Site CC (310437094065501)

Phytoplankton Analyses October 1993 to September 1994

Date	4-20-94
Time	1800

TOTAL CELLS/mL	5,741
NUMBER OF SPECIES	13
DEPTH COLLECTED (ft.)	2.8

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Pennales	
<i>Achnanthes lanceolata</i>	9
<i>Cocconeis placentula</i>	9
<i>Fragilaria crotonensis</i>	699
<i>Meridion circulare</i>	9
<i>Pinnularia brevicostata</i>	9
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	297
<i>Chlamydomonas</i> sp.	30
<i>Mougeotia</i> sp.	1,487
CYANOPHYTA	
<i>Aphanizomenon flos-aquae</i>	297
<i>Aphanocapsa delicatissima</i>	2,677
<i>Chroococcus limneticus</i>	119
CHRYSTOPHYTA	
<i>Dinobryon sociale</i>	30
PYRRHOPHYTA	
<i>Peridinium pusillum</i>	89

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

Sam Rayburn Reservoir Site IC (311828094191801)

Phytoplankton Analyses October 1993 to September 1994

Date	4-21-94
Time	1032

TOTAL CELLS/mL	6,840
NUMBER OF SPECIES	14
DEPTH COLLECTED (ft.)	2.9

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Melosira varians</i>	178
Order Pennales	
<i>Achnanthes lanceolata</i>	661
<i>Cocconeis placentula</i>	94
<i>Fragilaria crotonesis</i>	283
<i>Gomphonema parvulum</i>	189
<i>Meridian circulate</i>	283
<i>Navicula rhyncocephala</i>	661
CHLOROPHYTA	
<i>Closterium diana</i>	30
<i>Selenastrum Westii</i>	30
CYANOPHYTA	
<i>Aphanizomenon flos-aquae</i>	1,041
<i>Aphanocapsa delicatissima</i>	3,271
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	30
PYRRHOPHYTA	
<i>Ceratium hirundinella</i>	30
<i>Peridinium pussillum</i>	59

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

Sam Rayburn Reservoir Site KC (312216094280601)

Phytoplankton Analyses October 1993 to September 1994

Date	4-21-94
Time	1230

TOTAL CELLS/mL	5,681
NUMBER OF SPECIES	9
DEPTH COLLECTED (ft.)	1.6

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Melosira varians</i>	952
Order Pennales	
<i>Navicula rhyncocephalia</i>	59
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	506
<i>Mougeotia</i> sp.	446
<i>Pediastrum duplex</i>	30
<i>Scenedesmus bijuga</i>	30
<i>Scenedesmus opoliensis</i>	30
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	3,569
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	59

NECHES RIVER BASIN

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08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

Sam Rayburn Reservoir Site CC (310437094065501)

Phytoplankton Analyses October 1993 to September 1994

Date	8-24-94
Time	1830

TOTAL CELLS/mL	3,538
NUMBER OF SPECIES	5
DEPTH COLLECTED (ft.)	4.4

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	89
Order Pennales	
<i>Fragilaria crotonensis</i>	59
CHLOROPHYTA	
<i>Scenedesmus quadricauda</i>	89
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	3,271
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	30

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX—Continued

Sam Rayburn Reservoir Site IC (311828094191801)

Phytoplankton Analyses October 1993 to September 1994

Date	8-25-94
Time	1040

TOTAL CELLS/mL	3,242
NUMBER OF SPECIES	5
DEPTH COLLECTED (ft.)	3.1

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Pennales	
<i>Cymbella parva</i>	30
<i>Fragilaria crotonensis</i>	178
CHLOROPHYTA	
<i>Chlamydomonas</i> sp.	30
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	2,974
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	30

NECHES RIVER BASIN

241

08039300 SAM RAYBURN RESERVOIR NEAR JASPER, TX--Continued

Sam Rayburn Reservoir Site KC (312216094280601)

Phytoplankton Analyses October 1993 to September 1994

Date	8-25-94
Time	1300

TOTAL CELLS/mL	3,896
NUMBER OF SPECIES	4
DEPTH COLLECTED (ft.)	1.5

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Pennales	
<i>Cymbella parva</i>	74
<i>Fragilaria crotonensis</i>	223
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	3,569
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	30

NECHES RIVER BASIN

08039500 ANGELINA RIVER AT HWY 63 NEAR HORGER, TX

WATER-QUALITY RECORDS

LOCATION.--Lat 31°00'54", long 94°09'07", Jasper County, Hydrologic Unit 1202005, at bridge on state HWY 63, 1/4 mile east of Horger, 7 miles upstream from Indian Creek, and 20 miles upstream from mouth.

DRAINAGE AREA.--3,435 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1994 to August 1994.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH WATER FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	HARDNESS TOTAL (MG/L AS CaCO3)	HARDNESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)
JAN 25...	1058	125	6.8	22.5	13	3.5	11.5	133	1.3	28	8
APR 20...	1436	120	6.8	19.5	23	3.0	9.4	102	2.6	26	8
AUG 24...	1340	134	6.6	25.5	12	1.4	7.8	94	1.1	28	8

DATE	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WAT DIS FIX END FIELD CaCO3 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)
JAN 25...	6.5	2.9	13	1	2.3	20	18	14	<0.10	6.7	76
APR 20...	6.0	2.6	13	1	2.1	18	17	14	<0.10	8.1	74
AUG 24...	6.5	2.9	14	1	2.4	20	18	16	<0.10	7.2	80

DATE	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L)	RESIDUE VOLATILE, SUSPENDED (MG/L)	RESIDUE FIXED NON FILTERABLE (MG/L)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOSPHORUS, PHOSPHORUS DIS-SOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DIS-SOLVED (MG/L AS P)
JAN 25...	15	11	4	0.010	<0.050	0.020	0.28	0.30	0.010	<0.010
APR 20...	14	9	5	<0.010	<0.050	0.030	0.17	0.20	<0.010	<0.010
AUG 24...	2	2	0	<0.010	<0.050	0.010	--	<0.20	<0.010	<0.010

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYLLIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)
JAN 25...	5.0	1	35	<0.5	<1.0	<5	<3	<10	32	<10
APR 20...	--	<1	38	<0.5	4.0	<5	<3	<10	120	30
AUG 24...	5.9	2	39	<0.5	<1.0	<5	<3	<10	150	<10

DATE	LITHIUM, DIS-SOLVED (UG/L AS LI)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, DIS-SOLVED (UG/L AS HG)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	VANADIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 25...	5	10	<0.1	<10	<10	<1	<1.0	77	<6	<3
APR 20...	4	16	<0.1	<10	<10	<1	2.0	70	<6	<3
AUG 24...	4	340	<0.1	<10	<10	<1	<1.0	80	<6	<3

08040000 B.A. STEINHAGEN LAKE AT TOWN BLUFF, TX

LOCATION.--Lat 30°47'43", long 94°10'48", Tyler County, Hydrologic Unit 12020003, near right bank 70 ft upstream from outlet structure of Town Bluff Dam on Neches River, 0.4 mi north of Town Bluff, and at mile 113.7.

DRAINAGE AREA.--7,573 mi².

PERIOD OF RECORD.--April 1951 to current year. Prior to October 1967, published as Dam B Reservoir at Town Bluff.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 25, 1954, at site 490 ft upstream at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam with concrete spillway sections. The total length of dam is 6,698 ft, including a concrete spillway and non-overflow section. Deliberate impoundment of water began Apr. 16, 1951, and the dam was completed in June 1951. The uncontrolled spillway is 6,100 ft long. A 326-foot-long gated service spillway with six 40.0- by 35.0-foot tainter gates is located near right end of dam. The capacity of the spillways at maximum flood design is 218,300 ft³/s. The capacity table is based on a survey made in 1945. Water is used for industrial, municipal and irrigation supplies. Satellite telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam (nonoverflow).....	95.0	-
Design flood.....	93.0	306,400
Crest of uncontrolled spillway (top of tainter gates).....	85.0	124,700
Top of conservation pool.....	83.0	94,200
Bottom of tainter gates (sill).....	50.0	0

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 128,400 acre-ft May 22, 1953 (elevation, 85.21 ft); no storage Sept. 18 to Oct. 13, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 96,460 acre-ft Aug. 22 (elevation, 83.16 ft); minimum daily, 25,950 acre-ft Jan. 20, 21 (elevation, 75.66 ft).

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

75.0	22,310	79.0	50,090	82.0	81,280
76.0	27,960	80.0	59,320	83.0	94,250
77.0	34,460	81.0	69,680	84.0	108,700
78.0	41,830				

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87320	81030	79930	27660	30330	85650	89150	82880	88490	83750	88750	94800
2	87970	80060	80540	27480	30140	85520	85650	81150	87840	83130	86290	93980
3	88100	78730	84000	26180	31370	82380	84380	89020	87060	82140	85650	93980
4	88100	77070	86030	27000	32690	78490	82510	86680	86680	81270	86800	93020
5	88100	73930	88620	27360	33230	76360	85270	80180	86290	80910	86930	90070
6	88360	71330	90870	28330	32360	76480	89280	78610	85910	80300	84260	88750
7	88100	70550	92620	30460	31700	76480	91270	78250	85010	79810	82260	87190
8	88230	69240	91400	31700	30460	75430	87580	76950	83880	83250	85010	86290
9	90470	67940	90200	33840	30720	86290	84630	78130	85400	85010	85400	85520
10	89810	68800	90200	33500	35510	81640	83130	89150	91140	87060	85270	84760
11	89940	69460	86800	31370	40210	75430	86930	93290	92080	90200	85910	84760
12	91810	70000	83130	28700	38560	79090	87970	90340	89280	92480	86160	83630
13	92890	70330	82750	28580	32420	84380	89410	84380	87320	93840	85520	82260
14	93020	76130	81770	27180	29570	89020	86680	86680	85140	94110	87840	80910
15	91540	80540	81030	26060	28210	87450	84130	91270	83130	92750	89020	78970
16	88890	91810	78610	26890	28580	83380	81030	92750	82380	91400	89810	78370
17	86290	95350	75080	28330	34950	86160	79930	91270	83500	89810	89410	78130
18	83630	92480	73470	29320	42140	89280	80540	85650	85140	88490	90740	78610
19	80790	90200	72340	28030	46680	90200	82510	83500	85910	87320	89940	78130
20	81890	85910	67620	25950	51230	82630	83880	85910	87190	86290	89020	76480
21	84000	82630	60700	25950	59420	76130	84130	86680	88490	85140	94250	74730
22	84760	81770	55690	26410	76480	76130	83880	88230	89410	85520	96460	73810
23	85140	82510	50970	26830	89540	77780	84000	88490	91670	86290	95630	71330
24	85780	83380	45430	27060	89020	79090	84630	89810	90200	86420	93160	72000
25	86290	83250	39680	27120	88360	78730	85650	90740	88750	86550	90740	72570
26	86550	82510	35020	29070	86680	78250	86290	92480	88100	86680	89150	73360
27	86930	81640	33500	36010	85520	80180	86680	89940	87060	87840	86800	74040
28	86290	80790	30270	44290	84130	78490	87190	85780	85780	88360	85140	74960
29	89150	79570	27900	37020	---	80660	86420	86030	85140	89020	86930	75430
30	85910	78610	28760	30590	---	84890	86160	87060	84630	89540	90070	75540
31	83130	---	27840	30530	---	89810	---	88490	---	89540	94250	---
MAX	93020	95350	92620	44290	89540	90200	91270	93290	92080	94110	96460	94800
MIN	80790	67940	27840	25950	28210	75430	79930	76950	82380	79810	82260	71330
(+)	80.15	81.78	75.98	76.41	82.23	82.67	82.39	82.57	82.27	82.65	83.00	81.52
(@)	-4630	-4520	-50770	+2690	+53600	+5680	-3630	+2330	-3860	+4910	+4710	-18710
CAL YR 1993	MAX 95350	MIN 27840	(@) -54210									
WTR YR 1994	MAX 96460	MIN 25950	(@) -12220									

(+) Elevation, in feet, at end of month.

(@) Change in contents, in acre-feet.

08040600 NECHES RIVER NEAR TOWN BLUFF, TX

LOCATION.--Lat 30°47'27", long 94°09'03", Jasper-Tyler County line, Hydrologic Unit 12020003, on left bank 1.8 mi downstream from Town Bluff Dam, 2.0 mi northeast of Town Bluff, 1.0 mi upstream from Walnut Run, 6.5 mi downstream from Wolf Creek, and at mile 114.9.

DRAINAGE AREA.--7,574 mi².

PERIOD OF RECORD.--March 1951 to current year. Prior to Oct. 27, 1989, published as Neches River at Town Bluff.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Dec. 4, 1954 to Oct. 27, 1989, water-stage recorder at site 1.5 mi upstream at same datum. Prior to May 21, 1953, water-stage recorder, and May 21, 1953, to Dec. 3, 1954, nonrecording gage at former site at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by B. A. Steinhagen Lake (station 08040000) 1.8 mi upstream and by Sam Rayburn Reservoir (station 08039300) 37.9 mi upstream. There are some diversions upstream from station. Prior to October 1989, published as 08040500 Neches River at Town Bluff, Tx. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--13 years (water years 1952-64) prior to regulation by Sam Rayburn Reservoir, 4,406 ft³/s (192,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1952-64).--Maximum discharge, 90,900 ft³/s May 21, 22, 1953 (elevation, 82.85 ft) at former site; no flow at times due to regulation of B. A. Steinhagen Lake.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1884 reached a stage about 86.8 ft (discharge, about 120,000 ft³/s) and is the highest since that date, from information by the U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2860	3020	2880	2520	5190	11700	5570	8960	6220	3660	3330	3800
2	2700	2720	2890	2800	4580	12100	5600	6350	7580	3560	3770	3770
3	2640	2990	2420	2720	3900	12400	5550	6810	7680	3510	3710	4180
4	2670	2960	2850	2530	3630	12500	5240	10100	7690	3550	3980	4870
5	2670	3030	2960	2400	4410	12900	4540	11200	7690	3540	4330	4870
6	2670	3050	2870	2770	4430	12900	4230	9530	7660	3540	4360	4300
7	2670	3130	2840	2630	4400	12800	5390	7810	7620	3540	4360	3690
8	2600	2990	2820	2480	4370	12500	6710	6340	7160	3610	4390	3660
9	2640	3140	2820	2490	4300	14600	6670	5490	5790	3650	4350	3720
10	2670	3180	2870	2530	6450	17500	6130	5690	5740	3660	4250	3710
11	2660	3160	2960	3090	11400	17200	5190	8380	6890	3600	3920	3710
12	2620	3160	2940	3420	13200	17500	4930	11100	9300	3660	3960	3710
13	2630	3160	2850	2690	13100	17600	6260	11400	9600	3660	3960	3700
14	2650	2810	2910	2440	11900	17700	9640	11000	8870	3590	3910	3690
15	2630	3420	2900	2430	10600	17800	10700	11300	7450	3740	3850	3640
16	2620	3280	3200	2100	8570	17500	10700	12400	5900	3730	3850	3640
17	2650	4970	4140	2370	5090	16800	10200	14200	4560	3720	3850	3640
18	2650	3910	3840	2670	3250	16100	9160	14900	3720	3590	3780	3610
19	2670	3150	3200	3050	3220	15900	8000	13500	3800	3510	3840	3680
20	2680	3100	4470	3290	3290	15200	7980	9180	3650	3500	3840	3590
21	2730	2920	5700	2510	3740	14100	8250	6800	3700	3490	3830	3600
22	2670	2910	5620	2420	3990	11800	6870	6150	3670	3450	3860	3500
23	2620	2910	5580	2850	9250	9830	4960	5360	3680	3500	3790	3540
24	2700	3040	5440	3030	11900	9340	4260	4610	4460	3560	3850	3480
25	2700	3010	5190	3030	11800	9310	3970	4150	4470	3560	3760	3490
26	2660	3050	4660	2960	11900	9310	3660	4780	3670	3530	3720	3450
27	2670	3080	3010	4090	11700	8650	3570	6150	3630	3350	3700	3480
28	2680	3070	3610	11600	11700	9030	3880	7710	3680	3270	3690	3470
29	2650	3050	4450	12400	---	7600	4420	6530	3660	3180	3720	3550
30	2770	2970	2760	10900	---	6470	5800	5180	3660	3230	3700	3540
31	3090	---	2920	7380	---	5610	---	5210	---	3190	3730	---
TOTAL	83190	94340	110570	116590	205260	402250	188030	258270	172850	109430	120940	112280
MEAN	2684	3145	3567	3761	7331	12980	6268	8331	5762	3530	3901	3743
MAX	3090	4970	5700	12400	13200	17800	10700	14900	9600	3740	4390	4870
MIN	2600	2720	2420	2100	3220	5610	3570	4150	3630	3180	3330	3450
AC-FT	165000	187100	219300	231300	407100	797900	373000	512300	342800	217100	239900	222700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994#, BY WATER YEAR (WY)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	2213	2597	4067	5913	7225	8500	8015	8284	7283	4883	3165	2685																		
MAX	7168	10570	14580	19400	20800	26430	20220	22560	17000	22870	8252	6652																		
(WY)	1974	1974	1974	1974	1974	1974	1969	1969	1979	1989	1979	1973																		
MIN	186	94.0	131	600	252	1178	1231	1003	1281	896	338	313																		
(WY)	1965	1965	1965	1965	1981	1971	1981	1971	1971	1967	1971	1971																		

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1965 - 1994#

ANNUAL TOTAL	2679760	1974000	5392
ANNUAL MEAN	7342	5408	9787
HIGHEST ANNUAL MEAN			961
LOWEST ANNUAL MEAN			1971
HIGHEST DAILY MEAN	18200	Apr 5	46600
LOWEST DAILY MEAN	2420	Dec 3	2.0
ANNUAL SEVEN-DAY MINIMUM	2640	Oct 12	2.4
INSTANTANEOUS PEAK FLOW			49200
INSTANTANEOUS PEAK STAGE			78.49
ANNUAL RUNOFF (AC-FT)	5315000	3915000	3906000
10 PERCENT EXCEEDS	16400	11500	14800
50 PERCENT EXCEEDS	4820	3730	3070
90 PERCENT EXCEEDS	2820	2670	950

Period of regulated streamflow.

NECHES RIVER MAIN STEM

245

08041000 NECHES RIVER AT EVADALE, TX
(National stream-quality accounting network)

LOCATION.--Lat 30°21'20", long 94°05'35", Jasper-Hardin County line, Hydrologic Unit 12020003, near right bank on downstream side of bridge on U.S. Highway 96 at Evadale, 0.8 mi upstream from Mill Creek, 16 mi upstream from Village Creek, and at mile 55.6.

DRAINAGE AREA.--7,951 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1904 to December 1906, April 1921 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 718: 1929. WSP 1342: 1905-07, 1924. WSP 1732: Drainage area at former site.

GAGE.--Water-stage recorder. Datum of gage is 8.25 ft above National Geodetic Vertical Datum of 1929. July 1, 1904, to Dec. 31, 1906, nonrecording gage on Gulf, Colorado, and Santa Fe Railway Co. bridge at site 1.2 mi downstream at datum 5.50 ft lower; Apr. 1, 1921, to Dec. 7, 1948, nonrecording gages at site 1.2 mi downstream at present datum; Dec. 8, 1948, to Nov. 8, 1963, water-stage recorder at site 1.2 mi downstream at present datum.

REMARKS.--Records good. Flow regulated by B. A. Steinhagen Lake (station 08040000) 58.1 mi upstream, and by Sam Rayburn Reservoir (station 08039300) 95.7 mi upstream. There are some diversions upstream for municipal use. Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--45 years (water years 1905-06, 1922-64) 6,308 ft³/s (4,570,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1905-06, 1922-64).--Maximum discharge, 92,100 ft³/s May 11, 1944 (gage height, 23.58 ft, from floodmark), at site then in use; minimum daily, 63 ft³/s Nov. 26-28, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1884 reached a stage of 26.2 ft, at former site (discharge, about 125,000 ft³/s), and flood in August 1915 reached a stage of 24.5 ft, at former site (discharge, about 102,000 ft³/s). These are the highest floods since at least 1884. Stages furnished by Gulf, Colorado, and Santa Fe Railway Co.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2620	3380	3430	3320	11400	11700	6060	4630	5210	3640	3060	3610
2	2610	3410	3320	3040	8100	11900	5570	6220	5370	3580	3080	3630
3	2500	3270	3280	3190	5800	11800	5390	6690	6120	3510	3300	3690
4	2420	3300	3210	3070	5030	12100	5360	6220	6600	3420	3490	3860
5	2450	3430	3290	3020	4580	12100	5210	7160	6810	3380	3640	4350
6	2480	3440	3530	2770	4730	12200	4890	8470	6960	3380	3840	4610
7	2490	3510	3510	2930	4840	12400	4510	9050	6990	3360	3970	4400
8	2520	3590	3410	3030	4850	12500	4630	8450	6960	3360	4040	3900
9	2520	3600	3340	2930	4820	13200	5450	7130	6800	3430	4100	3660
10	2590	3590	3310	2730	4800	13500	5900	6020	6160	3470	4120	3620
11	2610	3680	3340	2690	5100	15000	5860	5710	5740	3480	4020	3620
12	2630	3680	3420	3050	6500	16500	5630	6340	5820	3490	3850	3620
13	2640	3680	3480	3580	8630	17900	5230	7750	6840	3510	3760	3610
14	2650	3790	3440	3410	10500	18300	5280	9150	7800	3510	3730	3590
15	2670	3940	3420	2860	11900	18300	6570	10200	8130	3460	3720	3570
16	2690	4300	3410	2660	11900	18300	7900	11500	7670	3440	3690	3550
17	2690	4870	3480	2690	10700	18400	8790	12600	6620	3470	3700	3580
18	2710	5310	4110	3090	8410	18300	9170	13400	5410	3480	3700	3570
19	2750	5280	4240	e3400	5620	17700	8870	14200	4520	3440	3710	3530
20	2820	4720	3920	e3600	4460	17000	8170	14500	4010	3360	3640	3540
21	2950	4100	4170	e3700	4170	16300	7610	13200	3900	3290	3650	3500
22	3000	3750	5020	e3200	4630	15600	7420	9800	3810	3230	3650	3490
23	3000	3590	5310	e3000	5560	14400	7070	7260	3920	3210	3670	3470
24	2900	3420	5330	e3100	6700	12300	6040	5880	4290	3210	3660	3460
25	2920	3460	5300	e3380	8890	10100	4960	5080	4810	3220	3660	3450
26	2930	3400	5220	3390	10700	9010	4340	4390	5000	3240	3640	3440
27	2950	3470	5000	3760	11400	8610	3950	4400	4520	3230	3600	3430
28	2960	3460	4200	5160	11600	8370	3720	5000	4010	3180	3560	3420
29	3000	3460	3810	7700	---	8190	3760	6030	3870	3140	3550	3410
30	3030	3460	4440	10600	---	7840	4120	6660	3790	3060	3550	3420
31	3140	---	3760	12200	---	7000	---	5790	---	3050	3550	---
TOTAL	84840	113340	121450	120250	206320	416820	177430	248880	168460	104230	113900	109600
MEAN	2737	3778	3918	3879	7369	13450	5914	8028	5615	3362	3674	3653
MAX	3140	5310	5330	12200	11900	18400	9170	14500	8130	3640	4120	4610
MIN	2420	3270	3210	2660	4170	7000	3720	4390	3790	3050	3060	3410
AC-FT	168300	224800	240900	238500	409200	826800	351900	493700	334100	206700	225900	217400

NECHES RIVER MAIN STEM

08041000 NECHES RIVER AT EVADALE, TX--Continued
(National stream-quality accounting network)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994#, BY WATER YEAR (WY)

MEAN	2436	2889	4622	6622	8057	9400	9041	8995	8096	5611	3460	2901
MAX	8065	11800	15240	21710	21680	28790	21180	24120	19920	25680	9644	7090
(WY)	1974	1974	1974	1974	1974	1992	1969	1969	1991	1989	1979	1979
MIN	268	188	301	628	614	1352	1432	1220	1397	1118	396	398
(WY)	1965	1965	1965	1965	1981	1971	1981	1981	1971	1967	1971	1971

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1965 - 1994#	
ANNUAL TOTAL	2979170		1985520			
ANNUAL MEAN	8162		5440		5998	
HIGHEST ANNUAL MEAN					10960	
LOWEST ANNUAL MEAN					1128	
HIGHEST DAILY MEAN	22100	Apr 8	18400	Mar 17	47400	Jul 6 1989
LOWEST DAILY MEAN	2420	Oct 4	2420	Oct 4	82	Aug 14 1971
ANNUAL SEVEN-DAY MINIMUM	2480	Oct 3	2480	Oct 3	126	Nov 18 1965
INSTANTANEOUS PEAK FLOW			18400	Mar 14	47900	Jul 6 1989
INSTANTANEOUS PEAK STAGE			16.51	Mar 14	20.79	Jul 6 1989
ANNUAL RUNOFF (AC-FT)	5909000		3938000		4346000	
10 PERCENT EXCEEDS	18200		11000		16200	
50 PERCENT EXCEEDS	5330		3810		3420	
90 PERCENT EXCEEDS	2950		3000		1140	

e Estimated

Period of regulated streamflow.

NECHES RIVER MAIN STEM

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08041000 NECHES RIVER AT EVADALE, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: September 1939 to current year. Pesticide analyses: February 1968 to July 1981. Sediment analyses: October 1960 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1947 to current year.

WATER TEMPERATURE: October 1947 to current year.

INSTRUMENTATION.--From October 1954 to September 1963, water temperature was continuously recorded at this station.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationship between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 670 microsiemens Mar. 21,25,31,1994; minimum daily, 23 microsiemens Sept. 19, 1963.

WATER TEMPERATURE (1947-85, 1987 to current year): Maximum daily, 34.0°C June 29, 1953, and several days during Aug., 1992, Aug. and Sept. 1993; minimum daily, 3.0°C Jan. 30, 31, 1948, Jan. 31, 1949, and Jan 24, 1963.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 670 microsiemens Mar. 21,25,31; minimum daily, 90 microsiemens Feb. 14-16.

WATER TEMPERATURE: Maximum daily, 31.0°C several days during Jul. and Aug.; minimum daily, 5.0°C several days during Jan. and Feb.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)
JAN 10...	1538	2760	155	6.6	11.5	32	11.0	100	1.3	28	K12
MAR 01...	1355	11800	90	6.6	13.5	27	8.8	85	8.5	190	170
APR 11...	1602	5840	155	6.8	20.5	7.7	8.8	98	1.1	36	56
JUN 06...	1210	6930	145	6.5	27.5	27	6.5	83	1.5	52	110
JUL 26...	1152	3400	145	7.2	30.0	6.3	7.7	102	1.3	K4	96
AUG 29...	1320	3560	155	7.3	30.0	7.8	8.0	106	0.8	32	K3

DATE	HARDNESS TOTAL (MG/L AS CaCO3)	HARDNESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	CARBONATE WATER DIS IT FIELD (MG/L AS CO3)	BICARBONATE WATER DIS IT FIELD (MG/L AS HCO3)	ALKALINITY WAT DIS TOT IT FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
JAN 10...	34	15	8.1	3.2	15	1	2.6	0	22	18	20
MAR 01...	21	11	5.6	1.7	9.3	0.9	1.9	0	12	8	16
APR 11...	32	14	7.7	3.0	14	1	2.7	0	21	18	20
JUN 06...	29	12	7.3	2.7	14	1	2.8	0	21	19	19
JUL 26...	30	12	7.4	2.8	15	1	2.2	0	22	18	17
AUG 29...	28	9	6.6	2.7	14	1	7.4	0	23	17	16

DATE	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)
JAN 10...	19	<0.10	11	108	91	0.120	<0.010	0.120	0.120	0.020	0.52
MAR 01...	11	<0.10	10	83	61	--	<0.010	--	<0.050	0.030	0.60
APR 11...	18	<0.10	8.0	106	84	--	<0.010	--	<0.050	0.020	0.40
JUN 06...	18	<0.10	8.7	102	83	--	<0.010	--	<0.050	0.030	0.40
JUL 26...	20	<0.10	9.3	88	85	--	<0.010	--	<0.050	0.020	0.40
AUG 29...	21	<0.10	8.8	89	88	--	<0.010	--	<0.050	0.020	0.30

NECHES RIVER MAIN STEM

08041000 NECHES RIVER AT EVADALE, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)
JAN 10...	0.38	0.40	0.050	0.150	<0.010	--	54	402	98	40	41
MAR 01...	0.57	0.60	0.060	<0.010	<0.010	--	35	1120	57	--	--
APR 11...	0.38	0.40	0.030	0.010	<0.010	--	36	568	92	120	39
JUN 06...	0.37	0.40	0.040	<0.010	<0.010	--	30	561	92	--	--
JUL 26...	0.38	0.40	0.050	0.010	<0.010	--	39	358	97	<10	37
AUG 29...	0.28	0.30	0.030	0.010	0.010	0.03	27	260	97	140	37

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
JAN 10...	<3	130	7	33	<10	1	<1	<1.0	90	<6
MAR 01...	--	--	--	--	--	--	--	--	--	--
APR 11...	<3	240	5	22	<10	2	<1	<1.0	82	<6
JUN 06...	--	--	--	--	--	--	--	--	--	--
JUL 26...	<3	30	5	1	<10	<1	<1	<1.0	80	<6
AUG 29...	<3	240	5	6	<10	<1	<1	<1.0	76	<6

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. 1993	84840	141	88	20100	18	4130	21	4820	30
NOV. 1993	113340	133	84	25600	17	5140	20	6080	29
DEC. 1993	121450	150	92	30100	19	6330	22	7290	32
JAN. 1994	120250	148	91	29400	19	6160	22	7100	31
FEB. 1994	206320	123	78	43500	16	8650	18	10300	27
MAR. 1994	416820	471	116	131000	84	94600	56	63000	21
APR. 1994	177430	154	94	44900	20	9540	23	10900	32
MAY 1994	248880	125	79	53400	16	10500	19	12600	28
JUNE 1994	168460	138	86	39200	18	7970	21	9360	30
JULY 1994	104230	145	90	25300	19	5230	22	6070	31
AUG. 1994	113900	145	90	27600	19	5710	22	6630	31
SEPT 1994	109600	132	83	24500	17	4970	20	5840	29
TOTAL	1985520	**	**	494000	**	169000	**	150000	**
WTD.AVG.	5440	208	92	**	32	**	28	**	28

08041000 NECHES RIVER AT EVADALE, TX--Continued
(National stream-quality accounting network)SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY EQUIVALENT MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	140	130	170	130	360	190	117	137	142	147	138
2	150	140	130	170	160	330	150	151	142	149	147	138
3	150	140	130	160	150	360	150	162	142	147	147	139
4	150	140	130	160	165	380	150	152	143	145	148	139
5	140	140	130	160	150	400	154	129	140	155	150	117
6	150	140	130	180	165	400	163	130	141	148	152	116
7	140	140	130	160	170	390	151	136	146	151	154	---
8	140	140	130	160	150	400	151	118	147	150	144	141
9	140	140	140	160	170	410	154	114	146	153	148	141
10	140	140	140	160	140	400	155	118	147	145	144	142
11	140	140	140	160	170	420	151	119	144	149	132	138
12	140	140	150	190	170	420	140	120	141	137	145	139
13	140	140	150	160	100	430	152	137	143	138	139	140
14	140	130	150	150	90	410	150	132	130	137	144	139
15	140	130	150	160	90	420	151	128	135	136	145	141
16	140	140	150	140	90	420	150	115	148	138	146	142
17	140	120	160	140	100	500	146	113	127	140	147	139
18	140	140	150	130	120	580	146	114	125	143	143	140
19	140	110	150	150	170	640	146	103	132	141	149	139
20	140	110	150	160	130	---	197	108	169	142	155	138
21	140	140	150	170	130	670	148	125	135	148	148	139
22	140	130	160	160	110	630	153	115	133	145	151	140
23	140	130	170	160	110	640	152	122	134	147	147	140
24	140	130	170	160	110	660	150	125	125	145	148	140
25	140	130	170	130	120	670	149	137	119	149	146	140
26	140	130	160	130	100	650	150	133	126	148	144	140
27	140	130	150	110	110	630	153	144	126	146	145	141
28	140	130	150	130	100	320	160	134	129	147	140	143
29	140	130	170	130	---	650	160	135	133	150	134	143
30	140	130	160	130	---	660	155	132	138	148	140	142
31	140	---	170	130	---	670	---	135	---	150	135	---
MEAN	142	134	148	152	131	497	154	128	137	145	145	138
MAX	150	140	170	190	170	670	197	162	169	155	155	143
MIN	140	110	130	110	90	320	140	103	119	136	132	116

WTR YR 1994 MEAN 171 MAX 670 MIN 90

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.0	15.0	9.0	8.0	5.0	6.0	10.0	14.0	27.0	30.0	31.0	26.0
2	30.0	15.0	9.0	8.0	5.0	6.0	10.0	12.0	27.0	30.0	31.0	26.0
3	29.0	15.0	9.0	7.0	5.0	6.0	10.0	12.0	27.0	30.0	31.0	27.0
4	29.0	15.0	9.0	7.0	5.0	6.0	10.0	14.0	27.0	30.0	31.0	27.0
5	29.0	15.0	9.0	7.0	5.0	6.0	10.0	14.0	28.0	30.0	30.0	26.0
6	29.0	15.0	9.0	7.0	6.0	6.0	10.0	14.0	28.0	30.0	31.0	26.0
7	29.0	15.0	9.0	7.0	6.0	6.0	10.0	14.0	28.0	30.0	31.0	---
8	29.0	15.0	9.0	7.0	6.0	6.0	10.0	14.0	28.0	30.0	31.0	26.0
9	28.0	13.0	9.0	7.0	6.0	6.0	10.0	16.0	28.0	30.0	31.0	26.0
10	29.0	13.0	9.0	7.0	6.0	6.0	10.0	16.0	28.0	30.0	31.0	26.0
11	29.0	13.0	9.0	7.0	6.0	6.0	10.0	16.0	28.0	31.0	31.0	26.0
12	29.0	12.0	9.0	7.0	6.0	6.0	10.0	19.0	28.0	31.0	31.0	26.0
13	29.0	12.0	9.0	7.0	6.0	6.0	10.0	21.0	28.0	31.0	31.0	26.0
14	27.0	12.0	9.0	7.0	6.0	6.0	10.0	21.0	29.0	31.0	31.0	26.0
15	27.0	12.0	9.0	7.0	6.0	6.0	10.0	22.0	28.0	31.0	31.0	26.0
16	27.0	12.0	8.0	7.0	6.0	6.0	10.0	23.0	28.0	31.0	31.0	26.0
17	26.0	12.0	8.0	7.0	6.0	6.0	12.0	25.0	29.0	31.0	31.0	26.0
18	25.0	12.0	8.0	7.0	6.0	6.0	12.0	25.0	29.0	31.0	31.0	26.0
19	26.0	12.0	9.0	6.0	6.0	6.0	11.0	25.0	29.0	31.0	31.0	26.0
20	25.0	12.0	8.0	6.0	6.0	8.0	11.0	26.0	29.0	31.0	31.0	26.0
21	25.0	12.0	8.0	6.0	6.0	8.0	11.0	26.0	29.0	31.0	31.0	26.0
22	23.0	11.0	8.0	6.0	6.0	8.0	12.0	26.0	29.0	31.0	29.0	26.0
23	23.0	11.0	9.0	6.0	6.0	8.0	12.0	27.0	29.0	31.0	29.0	26.0
24	23.0	9.0	8.0	6.0	6.0	8.0	12.0	27.0	29.0	31.0	29.0	25.0
25	21.0	9.0	8.0	6.0	6.0	8.0	12.0	27.0	29.0	31.0	29.0	25.0
26	21.0	9.0	8.0	6.0	6.0	8.0	12.0	27.0	30.0	31.0	29.0	25.0
27	19.0	9.0	8.0	6.0	6.0	10.0	12.0	27.0	30.0	31.0	29.0	25.0
28	19.0	9.0	8.0	6.0	6.0	10.0	12.0	27.0	30.0	31.0	27.0	25.0
29	19.0	9.0	8.0	5.0	---	10.0	12.0	27.0	30.0	31.0	27.0	25.0
30	19.0	9.0	8.0	5.0	---	10.0	12.0	27.0	30.0	31.0	27.0	25.0
31	19.0	---	8.0	5.0	---	10.0	---	27.0	---	31.0	27.0	---
MEAN	25.5	12.0	8.5	6.5	6.0	7.0	11.0	21.0	28.5	30.5	30.0	26.0
MAX	30.0	15.0	9.0	8.0	6.0	10.0	12.0	27.0	30.0	31.0	31.0	27.0
MIN	19.0	9.0	8.0	5.0	5.0	6.0	10.0	12.0	27.0	30.0	27.0	25.0

WTR YR 1994 MEAN 18.0 MAX 31.0 MIN 5.0

NECHES RIVER BASIN

08041500 VILLAGE CREEK NEAR KOUNTZE, TX

LOCATION.--Lat 30°23'52", long 94°15'48", Hardin County, Hydrologic Unit 1202000f, at downstream side of bridge on Farm Road 418, 1.6 mi upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 3.1 mi upstream from Cypress Creek, 3.4 mi northeast of Kountze, and 4.3 mi downstream from Beech Creek.

DRAINAGE AREA.--860 mi².

PERIOD OF RECORD.--May 1924 to September 1927, October 1927 to November 1929 (discharge measurements only), April 1939 to current year.

Water-quality records: November 1967 to September 1985.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 25.12 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 30, 1939, nonrecording gage at site 1.6 mi downstream at different datum. Apr. 30, 1939, to Sept. 30, 1966, water-stage recorder at site 2,000 ft downstream at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There are small diversions above station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1884, about 34 ft in August 1915 at site 2,000 ft downstream at present datum; stage was determined on basis of information by engineers of Gulf, Colorado, and Santa Fe Railway Co. for site 1.6 mi downstream.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 26	0100	5,700	16.15	May 17	1900	8,400	17.65
Mar. 13	1500	5,480	16.00				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	e202	308	383	3890	2390	494	505	1840	289	99	139
2	85	199	291	370	2890	2170	457	654	1410	259	96	134
3	83	197	290	392	1690	2480	434	927	944	237	93	141
4	83	196	354	408	1050	2930	421	1170	804	218	94	166
5	85	187	584	402	940	2770	406	1210	776	200	95	239
6	93	196	942	373	924	2160	408	1470	691	188	117	300
7	107	220	1020	350	848	1560	572	1710	571	177	146	268
8	104	215	735	341	773	1220	744	1540	520	167	148	204
9	99	194	535	327	743	1330	731	917	441	209	208	167
10	97	178	455	318	818	2170	619	788	436	533	555	148
11	94	170	430	321	1370	2990	504	1220	841	621	592	136
12	93	175	524	352	2030	3890	479	1590	928	533	421	128
13	97	176	566	383	2550	5150	611	1910	1070	426	295	122
14	103	232	617	399	3120	4380	864	2140	1290	383	235	125
15	108	520	653	398	3940	3020	982	2230	1230	378	205	136
16	119	582	664	373	3300	1940	780	4550	885	288	183	132
17	129	1190	600	558	2120	1370	586	7850	618	226	190	135
18	129	1990	491	703	1310	1170	561	7170	569	215	233	138
19	121	2650	436	605	998	1050	517	5060	892	186	202	172
20	122	2730	421	524	872	969	441	3810	1020	166	165	172
21	143	1940	418	481	826	904	393	2670	1150	153	146	147
22	194	965	415	412	1160	813	454	1550	1010	147	142	126
23	348	603	499	375	2610	746	494	933	786	148	149	113
24	424	490	690	351	4530	689	445	728	1030	139	216	106
25	327	425	850	339	5460	669	436	624	1470	160	266	99
26	260	392	782	350	5480	641	391	555	1850	163	317	94
27	e235	371	629	712	4900	622	367	506	1480	139	293	90
28	e225	354	512	1980	3540	614	342	540	752	125	225	88
29	e220	339	459	2880	---	615	314	564	439	115	183	85
30	e210	325	425	3310	---	584	310	1110	338	107	164	84
31	e205	---	401	3760	---	544	---	1620	---	103	149	---
TOTAL	4830	18603	16996	23230	64682	54550	15557	59821	28081	7398	6622	4334
MEAN	156	620	548	749	2310	1760	519	1930	936	239	214	144
MAX	424	2730	1020	3760	5480	5150	982	7850	1850	621	592	300
MIN	83	170	290	318	743	544	310	505	338	103	93	84
AC-FT	9580	36900	33710	46080	128300	108200	30860	118700	55700	14670	13130	8600
CFSM	.18	.72	.64	.87	2.69	2.05	.60	2.24	1.09	.28	.25	.17
IN.	.21	.80	.74	1.00	2.80	2.36	.67	2.59	1.21	.32	.29	.19

NECHES RIVER BASIN

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08041500 VILLAGE CREEK NEAR KOUNTZE, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1994h, BY WATER YEAR (WY)

MEAN	313	726	1060	1467	1460	1186	1164	1209	860	506	257	308
MAX	4140	6430	5835	5693	4420	3311	6733	6932	6668	4963	1580	2111
(WY)	1950	1941	1941	1974	1966	1992	1979	1953	1950	1989	1975	1961
MIN	22.8	34.9	115	113	169	206	104	89.5	69.5	31.1	28.8	26.5
(WY)	1968	1968	1955	1957	1968	1940	1971	1963	1956	1971	1956	1956

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1925 - 1994h	
ANNUAL TOTAL	315467		304704		877	
ANNUAL MEAN	864		835		2248	
HIGHEST ANNUAL MEAN					190	
LOWEST ANNUAL MEAN					62200	
HIGHEST DAILY MEAN	8150	Jan 23	7850	May 17	16	Nov 26 1940
LOWEST DAILY MEAN	78	Sep 11	83	Oct 3*	18	Oct 1 1956
ANNUAL SEVEN-DAY MINIMUM	85	Sep 7	89	Oct 1	18	Sep 28 1956
INSTANTANEOUS PEAK FLOW			8400	May 17	67200	Nov 26 1940
INSTANTANEOUS PEAK STAGE			17.65	May 17	27.60	Nov 26 1940
ANNUAL RUNOFF (AC-FT)	625700		604400		635200	
ANNUAL RUNOFF (CFSM)	1.00		.97		1.02	
ANNUAL RUNOFF (INCHES)	13.65		13.18		13.85	
10 PERCENT EXCEEDS	2320		2150		2140	
50 PERCENT EXCEEDS	490		436		329	
90 PERCENT EXCEEDS	106		124		79	

e Estimated

h See PERIOD OF RECORD paragraph.

NECHES RIVER BASIN

08041700 PINE ISLAND BAYOU NEAR SOUR LAKE, TX

LOCATION.--Lat 30°06'21", long 94°20'04", Jefferson-Hardin County line, Hydrologic Unit 12020007, on right bank at downstream side of bridge on county road and 5.1 mi southeast of Sour Lake.

DRAINAGE AREA.--336 mi².

PERIOD OF RECORD.--October 1967 to current year.

Water-quality records.--Chemical analyses: February 1968 to June 1989. Specific conductance: February 1968 to September 1989. Water temperature: February 1968 to September 1989.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Low flow for period March through September is affected by small diversions and return flow from irrigated fields. Satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s :

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	13	e19	34	1810	e1230	22	114	426	373	47	40
2	8.9	12	e17	29	1650	e1220	18	143	352	237	49	69
3	8.6	11	16	25	1460	e1010	18	313	288	137	59	62
4	8.7	11	e130	22	1240	750	14	469	219	100	87	53
5	8.5	11	e245	19	900	600	13	484	166	181	164	44
6	7.7	9.6	260	18	549	579	13	475	123	358	105	41
7	6.9	7.3	236	15	327	586	14	445	84	236	80	52
8	7.7	6.5	188	12	238	546	16	393	56	161	67	55
9	8.3	17	135	12	208	625	23	277	41	166	78	54
10	6.3	18	131	12	192	937	29	147	118	210	98	50
11	7.0	21	201	13	216	1140	40	81	212	203	133	77
12	10	23	300	17	356	1210	49	54	228	136	143	207
13	11	18	318	33	520	1150	48	45	443	103	123	178
14	11	28	290	38	670	1080	38	204	300	91	87	108
15	10	95	241	35	800	1060	41	523	179	140	63	65
16	9.5	135	197	34	915	1030	166	885	109	417	50	45
17	13	242	146	230	960	880	151	1140	70	244	40	40
18	9.5	290	104	e275	875	705	105	1380	51	138	37	43
19	6.9	e340	79	e225	607	537	94	1890	66	104	35	43
20	7.4	e340	67	e180	320	398	107	2080	227	84	36	37
21	23	e315	63	e135	182	271	99	1940	528	94	32	27
22	34	e275	67	e100	133	176	75	1720	542	78	36	21
23	72	e225	77	77	132	122	57	1470	462	71	69	16
24	61	160	89	62	290	91	72	1050	351	77	106	14
25	42	81	92	53	525	79	73	466	244	62	66	12
26	29	45	86	44	e720	57	91	160	302	56	57	11
27	22	e35	75	281	e900	50	94	103	481	71	52	9.7
28	16	e30	65	1380	e1110	57	76	102	520	61	50	9.0
29	15	e25	54	1550	---	44	58	174	444	51	47	8.9
30	17	e21	47	1820	---	30	64	396	422	52	41	8.8
31	14	---	39	1920	---	26	---	450	---	52	31	---
TOTAL	522.9	2860.4	4074	8700	18805	18276	1778	19573	8054	4544	2168	1500.4
MEAN	16.9	95.3	131	281	672	590	59.3	631	268	147	69.9	50.0
MAX	72	340	318	1920	1810	1230	166	2080	542	417	164	207
MIN	6.3	6.5	16	12	132	26	13	45	41	51	31	8.8
AC-FT	1040	5670	8080	17260	37300	36250	3530	38820	15980	9010	4300	2980

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	216	396	578	717	638	560	634	578	686	421	184	210															
MAX	1164	2095	2158	2206	1850	1838	4972	3589	2795	3291	1660	1487															
(WY)	1974	1987	1987	1974	1992	1993	1979	1989	1981	1989	1983	1979															
MIN	2.90	2.48	12.4	4.75	13.5	89.1	21.4	29.1	37.8	33.4	12.3	10.1															
(WY)	1970	1989	1990	1971	1989	1978	1987	1978	1984	1980	1977	1984															

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1968 - 1994

ANNUAL TOTAL	194069.3	90855.7	
ANNUAL MEAN	532	249	
HIGHEST ANNUAL MEAN			484
LOWEST ANNUAL MEAN			1167
HIGHEST DAILY MEAN	4590	2080	133
LOWEST DAILY MEAN	6.3	6.3	133
ANNUAL SEVEN-DAY MINIMUM	7.5	7.5	24600
INSTANTANEOUS PEAK FLOW		2100	.00
INSTANTANEOUS PEAK STAGE		25.88	.62
ANNUAL RUNOFF (AC-FT)	384900	180200	25000
10 PERCENT EXCEEDS	1790	732	34.29
50 PERCENT EXCEEDS	101	86	350500
90 PERCENT EXCEEDS	14	13	1370
			89
			9.3

e Estimated

TAYLOR BAYOU MAIN STEM

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08042000 TAYLOR BAYOU NEAR LABELLE, TX

LOCATION.--Lat 29°52'30", long 94°09'34", Jefferson County, Hydrologic Unit 12040201, near center of stream at downstream side of bridge on county road, 0.7 mi south of LaBelle, 6.0 mi upstream from Hillebrandt Bayou, 7.2 mi upstream from State Highway 73, and 11.2 mi upstream from saltwater gates and barge locks. Distances are measured along rectified channel.

DRAINAGE AREA.--262 mi².

PERIOD OF RECORD.--April 1954 to September 1984 (daily mean and peak discharge for storms of 1.0 inch or more runoff, except for period Sept. 10-22, 1961). October 1984 to current year (gage heights only).

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4.63 ft below National Geodetic Vertical Datum of 1929, originally determined by several comparisons of water surface with auxiliary water-stage recorder 7.2 mi downstream during times of no flow and ideal weather conditions. Prior to October 1984, auxiliary water-stage recorder 7.2 mi downstream.

REMARKS.--Records good. Prior to October 1984, records were computed using fall as a factor. Low flow is regulated by drainage from ricefields and operation of saltwater gates and barge locks. An unknown amount of water is diverted above and below gage for irrigation of ricefields.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,590 ft³/s Sept. 22, 1963, and Apr. 23, 1979; maximum gage height, 11.78 ft Sept. 20, 1963 (backwater from Hillebrandt Bayou); minimum discharge not determined (affected by tides and pumping); minimum gage height, 2.31 ft July 17, 1954. Maximum stage since at least 1941, that of Sept. 20, 1963, and Apr. 23, 1979. Flood of Sept. 13, 1961 (Hurricane Carla), reached a stage of 11.51 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1941 reached a stage of 11.3 ft, from information by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 7.5 ft June 13 at 0200 hours; minimum, 4.7 ft Dec. 14 at 1300 hours.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	6.0	5.9	5.6	6.0	5.9	5.6	6.6	6.5	6.1	5.7	6.7
2	6.2	6.1	5.9	5.6	6.0	5.9	5.7	6.4	6.6	5.8	5.8	6.2
3	6.1	6.1	6.0	5.6	6.1	5.2	5.7	6.3	6.6	6.0	5.9	6.5
4	6.1	6.1	6.2	5.6	6.1	5.4	5.7	5.9	6.4	5.9	6.1	6.3
5	6.1	6.1	5.9	5.5	6.1	5.5	5.9	6.0	6.4	6.2	6.2	6.2
6	6.1	6.1	5.9	5.6	6.1	5.6	6.1	6.1	6.4	6.4	6.3	6.4
7	6.1	6.1	5.9	5.6	6.1	5.6	6.1	6.1	6.2	6.1	5.9	6.5
8	6.2	6.1	5.9	5.5	5.9	5.7	5.9	6.1	6.3	6.4	6.3	6.3
9	6.3	6.4	6.0	5.6	6.1	6.1	5.9	5.9	6.3	6.3	6.4	6.1
10	6.3	6.2	6.1	5.6	6.1	6.1	6.1	6.0	5.8	6.4	6.2	6.6
11	6.2	6.1	6.1	5.7	6.1	5.9	6.1	6.0	6.1	6.4	6.2	7.0
12	6.3	6.1	6.1	5.8	5.5	6.0	6.2	6.0	7.5	6.2	6.3	6.8
13	6.6	6.1	5.8	5.8	5.6	6.0	6.2	6.2	7.5	6.4	6.1	6.5
14	6.6	6.7	5.9	5.9	5.7	6.0	6.2	6.5	7.3	6.1	6.2	6.6
15	6.3	6.9	5.1	5.4	5.7	6.0	6.3	6.5	7.0	6.2	6.2	6.7
16	6.4	7.1	5.3	5.7	5.8	6.1	6.4	7.1	6.5	6.1	6.2	6.5
17	6.3	7.2	5.4	6.8	5.8	6.1	6.4	7.1	6.1	6.0	6.4	6.3
18	6.4	6.5	5.5	6.6	5.9	6.1	6.3	6.9	6.3	5.8	6.4	6.4
19	6.4	6.2	5.6	6.3	6.0	6.1	6.2	6.7	6.3	5.6	5.8	6.1
20	6.5	6.2	5.7	6.3	6.0	6.1	6.2	6.1	6.5	5.8	6.1	6.2
21	6.6	5.9	5.6	6.1	6.0	5.9	5.9	6.1	6.4	6.1	6.2	6.2
22	6.1	5.9	5.7	5.8	5.9	5.9	6.1	6.0	6.4	6.1	6.3	6.1
23	6.1	6.1	5.7	5.9	5.9	5.9	6.0	5.8	6.6	5.8	6.3	6.1
24	6.1	6.1	5.7	6.0	5.9	6.0	6.1	5.9	6.1	6.0	6.1	5.6
25	6.2	6.1	5.7	6.1	5.6	6.0	6.1	6.1	6.2	6.0	6.3	5.8
26	6.2	5.6	5.7	6.1	5.6	6.0	6.1	6.1	6.4	5.8	6.4	---
27	6.2	5.6	5.6	6.7	5.7	6.1	6.2	6.1	5.8	5.9	6.1	---
28	6.2	5.7	5.7	6.8	5.8	6.0	6.2	6.2	5.9	5.5	6.3	---
29	6.3	5.7	5.3	6.1	---	5.5	6.2	6.3	6.0	5.7	6.0	---
30	6.3	5.8	5.4	5.8	---	5.6	6.4	7.0	6.1	5.8	6.1	---
31	6.1	---	5.4	5.9	---	5.6	---	6.7	---	5.9	6.1	---
MAX	6.6	7.2	6.2	6.8	6.1	6.1	6.4	7.1	7.5	6.4	6.4	---

TAYLOR BAYOU BASIN

08042500 HILLEBRANDT BAYOU NEAR LOVELL LAKE, TX

LOCATION.--Lat 29°55'44", long 94°06'35", Jefferson County, Hydrologic Unit 12040201, near center of stream at downstream side of bridge on county road, 1.3 mi southeast of Lovell Lake, and 4.4 mi upstream (along rectified channel) from Taylor Bayou.

DRAINAGE AREA.--128 mi².

PERIOD OF RECORD.--April 1954 to September 1984 (daily mean and peak discharge for storms of 1.0 inch or more runoff, except for the period Sept. 11-18, 1961). October 1984 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 4.63 ft below National Geodetic Vertical Datum of 1929, originally determined by comparisons of water surface with Taylor Bayou near LaBelle, an auxiliary gage 5.6 mi downstream, during times of no flow and calm wind conditions. Prior to Aug. 28, 1963, auxiliary water-stage recorder on Taylor Bayou, 1.2 mi downstream from Hillebrandt Bayou, nonrecording gages on Taylor Bayou 2.3 and 5.2 mi downstream from Hillebrandt Bayou; Aug. 28, 1963, to Sept. 30, 1984, auxiliary water-stage recorder 3.0 mi downstream. Gage was destroyed on Aug. 24, 1991 and re-installed on Mar. 4, 1992.

REMARKS.--Records good. Prior to October 1984, records were computed using fall as a factor. Low flow regulated by drainage from ricefields and operation of saltwater gates and barge locks. An unknown amount of water is diverted above and below gage for rice irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s Sept. 18, 1963; maximum gage height, 12.34 ft Sept. 19, 1963; minimum discharge not determined (affected by tides and pumping); minimum gage height, 2.33 ft July 17, 1954. Maximum stage since at least 1941, 12.34 ft Sept. 19, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 7.3 ft June 12, at 1900 hours; minimum, 4.7 ft Feb. 11, at 1500 hours.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.46	6.22	---	5.74	6.18	6.15	5.83	6.64	6.61	6.35	5.94	6.72
2	6.46	6.26	---	5.83	6.24	6.14	5.90	6.58	6.74	6.08	6.07	6.62
3	6.43	6.32	---	5.84	6.24	5.42	5.91	6.53	6.61	6.28	6.24	6.30
4	6.34	6.35	---	5.76	6.25	5.55	5.92	5.99	6.56	6.23	6.31	6.41
5	6.32	6.36	---	5.72	6.32	5.66	6.00	6.22	6.56	6.52	6.47	6.31
6	6.30	6.32	---	5.81	6.25	5.72	6.27	6.27	6.61	6.60	6.55	6.48
7	6.29	6.24	6.05	5.79	6.28	5.79	6.29	6.28	6.43	6.38	6.20	6.57
8	6.41	6.49	6.10	5.72	6.05	5.88	6.04	6.28	6.55	6.61	6.43	6.45
9	6.51	6.56	6.15	5.77	6.23	6.28	6.17	6.14	6.55	6.57	6.52	6.33
10	6.50	6.39	6.30	5.83	6.26	6.31	6.26	6.18	5.92	6.65	6.28	6.80
11	6.49	6.28	6.30	5.88	6.28	6.04	6.32	6.21	6.24	6.58	6.41	7.10
12	6.52	6.32	6.30	5.94	5.68	6.20	6.42	6.23	7.29	6.47	6.51	6.92
13	6.85	6.35	6.06	6.03	5.76	6.22	6.37	6.34	7.17	6.62	6.28	6.64
14	6.88	---	6.06	6.04	5.84	6.22	6.40	6.62	6.90	6.33	6.35	6.82
15	6.55	---	5.33	5.65	5.94	6.19	6.53	6.67	6.70	6.46	6.31	6.83
16	6.56	---	5.50	6.04	5.97	6.25	6.55	7.09	6.46	6.37	6.41	6.64
17	6.56	---	5.62	6.88	6.01	6.28	6.54	6.90	6.34	6.23	6.51	6.48
18	6.58	---	5.71	6.54	6.13	6.32	6.47	6.72	6.55	6.03	6.59	6.49
19	6.61	---	5.80	6.49	6.22	6.33	6.42	6.81	6.44	5.79	6.12	6.41
20	6.70	---	5.86	6.54	6.22	6.33	6.42	6.25	---	6.01	6.29	6.28
21	6.77	---	5.78	6.31	6.22	6.05	6.12	6.34	---	6.28	6.37	6.31
22	6.22	---	5.83	6.00	6.07	6.05	6.23	6.15	6.59	6.36	6.50	6.12
23	6.30	---	5.84	6.11	6.11	6.16	6.23	5.98	6.90	6.03	6.56	6.10
24	6.34	---	5.86	6.22	6.10	6.18	6.25	6.11	6.50	6.22	6.33	5.77
25	6.40	---	5.87	6.27	5.75	6.19	6.29	6.23	6.47	6.26	6.49	5.83
26	6.44	---	5.83	6.27	5.82	6.23	6.34	6.30	6.59	6.00	6.50	5.62
27	6.44	---	5.82	6.83	5.90	6.23	6.38	6.33	5.91	6.10	6.30	5.67
28	6.39	---	---	6.85	5.99	6.21	6.39	6.39	6.16	5.73	6.40	5.67
29	6.49	---	5.48	6.24	---	5.70	6.42	6.55	6.27	5.90	6.16	5.68
30	6.48	---	5.55	6.00	---	5.76	6.55	7.11	6.34	6.03	6.26	5.80
31	6.34	---	5.70	6.02	---	5.77	---	6.78	---	6.10	6.31	---
MAX	6.88	---	---	6.88	6.32	6.33	6.55	7.11	---	6.65	6.59	7.10

08042800 WEST FORK TRINITY RIVER NEAR JACKSBORO, TX

LOCATION.--Lat 33°17'30", Long 98°04'49", Jack County, Hydrologic Unit 12030101, on right abutment at upstream side of bridge on State Highway 59, 4 mi downstream from Big Cleveland Creek, 7 mi upstream from Carroll Creek, 7 mi northeast of Jacksboro, at mile 660.

DRAINAGE AREA.--683 mi².

PERIOD OF RECORD.--March 1956 to current year.

Water-quality records.--Sediment records: October 1976 to September 1978.

GAGE.--Water-stage recorder. Datum of gage is 869.28 ft above National Geodetic Vertical Datum of 1929, from State Department of Highways and Public Transportation. Sept. 20, 1960, to May 30, 1961, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. At end of year, flow from 70.9 mi² upstream from this station was partly controlled by 21 floodwater-retarding structures with a combined detention capacity of 19,780 acre-ft. Rain gage at station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1941 reached a stage of 30 ft, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.55	.05	.06	.19	200	.49	367	175	.00	.00	.00
2	.00	.37	.05	.05	.27	377	.49	136	57	.00	.00	.00
3	.00	.73	68	.08	.26	164	.49	107	10	.00	.00	.00
4	.00	.73	97	.09	.19	108	.49	117	.62	.00	.00	.00
5	.00	.73	67	.04	.19	81	.69	41	.01	.00	.00	.00
6	.00	.73	29	.04	.22	58	.73	14	.00	.00	.00	.00
7	.00	.73	14	.04	e.22	40	.73	3.5	.00	.00	.00	.00
8	.00	.73	6.9	.03	e.27	30	.64	.40	.00	.00	.00	.00
9	.00	.73	3.9	.03	e.36	28	.60	.01	.00	.00	.00	.00
10	.00	1.0	2.0	.03	e53	27	.60	.00	.00	.00	.00	.00
11	.00	3.4	.79	.03	e56	18	.71	23	.00	.00	.00	.00
12	.59	4.9	.41	.04	e11	13	.82	349	.00	112	.00	.00
13	97	2.7	.27	.04	e6.0	11	.47	384	.00	211	.00	.00
14	4.8	.15	.27	.05	e3.9	8.4	.33	350	.00	103	.00	.00
15	.02	.07	.23	.07	e2.9	7.2	.29	247	.00	29	.00	.00
16	.00	.34	.15	.10	e2.0	5.8	.17	174	.00	2.3	.00	.00
17	.00	.59	.17	.18	e1.3	4.4	.09	85	.00	.01	.00	.00
18	43	.34	.30	.20	e1.6	3.2	.04	28	.00	.00	.00	.00
19	562	.16	.33	.40	e9.4	2.2	.04	5.6	.00	.00	.00	.00
20	755	.09	.22	.24	e25	1.7	.04	.28	.00	.00	.00	.00
21	675	.07	.20	.12	e141	1.5	.04	.00	.00	.00	.00	.00
22	293	.06	.29	.19	e487	1.5	.04	.00	.00	.00	.00	.00
23	95	.03	.96	.33	597	1.6	.04	.00	.00	.00	.00	.00
24	58	.01	.51	.52	410	1.5	.03	.00	.00	.00	.00	.00
25	37	.02	.22	.47	146	1.3	.03	.00	.00	.00	.00	.00
26	24	.03	.15	.25	89	1.3	.03	17	.00	.00	.00	.00
27	16	.05	.15	1.6	62	1.3	.03	213	.00	.00	.00	.00
28	7.9	.05	.15	1.2	49	1.3	.04	297	.00	.00	.00	.00
29	5.5	.05	.12	.68	---	1.1	35	159	.00	.00	.00	.00
30	2.5	.05	.10	.55	---	1.1	224	51	.00	.00	.00	.00
31	.99	---	.09	.35	---	.83	---	53	---	.00	.00	---
TOTAL	2677.30	20.19	293.98	8.10	2155.27	1202.23	268.23	3221.79	242.63	457.31	0.00	0.00
MEAN	86.4	.67	9.48	.26	77.0	38.8	8.94	104	8.09	14.8	.000	.000
MAX	755	4.9	97	1.6	597	377	224	384	175	211	.00	.00
MIN	.00	.01	.05	.03	.19	.83	.03	.00	.00	.00	.00	.00
AC-FT	5310	40	583	16	4270	2380	532	6390	481	907	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1994, BY WATER YEAR (WY)

MEAN	133	55.0	55.9	37.8	46.6	97.7	219	425	227	32.7	17.2	60.4
MAX	2363	498	1025	369	303	697	3186	3127	1689	251	134	416
(WY)	1982	1958	1992	1985	1992	1990	1957	1989	1989	1975	1989	1962
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1978	1978	1959	1959	1959	1967	1971	1984	1984	1963	1972	1982

SUMMARY STATISTICS

	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1957 - 1994
ANNUAL TOTAL	30041.80	10547.03	117
ANNUAL MEAN	82.3	28.9	564
HIGHEST ANNUAL MEAN			.072
LOWEST ANNUAL MEAN			1957
HIGHEST DAILY MEAN	2180	755	29200
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		833	35100
INSTANTANEOUS PEAK STAGE		12.43	32.10
ANNUAL RUNOFF (AC-FT)	59590	20920	85100
10 PERCENT EXCEEDS	112	73	136
50 PERCENT EXCEEDS	4.3	.15	.83
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

TRINITY RIVER BASIN
08042900 BEANS CREEK AT WIZARD WELLS, TX

(Flood-hydrograph partial-record station)

LOCATION.--Lat 33°11'59", Long 97°58'01", Jack County, Hydrologic Unit 12030101, on the downstream side, at first pile from right end of bridge on Farm Road 1156, 900 ft. east of intersection of a county road and FM 1156 in Wizard Wells.

DRAINAGE AREA.--29.6 mi².

PERIOD OF RECORD.--June 1992 to current year (annual maximum).

GAGE.--Water-stage recorder. Datum of gage is 848.40 ft. above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Telephone telemeter at station.

PEAK DISCHARGE FOR CURRENT YEAR.--

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 13	0415	4,450	20.54				

TRINITY RIVER BASIN

257

08042950 BIG CREEK NEAR CHICO, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 33°18'27", Long 97°55'05", Wise County, Hydrologic Unit 12030101, on the downstream side, at second pile from right end of bridge on Farm Road 1810, 7.2 mi west of intersection of FM 1156 and State Highway 114 in Chico.

DRAINAGE AREA.--50.3 mi².

PERIOD OF RECORD.--June 1992 to current year (annual maximum).

GAGE.--Water-stage recorder. Datum of gage is 866.43 ft. above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Telephone telemeter at station.

PEAK DISCHARGE FOR CURRENT YEAR.--

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0445	1,600	6.89				

PEAK DISCHARGE FOR 1993 WATER YEAR.--

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 8	2315	9,470	15.66				

08043000 BRIDGEPORT RESERVOIR ABOVE BRIDGEPORT, TX

LOCATION.--Lat 33°13'22", long 97°49'54", Wise County, Hydrologic Unit 12030101, in brick valve house on upstream side and near left end of Bridgeport Dam on West Fork Trinity River, 4.6 mi west of Bridgeport, 13 mi upstream from Big Sandy Creek, and at mile 626.

DRAINAGE AREA.--1,111 mi².

PERIOD OF RECORD.--April 1932 to current year. Prior to October 1950, monthend figures only.
Water-quality records.--Chemical analyses: October 1969 to September 1984.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Jan. 12, 1988, nonrecording gages at various sites in vicinity of present gage at present datum.

REMARKS.--The reservoir is formed by a rolled earthfill dam 2,040 ft long. The dam was completed in December 1931 and storage began Apr. 1, 1932. The original dam was 1,900 ft long, but was lengthened to the present length (2,040 ft) in 1971-72. The original service spillway was eliminated during construction (1971-72), and a new spillway with approach and discharge channels was built through natural ground 2,800 ft from the left end of dam. The new spillway is 90 ft wide and has eight vertical lift gates that are 11.25 by 22 ft. The controlled outlet works consist of a 48-inch-diameter and an 18-inch-diameter pipe encased in a concrete conduit extending through the dam. In addition, a controlled 60-inch-diameter steel pipe extends through the service spillway wall to the spillway discharge basin. For elevations of outlet works, see table below. Capacity tables are based on surveys made in 1956 and 1968. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	874.0	-
Crest of spillway.....	866.0	889,700
Top of gates.....	842.0	456,900
Top of conservation pool.....	836.0	374,800
Sill of gates.....	820.0	202,200
Lowest value outlet (invert).....	751.4	0

COOPERATION.--Capacity table No. 5-C was provided by Tarrant County Water Control and Improvement District No. 1. The table was put into use Oct. 1, 1988.

EXTREMES FOR PERIOD OF RECORD.--Prior to Jan. 12, 1988, once-daily reading of nonrecording gage at 0700 hours; maximum contents observed, 491,700 acre-ft May 5, 1990 (elevation, 844.36 ft); minimum contents observed since first appreciable storage in 1935, 7,170 acre-ft Oct. 12-16, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 397,300 acre-ft May 13 at 1615 hours (elevation, 837.71 ft); minimum 334,700 acre-ft Oct. 12 (elevation, 832.78 ft).

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

830.0	302,100	836.0	374,800	842.0	457,000
832.0	325,300	838.0	401,200	844.0	486,300
834.0	349,500	840.0	428,500	845.0	501,400

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	337500	362500	358600	361300	360800	368900	370600	369300	375200	370200	360200	344000
2	337100	362400	358600	361700	361200	369200	370300	369400	375400	369800	359500	344000
3	337100	362200	362700	361600	360200	369000	370300	369600	375300	369800	358600	344000
4	336900	362000	363000	361200	361200	369000	369800	370700	375200	369200	358100	344000
5	336700	361600	363400	360800	361200	369000	369500	371000	375200	368700	357300	344000
6	336800	361200	363100	361000	361300	369000	369500	370700	375200	369000	356700	344000
7	336500	361000	363200	360600	361000	369000	369000	370700	374900	369000	355400	344000
8	336500	360800	363400	360600	360200	370300	369300	370400	375600	368300	355000	343800
9	335500	360700	363500	360200	360100	371500	369600	370600	375600	367600	354400	343400
10	335100	360600	363500	360700	360500	371600	370200	371300	375600	368000	353800	344300
11	335000	360700	363100	361200	360700	371500	369700	381300	375600	367600	353200	345000
12	335100	360800	363100	360800	361000	371300	369700	389900	375600	367600	352400	345000
13	335400	360800	362700	361300	360700	372000	369600	395200	375200	368400	351800	345000
14	335400	360700	362600	361000	360700	372200	369200	390100	374900	368400	351000	344900
15	335400	361000	362500	360600	360800	372600	369400	383800	374400	368800	349900	344600
16	335400	361100	362200	360600	361100	372400	369200	379000	374300	368700	349400	345700
17	336300	361100	362500	360600	360800	371900	369000	376500	374000	368300	349900	345700
18	342100	360800	362200	360300	362400	372700	369200	375400	373900	368300	349500	345600
19	355300	360700	362000	360500	363000	372600	369000	375100	373500	367500	348900	345600
20	362000	360600	362100	360500	363000	372600	368800	374900	373400	367100	348200	345500
21	363400	360200	361300	360500	362900	372200	368700	374900	373300	366800	347500	345100
22	363900	359600	362400	361000	365100	371900	368700	374500	373300	366500	346900	344500
23	364900	360100	362500	361500	366800	372200	368500	374700	373100	366400	346600	343900
24	364100	359200	362100	361600	367400	371600	368300	374400	373100	366100	346300	343800
25	364100	358800	361700	362100	368300	371200	368500	374500	373000	365900	345800	343800
26	364000	358700	362200	362100	368100	371200	368700	376900	372800	365200	345500	343800
27	363600	358300	362200	361700	368000	370800	368300	376500	371600	362700	344900	343900
28	363500	358800	362200	361200	368300	370400	368000	376100	370800	363900	344500	344000
29	363400	358800	361800	361200	---	370700	368400	375800	370600	363000	344100	343800
30	363000	358600	361700	361000	---	370600	368400	375700	370700	361700	344100	343300
31	362600	---	361700	361000	---	370300	---	375300	---	361100	344100	---
MAX	364100	362500	363500	362100	368300	372700	370600	395200	375600	370200	360200	345700
MIN	335000	358300	358600	360200	360100	368900	368000	369300	370600	361100	344100	343300
(+)	835.04	834.72	834.97	834.91	835.49	835.65	835.50	836.04	835.68	834.92	833.56	833.49
(@)	+25100	-4000	+3100	-700	+7300	+2000	-1900	+6900	-4600	-9600	-17000	-800
CAL YR 1993	MAX	394100	MIN	335000	(@)	+11200						
WTR YR 1994	MAX	395200	MIN	335000	(@)	+5800						

(+) Elevation, in feet, at end of month.

(@) Change in contents, in acre-feet.

08044000 BIG SANDY CREEK NEAR BRIDGEPORT, TX

LOCATION.--Lat 33°13'54", long 97°41'40", Wise County, Hydrologic Unit 12030101, at downstream side of bridge on U.S. Highway 380, 1.9 mi upstream from Greathouse Branch, 4.0 mi east of Bridgeport, and 4.4 mi upstream from mouth.

DRAINAGE AREA.--333 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1936 to current year.

REVISED RECORDS.--WSP 1148: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 724.44 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1984, at datum 3.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since May 1, 1956, runoff from 100 mi² above this station is affected at times by storage in Lake Amon G. Carter, 30 mi upstream, with a capacity of 15,240 acre-ft at elevation 920.0 ft (spillway crest). During the year, the city of Bowie diverted water from Lake Amon G. Carter for municipal use and discharged sewage effluent into tributaries to Big Sandy Creek upstream from this station. Flow was also affected at times by discharge from the flood-detention pools of 19 floodwater-retarding structures with a combined capacity of 11,430 acre-ft. These structures control runoff from a 46.0 mi² area upstream from this station and below Lake Amon G. Carter. Rain gage at station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stages since at least 1887 occurred in 1908 and 1915 and reached about the same stage as that of June 10, 1941.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	14	12	15	12	240	15	94	17	1.9	1.0	4.3
2	3.5	14	13	19	12	265	16	34	13	1.7	.99	2.0
3	3.5	13	207	17	11	108	16	81	9.9	1.6	1.0	1.9
4	3.4	13	155	15	11	62	16	90	9.1	1.5	.98	1.9
5	3.4	13	46	14	11	47	15	52	8.3	1.5	.96	1.3
6	3.4	11	26	14	9.9	40	15	46	7.1	1.7	.96	.85
7	3.5	11	20	14	10	36	14	40	6.3	1.6	.93	.70
8	3.6	11	18	16	12	35	15	37	5.6	1.7	1.0	.65
9	e3.6	11	18	15	16	40	16	36	5.0	38	1.1	4.8
10	e3.7	11	18	16	80	37	17	36	4.7	5.5	.92	8.4
11	e3.5	12	16	20	27	33	16	246	4.5	2.9	.90	3.7
12	e43	12	15	16	20	30	15	1080	4.6	2.0	.90	1.8
13	e355	11	17	16	14	34	12	950	5.0	9.6	1.0	1.2
14	10	12	16	16	11	36	12	270	4.1	2.6	1.0	.92
15	4.1	12	15	14	10	33	11	137	3.5	1.9	1.0	.77
16	3.9	21	14	16	9.4	31	11	94	3.3	1.7	1.0	397
17	3.9	21	14	20	9.1	29	10	79	3.1	1.6	1.1	232
18	58	22	14	20	9.1	28	9.9	63	2.8	1.5	1.6	13
19	1850	16	15	17	9.8	26	9.9	56	3.0	1.3	1.2	4.8
20	1320	13	15	16	11	25	9.6	50	3.0	1.3	1.0	3.6
21	127	11	16	15	18	23	9.6	43	2.5	5.8	1.1	3.2
22	42	12	21	16	367	21	9.9	38	2.3	32	.99	3.3
23	30	12	24	24	430	22	9.7	34	2.3	2.8	.90	4.2
24	24	12	21	25	116	21	9.1	30	2.2	1.8	.85	4.1
25	21	11	18	23	52	20	9.6	31	2.1	1.4	.82	3.9
26	19	12	16	23	33	20	14	32	2.0	1.3	.74	3.7
27	17	12	17	21	29	20	12	111	1.9	1.2	.71	3.6
28	16	12	15	15	30	19	12	52	1.8	1.2	.68	3.4
29	15	13	14	14	---	17	13	45	1.8	1.1	.61	3.4
30	14	12	15	13	---	16	145	86	2.0	1.1	.59	3.3
31	14	---	15	12	---	16	---	26	---	1.1	.84	---
TOTAL	4025.6	393	876	527	1390.3	1430	515.3	4099	143.8	133.9	29.37	721.69
MEAN	130	13.1	28.3	17.0	49.7	46.1	17.2	132	4.79	4.32	.95	24.1
MAX	1850	22	207	25	430	265	145	1080	17	38	1.6	397
MIN	3.4	11	12	12	9.1	16	9.1	26	1.8	1.1	.59	.65
AC-FT	7980	780	1740	1050	2760	2840	1020	8130	285	266	58	1430

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1994, BY WATER YEAR (WY)

	MEAN	112	39.2	43.2	31.1	49.7	90.6	129	203	175	34.9	12.4	27.1
MAX	1829	388	743	316	292	887	1569	1284	1922	426	230	491	
(WY)	1982	1941	1992	1946	1946	1945	1942	1990	1941	1950	1973	1962	
MIN	.000	.000	.000	.000	.000	.000	.000	.002	.000	.000	.000	.000	
(WY)	1939	1939	1939	1940	1939	1940	1956	1980	1953	1964	1938	1938	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1937 - 1994

ANNUAL TOTAL	43183.56	14284.96	78.9
ANNUAL MEAN	118	39.1	336
HIGHEST ANNUAL MEAN			2.12
LOWEST ANNUAL MEAN			1942
HIGHEST DAILY MEAN	2990	1850	23800
LOWEST DAILY MEAN	.25	.59	.00
ANNUAL SEVEN-DAY MINIMUM	.35	.71	.00
INSTANTANEOUS PEAK FLOW		1850	53000
INSTANTANEOUS PEAK STAGE		11.90	15.69
ANNUAL RUNOFF (AC-FT)	85650	28330	57190
10 PERCENT EXCEEDS	252	48	92
50 PERCENT EXCEEDS	26	13	5.8
90 PERCENT EXCEEDS	1.8	1.1	.00

e Estimated

TRINITY RIVER BASIN

08044000 BIG SANDY CREEK NEAR BRIDGEPORT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD---Chemical analyses: April 1993 to current year. Sediment analyses: April 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	
OCT 20...	1248	1360	163	7.6	18.0	6.5	70	62	11	19	3.6	7.0	
NOV 17...	1050	21	890	7.5	9.5	9.3	82	350	92	97	25	53	
DEC 21...	1008	16	1040	8.0	6.0	12.5	102	390	81	110	27	64	
JAN 12...	1032	16	1030	7.6	9.0	11.1	97	360	30	100	27	66	
31...	1530	11	1060	8.2	6.0	14.7	119	390	140	110	28	70	
FEB 22...	1310	430	512	7.8	11.5	11.3	107	180	37	49	14	34	
MAR 24...	1017	21	1000	7.9	19.5	8.8	98	360	53	100	26	64	
APR 19...	1122	9.9	1060	7.8	21.5	8.0	92	400	77	110	31	77	
MAY 12...	1445	418	295	7.8	22.0	6.4	75	100	9	29	6.9	16	
JUN 14...	1053	4.1	788	7.8	27.0	6.1	79	290	49	79	22	57	
JUL 07...	0910	1.6	1150	7.6	27.5	5.2	68	390	150	97	37	98	
AUG 04...	0935	.98	984	7.6	28.0	5.4	70	360	160	89	34	82	
SEP 15...	1138	.77	493	7.7	27.5	4.4	57	170	26	45	14	33	
DATE		SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CAC03	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 20...	0.4	5.4	0	62	51	51	10	8.8	0.20	7.7	93	94	
NOV 17...	1	8.2	0	309	253	250	81	85	0.30	17	536	520	
DEC 21...	1	3.7	0	372	305	310	81	110	0.30	16	624	596	
JAN 12...	2	3.6	0	404	331	320	77	110	0.30	13	622	597	
31...	2	3.4	--	--	--	250	83	110	0.30	13	616	599	
FEB 22...	1	4.4	--	--	--	140	50	45	0.30	9.0	330	301	
MAR 24...	1	3.6	0	370	303	300	70	110	0.30	8.8	584	565	
APR 19...	2	4.1	0	397	325	320	83	120	0.30	13	614	634	
MAY 12...	0.7	6.7	--	--	--	92	17	20	0.10	7.0	167	161	
JUN 14...	1	4.9	0	291	238	240	57	78	0.30	13	481	455	
JUL 07...	2	4.2	0	302	247	240	160	140	0.30	17	750	702	
AUG 04...	2	5.6	0	248	203	200	190	93	0.30	14	629	630	
SEP 15...	1	5.1	0	176	144	140	53	38	0.20	14	300	291	

TRINITY RIVER BASIN

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08044000 BIG SANDY CREEK NEAR BRIDGEPORT, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 20...	0.160	0.160	0.020	0.180	0.180	0.020	0.68	0.48	0.38	0.40	0.50
NOV 17...	0.069	0.069	0.010	0.079	0.079	0.010	0.48	0.39	0.59	0.60	0.40
DEC 21...	0.050	--	<0.010	0.050	0.050	0.040	0.25	0.16	--	<0.20	0.20
JAN 12...	0.110	--	<0.010	0.110	0.110	0.040	0.41	0.26	0.16	0.20	0.30
JAN 31...	--	--	0.020	--	<0.050	0.020	0.40	0.38	0.28	0.30	0.40
FEB 22...	0.380	0.380	0.040	0.420	0.420	0.100	1.4	0.90	0.50	0.60	1.0
MAR 24...	--	--	<0.010	--	<0.050	0.040	0.30	0.26	--	<0.20	0.30
APR 19...	--	--	0.020	--	<0.050	0.020	0.30	0.28	--	<0.20	0.30
MAY 12...	0.370	0.370	0.040	0.410	0.410	0.100	1.6	1.1	0.50	0.60	1.2
JUN 14...	0.100	0.100	0.010	0.110	0.110	0.070	0.61	0.43	0.23	0.30	0.50
JUL 07...	--	--	<0.010	--	<0.050	0.080	0.40	0.32	0.32	0.40	0.40
AUG 04...	--	--	<0.010	--	<0.050	0.030	0.50	0.47	0.17	0.20	0.50
SEP 15...	0.300	0.300	0.090	0.390	0.390	0.160	0.99	0.44	0.34	0.50	0.60
DATE	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 20...	0.210	0.200	0.210	0.64	12	4.9	257	583	100	240	23
NOV 17...	0.180	0.140	0.150	0.46	8.3	1.5	82	2.4	96	43	310
DEC 21...	0.020	<0.010	<0.010	--	3.8	0.4	80	2.6	72	13	670
JAN 12...	0.050	<0.010	0.010	0.03	4.1	0.5	115	4.0	40	11	710
JAN 31...	0.030	<0.010	<0.010	--	4.0	0.4	54	1.6	26	30	620
FEB 22...	0.230	0.130	0.110	0.34	7.7	>6.3	1840	2140	93	190	140
MAR 24...	0.040	<0.010	<0.010	--	4.2	0.7	76	4.3	75	10	460
APR 19...	0.030	<0.010	<0.010	--	4.2	1.7	91	20	77	5	400
MAY 12...	0.450	0.290	0.250	0.77	8.6	4.2	432	488	86	29	16
JUN 14...	0.100	0.020	0.030	0.09	5.1	1.1	95	2.4	86	<3	190
JUL 07...	0.060	0.030	0.020	0.06	6.2	0.8	61	0.69	64	10	260
AUG 04...	0.060	0.020	0.020	0.06	4.8	1.2	93	0.75	73	6	140
SEP 15...	0.100	0.060	0.070	0.21	5.7	1.1	76	0.57	100	29	28

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TRINITY RIVER BASIN

08044135 GARRETT CREEK NEAR PARADISE, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 33°06'18", Long 97°39'17", Wise County, Hydrologic Unit 12030101, on the downstream side, at second pile from right end of bridge on State Highway 114, 3.8 mi. downstream from Rush Creek and 3.9 mi. southeast of Paradise.

DRAINAGE AREA.--52.5 mi².

PERIOD OF RECORD.--June 1992 to current year (annual maximum).

GAGE.--Water-stage recorder. Datum of gage is 692.61 ft. above National Geodetic Vertical Datum of 1929.

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

PEAK DISCHARGE FOR CURRENT YEAR.--

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 12	0400	2,230	15.40				

TRINITY RIVER BASIN

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08044140 SALT CREEK NEAR PARADISE, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 33°05'54", long 97°38'59", Wise County, Hydrologic Unit 12030101, on the downstream side, at second pile from right end of bridge on State Highway 114, 2.0 mi downstream from Cottonwood Creek and 4.5 mi southeast of Paradise.

DRAINAGE AREA.--52.7 mi².

PERIOD OF RECORD.--June 1992 to current year (annual maximum).

GAGE.--Water-stage recorder. Datum of gage is 702.12 ft above National Geodetic Vertical Datum of 1929.

REMARKS.-- Records poor. Telephone telemeter at station.

PEAK DISCHARGE FOR CURRENT YEAR.--

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1800	925	6.90				

TRINITY RIVER MAIN STEM

08044500 WEST FORK TRINITY RIVER NEAR BOYD, TX

LOCATION.--Lat 33°05'07", long 97°33'30", Wise County, Hydrologic Unit 12030101, on right bank at downstream side of highway embankment, 10 ft right of right abutment of bridge on Farm Road 730, 0.6 mi northeast of Boyd, 3.5 mi downstream from Boggy Creek, and at mile 602.

DRAINAGE AREA.--1,725 mi².

PERIOD OF RECORD.--January 1947 to current year.

GAGE.--Water-stage recorder. Datum of gage is 660.57 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 14, 1954, water-stage recorder at site 2.2 mi downstream at datum 5.48 ft lower.

REMARKS.--No estimated daily discharges. Records good. During year, sustained flows at this station were the result of water released for downstream supply from Bridgeport Reservoir (drainage area, 1,111 mi²), 25 mi upstream from station. In addition, flow from a 100 mi² area above station is affected at times by discharge from the flood-detention pools of 36 floodwater-retarding structures with a total combined detention capacity of 24,450 acre-ft. These structures control runoff from 91.2 mi² in the Big Sandy and Salt Creek drainage basins above this station. Several observations of water temperature were made during the year. Rain gage at station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1880, about 25 ft in May 1908, present site and datum, from information by local residents, who also reported a flood of about the same gage height between 1870-80. A flood in April 1942 reached a stage of 20.6 ft, present site and datum, from information by Texas Department of Transportation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	80	60	38	42	109	37	211	405	22	262	150
2	8.2	78	62	38	41	461	37	99	206	20	262	214
3	8.7	77	394	40	42	249	38	85	113	18	263	144
4	9.0	74	913	41	43	152	36	162	101	16	265	127
5	8.6	70	360	38	43	110	35	114	93	15	265	121
6	8.0	64	144	38	41	95	34	87	85	17	267	118
7	8.1	64	79	38	39	89	32	78	76	25	267	117
8	8.3	64	63	37	40	81	32	68	68	19	269	89
9	8.5	64	57	38	41	98	33	66	61	125	272	329
10	8.5	67	55	38	74	97	34	110	55	335	271	348
11	7.7	68	50	62	98	84	36	235	55	189	269	119
12	11	70	50	78	61	75	34	3400	54	119	269	79
13	728	72	77	52	51	81	32	6070	53	145	269	65
14	305	77	55	44	43	97	31	5940	51	140	268	55
15	62	74	46	41	40	87	30	5370	44	49	269	51
16	38	174	41	40	39	78	28	4830	40	35	271	451
17	28	217	41	57	37	69	27	4350	37	28	269	661
18	743	117	41	66	36	66	26	3120	34	21	234	225
19	2250	92	40	51	39	60	24	1390	30	18	197	103
20	7330	75	40	47	42	57	24	680	60	17	192	60
21	4730	67	39	45	45	51	24	297	38	15	211	41
22	1260	67	44	49	545	47	25	207	29	88	194	30
23	489	67	66	115	732	46	25	170	26	63	191	26
24	290	66	60	99	480	48	24	148	24	21	154	27
25	189	64	51	75	199	46	24	156	22	15	118	25
26	141	64	49	64	118	45	36	439	22	14	116	24
27	112	64	48	60	93	47	42	636	20	15	114	23
28	107	62	47	52	85	47	30	645	18	87	114	22
29	102	61	42	45	---	42	29	627	18	206	113	22
30	92	60	38	45	---	38	74	539	20	255	113	19
31	84	---	37	44	---	36	---	446	---	260	114	---
TOTAL	19183.1	2380	3189	1615	3229	2788	973	40775	1958	2412	6722	3885
MEAN	619	79.3	103	52.1	115	89.9	32.4	1315	65.3	77.8	217	129
MAX	7330	217	913	115	732	461	74	6070	405	335	272	661
MIN	7.7	60	37	37	36	36	24	66	18	14	113	19
AC-FT	38050	4720	6330	3200	6400	5530	1930	80880	3880	4780	13330	7710

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1994, BY WATER YEAR (WY)

	MEAN	319	177	190	111	109	201	275	746	506	207	216	184
MAX	4063	1248	3073	929	944	1366	4339	5908	5439	1330	1157	1643	
(WY)	1982	1982	1992	1992	1992	1987	1990	1990	1989	1950	1950	1962	
MIN	2.96	4.81	2.21	.75	.10	.26	.59	25.2	2.76	7.11	.025	.23	
(WY)	1957	1984	1953	1956	1953	1955	1955	1959	1953	1979	1980	1956	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1948 - 1994

ANNUAL TOTAL	115731.8	89109.1	
ANNUAL MEAN	317	244	
HIGHEST ANNUAL MEAN			271
LOWEST ANNUAL MEAN			1094
HIGHEST DAILY MEAN	7330	7330	38800
LOWEST DAILY MEAN	7.7	7.7	58.6
ANNUAL SEVEN-DAY MINIMUM	8.2	8.2	.00
INSTANTANEOUS PEAK FLOW		8460	60400
INSTANTANEOUS PEAK STAGE		19.36	25.87
ANNUAL RUNOFF (AC-FT)	229600	176700	196500
10 PERCENT EXCEEDS	775	300	489
50 PERCENT EXCEEDS	112	63	64
90 PERCENT EXCEEDS	14	23	3.5

TRINITY RIVER BASIN
08044800 WALNUT CREEK AT RENO, TX

(Flood-hydrograph partial-record station)

LOCATION.--Lat 32°56'44", long 97°34'58", Parker County, Hydrologic Unit 12030101, on the downstream side, at first pile from the left end of bridge on FM 1542, 3,500 ft upstream from Cottonwood Branch and 2.4 mi west of intersection of FM 1542 and FM 730 in Center Point.

DRAINAGE AREA.--75.6 mi².

PERIOD OF RECORD.--April 1992 to current year (annual maximum).

GAGE.--Water-stage recorder. Datum of gage is 681.11 ft above National Geodetic Vertical Datum of 1929.

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

PEAK DISCHARGE FOR CURRENT YEAR.--

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1800	7,760	21.21				

REVISIONS.--The maximum discharge for water year 1993 is given below. These figures supersede those published in WDR TX-93-1.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 25	0630	4,340	16.11				

08045000 EAGLE MOUNTAIN RESERVOIR ABOVE FORT WORTH, TX

LOCATION.--Lat 32°52'39", long 97°28'29", Tarrant County, Hydrologic Unit 12030101, at right end of main section of Eagle Mountain Dam on West Fork Trinity River, 11.8 mi northwest of Fort Worth, and at mile 583.3.

DRAINAGE AREA.--1,970 mi².

PERIOD OF RECORD.--February 1934 to current year. Prior to October 1950, month-end figures only.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 16, 1988, nonrecording gages at several sites within 1.0 mi of present site at present datum.

REMARKS.--The reservoir is formed by two sections of rolled earthfill and a concrete spillway separated by high natural ground. Total length of the dam including spillway, is 4,800 ft. The dam was completed Oct. 24, 1932, and storage began Feb. 24, 1934. The spillway is a 1,300-foot-wide cut through natural ground located between the two sections of earthfill that make up the dam. The original service spillway, located in the section to the right of the main dam, contains a concrete spillway with four 25-foot bays, three are equipped with vertical lift gates and the fourth is left open. In 1971, a side-channel spillway was constructed. The newest spillway is located 300 ft to the left of the original service spillway and has six 11.25- by 22-foot-wide roller lift gates. The main section of the dam contains the outlet works that consist of two concrete conduits with two 48-inch diameter valves in each conduit. The reservoir is used for flood control and for part of the municipal water supply for the city of Fort Worth. Capacities are based on a survey made in 1968. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08044500. For storage above the reservoir, see REMARKS for West Fork Trinity River near Boyd (station 08044500). Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	682.0	-
Crest of spillway.....	676.0	545,900
Top of gates (new side-channel spillway).....	659.0	283,200
Crest of (old service) spillway (top of conservation pool).....	649.1	178,400
Crest of spillway (new side-channel spillway).....	637.0	89,450
Lowest gated outlet (invert).....	599.9	36

COOPERATION.--New capacity table, No. 4-C, furnished by Tarrant County Water Control and Improvement District No. 1, was put into use Oct. 1, 1988.

EXTREMES FOR PERIOD OF RECORD.--Prior to Oct. 16, 1987, once-daily reading of nonrecording gage at 0700 hours, maximum contents observed, 333,500 acre-ft Apr. 26, 1942 (elevation, 659.9 ft); minimum observed since first appreciable storage in 1935, 57,690 acre-ft Nov. 19, 20, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 191,700 acre-ft May 13 at 1745 hours (elevation, 650.53 ft); minimum, 154,300 acre-ft Oct. 12 (elevation, 646.28 ft).

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

631.0	57,400	646.0	152,100	655.0	237,300
641.0	115,400	649.0	177,500	658.0	271,300
644.0	136,700	652.0	206,000	660.0	295,500

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157700	176700	176000	178000	177400	177700	176500	174400	178000	168900	163200	162300
2	157700	177000	176700	177900	177300	177600	177400	175400	177800	168400	163100	162700
3	157800	177000	178300	177800	177000	177600	176500	175900	177800	167600	162900	162800
4	157700	177300	178800	177500	177300	177600	176300	176100	177800	167300	162800	162800
5	157300	177000	178500	177100	177700	177600	177100	176200	177600	166700	162800	162900
6	157000	176600	178000	177600	177700	177700	175900	176300	177500	166500	162800	162800
7	156700	176600	178000	176900	177900	177700	175400	176700	177200	166300	162700	162800
8	156700	176400	177900	176800	177900	177700	175200	176500	177100	166100	162600	162800
9	155900	176400	178000	176300	177900	176600	175000	177000	177000	166400	162500	165600
10	155400	176300	177900	177300	177700	176600	175000	177300	176800	167700	162400	166400
11	155000	176200	177400	177500	177600	176600	175200	179400	176600	167800	162500	166400
12	156600	176400	177500	177500	177900	177100	174800	178800	176100	168200	162300	166200
13	159600	176500	177200	177600	177800	177400	174300	191100	175400	168500	162200	165900
14	160600	176900	177300	177500	177800	177600	174200	190400	175400	169800	162500	165600
15	160700	176700	177100	178600	177900	177800	174100	188500	175200	169800	162300	165900
16	161000	177600	177200	177900	178000	178000	173500	185700	175000	169800	162200	169500
17	161000	177600	177300	177800	177900	177700	173000	182900	174800	169600	162500	170600
18	163600	177400	177500	177800	178800	178000	172600	180600	174500	169300	162000	171200
19	177700	177400	177500	177900	178300	177900	172200	178900	174400	168900	161300	171000
20	182300	177100	177500	177900	178300	177900	171700	178600	174100	168400	162900	170900
21	184000	177000	177500	178000	178300	177900	171600	177700	173800	167800	162800	170500
22	180500	176600	177900	178400	177800	177400	171200	177600	173500	167500	162600	170300
23	178600	176600	178000	178200	176800	177700	170800	177800	173000	167200	162400	170100
24	178000	176800	178200	178200	177000	177800	170200	177500	172600	166500	162100	169500
25	177700	176800	178100	178000	177900	177500	171700	178800	171900	166000	161800	169200
26	177700	176300	178100	177800	177600	178100	171500	179100	171600	165900	161300	169000
27	177300	176200	178500	177500	177500	177900	171300	178300	170900	166200	161000	168700
28	177300	176100	178600	177300	177800	177200	171600	178300	170200	164900	160500	168400
29	177900	176100	178400	177300	---	177300	172600	178600	169500	163800	160000	168000
30	177000	176100	178200	177600	---	177000	174100	178500	169500	163600	159500	167700
31	176900	---	178000	177400	---	176700	---	178100	---	163300	161900	---
MAX	184000	177600	178800	178600	178800	178100	177400	191100	178000	169800	163200	171200
MIN	155000	176100	176000	176300	176800	176600	170200	174400	169500	163300	159500	162300
(+)	648.93	648.84	649.06	648.99	649.03	648.91	648.61	649.07	648.10	647.37	647.20	647.88
(#)	+18500	-800	+1900	-600	+400	-1100	-2600	+4000	-8600	-6200	-1400	+5800
CAL YR 1993	MAX	184000	MIN	154700	(#)	-400						
WTR YR 1994	MAX	191100	MIN	155000	(#)	+9300						

(+) Elevation, in feet, at end of month.

(#) Change in contents, in acre-feet.

08045400 LAKE WORTH ABOVE FORT WORTH, TX

LOCATION.--Lat 32°47'21", long 97°24'58", Tarrant County, Hydrologic Unit 12030102, on top of Lake Worth Dam on West Fork Trinity River, 240 ft to right of right end of uncontrolled concrete spillway, 2.9 mi upstream from Farmer's Branch, 3.3 mi upstream from bridge on State Highway 183 crossing West Fork Trinity River, 5.3 mi northwest of Tarrant County Courthouse in Fort Worth, and at river mile 572.0.

DRAINAGE AREA.--2,064 mi².

PERIOD OF RECORD.--October 1981 to current year.

Water-quality records.--Chemical analyses: January 1970 to September 1984.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam 3,200 ft long, with an uncontrolled concrete spillway 700 ft long near the center of the dam. Deliberate impoundment began in June 1914 and the dam was completed in October 1914. There is a 48-inch diameter pipe controlled by a 36-inch valve, which may be used to make small releases through the dam. The dam is owned by the city of Fort Worth. Area-capacity curves are based on a survey made in 1968. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	606.3	-
Crest of concrete spillway.....	594.0	37,070
Lowest gated outlet (invert).....	584.25	12,290

COOPERATION.--Copies of the capacity table (prepared by the U.S. Army Corps of Engineers) and area-capacity curves (prepared by Freese, Nichols, and Endress, Consulting Engineers) were provided by Tarrant County Water Control and Improvement District No. 1.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 56,040 acre-ft May 3, 1990 (elevation, 598.70 ft); minimum, 24,730 acre-ft Sept. 9-10, 1985 (elevation, 589.95 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 44,970 acre-ft May 13 at 1830 hours (elevation, 596.11 ft); minimum, 33,250 acre-ft Oct. 12 (elevation, 592.86 ft).

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

589.0	22,300	594.0	37,070	598.0	52,890
592.0	30,540	596.0	44,520	599.0	57,400

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33560	36430	36930	36930	36900	37900	36700	36020	38190	35850	35380	36730
2	33560	36390	37000	37110	36830	37830	36930	36060	37830	36020	35380	36530
3	33560	36360	37140	36870	36770	37830	36660	35950	37470	36090	35280	36330
4	33560	36360	37290	36870	36800	37830	36600	35820	37140	36020	35850	36060
5	33630	36190	38190	36930	36800	37830	36660	35720	36900	35950	35850	35820
6	33560	35950	38370	37180	36800	37830	36190	35650	36700	36160	35790	35650
7	33600	35820	38370	36870	36700	37830	36090	35620	36600	36060	35790	35450
8	33660	35820	38290	37000	36800	37680	36090	35550	36530	36020	35850	35350
9	33500	35890	37930	37070	36700	37680	36060	35720	36630	36160	35790	35580
10	33340	35890	37610	37070	36770	37320	35990	35850	36460	36460	35790	35480
11	33370	35920	37500	37210	36700	37110	36060	36460	36530	36220	35790	35380
12	34740	36020	37500	37110	36800	37110	35820	41710	36660	36700	35720	35210
13	35210	36020	37570	37070	36700	37000	35750	44640	36560	36460	35680	35140
14	35210	36160	37930	37000	36600	36870	35650	44680	36460	36530	35650	35210
15	35210	36160	37540	36830	36460	36870	35580	44560	36460	36330	35650	35350
16	35210	36560	37250	36660	36660	36770	35450	44400	36360	36120	35620	35790
17	35210	36870	37140	36830	36870	36770	35380	43980	36330	35890	35580	35720
18	35240	36970	37070	36730	36560	36900	35310	43290	36260	35650	35620	35650
19	39050	36900	36930	36700	38290	36970	35310	42100	36190	35550	35380	35550
20	41520	36800	36900	36700	38290	37210	35310	40310	36120	35450	35580	35520
21	42830	36800	36870	36730	38290	36970	35410	39480	36060	35550	35520	35450
22	42910	36800	36870	36970	38760	36970	35550	38370	35920	35480	35450	35410
23	41250	36870	36830	37390	39370	37000	35620	37680	35750	35450	35380	35450
24	39410	36900	36770	36700	38730	36930	35650	37320	35620	35380	35310	35410
25	38370	37040	36730	36700	38040	36870	36220	37320	35380	35350	35240	35450
26	37830	36930	36700	36870	37610	37250	36220	38260	35210	35310	35240	35450
27	37320	37000	36770	37320	37390	37070	36060	38940	35180	35280	35280	35410
28	37110	37000	36660	37540	37720	36900	35890	38620	35140	35280	35310	35410
29	37000	37000	36600	37290	---	36830	36190	38550	35210	35350	35310	35380
30	36660	36900	36600	37180	---	36800	36120	38470	35720	35520	35380	35410
31	36490	---	36630	37000	---	36800	---	38400	---	35680	36630	---
MAX	42910	37040	38370	37540	39370	37900	36930	44680	38190	36700	36630	36730
MIN	33340	35820	36600	36660	36460	36770	35310	35550	35140	35280	35240	35140
(+)	593.83	593.95	593.87	593.98	594.18	593.92	593.72	594.37	593.60	593.59	593.87	593.51
(@)	+2930	+410	-270	+370	+720	-920	-680	+2280	-2680	-40	+950	-1220

CAL YR 1993 MAX 42910 MIN 32900 (@) -170

WTR YR 1994 MAX 44680 MIN 33340 (@) +1850

(+) Elevation, in feet, at end of month.

(@) Change in contents, in acre-feet.

TRINITY RIVER BASIN

08045850 CLEAR FORK TRINITY RIVER NEAR WEATHERFORD, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 32°44'25", long 97°39'06", Parker County, Hydrologic Unit 12030102, near left end of bridge on weigh station exit road associated with Interstate Highway 20, 150 ft downstream from Squaw Creek, 2.8 mi downstream from Lake Weatherford Dam on the Clear Fork Trinity River, 3.8 mi upstream from South Fork Trinity River, and 8.5 mi east of county courthouse in Weatherford.

DRAINAGE AREA.--121 mi².

PERIOD OF RECORD.--July 1924 to September 1925, November 1947 to September 1985. October 1985 to current year (peaks above base discharge).

REVISED RECORDS.--WSP 1312. 1925(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 810.00 ft above National Geodetic Vertical Datum of 1929 (Texas Department of Transportation benchmark).

REMARKS.--Records good. Daily values and peaks discharges less than 190 ft³/s are not published. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD (water years 1981-85).-- 23.0 ft³/s (16,660 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,080 ft³/s Nov. 1, 1981 (gage height, 21.58 ft); minimum, no flow Sept. 12-15, 1984.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 190 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 12	1600	436	12.04	May 26	0245	269	11.39

TRINITY RIVER BASIN

269

08046020 CLEAR FORK TRINITY RIVER ABOVE BENBROOK NEAR ALEDO, TX

LOCATION.--Lat 32°37'14", Long 97°31'46", Tarrant County, Hydrologic Unit 12030102, on U.S. Highway 377, over center of channel at upstream side of upstream bridge, 0.25 mi southwest of FM 2376, 0.25 mi northeast of FM 1187, and 6.5 mi southwest of Benbrook.

DRAINAGE AREA.--258 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1989 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	
NOV 05...	1401	31	696	8.1	14.0	18	1.9	9.8	97	1.0	290	50	
DEC 16...	1317	75	603	7.5	8.0	13	1.8	12.6	109	3.8	250	43	
FEB 01...	1400	45	660	8.4	6.0	--	--	14.1	114	--	260	50	
01...	1410	--	--	--	--	--	--	--	--	--	--	--	
04...	1417	43	717	7.7	11.0	8	2.1	14.7	136	0.4	300	40	
MAR 24...	1456	34	660	8.5	21.0	18	0.20	14.6	168	1.5	300	54	
MAY 16...	1053	767	445	8.0	22.0	--	--	7.8	90	--	180	42	
18...	1600	400	494	7.7	22.0	35	50	7.8	91	1.4	190	17	
JUN 29...	1530	7.0	722	8.1	35.0	14	4.6	7.8	114	3.9	300	46	
DATE		CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CAC03	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 05...	95	12	35	0.9	4.2	--	--	--	240	53	47	0.40	
DEC 16...	83	11	28	0.8	3.4	--	--	--	210	42	37	0.30	
FEB 01...	83	13	34	0.9	3.3	--	--	--	210	48	48	0.30	
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
04...	100	13	37	0.9	3.0	--	--	--	260	57	51	0.20	
MAR 24...	100	13	43	1	3.3	--	--	--	250	62	51	0.60	
MAY 16...	55	11	25	0.8	3.8	0	172	141	140	29	32	0.20	
18...	60	9.9	24	0.8	3.8	--	--	--	170	33	33	0.30	
JUN 29...	96	14	56	1	4.3	--	--	--	250	76	67	0.70	
DATE		SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+N03 TOTAL (MG/L AS N)	NITRO-GEN, NO2+N03 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
NOV 05...	17	--	410	6	<1	--	0.800	0.800	0.020	0.820	0.820	0.030	
DEC 16...	13	--	346	5	5	0	0.420	--	<0.010	0.420	0.420	0.050	
FEB 01...	9.6	396	383	--	--	--	0.560	0.560	0.040	0.600	0.600	0.030	
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
04...	9.2	--	434	10	<1	--	0.800	0.800	0.020	0.820	0.820	0.050	
MAR 24...	3.8	--	429	10	8	2	0.200	--	<0.010	0.200	0.200	0.050	
MAY 16...	10	268	252	--	--	--	0.150	0.150	0.030	0.180	0.180	0.050	
18...	12	--	281	114	30	84	0.170	0.170	0.020	0.190	0.190	0.030	
JUN 29...	13	--	483	21	5	16	0.620	0.620	0.010	0.630	0.630	0.050	

TRINITY RIVER BASIN

08046020 CLEAR FORK TRINITY RIVER ABOVE BENBROOK NEAR ALEDO, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)
NOV 05...	--	--	0.37	0.40	--	--	0.270	0.280	0.86	4.9	--	--
DEC 16...	--	--	0.25	0.30	--	--	0.220	0.190	0.58	4.7	--	--
FEB 01...	0.90	0.27	0.27	0.30	0.30	0.170	0.140	0.160	0.49	--	3.9	0.3
01...	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	0.35	0.40	--	--	0.210	0.220	0.67	3.8	--	--
MAR 24...	--	--	0.25	0.30	--	--	0.180	0.180	0.55	4.8	--	--
MAY 16...	0.58	0.35	0.25	0.30	0.40	0.080	0.050	0.050	0.15	--	5.4	3.5
18...	--	--	0.77	0.80	--	--	0.150	0.070	0.21	8.2	--	--
JUN 29...	--	--	0.35	0.40	--	--	0.270	0.250	0.77	6.0	--	--

DATE	SEDI- MENT, DIS- SOLVED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
NOV 05...	--	--	--	--	--	--	--	--	--	--	--
DEC 16...	--	--	--	--	--	--	--	--	--	--	--
FEB 01...	37	4.5	51	--	--	--	--	--	--	--	8
01...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	1	93	<0.5	1.0	<5	<3	<10	3
MAR 24...	--	--	--	2	92	<0.5	<1.0	<5	<3	<10	8
MAY 16...	323	669	92	--	--	--	--	--	--	--	31
18...	--	--	--	--	--	--	--	--	--	--	--
JUN 29...	--	--	--	3	96	<0.5	<1.0	<5	<3	<10	<3

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 05...	--	--	--	--	--	--	--	--	--	--	--
DEC 16...	--	--	--	--	--	--	--	--	--	--	--
FEB 01...	--	--	20	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
04...	<10	9	26	<0.1	<10	<10	<1	<1.0	620	<6	7
MAR 24...	<10	12	25	<0.1	<10	<10	<1	<1.0	640	<6	15
MAY 16...	--	--	3	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
JUN 29...	<10	10	18	<0.1	<10	<10	<1	<1.0	670	<6	<3

08046150 BEAR CREEK AT FM 1187 NEAR BENBROOK, TX

LOCATION.--Lat 32°35'38", long 97°30'47", Tarrant County, Hydrologic Unit 12030102, on FM 1187 bridge over center of channel at upstream side of bridge, 0.3 mi downstream from an unnamed tributary on left bank, 0.3 mi upstream from Benbrook Lake, and 6.4 mi south of Benbrook.

DRAINAGE AREA.--62.8 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1989 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
NOV 04...	1630	11	429	8.5	16.5	8	1.1	10.6	112	0.8	210	12
DEC 15...	1445	15	452	7.9	9.0	3	0.10	12.2	108	3.3	220	27
FEB 03...	1432	14	440	7.4	10.0	3	0.20	12.8	115	0.6	210	2
MAR 23...	1335	20	409	7.3	22.0	3	<0.10	11.3	133	1.1	210	13
MAY 17...	1500	16	427	7.5	25.0	8	0.90	8.6	106	0.3	210	8
JUN 29...	1230	3.5	416	7.6	30.0	6	0.40	7.2	97	1.0	200	46
DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	
NOV 04...	78	4.2	11	0.3	2.2	200	22	8.8	0.40	11	258	
DEC 15...	81	4.0	12	0.4	1.4	190	22	10	0.30	10	256	
FEB 03...	79	3.8	11	0.3	1.1	210	25	12	0.40	6.7	267	
MAR 23...	79	3.6	10	0.3	1.2	200	22	9.1	0.40	7.8	254	
MAY 17...	78	3.7	10	0.3	1.3	200	19	7.7	0.40	11	252	
JUN 29...	72	3.9	10	0.3	1.1	150	32	26	0.40	16	252	
DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	
NOV 04...	2	2	0	--	<0.010	--	<0.050	0.040	0.26	0.30	0.020	
DEC 15...	3	3	0	0.062	<0.010	0.062	0.062	0.050	0.25	0.30	0.030	
FEB 03...	1	1	0	0.130	<0.010	0.130	0.130	0.030	0.17	0.20	<0.010	
MAR 23...	<1	<1	--	--	<0.010	--	<0.050	0.030	--	<0.20	<0.010	
MAY 17...	3	1	2	--	0.020	--	<0.050	0.020	0.38	0.40	0.030	
JUN 29...	3	3	0	--	<0.010	--	<0.050	0.030	0.17	0.20	0.010	
DATE	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	
NOV 04...	<0.010	--	2.7	--	--	--	--	--	--	--	--	
DEC 15...	<0.010	--	2.4	--	--	--	--	--	--	--	--	
FEB 03...	<0.010	--	2.0	<1	61	<0.5	1.0	<5	<3	<10	<3	
MAR 23...	0.020	0.06	2.4	<1	66	<0.5	<1.0	<5	<3	<10	3	
MAY 17...	<0.010	--	1.9	--	--	--	--	--	--	--	--	
JUN 29...	<0.010	--	1.5	<1	69	<0.5	<1.0	<5	<3	<10	11	

TRINITY RIVER BASIN

08046150 BEAR CREEK AT FM 1187 NEAR BENBROOK, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 04...	--	--	--	--	--	--	--	--	--	--	--
DEC 15...	--	--	--	--	--	--	--	--	--	--	--
FEB 03...	<10	5	2	<0.1	10	<10	<1	<1.0	410	<6	11
MAR 23...	<10	10	2	<0.1	<10	<10	<1	<1.0	400	<6	8
MAY 17...	--	--	--	--	--	--	--	--	--	--	--
JUN 29...	<10	8	6	<0.1	<10	<10	<1	<1.0	420	<6	8

08046500 BENBROOK LAKE NEAR BENBROOK, TX

LOCATION.--Lat 32°39'02", long 97°26'54", Tarrant County, Hydrologic Unit 12030102, in intake structure of Benbrook Dam on Clear Fork Trinity River, 2.5 mi south of Benbrook, 3.5 mi upstream from Marys Creek, and 14.6 mi upstream from mouth.

DRAINAGE AREA.--429 mi².

WATER-CONTENT RECORDS

PERIOD OF RECORD.--September 1952 to current year. Prior to October 1970, published as Benbrook Reservoir.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--The lake is formed by a rolled earthfill dam 9,130 ft long, including a 500-foot uncontrolled off-channel concrete-gravity spillway with a 100-foot notch in center of ogee weir section. The outlet works consist of a 13.0-foot-diameter concrete conduit controlled by two 6.5- by 13.0-foot broome-type gates and two 30-inch steel pipes controlled by slide gates. Deliberate impoundment began Sept. 29, 1952. From August 1950 to Sept. 28, 1952, the lake was operated as a detention basin only. The capacity table is based on a survey made in 1945. The lake was built for flood control, navigation, and low-flow regulation. Inflow is affected at times by the discharge from flood-detention pools of 12 floodwater-retarding structures with a combined detention capacity of 11,170 acre-ft. These structures control runoff from 37.6 mi². Satellite telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	747.0	-
Crest of spillway.....	724.0	258,600
Crest of notch in spillway.....	710.0	164,800
Top of conservation storage.....	694.0	88,250
Crest of intake to wet wells (inverts).....	656.0	6,550
Lowest gated outlet (invert).....	622.0	12

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 212,200 acre-ft May 3, 1990 (elevation, 717.54 ft); minimum since lake first filled in 1957, 61,450 acre-ft Oct. 10, 1984 (elevation, 686.16 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 106,400 acre-ft May 17 (elevation, 698.51 ft); minimum daily, 77,770 acre-ft Oct. 2 (elevation, 691.12 ft).

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

688.0	67,250	694.0	88,250	697.0	100,050
691.0	77,350	695.0	92,060	698.0	104,200
692.0	80,890	696.0	96,000	699.0	108,600
693.0	84,520				

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77910	89610	89150	89340	89270	89500	89000	88960	92060	87310	84520	82590
2	77770	89270	89610	89420	88930	89760	89000	88850	90980	87230	84380	82730
3	78650	89000	90370	89570	88660	89650	89000	88620	90410	87120	84270	82690
4	78650	88660	90370	89610	88400	89460	89000	88470	90100	86970	84160	82590
5	78610	88700	90220	89720	88510	89340	88810	88590	89760	86820	84050	82480
6	78610	88660	90030	89650	88660	89000	88660	88620	89420	87050	83900	82400
7	78510	88660	89760	89760	88850	88810	88400	88590	89190	86930	83750	82330
8	78470	88700	89610	89880	88850	88550	88510	88620	89150	86860	83640	82330
9	78330	88700	89190	89880	88930	88440	88660	88810	89080	86750	83500	82480
10	78330	88810	88930	89950	89120	88320	88620	89000	89000	86710	83420	82950
11	78260	88850	88700	90140	89230	88400	88660	89570	88960	86670	83310	82990
12	78930	89000	89080	90220	89310	88740	88740	92990	89000	86600	83170	82950
13	79710	89120	89270	90330	89380	88740	88850	98160	88890	86520	83060	82910
14	80030	89310	89150	90370	89460	88740	88810	102400	88780	86670	82910	82880
15	80140	89310	88470	90490	89310	88400	88550	104300	88700	86600	82770	82840
16	80170	89610	88210	90520	89040	88400	88470	105600	88660	86560	82620	83060
17	80600	89880	88320	90680	88700	88550	88510	106400	88620	86450	82510	83200
18	82690	89880	88440	90520	88780	88550	88550	106000	88550	86340	82440	83170
19	89610	89570	88590	89760	88780	88700	88550	105100	88550	86190	82300	83020
20	95750	89340	88660	89000	88780	88740	89150	103600	88510	86080	82190	82880
21	97880	88850	88780	88510	88810	88780	89230	101700	88400	85960	82440	82690
22	98810	88660	89080	88810	89800	88850	89310	99720	88360	85850	82330	82400
23	98650	88660	89270	89150	89690	88850	89230	97680	88280	85700	82220	82150
24	98040	88590	89270	89720	89190	88850	89120	95590	88210	85560	82150	81900
25	97230	88780	88960	90030	88400	88850	89310	94440	88320	85450	82010	81750
26	96270	88850	88850	90180	88210	89340	89310	94830	87910	85260	81900	81610
27	95190	88930	88890	90370	88360	89760	89310	95830	87610	85110	81750	81540
28	94090	89000	89000	90490	88850	89690	89150	94680	87500	84970	81610	81390
29	92760	89000	89120	90220	---	89340	89000	93770	87420	84820	81460	81210
30	91600	89080	89230	89880	---	89080	89000	93460	87420	84780	81320	81030
31	90450	---	89310	89840	---	89080	---	93030	---	84670	81830	---
MAX	98810	89880	90370	90680	89800	89760	89310	106400	92060	87310	84520	83200
MIN	77770	88590	88210	88510	88210	88320	88400	88470	87420	84670	81320	81030
(+)	694.58	694.22	694.28	694.42	694.16	694.22	694.22	695.25	693.78	693.04	692.26	692.04
(@)	+12440	-1370	+230	+530	-990	+230	-80	+4030	-5610	-2750	-2840	-800

CAL YR 1993 MAX 98810 MIN 77770 (@) +120
WTR YR 1994 MAX 106400 MIN 77770 (@) +3020

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

TRINITY RIVER BASIN

08046500 BENBROOK LAKE NEAR BENBROOK, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1969 to September 1982. February 1990 to current year.

REVISED RECORDS.--TX-93-1: Phytoplankton.

323858097265601 - BENBROOK LAKE SITE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
DEC										
07...	1025	89900	1.00	355	8.1	11.0	0.90	8.4	79	K9
07...	1028	--	10.0	355	8.1	11.0	--	8.3	78	--
07...	1031	--	20.0	355	8.1	11.0	--	8.3	78	--
07...	1035	--	30.0	355	8.0	11.0	--	8.2	77	--
07...	1039	--	40.0	355	8.0	11.0	--	8.2	77	--
07...	1043	--	50.0	355	8.0	11.0	--	8.2	77	--
07...	1047	--	58.0	355	7.9	11.0	--	8.2	77	--
MAR										
31...	1100	89100	1.00	414	8.2	15.0	0.64	8.5	86	K4
31...	1106	--	10.0	414	8.2	15.0	--	8.4	85	--
31...	1113	--	20.0	414	8.2	15.0	--	8.4	85	--
31...	1120	--	30.0	414	8.2	15.0	--	8.4	85	--
31...	1127	--	40.0	414	8.2	15.0	--	8.3	84	--
31...	1134	--	50.0	414	8.2	15.0	--	8.3	84	--
31...	1140	--	59.0	414	8.1	15.0	--	7.8	79	--
AUG										
24...	1513	82200	1.00	351	8.3	32.0	1.01	8.2	115	K6
24...	1517	--	10.0	350	8.2	30.0	--	8.3	113	--
24...	1521	--	20.0	360	7.8	29.0	--	5.6	75	--
24...	1526	--	30.0	368	7.3	28.5	--	2.8	37	--
24...	1530	--	40.0	378	7.1	28.0	--	0	0	--
24...	1535	--	53.0	394	7.0	27.5	--	0	0	--

DATE	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)
DEC									
07...	K10	130	20	40	7.0	22	0.8	2.9	110
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	130	16	39	7.0	20	0.8	2.8	110
MAR									
31...	<1	150	6	49	7.6	20	0.7	3.0	150
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	150	6	49	7.6	20	0.7	3.2	150
AUG									
24...	<1	120	13	35	7.8	23	0.9	3.6	110
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	140	2	42	7.8	22	0.8	3.6	130

TRINITY RIVER BASIN

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08046500 BENBROOK LAKE NEAR BENBROOK, TX--Continued

323858097265601 - BENBROOK LAKE SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
DEC									
07...	29	25	0.20	6.8	199	0.120	--	<0.010	0.120
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	30	25	0.20	6.9	197	0.120	--	<0.010	0.120
MAR									
31...	32	28	0.30	7.0	236	0.120	0.120	0.030	0.150
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	32	27	0.30	7.2	236	0.090	0.090	0.020	0.110
AUG									
24...	28	29	0.30	7.6	198	--	--	<0.010	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	<0.010	--
24...	--	--	--	--	--	--	--	<0.010	--
24...	21	28	0.30	10	218	--	--	<0.010	--
DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
DEC									
07...	0.120	0.070	0.23	0.30	<0.010	<0.010	--	<3	1
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	0.120	0.080	0.22	0.30	<0.010	<0.010	--	<3	4
MAR									
31...	0.150	0.090	0.21	0.30	<0.010	<0.010	--	<3	2
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
31...	0.110	0.110	0.39	0.50	0.010	<0.010	--	<3	130
AUG									
24...	<0.050	0.010	--	<0.20	<0.010	<0.010	--	17	6
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	<0.050	0.020	--	<0.20	<0.010	0.010	0.03	20	60
24...	<0.050	0.220	0.18	0.40	0.020	0.030	0.09	20	240
24...	<0.050	0.810	0.29	1.1	0.170	0.160	0.49	270	660

TRINITY RIVER BASIN

08046500 BENBROOK LAKE NEAR BENBROOK, TX--Continued

323908097273401 - BENBROOK LAKE SITE AL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
DEC							
07...	1104	1.00	355	8.2	11.0	8.5	79
07...	1107	10.0	355	8.2	11.0	8.7	81
07...	1111	20.0	355	8.2	11.0	8.5	79
07...	1114	30.0	355	8.2	11.0	8.5	79
07...	1117	40.0	355	8.2	11.0	8.5	79
07...	1120	47.0	356	8.1	11.0	8.4	79
MAR							
31...	1158	1.00	414	8.2	15.0	8.6	87
31...	1201	10.0	414	8.2	15.0	8.5	86
31...	1204	20.0	414	8.2	15.0	8.5	86
31...	1207	30.0	414	8.2	15.0	8.5	86
31...	1210	40.0	414	8.2	15.0	8.5	86
31...	1213	48.0	414	8.2	15.0	8.4	85
AUG							
24...	1543	1.00	350	8.4	30.5	9.3	127
24...	1546	10.0	353	8.1	29.5	7.6	102
24...	1549	20.0	363	7.7	28.5	5.0	66
24...	1552	30.0	369	7.3	28.5	1.9	25
24...	1555	43.0	374	7.2	28.5	0	0

323735097274701 - BENBROOK LAKE SITE BC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
DEC												
07...	1136	1.00	359	8.2	11.0	0.90	8.7	81	51	K10	130	14
07...	1140	10.0	359	8.2	11.0	--	8.8	82	--	--	--	--
07...	1144	20.0	359	8.2	11.0	--	8.7	81	--	--	--	--
07...	1149	30.0	359	8.2	11.0	--	8.7	81	--	--	--	--
07...	1153	41.0	360	8.2	11.0	--	8.8	82	--	--	130	13
MAR												
31...	1237	1.00	413	8.4	15.0	0.70	9.2	93	K2	K2	160	8
31...	1243	10.0	413	8.3	15.0	--	9.1	92	--	--	--	--
31...	1249	20.0	414	8.3	15.0	--	8.9	90	--	--	--	--
31...	1255	30.0	414	8.3	15.0	--	8.8	89	--	--	--	--
31...	1259	41.0	416	8.2	15.0	--	8.3	84	--	--	150	4
AUG												
24...	1607	1.00	360	8.2	30.5	0.88	7.9	108	<1	<1	120	14
24...	1610	10.0	356	8.2	29.0	--	8.0	107	--	--	--	--
24...	1613	20.0	361	7.7	28.5	--	5.2	69	--	--	--	--
24...	1617	30.0	371	7.2	28.5	--	1.2	16	--	--	--	--
24...	1621	37.0	375	7.2	28.5	--	0	0	--	--	130	9

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
DEC												
07...	40	7.0	20	0.8	2.8	120	30	24	0.20	6.9	200	0.096
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	40	7.1	21	0.8	2.8	120	30	25	0.20	6.9	203	0.051
MAR												
31...	50	7.8	21	0.7	3.1	150	32	28	0.30	6.9	239	0.110
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	49	7.6	21	0.7	3.1	150	32	27	0.30	7.1	238	0.110
AUG												
24...	36	7.7	23	0.9	3.5	110	27	29	0.30	7.8	199	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	39	7.7	23	0.9	3.5	120	27	30	0.30	9.1	212	--

TRINITY RIVER BASIN

277

08046500 BENBROOK LAKE NEAR BENBROOK, TX--Continued

323735097274701 - BENBROOK LAKE SITE BC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
DEC											
07...	--	<0.010	0.096	0.096	0.040	0.16	0.20	<0.010	<0.010	<3	<1
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	<0.010	0.051	0.051	0.030	0.27	0.30	0.010	<0.010	<3	3
MAR											
31...	0.110	0.030	0.140	0.140	0.040	0.16	0.20	<0.010	<0.010	<3	<1
31...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
31...	0.110	0.010	0.120	0.120	0.100	0.20	0.30	0.010	<0.010	6	3
AUG											
24...	--	<0.010	--	<0.050	0.030	--	<0.20	<0.010	<0.010	9	2
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	<0.010	--	<0.050	0.070	0.13	0.20	<0.010	<0.010	6	62

323628097275101 - BENBROOK LAKE SITE CR

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
DEC							
07...	1207	1.00	361	8.2	11.0	8.8	82
07...	1210	10.0	361	8.2	11.0	8.7	81
07...	1213	20.0	360	8.2	11.0	8.7	81
07...	1217	27.0	361	8.2	11.0	8.7	81
MAR							
31...	1349	1.00	413	8.4	15.5	9.6	98
31...	1353	10.0	413	8.4	15.0	9.5	96
31...	1357	20.0	413	8.4	15.0	9.4	95
31...	1402	28.0	413	8.4	15.0	9.3	94
AUG							
24...	1634	1.00	365	8.1	30.0	7.1	96
24...	1637	10.0	366	7.8	28.5	5.4	71
24...	1640	23.0	370	7.4	28.0	2.4	31

323629097280901 - BENBROOK LAKE SITE CL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
DEC							
07...	1227	1.00	361	8.3	11.0	8.9	83
07...	1230	10.0	361	8.2	11.0	8.8	82
07...	1234	24.0	360	8.2	11.0	9.0	84
MAR							
31...	1412	1.00	412	8.4	15.0	9.7	98
31...	1416	10.0	412	8.4	15.0	9.6	97
31...	1420	23.0	414	8.3	15.0	8.6	87
AUG							
24...	1648	1.00	363	8.2	30.0	7.3	99
24...	1650	10.0	362	7.9	28.5	6.1	81
24...	1652	21.0	371	7.3	28.5	1.6	21

TRINITY RIVER BASIN

08046500 BENBROOK LAKE NEAR BENBROOK, TX--Continued

323652097291901 - BENBROOK LAKE SITE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)
DEC												
07...	1246	1.00	379	8.3	11.5	0.80	9.0	85	36	K5	140	12
07...	1251	10.0	381	8.2	11.5	--	8.8	83	--	--	--	--
07...	1256	20.0	384	8.2	11.5	--	8.8	83	--	--	--	--
07...	1301	25.0	436	8.0	11.5	--	8.0	76	--	--	170	14
MAR												
31...	1434	1.00	421	8.4	15.5	0.55	10.0	102	37	K1	160	5
31...	1439	10.0	421	8.4	15.0	--	9.7	98	--	--	--	--
31...	1445	24.0	426	8.2	15.0	--	8.5	86	--	--	160	3
AUG												
24...	1604	1.00	363	8.2	30.0	0.55	7.6	103	K11	K1	120	15
24...	1609	10.0	368	7.4	28.0	--	3.1	41	--	--	--	--
24...	1615	22.0	391	7.2	28.0	--	0.6	8	--	--	140	7

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
DEC												
07...	44	7.3	21	0.8	2.9	130	30	26	0.20	7.3	216	0.160
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	55	8.0	24	0.8	3.1	160	33	27	0.20	8.8	254	0.190
MAR												
31...	52	7.6	21	0.7	3.1	160	32	27	0.30	6.8	244	0.090
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	51	7.6	20	0.7	3.0	160	32	28	0.30	7.1	243	0.090
AUG												
24...	37	7.8	23	0.9	3.4	110	28	30	0.30	7.9	203	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	41	8.0	25	0.9	3.6	130	28	31	0.30	9.0	223	--

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
DEC												
07...	--	<0.010	0.160	0.160	0.040	--	<0.20	<0.010	0.020	0.06	<3	<1
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	<0.010	0.190	0.190	0.080	0.22	0.30	0.040	0.040	0.12	<3	6
MAR												
31...	0.090	0.020	0.110	0.110	0.030	0.17	0.20	<0.010	<0.010	--	5	2
31...	--	--	--	--	--	--	--	--	--	--	--	--
31...	0.090	0.010	0.100	0.100	0.050	0.25	0.30	0.020	<0.010	--	15	15
AUG												
24...	--	<0.010	--	<0.050	0.020	--	<0.20	<0.010	<0.010	--	10	6
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	<0.010	--	<0.050	0.040	--	<0.20	<0.010	0.010	0.03	25	140

TRINITY RIVER BASIN

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08046500 BENBROOK LAKE NEAR BENBROOK, TX--Continued

Benbrook Lake Site AC (323858097265601)

Phytoplankton Analyses October 1993 to September 1994

Date	12-7-93
Time	1025

TOTAL CELLS/mL	37,750
NUMBER OF SPECIES	16
DEPTH COLLECTED (ft.)	1.5

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	149
Order Pennales	
<i>Cymbella parva</i>	100
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	416
<i>Chlamydomonas</i> sp.	268
<i>Cosmarium</i> sp.	30
<i>Pediastrum duplex</i>	119
<i>Scenedesmus opoliensis</i>	178
<i>Scenedesmus quadricauda</i>	89
<i>Selenastrum Westii</i>	297
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	16,060
<i>Aphanocapsa elachista</i>	5,056
<i>Aphanothece microspora</i>	297
<i>Chroococcus limneticus</i>	773
<i>Merismopedia tenuissima</i>	13,561
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	149
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	208

08046500 BENBROOK LAKE NEAR BENBROOK, TX—Continued

Benbrook Lake Site DC (323652097291901)

Phytoplankton Analyses October 1993 - September 1994

Date	12-7-93
Time	1246

TOTAL CELLS/mL	38,542
NUMBER OF SPECIES	17
DEPTH COLLECTED (ft.)	1.3

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	119
Order Pennales	
<i>Fragilaria crotonensis</i>	471
<i>Synedra ulna</i>	94
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	892
<i>Chlamydomonas</i> sp.	238
<i>Pediastrum duplex</i>	89
<i>Scenedesmus bijuga</i>	89
<i>Scenedesmus quadricauda</i>	59
<i>Selenastrum Westii</i>	297
<i>Staurastrum</i> sp.	30
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	21,413
<i>Aphanocapsa elachista</i>	2,974
<i>Aphanothece microspora</i>	178
<i>Chroococcus limneticus</i>	1,190
<i>Merismopedia tenuissima</i>	9,874
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	178
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	357

RED RIVER BASIN

281

08046500 BENBROOK LAKE NEAR BENBROOK, TX--Continued

Benbrook Lake Site AC (323858097265601)

Phytoplankton Analyses October 1993 to September 1994

Date	3-31-94
Time	1100
<hr/>	
TOTAL CELLS/mL	6,216
NUMBER OF SPECIES	12
DEPTH COLLECTED (ft.)	1.0
<hr/>	

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	268
Order Pennales	
<i>Cymbella parva</i>	59
<i>Navicula rhyncocephala</i>	30
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	30
<i>Chlamydomonas</i> sp.	119
<i>Cosmarium</i> sp.	30
<i>Scenedesmus opoliensis</i>	59
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	2,974
<i>Aphanocapsa elachista</i>	892
<i>Merismopedia tenuissima</i>	952
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	684
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	119

08046500 BENBROOK LAKE NEAR BENBROOK, TX--Continued

Benbrook Lake Site DC (323652097291901)

Phytoplankton Analyses October 1993 to September 1994

Date	3-31-94
Time	1434
<hr/>	
TOTAL CELLS/mL	9,160
NUMBER OF SPECIES	12
DEPTH COLLECTED (ft.)	0.9
<hr/>	

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	178
Order Pennales	
<i>Navicula rhyncocephala</i>	297
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	416
<i>Chlamydomonas</i> sp.	30
<i>Cosmarium</i> sp.	30
<i>Scenedesmus opoliensis</i>	238
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	4,164
<i>Aphanocapsa elachista</i>	1,784
<i>Chroococcus limneticus</i>	595
<i>Merismopedia tenuissima</i>	476
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	714
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	238

RED RIVER BASIN

283

08046500 BENBROOK LAKE NEAR BENBROOK, TX--Continued

Benbrook Lake Site AC (323858097265601)

Phytoplankton Analyses October 1993 to September 1994

Date	8-24-94
Time	1513

TOTAL CELLS/mL	53,055
NUMBER OF SPECIES	13
DEPTH COLLECTED (ft.)	1.6

OrganismsCells/mL

BACILLARIOPHYTA

Order Centrales

Cyclotella ocellata

59

Order Pennales

Fragilaria crotonensis

208

CHLOROPHYTA

Ankistrodesmus falcatus

3,985

Cosmarium sp.

89

Pediastrum duplex

30

Scenedesmus opoliensis

59

Staurastrum sp.

59

CYANOPHYTA

Aphanizomenon flos-aquae

9,814

Aphanocapsa delicatissima

17,547

Aphanocapsa elachista

11,599

Chroococcus limneticus

3,331

Merismopedia tenuissima

6,186

EUGLENOPHYTA

Trachelomonas sp.

89

08046500 BENBROOK LAKE NEAR BENBROOK, TX--Continued

Benbrook Lake Site DC (323652097291901)

Phytoplankton Analyses October 1993 to September 1994

Date	8-24-94
Time	1604
<hr/>	
TOTAL CELLS/mL	54,809
NUMBER OF SPECIES	14
DEPTH COLLECTED (ft.)	0.90
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<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	30
Order Pennales	
<i>Fragilaria crotonensis</i>	119
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	3,271
<i>Cosmarium</i> sp.	30
<i>Pediastrum duplex</i>	30
<i>Scenedesmus opoliensis</i>	59
<i>Staurastrum</i> sp.	59
CYANOPHYTA	
<i>Anabaena spiroides</i>	5,353
<i>Aphanizomenon flos-aquae</i>	7,732
<i>Aphanocapsa delicatissima</i>	15,465
<i>Aphanocapsa elachista</i>	5,353
<i>Chroococcus limneticus</i>	1,903
<i>Merismopedia tenuissima</i>	13,740
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	1,665

08047000 CLEAR FORK TRINITY RIVER NEAR BENBROOK, TX

LOCATION.--Lat 32°39'54", long 97°26'30", Tarrant County, Hydrologic Unit 12030102, on left bank 1.5 mi downstream from Benbrook Dam, 1.7 mi southeast of Benbrook, 2.9 mi upstream from Marys Creek, and 13.1 mi upstream from mouth.

DRAINAGE AREA.--431 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1947 to current year.

REVISED RECORDS.--WDR TX-89-1: 1988.

GAGE.--Water-stage recorder. Datum of gage is 604.22 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark).

REMARKS.--Records good. Flow regulated by Benbrook Lake (station 08046500), 1.5 mi upstream, since September 1952. There is a diversion 1.0 mi upstream for Pecan Valley Golf Course. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--5 years (water years 1948-52) prior to regulation by Benbrook Lake, 105 ft³/s (76,070 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1948-52).--Maximum discharge, 82,900 ft³/s May 17, 1949 (gage height, 28.72 ft), from rating curve extended above 11,000 ft³/s on basis of velocity-area studies and slope-area measurement of 82,900 ft³/s; no flow at times most years. Maximum stage since at least 1922, that of May 17, 1949.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	449	13	12	e255	18	70	257	552	21	e16	18
2	14	268	14	12	e257	145	70	254	606	21	e16	14
3	22	253	124	13	e260	280	70	251	359	21	e16	14
4	12	174	250	13	e106	277	69	168	234	21	e16	14
5	12	15	244	13	e16	278	69	51	232	20	e20	14
6	12	14	246	14	e15	275	195	50	231	24	e17	14
7	12	14	247	14	e14	267	127	51	144	21	e17	14
8	12	14	247	14	e13	267	16	51	e51	21	e16	15
9	12	14	246	15	e12	268	16	53	e50	22	e16	16
10	12	14	245	15	e11	161	17	52	e50	21	e16	15
11	12	16	114	17	e11	63	17	162	e52	21	e16	15
12	22	17	11	16	11	62	17	245	e49	21	e20	16
13	44	18	11	16	11	63	16	118	e49	22	e19	15
14	9.8	22	231	16	11	175	63	15	e48	25	e20	15
15	9.9	21	403	17	157	275	99	14	48	21	e20	15
16	11	23	185	17	254	137	47	13	25	21	e21	e16
17	11	20	e35	17	143	58	9.5	158	13	21	e20	e15
18	41	146	e30	144	59	57	8.9	571	19	e19	27	e15
19	96	233	e26	399	61	57	9.0	680	19	e19	26	e18
20	14	228	e22	e369	62	57	9.4	921	19	e20	e26	e62
21	11	222	19	e47	63	55	8.2	991	19	e19	e35	e62
22	254	138	22	e20	144	54	27	984	19	e19	e19	67
23	630	14	18	e19	364	54	61	978	19	e19	20	65
24	690	14	126	15	443	53	60	974	19	e19	20	60
25	683	14	207	14	441	52	81	975	20	e19	20	57
26	677	14	85	14	168	56	61	511	19	e18	21	55
27	674	14	12	15	14	51	58	166	19	e15	22	53
28	668	13	12	14	25	169	116	845	19	e15	22	50
29	664	14	12	262	---	275	270	669	19	e17	20	48
30	657	13	11	183	---	150	265	357	22	e25	20	47
31	655	---	11	e246	---	70	---	353	---	e18	31	---
TOTAL	6667.7	2443	3479	2012	3401	4279	2022.0	11938	3044	626	631	914
MEAN	215	81.4	112	64.9	121	138	67.4	385	101	20.2	20.4	30.5
MAX	690	449	403	399	443	280	270	991	606	25	35	67
MIN	9.8	13	11	12	11	18	8.2	13	13	15	16	14
AC-FT	13230	4850	6900	3990	6750	8490	4010	23680	6040	1240	1250	1810

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1994#, BY WATER YEAR (WY)

	25.2	90.5	47.6	78.6	83.8	118	94.0	221	224	62.3	22.7	17.8
MEAN	25.2	90.5	47.6	78.6	83.8	118	94.0	221	224	62.3	22.7	17.8
MAX	215	1479	680	1845	792	748	881	2351	1804	1070	198	164
(WY)	1994	1992	1992	1992	1992	1970	1977	1990	1957	1989	1979	1962
MIN	.000	.053	.042	.000	.000	.13	.10	.000	.000	.029	.000	.000
(WY)	1953	1971	1954	1953	1953	1953	1959	1959	1953	1953	1953	1953

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1953 - 1994#

ANNUAL TOTAL	61434.3	41456.7	90.3
ANNUAL MEAN	168	114	514
HIGHEST ANNUAL MEAN			.27
LOWEST ANNUAL MEAN			6320
HIGHEST DAILY MEAN	1090	Mar 4	991
LOWEST DAILY MEAN	2.5	Jan 14	8.2
ANNUAL SEVEN-DAY MINIMUM	5.7	Jan 12	11
INSTANTANEOUS PEAK FLOW			1180
INSTANTANEOUS PEAK STAGE			6.42
ANNUAL RUNOFF (AC-FT)	121900	82230	67400
10 PERCENT EXCEEDS	499	275	14.71
50 PERCENT EXCEEDS	63	22	65440
90 PERCENT EXCEEDS	14	13	163
			6.3
			.10

e Estimated

Period of regulated streamflow.

TRINITY RIVER BASIN

08047000 CLEAR FORK TRINITY RIVER NEAR BENBROOK, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1980 to September 1982, October 1989 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
DEC 07...	1350	247	355	8.3	11.5	12	4.4	10.3	97	2.4	130	16
MAR 31...	1140	70	402	8.3	15.0	13	4.2	9.6	96	3.3	170	31
MAY 16...	1445	13	450	7.9	25.0	--	--	7.9	97	--	210	38
AUG 24...	1405	23	387	7.7	27.5	18	2.1	6.4	83	5.9	140	4
DATE		CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CAC03)	ALKA-LINITY WAT DIS FIX END FIELD (MG/L AS CAC03)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
DEC 07...		41	7.0	21	0.8	3.5	--	--	--	120	29	24
MAR 31...		55	7.6	21	0.7	3.1	--	--	--	140	37	23
MAY 16...		76	5.5	19	0.6	3.0	0	213	174	170	36	16
AUG 24...		43	7.9	23	0.8	3.6	--	--	--	140	21	28
DATE		FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
DEC 07...		0.20	6.0	--	202	10	11	0	0.150	--	<0.010	0.150
MAR 31...		0.30	6.3	--	237	15	12	3	0.130	0.130	0.020	0.150
MAY 16...		0.30	11	282	274	--	--	--	0.570	0.570	0.040	0.610
AUG 24...		0.30	9.8	--	221	19	13	6	0.059	0.059	0.030	0.089
DATE		NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)
DEC 07...		0.150	0.060	--	--	0.24	0.30	--	--	<0.010	<0.010	--
MAR 31...		0.150	0.080	--	--	0.62	0.70	--	--	0.010	<0.010	--
MAY 16...		0.610	0.080	1.0	0.32	0.32	0.40	0.40	0.050	0.030	0.030	0.09
AUG 24...		0.089	0.780	--	--	0.32	1.1	--	--	0.120	0.080	0.25
DATE		CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
DEC 07...		4.2	--	--	1	50	<0.5	<1.0	<5	<3	<10	<3
MAR 31...		4.9	--	--	<1	57	<0.5	1.0	<5	<3	<10	6
MAY 16...		--	4.7	1.0	--	--	--	--	--	--	--	20
AUG 24...		6.3	--	--	9	58	<0.5	<1.0	<5	<3	<10	<3

TRINITY RIVER BASIN

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08047000 CLEAR FORK TRINITY RIVER NEAR BENBROOK, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC 07...	<10	5	<1	<0.1	<10	<10	<1	<1.0	310	<6	<3
MAR 31...	<10	5	1	<0.1	<10	<10	<1	<1.0	370	<6	17
MAY 16...	--	--	10	--	--	--	--	--	--	--	--
AUG 24...	<10	6	590	<0.1	<10	<10	<1	<1.0	370	<6	<3

TRINITY RIVER BASIN

08047500 CLEAR FORK TRINITY RIVER AT FORT WORTH, TX

LOCATION.--Lat 32°43'56", long 97°21'31", Tarrant County, Hydrologic Unit 12030102, at Fort Worth pumping station on left bank, 240 ft upstream from the Texas and Pacific Railway Co. bridge in Fort Worth, 830 ft upstream from East West Expressway bridge, 2.5 mi upstream from mouth, 5 mi downstream from Marys Creek, and 10 mi downstream from Benbrook Dam.

DRAINAGE AREA.--518 mi².

PERIOD OF RECORD.--March 1924 to current year.

REVISED RECORDS.--WSP 1392: 1924-25, 1927. WSP 1922: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 532.91 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 3, 1970, various nonrecording and recording gages were located within 650 ft of present site at different datums.

REMARKS.--No estimated daily discharges. Records good. Since September 1952, flow largely regulated by Benbrook Lake (station 08046500) 10 mi upstream. The city of Fort Worth diverted water from pool at gage during the current year. The Benbrook Water and Sewage Authority diverted water from the river upstream from station during the current year for municipal use. Several observations of water temperature were made during the year. Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--28 years (water years 1925-52) prior to regulation by Benbrook Lake, 112 ft³/s (81,140 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1925-52).--Maximum discharge, 107,000 ft³/s May 17, 1949 (gage height, 28.20 ft, present datum), from rating curve extended above 16,000 ft³/s on basis of contracted-opening measurement of 107,000 ft³/s; no flow at times most years. Maximum stage since at least 1900, that of May 17, 1949, present datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 25, 1922, reached a stage of 27.5 ft, present datum (discharge, 74,300 ft³/s, by slope-area measurement of peak flow); data furnished by Fort Worth city engineer.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	444	29	30	159	243	89	259	524	36	28	239
2	12	180	54	30	162	147	88	336	653	31	27	39
3	228	180	271	30	168	297	91	279	398	30	26	32
4	34	157	222	30	116	297	83	231	216	30	26	27
5	21	31	199	29	28	297	80	73	215	28	28	24
6	18	27	193	28	28	297	145	62	205	113	24	24
7	16	26	193	29	28	297	178	60	157	37	23	23
8	16	27	193	29	29	351	35	60	59	51	26	23
9	24	27	193	28	27	304	31	147	57	95	21	39
10	16	27	193	27	26	232	31	106	57	41	21	26
11	15	29	137	50	27	91	31	519	69	49	20	25
12	103	27	35	33	28	90	32	1180	71	50	21	24
13	886	28	55	33	29	106	32	857	66	52	19	22
14	37	61	136	33	29	148	43	196	64	109	19	20
15	25	30	346	33	99	274	91	118	67	47	19	23
16	20	73	206	36	246	203	75	73	58	37	19	31
17	17	38	32	37	182	86	27	126	30	35	20	24
18	730	76	30	69	65	77	22	596	36	34	19	21
19	2430	168	30	351	64	76	18	680	37	32	18	22
20	517	168	30	356	67	76	27	970	37	30	21	35
21	82	168	29	306	67	70	33	1080	36	29	76	32
22	155	141	56	54	510	67	21	1080	35	29	27	24
23	527	28	37	47	399	67	50	1080	35	29	24	24
24	625	26	85	35	504	67	54	1080	34	28	21	24
25	625	28	183	32	504	67	468	1220	34	27	20	23
26	625	34	125	31	288	239	257	952	33	32	19	24
27	625	32	33	30	38	178	78	241	32	28	20	25
28	625	30	32	29	244	148	96	898	30	28	20	24
29	625	31	32	166	---	294	391	803	31	28	18	23
30	625	31	32	221	---	217	432	346	87	48	17	23
31	625	---	31	73	---	90	---	346	---	34	255	---
TOTAL	10941	2373	3452	2345	4161	5493	3129	16054	3463	1307	962	989
MEAN	353	79.1	111	75.6	149	177	104	518	115	42.2	31.0	33.0
MAX	2430	444	346	356	510	351	468	1220	653	113	255	239
MIN	12	26	29	27	26	67	18	60	30	27	17	20
AC-FT	21700	4710	6850	4650	8250	10900	6210	31840	6870	2590	1910	1960

TRINITY RIVER BASIN

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08047500 CLEAR FORK TRINITY RIVER AT FORT WORTH, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1994#, BY WATER YEAR (WY)

MEAN	60.1	107	76.7	108	124	182	157	317	282	79.0	30.0	32.7
MAX	353	1555	1118	2198	1019	1081	1012	3020	2219	1300	247	245
(WY)	1994	1992	1992	1992	1992	1990	1977	1990	1989	1989	1979	1962
MIN	.000	.84	1.68	2.28	2.84	.91	3.12	3.41	.27	.75	.54	.28
(WY)	1953	1955	1979	1957	1953	1956	1954	1959	1953	1954	1954	1954

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1953 - 1994#	
ANNUAL TOTAL	77680		54669		130	
ANNUAL MEAN	213		150		660	
HIGHEST ANNUAL MEAN					4.55	
LOWEST ANNUAL MEAN					11000	
HIGHEST DAILY MEAN	2430	Oct 19	2430	Oct 19	.00	Mar 11 1990
LOWEST DAILY MEAN	10	Aug 1	12	Oct 1	.00	Oct 1 1952
ANNUAL SEVEN-DAY MINIMUM	11	Sep 6	18	Oct 5	.00	Oct 1 1952
INSTANTANEOUS PEAK FLOW			10200	Oct 19	20900	May 2 1990
INSTANTANEOUS PEAK STAGE			13.71	Oct 19	16.80	May 2 1990
ANNUAL RUNOFF (AC-FT)	154100		108400		93850	
10 PERCENT EXCEEDS	625		398		272	
50 PERCENT EXCEEDS	60		41		15	
90 PERCENT EXCEEDS	16		23		.70	

Period of regulated streamflow.

TRINITY RIVER MAIN STEM

08048000 WEST FORK TRINITY RIVER AT FORT WORTH, TX

LOCATION.--Lat 32°45'39", long 97°19'56", Tarrant County, Hydrologic Unit 12030102, on left bank 125 ft upstream from Texas Electric Service Co.'s concrete dam, 980 ft downstream from centerline of Paddock Viaduct (North Main Street) at Fort Worth, 2,600 ft downstream from Clear Fork Trinity River, and at mile 556.8.

DRAINAGE AREA.--2,615 mi².

PERIOD OF RECORD.--October 1920 to current year. Gage-height records collected in this vicinity since 1910 are contained in reports of the National Weather Service.
Water-quality records.--Chemical and biochemical analyses: October 1967 to September 1976.

REVISED RECORDS.--WSP 1392: 1925. WSP 1922: Drainage area.

GAGE.--Water-stage recorder and concrete dam control with angle-iron-crested notch for flow below 50 ft³/s. Datum of gage is 519.24 ft above Texas Reclamation Department datum. Prior to Aug. 22, 1954, at site 1,200 ft upstream at same datum. Aug. 22, 1954, to Oct. 15, 1955, at site 2,000 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow is largely regulated by Lake Worth (station 08045400) on the West Fork Trinity River and by Benbrook Lake (station 08046500) on the Clear Fork Trinity River. At times, flow is sustained by releases from the flood-detention pool of Benbrook Lake. The city of Fort Worth diverts water from river upstream from station and from Cedar Creek Reservoir (station 08063010) for municipal and industrial uses and returns sewage effluent to river downstream from station 08048543. There are many small diversions upstream from station. Maximum stage since at least 1866, that of May 17, 1949. Maximum stages have been affected by levee construction, levee breaks, and channel rectification. Rain gage at station. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	567	67	46	257	752	109	267	1070	50	34	680
2	20	285	88	48	283	449	124	350	1100	38	29	133
3	271	270	478	97	287	543	145	292	760	35	27	85
4	45	252	372	81	265	515	101	250	401	33	26	44
5	27	80	475	73	130	505	91	85	337	31	26	37
6	22	44	817	62	53	488	131	67	307	216	26	37
7	19	42	821	77	43	493	213	65	266	59	27	37
8	17	41	628	91	42	591	42	63	102	114	31	38
9	23	43	485	78	41	694	36	185	92	218	26	92
10	20	41	427	70	43	451	36	123	93	97	24	53
11	17	42	397	157	42	185	36	363	114	78	23	38
12	44	41	246	158	39	140	36	2400	127	109	20	36
13	1720	42	519	110	39	181	35	6030	98	166	21	34
14	94	172	306	93	39	165	33	6960	85	187	22	33
15	42	52	542	77	43	291	106	6810	96	112	22	35
16	33	190	420	59	215	236	104	6490	91	47	21	76
17	29	95	100	106	259	91	38	6200	41	42	21	52
18	1250	100	78	89	157	83	28	6150	37	37	22	36
19	3350	300	66	353	105	83	25	5140	40	33	20	34
20	2900	295	58	455	103	83	25	3770	39	30	28	96
21	3850	268	62	460	105	93	47	2710	36	29	142	71
22	4660	246	157	236	1220	94	34	2020	35	29	38	43
23	4560	71	118	216	1540	87	52	1490	36	29	29	42
24	2800	51	99	215	1350	92	65	1240	33	29	25	40
25	1680	76	284	263	937	98	395	1370	33	28	24	39
26	1240	129	268	314	542	284	561	1600	32	28	24	37
27	972	110	86	328	179	269	91	980	31	27	24	37
28	811	90	55	326	407	176	101	1750	32	26	25	35
29	741	93	52	297	---	317	369	1560	32	26	24	34
30	727	93	50	484	---	267	556	1030	229	58	23	32
31	691	---	47	246	---	118	---	974	---	55	306	---
TOTAL	32696	4221	8668	5765	8765	8914	3765	68784	5825	2096	1180	2116
MEAN	1055	141	280	186	313	288	125	2219	194	67.6	38.1	70.5
MAX	4660	567	821	484	1540	752	561	6960	1100	218	306	680
MIN	17	41	47	46	39	83	25	63	31	26	20	32
AC-FT	64850	8370	17190	11430	17390	17680	7470	136400	11550	4160	2340	4200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1994, BY WATER YEAR (WY)

	304	270	267	246	342	452	604	1158	810	255	115	160
MEAN	304	270	267	246	342	452	604	1158	810	255	115	160
MAX	4548	3855	6071	3521	2412	3103	5595	12430	10240	3030	1447	2482
(WY)	1982	1982	1992	1992	1932	1945	1942	1990	1989	1941	1950	1962
MIN	.12	3.64	5.02	6.08	5.57	4.72	7.71	15.2	5.73	1.33	.000	.000
(WY)	1940	1956	1935	1930	1940	1940	1930	1959	1954	1956	1956	1930

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1921 - 1994

ANNUAL TOTAL	196861	152795	415
ANNUAL MEAN	539	419	1823
HIGHEST ANNUAL MEAN			15.6
LOWEST ANNUAL MEAN			47300
HIGHEST DAILY MEAN	4660	Oct 22	6960
LOWEST DAILY MEAN	12	Jul 22	17
ANNUAL SEVEN-DAY MINIMUM	13	Jul 20	21
INSTANTANEOUS PEAK FLOW			7430
INSTANTANEOUS PEAK STAGE			4.40
ANNUAL RUNOFF (AC-FT)	390500	303100	300800
10 PERCENT EXCEEDS	1440	951	1050
50 PERCENT EXCEEDS	253	92	40
90 PERCENT EXCEEDS	16	27	5.6

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX

LOCATION.--Lat 32°45'06", long 97°17'21", Tarrant County, Hydrologic Unit 12030102, at downstream side of bridge on Beach Street, 1,700 ft downstream from Sycamore Creek, 0.9 mi downstream from Riverside Drive bridge, 2.6 mi east of the Tarrant County Courthouse, and at mile 549.6.

DRAINAGE AREA.--2,685 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 478.70 ft above National Geodetic Vertical Datum of 1929, State Department of Highways and Public Transportation datum.

REMARKS.--No estimated daily discharges. Records good. Flow is largely regulated by Lake Worth (station 08045400) on the West Fork Trinity River and by Benbrook Lake (station 08046500) on the Clear Fork Trinity River. At times, flow is sustained by releases from the flood-detention pool of Benbrook Lake. There are many diversions upstream from this station for municipal, industrial, and other uses. Rain gage at station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1866 probably occurred in May 1949 (stage and discharge unknown). Maximum stages have been affected by levee construction, levee breaks, and channel rectification.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	811	178	105	315	1320	211	387	1340	96	53	1580
2	17	452	258	109	307	700	241	555	1420	74	46	204
3	388	426	1440	155	307	807	302	491	947	53	42	137
4	109	414	609	128	281	738	213	352	471	45	37	68
5	46	219	717	124	108	719	194	167	379	41	36	49
6	34	136	1120	114	76	696	217	122	344	313	33	47
7	27	127	1020	153	73	700	374	112	304	122	42	49
8	24	124	792	134	70	885	162	107	132	342	50	50
9	33	139	657	115	73	999	109	333	104	323	40	81
10	33	129	604	115	78	708	109	260	101	192	36	99
11	27	126	594	315	71	328	108	655	167	211	33	58
12	55	128	390	177	63	251	109	3510	166	156	30	53
13	3010	123	847	129	62	336	104	5580	113	385	26	51
14	176	402	470	119	62	259	95	6360	100	312	26	60
15	63	187	756	105	59	422	175	6260	136	269	28	70
16	35	408	605	92	293	365	193	5920	117	93	23	85
17	23	262	224	178	288	183	114	5740	69	69	29	100
18	2430	192	177	104	136	160	78	5670	46	58	25	58
19	5370	452	159	463	119	151	74	5020	60	51	25	47
20	3630	444	146	540	152	150	99	4070	55	47	40	90
21	4270	414	157	534	133	152	121	3220	50	43	208	97
22	4830	394	375	316	1850	147	80	2540	46	42	73	74
23	4610	214	463	281	1940	133	97	1950	45	41	47	63
24	3100	149	227	302	1770	130	129	1630	43	38	41	60
25	2120	178	267	335	1300	131	494	1930	40	37	35	56
26	1620	261	520	358	820	331	1310	2350	39	36	30	53
27	1280	264	394	361	320	418	177	1260	39	35	28	50
28	1090	211	144	305	618	191	172	2270	36	35	28	48
29	1010	200	126	296	---	345	745	2040	43	35	28	43
30	987	200	115	501	---	359	1170	1340	281	46	25	44
31	938	---	110	157	---	233	---	1250	---	85	513	---
TOTAL	41405	8186	14661	7220	11744	13447	7776	73451	7233	3725	1756	3624
MEAN	1336	273	473	233	419	434	259	2369	241	120	56.6	121
MAX	5370	811	1440	540	1940	1320	1310	6360	1420	385	513	1580
MIN	17	123	110	92	59	130	74	107	36	35	23	43
AC-FT	82130	16240	29080	14320	23290	26670	15420	145700	14350	7390	3480	7190

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1994, BY WATER YEAR (WY)

	503	429	493	348	436	751	666	1891	1455	260	84.2	93.7
MEAN	503	429	493	348	436	751	666	1891	1455	260	84.2	93.7
MAX	4881	3878	6459	4067	2924	2418	5668	12540	9448	1654	441	216
(WY)	1982	1982	1992	1992	1992	1992	1990	1990	1989	1982	1979	1980
MIN	9.82	23.8	13.7	30.2	36.4	43.9	35.3	60.6	22.4	5.67	9.21	9.27
(WY)	1978	1980	1978	1978	1981	1986	1983	1988	1978	1978	1985	1984

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1977 - 1994

ANNUAL TOTAL	243906.9	194228	619
ANNUAL MEAN	668	532	2071
HIGHEST ANNUAL MEAN			40.1
LOWEST ANNUAL MEAN			35200
HIGHEST DAILY MEAN	5370	Oct 19	May 3 1990
LOWEST DAILY MEAN	8.9	Jul 30	Jul 12 1978
ANNUAL SEVEN-DAY MINIMUM	12	Jul 25	Aug 13
INSTANTANEOUS PEAK FLOW			9430
INSTANTANEOUS PEAK STAGE			20.76
ANNUAL RUNOFF (AC-FT)	483800	385300	448100
10 PERCENT EXCEEDS	1690	1310	1560
50 PERCENT EXCEEDS	355	157	50
90 PERCENT EXCEEDS	17	39	15

TRINITY RIVER MAIN STEM

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1976 to current year.

pH: October 1976 to current year.

WATER TEMPERATURE: October 1976 to current year.

DISSOLVED OXYGEN: October 1976 to current year.

INSTRUMENTATION.--Since October 1976, a four-parameter water-quality monitor records water temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument, pump, or power failure. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the U.S. Geological Survey District office upon request. Dissolved oxygen values bypassing saturation can be attributed to algae blooms in close proximity to the well intake. National water-quality assessment program data are included in this record.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 2,000 microsiemens Nov. 6, 1978; minimum, 90 microsiemens Sept. 10, 1992.

pH: Maximum, 9.8 units Aug. 8, Sept. 2, 1980; minimum, 6.6 units Aug. 15, 1987.

WATER TEMPERATURE: Maximum, 38.5°C Aug. 21, 1993; minimum, 0.0°C Jan. 31, Feb. 1, 2, 1985.

DISSOLVED OXYGEN: Maximum, 22.1 mg/L Oct. 4, 1983; minimum, 0.0 mg/L on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 666 microsiemens Oct. 24; minimum, 102 microsiemens Oct. 18.

pH: Maximum, 9.0 units Feb. 3; minimum, 7.2 units Oct. 18, May 18, and July 11.

WATER TEMPERATURE: Maximum, 35.0°C July 23; minimum, 2.5°C Nov. 7.

DISSOLVED OXYGEN: Maximum, 15.7 mg/L Feb. 14; minimum, 1.2 mg/L July 8.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT												
18...	1548	825	219	7.8	25.0	7.5	92	90	14	32	2.4	8.0
NOV												
16...	1448	605	376	8.3	11.0	9.0	82	140	25	49	4.8	21
DEC												
20...	1413	146	495	8.0	10.5	11.8	107	170	19	55	7.9	30
JAN												
11...	1020	540	443	7.9	10.5	9.4	85	160	20	53	5.5	28
FEB												
02...	1330	300	416	8.4	8.0	14.4	122	170	33	54	7.5	24
17...	1045	310	503	7.8	11.0	11.8	107	200	30	66	7.4	25
MAR												
21...	0935	150	518	8.0	17.5	9.5	100	200	33	65	8.0	29
APR												
18...	1050	78	545	7.8	21.0	9.1	103	210	68	71	8.6	33
MAY												
17...	1255	5780	466	8.0	22.5	9.0	105	170	32	50	10	35
JUN												
13...	1443	113	450	8.1	29.5	9.8	130	170	17	56	7.9	28
JUL												
05...	1453	41	473	7.9	31.0	8.4	114	170	23	53	8.1	31
AUG												
03...	1404	42	447	7.9	31.0	8.4	114	160	29	52	8.1	35
SEP												
14...	1448	44	393	8.1	29.0	8.3	109	140	8	46	5.4	25

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08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 18...	0.4	3.6	0	92	75	75	20	8.5	0.30	5.7	140	129
NOV 16...	0.8	5.4	0	143	117	120	36	22	0.30	5.1	231	216
DEC 20...	1	4.4	0	184	151	150	43	37	0.30	5.6	287	275
JAN 11...	1	3.6	0	164	134	140	44	31	0.30	3.0	264	252
FEB 02...	0.8	3.5	--	--	--	130	36	30	0.40	5.0	263	249
FEB 17...	0.8	3.1	0	201	165	170	43	30	0.40	3.6	290	278
MAR 21...	0.9	3.9	0	198	162	160	48	33	0.40	1.9	304	287
APR 18...	1	4.4	0	177	176	180	54	36	0.40	3.7	328	299
MAY 17...	1	4.7	0	164	134	130	33	44	0.20	5.3	275	263
JUN 13...	0.9	3.4	0	190	155	150	38	30	0.30	6.4	274	264
JUL 05...	1	4.0	0	174	142	140	43	38	0.40	7.3	289	270
AUG 03...	1	4.0	0	164	134	130	38	36	0.40	8.7	266	263
SEP 14...	0.9	3.9	0	158	130	130	32	28	0.30	6.8	239	225

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 18...	0.570	0.570	0.030	0.600	0.600	0.060	1.1	0.44	0.34	0.40	0.50
NOV 16...	0.410	0.410	0.030	0.440	0.440	0.130	1.4	0.87	0.97	1.1	1.0
DEC 20...	0.270	--	<0.010	0.270	0.270	0.030	0.57	0.27	0.27	0.30	0.30
JAN 11...	0.610	0.610	0.030	0.640	0.640	0.190	1.3	0.51	0.41	0.60	0.70
FEB 02...	0.160	0.160	0.010	0.170	0.170	0.010	0.57	0.39	0.59	0.60	0.40
FEB 17...	0.190	--	<0.010	0.190	0.190	0.030	0.59	0.37	0.17	0.20	0.40
MAR 21...	0.150	0.150	0.020	0.170	0.170	0.030	0.57	0.37	0.27	0.30	0.40
APR 18...	0.090	0.090	0.030	0.120	0.120	0.020	0.52	0.38	0.18	0.20	0.40
MAY 17...	0.044	0.044	0.030	0.074	0.074	0.050	0.57	0.45	0.25	0.30	0.50
JUN 13...	0.046	0.046	0.010	0.056	0.056	0.030	0.56	0.47	0.27	0.30	0.50
JUL 05...	--	--	<0.010	--	<0.050	0.020	0.60	0.58	--	<0.20	0.60
AUG 03...	--	--	<0.010	--	<0.050	0.030	0.80	0.77	0.27	0.30	0.80
SEP 14...	--	--	<0.010	--	<0.050	0.020	0.50	0.48	0.18	0.20	0.50

TRINITY RIVER MAIN STEM

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 18...	0.060	0.070	0.080	0.25	5.7	3.1	141	255	99	65	3
NOV 16...	0.070	0.060	0.060	0.18	8.8	2.1	90	139	96	74	28
DEC 20...	0.010	<0.010	<0.010	--	5.0	0.7	17	6.7	78	6	10
JAN 11...	0.120	0.060	0.040	0.12	6.1	>5.0	260	323	99	37	17
FEB 02...	0.010	<0.010	<0.010	--	3.8	1.0	12	9.7	98	8	6
17...	0.050	<0.010	<0.010	--	3.9	1.4	20	14	98	<3	11
MAR 21...	<0.010	<0.010	<0.010	--	4.0	1.0	19	7.7	96	10	10
APR 18...	0.030	<0.010	<0.010	--	3.9	1.7	28	5.9	88	18	18
MAY 17...	0.060	0.020	0.010	0.03	4.7	1.2	122	1900	74	15	2
JUN 13...	0.030	0.040	<0.010	--	4.8	2.2	24	7.3	96	7	1
JUL 05...	0.050	<0.010	<0.010	--	5.1	2.2	26	2.9	100	4	3
AUG 03...	0.080	<0.010	<0.010	--	4.8	2.3	35	4.0	99	8	2
SEP 14...	0.070	0.010	<0.010	--	4.3	2.1	36	4.9	100	3	2
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. 1993	41405	364	206	23000	25	2760	31	3430	130		
NOV. 1993	8186	452	256	5650	32	706	41	899	160		
DEC. 1993	14661	426	241	9540	30	1170	37	1470	160		
JAN. 1994	7220	475	269	5240	34	605	44	856	170		
FEB. 1994	11744	427	242	7660	30	941	37	1190	160		
MAR. 1994	13447	435	246	8940	30	1100	38	1400	160		
APR. 1994	7776	397	224	4710	27	569	34	710	150		
MAY 1994	73451	482	273	54200	35	6950	45	9000	170		
JUNE 1994	7233	417	236	4600	29	561	36	704	150		
JULY 1994	3725	353	199	2000	23	235	29	287	130		
AUG. 1994	1756	432	244	1160	30	143	38	181	160		
SEPT 1994	3624	322	182	1780	21	205	25	246	120		
TOTAL	194228	**	**	128000	**	16000	**	20400	**		
MTD. AVG.	532	433	245	**	31	**	39	**	160		

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	400	376	391	400	361	381	557	518	539	506	485	496
2	408	392	400	471	384	409	565	282	518	528	493	515
3	447	180	374	431	392	407	463	149	382	541	508	522
4	416	400	411	431	400	415	431	353	388	546	512	531
5	431	408	419	463	400	431	455	408	431	551	520	537
6	408	392	400	---	---	e455	471	416	434	557	534	546
7	400	384	391	---	---	e470	439	416	429	570	516	539
8	416	392	405	510	471	483	455	416	427	550	524	541
9	431	400	411	518	471	485	455	416	432	566	539	556
10	400	376	388	510	471	485	447	424	436	575	547	564
11	400	384	386	533	478	501	455	416	439	656	452	537
12	424	392	404	533	486	507	502	439	468	547	525	537
13	412	178	207	557	494	532	---	---	e425	535	518	528
14	275	212	249	573	408	487	---	---	e390	535	511	525
15	306	275	289	541	486	505	---	---	e382	534	510	524
16	337	298	317	525	376	474	---	---	e402	534	509	523
17	384	306	323	494	455	472	---	---	e437	534	481	499
18	361	102	188	502	455	482	---	---	e445	516	498	510
19	275	110	182	510	439	471	---	---	e451	523	436	490
20	438	227	369	502	416	455	---	---	e457	436	406	410
21	449	392	418	439	416	429	480	451	464	409	403	405
22	521	449	500	439	408	424	486	412	453	437	379	409
23	479	358	452	455	416	434	486	463	473	436	394	423
24	666	431	479	518	447	468	479	464	474	466	424	445
25	480	384	409	486	463	471	470	429	448	---	---	e440
26	424	376	391	502	463	480	453	387	404	465	447	459
27	392	369	380	486	455	472	427	403	413	479	462	470
28	439	369	376	486	463	472	438	419	427	480	473	476
29	384	353	370	518	478	496	439	419	429	486	477	483
30	392	361	373	533	502	522	446	424	433	501	417	463
31	400	369	378	---	---	---	502	426	460	460	425	443
MONTH	666	102	369	573	361	466	565	149	438	656	379	495

e Estimated

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	465	425	445	395	344	363	457	424	440	386	319	341
2	470	418	442	374	334	351	453	342	437	431	380	408
3	437	413	428	449	374	408	444	342	e430	408	378	395
4	431	410	424	478	421	439	439	399	425	422	367	390
5	456	422	446	489	447	459	450	418	440	438	422	433
6	470	422	456	545	456	470	470	261	417	443	435	440
7	496	409	467	506	441	457	332	281	300	453	442	448
8	574	488	531	454	422	444	355	291	317	457	428	446
9	557	433	484	440	424	433	360	313	334	453	359	427
10	460	429	443	440	428	433	389	329	350	433	369	418
11	505	450	467	454	440	445	408	352	368	403	206	378
12	500	460	478	475	454	463	441	371	413	365	179	291
13	506	489	498	475	449	462	451	379	421	471	365	437
14	519	491	505	468	455	463	474	399	437	578	470	539
15	545	511	522	472	450	462	493	418	464	596	544	565
16	545	506	528	456	434	445	530	425	488	574	516	540
17	545	434	481	463	431	451	531	446	493	647	452	516
18	---	---	e461	491	460	476	535	475	505	534	477	511
19	464	432	449	495	462	479	547	466	511	525	508	517
20	496	434	453	503	471	488	524	455	502	537	511	533
21	452	436	447	508	475	491	570	455	514	544	534	540
22	446	256	369	508	473	491	518	472	497	557	544	552
23	434	349	416	513	471	493	509	450	485	559	556	557
24	475	420	432	513	482	497	485	447	465	566	273	468
25	497	424	443	516	485	500	498	254	465	420	285	352
26	454	407	419	527	412	499	426	254	339	399	298	362
27	450	407	421	470	425	446	433	371	419	427	261	339
28	467	340	422	444	400	427	387	359	371	427	352	394
29	---	---	---	441	365	403	429	346	388	428	416	420
30	---	---	---	439	392	418	379	320	354	427	418	424
31	---	---	---	443	382	429	---	---	---	425	364	412
MONTH	574	256	456	545	334	451	570	254	426	647	179	445

e Estimated

TRINITY RIVER MAIN STEM

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	416	389	402	469	393	425	448	430	439	363	250	322
2	406	385	394	422	393	409	454	437	443	406	319	368
3	441	383	407	462	412	439	460	443	449	319	283	294
4	445	431	440	464	437	453	460	436	447	294	246	279
5	446	430	439	474	461	468	460	422	436	259	229	249
6	445	426	437	478	406	452	442	424	433	259	228	246
7	447	420	435	406	394	397	443	375	428	297	238	275
8	455	425	443	396	259	334	428	375	418	363	297	318
9	456	418	440	374	281	340	430	423	427	371	324	353
10	440	418	429	359	330	341	433	426	429	359	312	339
11	445	376	425	343	290	313	440	426	433	347	312	329
12	453	426	438	346	178	303	449	429	438	366	337	348
13	447	430	438	352	201	268	449	428	440	367	332	344
14	459	432	449	369	165	304	448	435	443	377	339	361
15	476	328	401	351	236	292	486	447	455	449	365	406
16	336	311	322	383	348	360	457	434	447	398	356	376
17	344	315	331	389	356	373	456	441	450	398	346	374
18	375	341	356	362	352	357	462	441	453	407	355	379
19	405	375	386	357	349	354	462	433	449	414	354	378
20	407	393	399	423	345	362	466	423	449	424	389	412
21	426	407	414	367	348	356	453	339	405	421	386	402
22	435	391	413	366	357	362	455	435	446	438	398	416
23	440	405	415	394	361	373	478	440	451	446	193	342
24	437	418	428	391	371	379	533	475	491	215	175	192
25	457	436	447	400	376	383	573	533	557	217	175	198
26	471	445	460	430	400	411	576	548	563	207	181	193
27	504	461	484	465	418	428	563	540	547	207	174	190
28	588	494	537	433	417	426	566	556	561	198	167	185
29	611	565	594	449	427	431	562	518	540	204	168	184
30	577	360	480	484	448	461	518	412	461	210	171	186
31	---	---	---	484	448	473	457	177	388	---	---	---
MONTH	611	311	429	484	165	382	576	177	459	449	167	308
YEAR	666	102	427									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.6	7.8	8.1	8.2	8.0	8.1	8.5	8.2	8.3	8.7	8.3	8.5
2	8.5	7.8	8.2	8.4	7.9	8.0	8.4	8.1	8.2	8.7	8.3	8.5
3	8.0	7.6	7.8	8.2	7.9	8.0	8.4	7.9	8.0	8.7	8.4	8.6
4	8.2	7.6	7.9	8.4	8.0	8.1	8.0	7.8	7.9	8.7	8.2	8.5
5	8.4	7.8	8.0	8.2	8.0	8.1	8.2	7.9	8.0	8.7	8.2	8.5
6	8.4	7.7	8.0	---	---	---	8.6	7.8	8.1	8.6	8.3	8.5
7	8.3	7.7	7.9	8.1	8.0	8.1	8.5	8.2	8.3	8.7	8.3	8.6
8	8.3	7.8	8.0	8.2	8.1	8.1	8.4	8.2	8.2	8.7	8.3	8.5
9	8.3	7.6	7.9	8.3	8.1	8.1	8.7	8.2	8.3	8.7	8.3	8.5
10	8.3	7.8	8.0	8.3	8.0	8.2	8.6	8.2	8.4	8.7	8.3	8.5
11	8.3	7.8	8.0	8.3	8.1	8.2	8.6	8.2	8.4	8.6	8.2	8.4
12	8.4	7.8	8.0	8.5	8.1	8.3	8.6	8.2	8.3	8.6	8.3	8.4
13	8.1	7.8	8.0	8.4	8.1	8.3	8.5	8.2	8.3	8.7	8.2	8.4
14	7.8	7.6	7.7	8.3	7.8	8.1	8.5	8.2	8.3	8.6	8.2	8.5
15	7.8	7.6	7.6	8.4	7.9	8.1	---	---	---	8.7	8.2	8.5
16	7.7	7.6	7.6	8.4	8.2	8.3	---	---	---	8.7	8.2	8.4
17	7.7	7.6	7.6	8.4	8.1	8.2	---	---	---	8.7	8.1	8.4
18	8.3	7.7	7.9	8.3	8.0	8.2	---	---	---	8.7	8.2	8.5
19	8.2	7.5	7.8	8.4	8.1	8.2	---	---	---	8.7	8.2	8.4
20	7.8	7.2	7.5	8.5	8.2	8.4	8.6	8.3	8.5	8.5	8.3	8.4
21	7.8	7.2	7.6	8.5	8.2	8.3	8.6	8.2	8.4	8.4	8.3	8.4
22	---	---	---	8.5	8.2	8.3	8.5	8.2	8.3	8.3	8.3	8.3
23	---	---	---	8.5	8.1	8.3	8.6	8.3	8.4	8.4	8.2	8.3
24	---	---	---	8.3	8.1	8.2	8.5	8.2	8.4	8.3	8.1	8.2
25	---	---	---	8.3	8.1	8.2	8.5	8.2	8.4	8.3	8.2	8.2
26	8.2	8.0	8.1	8.3	7.9	8.1	8.7	8.3	8.5	8.5	8.1	8.2
27	8.1	8.0	8.0	8.3	8.0	8.1	8.7	8.3	8.5	8.6	8.1	8.4
28	8.5	8.0	8.1	8.4	7.9	8.1	8.7	8.2	8.5	8.7	8.3	8.5
29	8.1	8.0	8.1	8.5	8.0	8.2	8.7	8.3	8.5	8.7	8.3	8.4
30	8.2	8.0	8.1	8.6	8.1	8.3	8.7	8.3	8.5	8.6	8.3	8.4
31	8.2	8.0	8.1	---	---	---	8.7	8.3	8.5	8.8	8.2	8.5
MONTH	8.6	7.2	7.9	8.6	7.8	8.2	8.7	7.8	8.3	8.8	8.1	8.4

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	8.9	8.3	8.5	8.3	8.0	8.1	8.5	8.2	8.4	7.9	7.6	7.7
2	8.9	8.4	8.6	8.3	8.0	8.0	8.6	8.1	8.4	7.9	7.8	7.9
3	9.0	8.4	8.5	8.6	7.9	8.0	8.4	8.0	8.2	7.9	7.8	7.8
4	8.9	8.4	8.6	8.3	8.0	8.1	8.4	7.9	8.1	8.0	7.8	7.9
5	8.8	8.1	8.5	8.7	7.9	8.1	8.4	7.9	8.1	8.0	7.8	7.9
6	8.8	8.4	8.6	8.4	7.9	8.1	8.5	8.1	8.2	8.1	7.8	7.9
7	8.7	8.2	8.5	8.5	8.1	8.3	8.4	8.0	8.2	8.2	7.8	8.0
8	8.5	8.1	8.3	8.3	8.2	8.2	8.4	8.1	8.2	8.4	7.8	8.1
9	8.4	8.1	8.3	8.3	8.1	8.2	8.4	8.1	8.2	8.1	7.8	7.9
10	8.5	8.2	8.3	8.5	8.1	8.3	8.4	8.0	8.2	7.9	7.7	7.8
11	8.7	8.3	8.5	8.7	8.2	8.4	8.4	8.0	8.2	8.0	7.7	7.9
12	8.8	8.6	8.7	8.3	8.1	8.2	8.4	8.1	8.3	8.2	7.6	7.7
13	8.9	8.5	8.7	8.5	8.0	8.2	8.4	8.1	8.2	7.9	7.6	7.8
14	8.7	8.4	8.6	8.5	8.0	8.2	8.4	8.0	8.2	---	---	---
15	8.6	8.2	8.5	8.4	8.0	8.1	8.5	8.0	8.2	---	---	---
16	8.6	8.1	8.3	8.4	8.0	8.2	8.5	8.1	8.2	---	---	---
17	8.6	8.1	8.3	8.4	8.0	8.2	8.4	8.0	8.2	---	---	---
18	8.6	8.0	8.3	8.6	8.0	8.2	8.3	7.9	8.1	7.5	7.2	7.3
19	8.5	8.0	8.2	8.6	7.9	8.3	8.3	7.9	8.0	7.4	7.3	7.4
20	8.5	7.9	8.2	8.6	8.0	8.3	8.0	7.7	7.9	7.5	7.4	7.4
21	8.4	8.0	8.2	8.8	8.1	8.4	7.9	7.6	7.7	7.5	7.5	7.5
22	8.2	7.9	8.0	8.7	8.1	8.4	8.0	7.7	7.8	7.6	7.5	7.5
23	8.3	7.9	8.2	8.7	8.1	8.4	8.0	7.6	7.8	7.6	7.5	7.6
24	8.3	8.3	8.3	8.7	8.1	8.3	8.0	7.7	7.9	7.7	7.6	7.6
25	8.4	8.2	8.3	8.6	8.2	8.4	8.0	7.6	7.8	7.9	7.7	7.8
26	8.4	8.2	8.4	8.5	8.1	8.3	8.0	7.6	7.7	7.9	7.6	7.7
27	8.4	8.2	8.3	8.4	8.1	8.2	7.8	7.7	7.7	7.8	7.6	7.7
28	8.4	8.1	8.3	8.5	8.1	8.2	7.7	7.6	7.7	7.8	7.7	7.8
29	---	---	---	8.4	8.0	8.2	7.8	7.5	7.6	7.9	7.8	7.8
30	---	---	---	8.5	8.2	8.4	7.8	7.6	7.7	8.0	7.8	7.9
31	---	---	---	8.6	8.3	8.4	---	---	---	8.1	7.8	8.0
MONTH	9.0	7.9	8.4	8.8	7.9	8.2	8.6	7.5	8.0	8.4	7.2	7.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	8.1	7.9	8.0	8.5	7.6	8.0	---	---	---	7.7	7.5	7.6
2	8.0	7.8	7.9	8.3	7.6	7.9	8.1	7.5	7.7	8.0	7.5	7.6
3	8.0	7.9	7.9	8.4	7.5	7.9	8.1	7.5	7.8	8.2	7.6	7.8
4	8.2	7.9	8.0	8.2	7.5	7.8	8.2	7.5	7.8	8.7	7.6	8.1
5	8.2	7.9	8.0	8.1	7.5	7.8	8.0	7.5	7.7	8.8	8.0	8.4
6	8.2	7.9	8.0	7.8	7.4	7.6	8.0	7.4	7.6	8.7	7.7	8.2
7	8.3	7.9	8.1	8.1	7.3	7.6	8.1	7.4	7.7	8.2	7.6	7.9
8	8.3	7.9	8.0	8.2	7.3	7.7	8.1	7.4	7.7	8.0	7.6	7.8
9	8.3	7.8	8.0	7.9	7.4	7.6	8.0	7.5	7.7	8.1	7.6	7.9
10	8.3	7.7	7.9	7.5	7.3	7.4	7.9	7.5	7.7	8.4	7.6	8.0
11	8.1	7.6	7.8	8.0	7.2	7.5	8.0	7.5	7.7	8.3	7.7	8.0
12	8.2	7.6	7.9	8.3	7.6	7.9	8.0	7.5	7.7	8.3	7.6	7.9
13	8.2	7.7	7.9	8.5	7.8	8.1	8.0	7.5	7.7	8.2	7.6	7.9
14	8.2	7.7	7.9	8.4	7.9	8.1	8.0	7.5	7.7	8.1	7.7	7.8
15	8.4	7.7	7.9	8.3	7.7	8.0	7.9	7.5	7.7	7.9	7.4	7.7
16	8.5	7.9	8.2	8.3	7.6	8.0	8.0	7.5	7.7	7.9	7.6	7.7
17	8.5	8.0	8.2	8.1	7.5	7.8	8.0	7.5	7.7	8.4	7.7	8.0
18	8.4	7.9	8.1	7.9	7.4	7.6	8.0	7.5	7.7	8.3	7.8	8.0
19	8.2	7.9	8.0	8.1	7.5	7.8	8.1	7.5	7.7	8.2	7.7	7.9
20	8.3	7.8	8.0	8.1	7.4	7.7	8.0	7.5	7.7	8.1	7.5	7.7
21	8.1	7.9	8.0	8.1	7.4	7.7	8.0	7.4	7.7	8.3	7.6	7.9
22	8.4	7.8	8.0	8.0	7.4	7.7	8.3	7.7	7.9	8.1	7.8	7.9
23	8.4	7.9	8.1	7.9	7.3	7.6	8.2	7.6	7.9	8.2	7.9	8.0
24	8.4	7.9	8.1	7.9	7.3	7.5	8.1	7.6	7.8	8.3	7.9	8.1
25	8.3	7.8	8.0	7.7	7.3	7.4	8.2	7.6	7.9	8.4	8.0	8.1
26	8.3	7.8	8.0	---	---	---	8.2	7.6	7.9	8.4	8.0	8.2
27	8.3	7.8	8.0	---	---	---	8.2	7.6	7.9	8.4	7.9	8.1
28	8.3	7.8	8.0	---	---	---	8.2	7.7	7.9	8.3	7.9	8.1
29	8.3	7.6	7.9	---	---	---	8.2	7.7	7.9	8.4	7.8	8.0
30	8.4	7.5	7.9	---	---	---	8.3	7.8	8.0	8.3	7.8	8.0
31	---	---	---	---	---	---	8.2	7.6	7.8	---	---	---
MONTH	8.5	7.5	8.0	8.5	7.2	7.7	8.3	7.4	7.8	8.8	7.4	7.9
YEAR	9.0	7.2	8.1									

TRINITY RIVER MAIN STEM

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	31.5	23.5	26.5	11.5	9.0	10.5	14.5	10.0	12.0	10.5	8.0	9.5
2	33.0	24.0	27.5	10.0	8.5	9.5	20.5	14.5	16.0	10.5	7.5	9.0
3	27.0	20.0	24.0	12.5	10.0	11.0	21.0	16.5	18.5	9.5	7.0	8.5
4	28.0	21.5	24.5	17.0	10.0	13.0	19.0	15.5	17.0	9.5	7.0	8.5
5	30.0	24.5	27.5	13.0	8.0	10.5	15.5	13.0	14.0	10.0	7.0	8.5
6	34.0	26.5	29.5	---	---	---	13.5	10.0	12.0	10.5	9.5	10.0
7	30.5	26.5	28.0	6.0	2.5	5.0	12.5	9.0	10.5	9.5	5.5	7.0
8	31.5	24.5	27.5	5.5	4.0	4.5	12.5	9.0	10.5	8.0	5.0	6.5
9	28.0	18.0	22.5	8.5	5.5	7.0	15.0	12.5	14.0	9.0	6.0	7.5
10	18.5	14.0	16.0	12.0	8.5	10.0	16.5	13.0	14.5	11.0	9.0	10.0
11	22.0	15.0	17.5	11.5	8.0	9.5	15.0	12.0	13.5	10.5	9.5	10.5
12	21.0	18.0	19.5	18.5	11.5	15.5	14.0	11.0	12.5	10.0	8.5	9.5
13	---	---	---	19.5	17.5	18.5	14.0	10.0	12.0	11.5	9.5	10.5
14	23.0	18.5	20.5	19.5	13.5	16.0	12.5	8.5	10.5	12.0	8.0	10.0
15	22.5	20.0	21.0	16.0	10.0	13.0	12.0	9.0	10.0	11.5	8.0	9.0
16	28.0	21.0	24.5	14.5	10.0	12.0	10.5	9.0	9.5	9.5	8.0	8.5
17	27.0	24.5	25.5	15.5	10.0	13.0	---	---	---	9.0	7.0	8.5
18	26.5	21.5	23.5	15.5	11.0	13.5	---	---	---	8.5	5.0	6.5
19	30.0	22.5	26.0	15.0	10.0	13.0	---	---	---	7.0	5.5	6.5
20	30.5	22.0	27.5	14.0	8.0	10.5	---	---	---	8.0	6.0	7.0
21	29.5	21.0	24.5	13.0	8.0	10.0	9.5	7.5	8.5	7.5	7.0	7.0
22	31.0	27.0	29.0	13.0	7.0	9.5	9.0	6.5	8.5	8.0	7.0	7.5
23	31.5	26.0	28.5	15.0	8.0	11.0	9.0	6.5	7.5	10.0	7.5	8.5
24	---	---	---	15.0	4.5	10.0	8.5	6.0	7.5	11.0	9.0	10.0
25	---	---	---	---	---	---	9.0	6.5	7.5	12.5	10.5	11.5
26	20.0	17.5	18.5	---	---	---	10.5	7.0	9.0	14.0	12.0	13.0
27	17.5	15.5	16.5	---	---	---	11.5	8.5	10.0	12.5	10.5	11.5
28	18.0	15.0	16.0	---	---	---	10.5	6.0	8.5	10.5	9.0	9.5
29	17.5	12.0	15.5	---	---	---	8.0	5.5	7.0	9.5	8.5	9.0
30	12.0	9.0	10.0	---	---	---	9.0	6.0	7.5	9.5	8.0	8.5
31	13.0	9.0	10.5	---	---	---	9.0	7.0	8.5	8.0	6.0	7.0
MONTH	34.0	9.0	22.5	19.5	2.5	11.0	21.0	5.5	11.0	14.0	5.0	9.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	9.0	5.5	7.0	14.0	11.0	12.5	20.5	14.0	17.0	20.0	15.5	17.0
2	9.5	5.5	7.0	15.5	11.0	13.0	20.5	15.0	18.0	18.0	15.5	16.5
3	10.0	7.0	8.0	17.0	14.0	15.5	20.5	15.5	18.0	18.0	16.0	17.0
4	11.5	8.0	9.5	20.0	14.5	17.0	21.5	16.0	18.5	21.0	16.0	18.0
5	12.0	9.0	10.5	20.5	16.0	17.5	20.5	16.5	19.0	24.0	17.5	20.0
6	13.0	9.5	11.5	21.0	16.0	18.5	18.5	12.0	15.0	23.0	20.0	21.5
7	14.5	11.0	12.5	17.5	14.5	16.0	19.5	15.0	17.0	22.5	20.5	21.5
8	17.5	14.5	16.0	16.5	13.0	14.5	20.0	14.0	16.5	23.0	18.5	20.5
9	16.0	5.0	9.5	13.0	10.0	11.5	22.5	18.0	20.0	22.5	19.5	20.5
10	6.0	3.5	5.0	13.0	9.0	11.0	22.0	20.5	21.5	20.0	19.0	19.5
11	8.5	5.0	7.0	14.5	10.0	12.0	21.5	20.0	21.0	22.0	18.5	20.0
12	9.5	8.5	9.0	12.0	11.0	11.5	20.5	16.0	18.5	22.0	19.0	20.0
13	10.0	6.5	8.5	16.0	12.0	13.5	23.0	18.0	20.5	23.0	20.0	21.5
14	10.5	7.0	9.0	18.0	12.0	14.5	25.0	20.5	22.5	25.5	20.5	23.5
15	13.0	9.5	11.0	18.5	14.0	16.0	24.0	21.5	23.0	26.0	23.5	25.0
16	14.0	9.5	12.0	18.0	14.5	16.0	24.5	18.5	21.5	25.0	23.5	24.5
17	14.0	10.5	12.0	20.5	14.0	17.0	24.5	19.0	22.0	24.0	19.0	22.0
18	14.5	11.0	12.5	21.5	16.5	19.0	25.5	20.5	23.0	24.5	21.5	23.0
19	15.0	13.5	14.0	23.0	17.0	20.0	25.5	21.5	23.5	24.5	23.5	24.0
20	16.0	13.0	14.5	23.0	19.0	21.0	26.0	23.0	24.0	24.5	24.0	24.0
21	15.5	13.5	14.0	22.0	17.5	19.5	25.5	22.0	23.5	24.0	23.0	23.5
22	14.5	12.5	13.5	21.5	16.0	19.0	27.5	23.5	25.5	24.5	23.5	24.0
23	13.5	11.5	12.5	23.5	18.5	21.0	27.5	23.5	26.0	24.0	23.5	24.0
24	13.0	11.0	12.0	22.0	19.5	20.5	27.0	23.0	25.5	24.0	23.5	23.5
25	14.0	11.5	13.0	20.0	16.0	18.0	26.0	22.0	24.0	24.5	22.0	23.5
26	13.0	10.0	11.5	20.0	18.0	19.0	25.5	22.0	23.5	23.5	22.5	23.0
27	12.5	10.5	11.0	18.5	15.5	17.0	27.0	23.0	24.5	25.5	22.5	24.0
28	15.0	10.5	11.5	18.5	14.0	16.0	25.5	19.5	22.0	25.0	23.0	24.0
29	---	---	---	18.5	14.0	16.0	23.0	18.5	20.5	25.0	23.0	23.5
30	---	---	---	17.5	14.0	15.5	19.0	15.0	17.0	27.5	24.0	25.5
31	---	---	---	18.5	13.0	15.5	---	---	---	27.5	24.5	26.0
MONTH	17.5	3.5	11.0	23.5	9.0	16.5	27.5	12.0	21.0	27.5	15.5	22.0

TRINITY RIVER MAIN STEM

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08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	27.5	24.5	25.5	31.0	27.5	29.5	33.0	29.0	30.0	28.5	26.5	27.5
2	25.5	23.5	24.5	31.0	27.0	29.0	30.5	27.5	29.0	28.5	26.5	27.5
3	26.5	23.5	25.0	31.5	28.0	29.5	31.5	28.0	29.5	30.0	26.5	28.0
4	29.0	24.5	26.5	31.5	28.0	29.5	33.0	28.5	30.5	30.5	27.5	29.0
5	30.0	25.0	27.0	31.0	27.5	29.0	32.0	28.5	30.0	31.0	27.5	29.0
6	30.0	25.5	27.5	29.5	25.0	27.5	33.5	29.0	31.0	31.5	28.5	30.0
7	31.0	26.0	28.5	30.5	25.5	28.0	33.0	27.5	30.0	30.0	28.0	29.0
8	31.0	26.5	28.5	32.0	24.0	28.0	31.0	26.5	28.5	28.0	27.0	27.5
9	31.0	28.0	29.5	31.0	25.0	28.5	30.5	28.0	29.0	28.5	26.0	27.5
10	31.5	28.0	30.0	29.5	26.5	28.0	32.0	27.5	29.5	29.5	26.0	28.0
11	30.0	26.5	27.5	30.5	26.0	28.0	33.0	28.0	30.5	30.0	27.5	29.0
12	31.0	25.5	28.0	30.0	27.0	28.5	33.0	28.5	30.5	30.0	28.0	29.0
13	30.5	27.0	29.0	30.5	27.0	28.5	33.5	28.5	30.5	31.0	28.0	29.5
14	30.0	26.5	28.5	29.5	27.0	28.0	34.0	29.0	31.0	30.5	28.0	29.0
15	29.0	25.5	27.5	32.5	27.0	29.5	31.5	28.5	30.0	30.0	27.5	28.5
16	30.5	26.5	28.5	33.0	29.0	31.0	33.5	27.5	29.5	29.0	27.0	28.0
17	31.5	27.0	29.5	33.5	29.5	31.5	33.5	28.5	30.5	28.0	25.0	26.5
18	33.0	28.5	30.5	33.5	30.0	32.0	34.5	29.0	31.0	28.0	25.0	26.5
19	33.0	30.0	31.0	33.0	29.5	31.5	34.0	29.0	31.0	28.5	24.5	26.5
20	33.5	30.0	32.0	33.5	29.5	31.5	32.0	29.0	29.5	28.5	25.0	26.5
21	32.5	29.5	31.5	33.5	30.0	31.5	32.0	26.5	29.0	27.5	24.5	26.0
22	33.0	29.5	31.5	34.0	30.5	32.0	31.0	27.0	29.5	27.0	20.0	23.5
23	33.0	29.5	31.5	35.0	30.5	33.0	32.0	29.0	30.5	22.0	18.5	20.5
24	33.5	29.5	31.5	34.5	30.0	32.0	32.0	29.0	30.5	22.0	20.0	21.0
25	34.0	30.0	32.0	31.5	29.5	30.5	33.5	29.0	31.0	22.5	19.5	21.0
26	33.5	29.0	31.0	32.0	29.0	30.0	33.5	29.0	31.0	25.0	21.0	23.0
27	33.0	29.0	31.0	31.0	25.0	28.5	33.5	29.0	31.0	27.0	23.0	25.0
28	32.0	28.5	30.0	31.0	26.5	29.0	33.0	28.5	30.5	28.5	24.0	26.0
29	32.5	29.0	30.5	30.5	27.5	28.5	33.0	28.5	30.5	28.5	25.0	26.5
30	32.5	27.0	30.0	28.0	26.5	27.0	33.0	29.0	30.5	27.0	24.0	25.5
31	---	---	---	32.0	26.0	28.5	31.0	25.5	28.5	---	---	---
MONTH	34.0	23.5	29.0	35.0	24.0	29.5	34.5	25.5	30.0	31.5	18.5	26.5
YEAR	35.0	2.5	20.5									

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	9.0	5.2	6.9	10.7	9.4	9.9	12.4	10.0	11.1	13.5	10.1	12.3
2	9.2	5.5	7.2	9.8	9.2	9.5	11.5	8.1	9.7	13.3	10.1	11.8
3	6.9	4.9	6.2	11.0	9.1	9.8	8.7	7.7	8.2	14.3	10.0	12.4
4	9.4	5.2	6.9	10.8	9.0	9.7	9.3	7.7	8.5	14.1	10.1	12.4
5	10.2	6.2	8.0	10.4	8.6	9.5	10.5	8.5	9.5	13.9	10.1	12.1
6	11.5	7.0	9.1	---	---	---	11.2	9.4	10.3	13.1	9.5	11.4
7	9.7	7.1	8.4	11.5	10.5	11.0	11.4	10.4	10.8	14.7	10.2	12.4
8	10.2	6.7	8.3	11.3	10.5	11.0	11.2	10.1	10.6	14.5	10.7	12.6
9	10.0	6.6	8.4	11.5	9.9	10.7	11.0	9.5	10.2	14.4	10.5	12.5
10	10.3	7.9	9.0	12.5	9.7	11.0	11.2	9.4	10.0	13.2	10.0	11.7
11	10.7	8.2	9.2	11.8	9.9	11.0	11.8	9.5	10.4	12.4	9.3	10.5
12	10.2	7.9	8.7	12.9	8.8	10.5	11.0	9.0	9.9	12.8	9.9	11.2
13	---	---	---	11.5	7.9	9.6	10.5	8.7	9.6	13.6	9.5	11.6
14	8.0	6.7	7.7	9.8	6.6	8.6	11.3	9.5	10.1	14.0	9.7	12.1
15	7.1	6.6	6.9	10.4	7.9	9.0	---	---	---	13.8	9.7	12.1
16	7.0	6.4	6.8	9.5	8.3	8.9	---	---	---	13.4	9.9	10.9
17	7.4	6.1	6.6	10.2	8.7	9.3	---	---	---	14.2	9.5	11.7
18	8.3	6.9	7.6	10.2	8.2	9.1	---	---	---	15.0	10.5	12.8
19	---	---	---	10.0	8.4	9.1	---	---	---	14.6	10.6	12.1
20	---	---	---	10.9	9.2	9.9	---	---	---	11.6	11.1	11.3
21	---	---	---	11.4	9.5	10.2	12.3	10.0	11.3	11.9	11.1	11.4
22	---	---	---	11.3	9.8	10.4	11.5	9.8	10.7	11.7	10.9	11.2
23	---	---	---	11.1	9.6	10.3	13.0	10.4	11.6	12.2	10.3	11.1
24	---	---	---	10.6	8.6	9.8	13.4	10.4	11.9	11.2	9.8	10.3
25	---	---	---	11.9	10.2	11.1	13.2	10.7	11.7	11.3	9.0	10.0
26	9.7	8.0	8.9	12.5	10.7	11.6	12.8	10.1	11.4	11.5	9.3	10.0
27	9.8	8.6	9.1	12.9	10.7	11.7	12.4	9.8	10.9	11.8	9.2	10.2
28	9.8	8.7	9.1	13.1	10.2	11.7	12.9	9.8	11.7	12.6	9.8	10.9
29	9.3	8.4	8.8	14.0	10.0	11.9	13.5	10.6	12.3	12.7	10.0	10.8
30	10.7	9.0	9.9	14.1	10.0	12.0	13.9	10.7	12.6	12.9	10.3	11.4
31	11.1	9.5	10.0	---	---	---	13.4	10.6	12.2	13.8	10.7	12.1
MONTH	11.5	4.9	8.2	14.1	6.6	10.3	13.9	7.7	10.7	15.0	9.0	11.5

TRINITY RIVER MAIN STEM

08048543 WEST FORK TRINITY RIVER AT BEACH STREET, FORT WORTH, TX--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	14.1	11.0	12.2	9.0	6.1	8.0	11.9	8.1	9.9	9.0	8.3	8.6
2	14.5	11.1	12.4	9.0	7.1	8.3	11.5	7.8	9.4	8.9	8.3	8.5
3	14.4	10.8	12.1	---	---	---	---	---	---	9.1	8.3	8.6
4	15.3	10.3	12.1	---	---	---	10.6	6.6	8.5	9.4	8.3	8.7
5	14.1	9.6	11.9	---	---	---	10.6	6.2	8.2	9.4	7.7	8.4
6	14.1	11.2	13.0	---	---	---	11.2	8.2	9.5	9.6	6.9	8.2
7	13.5	11.3	12.8	---	---	---	9.7	7.6	8.7	9.7	6.7	8.2
8	12.7	10.0	11.7	9.9	8.8	9.3	9.8	7.9	8.7	12.9	7.0	9.7
9	12.6	10.1	11.7	11.2	9.5	10.4	9.1	6.7	7.9	10.6	6.9	7.8
10	13.9	11.7	12.7	12.8	10.4	11.4	9.0	5.8	7.3	8.1	6.6	7.3
11	14.6	12.5	13.7	13.4	10.0	11.4	8.6	5.9	7.1	8.6	6.9	7.6
12	14.8	11.9	13.5	11.7	9.2	10.3	9.4	6.8	8.1	---	---	---
13	15.5	12.6	14.1	13.5	9.1	10.8	9.5	6.7	8.2	---	---	---
14	15.7	13.5	14.5	14.8	8.8	11.1	9.5	6.5	7.9	---	---	---
15	15.6	12.5	13.9	13.1	8.6	10.1	9.3	5.7	7.4	---	---	---
16	14.5	10.0	12.1	13.0	8.4	10.3	11.5	6.3	8.7	---	---	---
17	13.7	9.6	11.2	13.2	8.4	10.5	12.6	7.0	9.6	---	---	---
18	11.9	9.2	10.6	13.2	7.8	10.5	12.3	8.3	10.4	---	---	---
19	10.8	8.6	9.5	13.2	7.2	10.3	11.1	7.3	9.3	8.9	8.0	8.5
20	12.2	8.2	10.0	12.4	6.2	9.4	9.3	3.8	7.1	8.6	8.0	8.3
21	11.0	8.2	9.6	13.7	6.7	10.1	7.5	2.5	4.8	9.1	8.0	8.6
22	9.5	8.9	9.2	13.4	7.2	10.3	9.1	4.7	7.0	---	---	---
23	10.1	9.2	9.9	13.1	6.8	9.9	8.0	5.0	6.6	---	---	---
24	10.2	9.5	9.9	12.2	6.3	9.1	8.1	3.5	5.7	---	---	---
25	10.2	9.0	9.7	13.2	7.3	10.1	9.0	3.3	5.6	---	---	---
26	10.6	9.8	10.1	10.6	7.0	8.4	---	---	---	8.3	6.5	7.7
27	10.3	9.7	10.0	9.5	7.4	8.4	---	---	---	8.6	7.6	7.9
28	9.9	6.7	9.2	11.0	7.8	9.2	---	---	---	8.6	7.7	8.1
29	---	---	---	10.3	8.2	9.2	---	---	---	8.8	7.9	8.4
30	---	---	---	11.2	8.7	9.8	9.3	8.3	8.7	9.3	7.9	8.4
31	---	---	---	12.0	8.5	10.1	---	---	---	9.6	7.8	8.5
MONTH	15.7	6.7	11.5	14.8	6.1	9.9	12.6	2.5	8.0	12.9	6.5	8.3
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	9.3	7.9	8.5	12.4	4.8	8.2	---	---	---	---	---	---
2	9.5	8.0	8.7	9.8	4.9	7.3	9.2	5.8	7.5	---	---	---
3	9.8	8.0	8.8	11.3	5.1	8.1	9.6	5.5	7.4	---	---	---
4	10.4	7.6	8.7	10.0	5.0	7.5	10.5	5.8	7.8	---	---	---
5	10.9	7.2	8.8	9.4	5.0	7.1	9.7	5.4	7.3	---	---	---
6	11.2	6.9	8.7	8.1	5.0	6.2	10.8	5.8	7.8	---	---	---
7	11.3	6.7	8.7	7.6	4.1	5.6	9.2	5.2	6.9	---	---	---
8	11.5	6.3	8.6	9.1	1.2	4.8	9.9	4.9	7.1	---	---	---
9	11.9	6.2	8.9	7.9	5.8	6.7	9.1	5.7	7.1	---	---	---
10	12.6	6.1	9.3	6.6	5.1	5.9	9.0	5.3	6.8	---	---	---
11	9.8	5.5	7.6	9.6	3.5	6.5	9.6	5.2	7.1	---	---	---
12	11.5	5.1	8.0	8.1	5.5	6.7	8.9	5.2	7.0	---	---	---
13	11.3	5.6	8.3	---	---	---	9.1	4.7	6.7	---	---	---
14	10.7	5.6	8.0	---	---	---	---	---	---	---	---	---
15	7.7	5.5	6.2	---	---	---	8.4	4.6	6.4	---	---	---
16	7.7	5.2	6.3	11.3	5.3	8.1	9.7	4.7	6.9	---	---	---
17	7.5	5.0	6.2	10.7	4.9	7.6	9.4	5.4	7.0	---	---	---
18	7.7	4.9	6.2	10.0	4.9	7.4	9.5	4.9	6.9	---	---	---
19	7.4	4.4	5.7	10.2	4.9	7.5	9.4	4.9	7.0	---	---	---
20	7.7	4.3	5.8	10.1	5.7	7.6	8.3	4.1	5.9	---	---	---
21	7.9	4.7	6.2	9.6	5.4	7.5	8.1	2.9	5.6	---	---	---
22	8.6	5.2	6.9	8.4	5.0	6.8	10.3	4.9	7.3	8.4	5.9	7.0
23	8.6	5.9	7.2	7.4	3.8	5.4	9.6	5.4	7.5	9.6	7.1	8.3
24	9.1	5.7	7.4	5.7	3.0	4.4	7.9	4.4	6.2	10.0	6.9	8.5
25	9.3	6.2	7.7	4.6	2.5	3.5	8.0	3.6	5.9	10.1	7.3	8.7
26	9.9	5.8	7.9	---	---	---	7.9	3.8	5.7	10.3	7.0	8.7
27	10.9	6.2	8.3	---	---	---	---	---	---	10.1	6.8	8.5
28	10.0	5.9	7.9	---	---	---	---	---	---	9.8	6.3	8.1
29	11.5	5.4	8.0	---	---	---	---	---	---	9.5	5.6	7.6
30	9.1	4.1	7.0	---	---	---	---	---	---	8.8	6.2	7.5
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	12.6	4.1	7.7	12.4	1.2	6.7	10.8	2.9	6.9	10.3	5.6	8.1
YEAR	15.7	1.2	9.1									

08048920 DEER CREEK OUTFALL AT I-35W, FORT WORTH, TX

LOCATION.--Lat 32°35'18", long 97°19'08", Tarrant County, Hydrologic Unit 12030102, storm sewer outfall to Deer Creek between axis and northbound I-35W Interstate Highway lanes, 0.75 mi south of Garden Acres Drive, and 0.75 mi north of FM 1187.

DRAINAGE AREA.--0.10 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: May 1994 to September 1994.

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events from storm sewer systems draining urban basins. This study is in cooperation with the North Central Texas Council of Governments to fulfill requirements (by EPA) for the Texas Department of Transportation in applying for a National Pollution Discharge Elimination System (NPDES) storm-water discharge permit.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	PRECIP-ITATION TOTAL INCHES/ STORM	ELAPSED TIME OF STORM (HOURS)	STORM WATER FLOW (MGD)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	PH WATER WHOLE LAB (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	
MAY 02-02	1655	0.40	3.1	0.10	820	311	8.0	7.7	15.0	32	4.4	K5000	
MAY 09-09	1220	0.58	4.7	0.23	950	236	7.2	7.4	20.0	<10	4.4	K330	
AUG 21-21	0120	0.30	3.2	0.07	402	515	8.6	7.2	26.0	54	9.4	--	
AUG 31-31	1700	0.74	2.5	0.15	757	864	7.8	7.6	24.0	59	9.4	K170	
DATE		STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SOLIDS, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	
MAY 02-02	1600	86	0	89	168	120	177	30	2.6	27	40	1	
MAY 09-09	K100	67	1	66	126	74	134	24	1.7	15	32	0.8	
AUG 21-21	23000	81	0	100	259	46	277	26	3.9	69	64	3	
AUG 31-31	K680	350	290	64	531	--	570	99	25	45	22	1	
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	ANTIMONY TOTAL (UG/L AS SB)	ARSENIC TOTAL (UG/L AS AS)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE)
MAY 02-02	1.3	23	24	--	--	0.420	0.60	0.060	0.040	<10.0	2	<10	
MAY 09-09	2.1	20	13	--	--	0.350	0.70	0.120	0.100	<10.0	2	<10	
AUG 21-21	3.9	24	62	--	--	1.10	0.90	0.080	0.080	<10.0	4	<10	
AUG 31-31	5.7	210	64	0.60	4.0	0.720	1.1	0.140	0.090	<10.0	--	--	
DATE		CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	CYANIDE TOTAL EPA (MG/L AS CN)	CYANIDE TOTAL (MG/L AS CN)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER TOTAL RECOV- ERABLE EPA (UG/L AS AG)	THAL- LIUM, TOTAL (UG/L AS TL)
MAY 02-02	<1	4	7	<0.010	<0.010	8	<0.10	3	<1	<1	<0.500	<20	
MAY 09-09	<1	3	6	<0.010	<0.010	7	<0.10	3	<1	<1	<0.500	<20	
AUG 21-21	<1	3	4	<0.010	<0.010	4	<0.10	3	<1	<1	<0.500	<10	
AUG 31-31	--	--	--	<0.010	<0.010	--	--	--	--	--	<0.500	<10	
DATE		ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	OIL AND GREASE, TOTAL RECOV. GRAVI- METRIC (MG/L)	PHENOLS TOTAL (UG/L)	ACRO- LEIN TOTAL (UG/L)	ACRYLO- NITRILE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	BROMO- BENZENE WATER, WHOLE, TOTAL (UG/L)	METHANE BROMO CHLORO- WAT UNFLTRD REC (UG/L)	BROMO- FORM TOTAL (UG/L)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L)	BENZENE SEC BUTYL- WATER UNFLTRD REC (UG/L)
MAY 02-02	60	11	<1	<1	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	
MAY 09-09	60	12	--	<1	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	
AUG 21-21	30	18	<1	4	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	
AUG 31-31	--	20	<1	<1	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	

TRINITY RIVER BASIN

08048920 DEER CREEK OUTFALL AT I-35W, FORT WORTH, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	BENZENE TERT- BUTYL- WATER UNFLTRD REC (UG/L)	CARBON- TETRA- CHLO- RIDE TOTAL (UG/L)	CHLORO- BENZENE TOTAL (UG/L)	CHLORO- DI- BROMO- METHANE TOTAL (UG/L)	CHLORO- ETHANE TOTAL (UG/L)	2- CHLORO- ETHYL- VINYL- ETHER TOTAL (UG/L)	CHLORO- FORM TOTAL (UG/L)	METHYL- CHLO- RIDE TOTAL (UG/L)	0- CHLORO- TOLUENE WATER WHOLE TOTAL (UG/L)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L)	DIBROMO CHLORO- PROPANE WATER WHOLE TOT.REC (UG/L)	DI- BROMO- METHANE WATER WHOLE RECOVER (UG/L)
MAY 02-02	<0.20	<0.2	<0.20	<0.2	<0.2	<1.0	<0.2	5.4	<0.2	<0.20	<1.0	<0.2
MAY 09-09	<0.20	<0.2	<0.20	<0.2	<0.2	<1.0	<0.2	0.4	<0.2	<0.20	<1.0	<0.2
AUG 21-21	<0.20	<0.2	<0.20	<0.2	<0.2	<1.0	<0.2	3.6	<0.2	<0.20	<1.0	<0.2
AUG 31-31	<0.20	<0.2	<0.20	<0.2	<10	<1.0	<0.2	<52	<0.2	<0.20	<1.0	<0.2
DATE	1,2- DIBROMO ETHANE WATER WHOLE TOTAL (UG/L)	DI- CHLORO- BROMO- METHANE TOTAL (UG/L)	1,1-DI- CHLORO- ETHYL- ENE TOTAL (UG/L)	1,1-DI- CHLORO- PRO- PENE, WAT. WH TOTAL (UG/L)	BENZENE O- CHLORO- WATER UNFLTRD REC (UG/L)	BENZENE 1,3-DI- CHLORO- WATER UNFLTRD REC (UG/L)	BENZENE 1,4-DI- CHLORO- WATER UNFLTRD REC (UG/L)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (UG/L)	1,1-DI- CHLORO- ETHANE TOTAL (UG/L)	1,2-DI- CHLORO- ETHANE TOTAL (UG/L)	1,2-DI- PHENYL- HYDRA- ZINE WATER TOT.REC (UG/L)	CIS-1,2- DI- CHLORO- ETHENE WATER TOTAL (UG/L)
MAY 02-02	<0.2	<0.2	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2
MAY 09-09	<0.2	<0.2	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2
AUG 21-21	<0.2	<0.2	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2
AUG 31-31	<0.2	<0.2	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2
DATE	1,2- TRANS DI CHLORO- ETHENE TOTAL (UG/L)	1,2-DI- CHLORO- PROPANE TOTAL (UG/L)	1,3-DI- CHLORO- PROPANE WAT. WH TOTAL (UG/L)	2,2-DI- CHLORO- PRO- PANE WAT. WH TOTAL (UG/L)	CIS 1,3-DI- CHLORO- PROPENE TOTAL (UG/L)	TRANS- 1,3-DI- CHLORO- PROPENE TOTAL (UG/L)	ETHYL- BENZENE TOTAL (UG/L)	HEXA- CHLORO- BUT- ADIENE TOTAL (UG/L)	ISO- PROPYL- BENZENE WATER WHOLE REC (UG/L)	P-ISO- PROPYL- TOLUENE WATER WHOLE REC (UG/L)	METHYL- BROMIDE TOTAL (UG/L)	
MAY 02-02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	
MAY 09-09	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	
AUG 21-21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	
AUG 31-31	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	
DATE	METHYL- ENE CHLO- RIDE TOTAL (UG/L)	METHYL ETHER TERT- BUTYL WAT UNF REC (UG/L)	NAPHTH- ALENE TOTAL (UG/L)	BENZENE N-PROPY WATER UNFLTRD REC (UG/L)	STYRENE TOTAL (UG/L)	ETHANE, 1112- TETRA- CHLORO- WAT UNF REC (UG/L)	ETHANE, 1,1,2,2 TETRA- CHLORO- WAT UNF REC (UG/L)	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	1,2,3- TRI- CHLORO- BENZENE WAT. WH REC (UG/L)	BENZENE 1,2,4- TRI- CHLORO- WAT UNF REC (UG/L)	
MAY 02-02	<0.2	<0.2	<5.0	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	
MAY 09-09	<0.2	<0.2	<5.0	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	
AUG 21-21	<0.2	<0.2	<5.0	<0.20	<0.2	<0.2	<0.2	<0.2	0.2	<0.20	<5.0	
AUG 31-31	<0.2	<0.2	<5.0	<0.20	<0.2	<0.2	0.2	<0.2	<0.2	<0.20	<5.0	
DATE	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L)	1,1,2- TRI- CHLORO- ETHANE TOTAL (UG/L)	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L)	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L)	123-TRI CHLORO- PROPANE WATER WHOLE TOTAL (UG/L)	FREON- 113 WATER UNFLTRD REC (UG/L)	PSEUDO- CUMENE WATER UNFLTRD REC (UG/L)	MESIT- YLENE WATER UNFLTRD REC (UG/L)	VINYL CHLO- RIDE TOTAL (UG/L)	XYLENE WATER UNFLTRD REC (UG/L)	ACE- NAPHTH- ENE TOTAL (UG/L)	
MAY 02-02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.2	<0.20	<5.0	
MAY 09-09	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.2	<0.20	<5.0	
AUG 21-21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.2	<0.20	<5.0	
AUG 31-31	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.2	<0.20	<5.0	

TRINITY RIVER BASIN

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08048920 DEER CREEK OUTFALL AT I-35W, FORT WORTH, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	ACE-NAPHTH- YLENE TOTAL (UG/L)	ANTHRA- CENE TOTAL (UG/L)	BENZI- DINE TOTAL (UG/L)	BENZO A ANTHRAC- ENE1,2- BENZANT HRACENE TOTAL (UG/L)	BENZO- A- PYRENE TOTAL (UG/L)	BENZO B FLUOR- AN- THENE TOTAL (UG/L)	BENZO K FLUOR- AN- THENE TOTAL (UG/L)	BENZOGH I PERYL ENE1,12 -BENZOP ERYLENE TOTAL (UG/L)	4- BROMO- PHENYL ETHER TOTAL (UG/L)	N-BUTYL BENZYL PHTHAL- ATE TOTAL (UG/L)	BIS (2- CHLORO- ETHOXY) METHANE TOTAL (UG/L)
MAY 02-02	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0
MAY 09-09	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0
AUG 21-21	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0
AUG 31-31	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0
DATE	BIS 2- CHLORO- ETHYL ETHER TOTAL (UG/L)	BIS (2- CHLORO- ISO- PROPYL) ETHER TOTAL (UG/L)	PARA- CHLORO- META- CRESOL TOTAL (UG/L)	2- CHLORO- NAPH- THALENE TOTAL (UG/L)	2- CHLORO- PHENOL TOTAL (UG/L)	4- CHLORO- PHENYL ETHER TOTAL (UG/L)	CHRY- SENE TOTAL (UG/L)	1,2,5,6 -DIBENZ -ANTHRA- -CENE TOTAL (UG/L)	3,3'- DI- CHLORO- BENZI- DINE TOTAL (UG/L)	2,4-DI- CHLORO- PHENOL TOTAL (UG/L)	DIETHYL PHTHAL- ATE TOTAL (UG/L)
MAY 02-02	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<10.0	<10.0	<20.0	<5.0	<5.0
MAY 09-09	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<10.0	<10.0	<20.0	<5.0	<5.0
AUG 21-21	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<10.0	<10.0	<20.0	<5.0	<5.0
AUG 31-31	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<10.0	<10.0	<20.0	<5.0	<5.0
DATE	DI- METHYL PHTHAL- ATE TOTAL (UG/L)	2,4-DI- METHYL- PHENOL TOTAL (UG/L)	DI-N- BUTYL PHTHAL- ATE TOTAL (UG/L)	4,6- DINITRO -ORTHO- CRESOL TOTAL (UG/L)	2,4- DI- NITRO- PHENOL TOTAL (UG/L)	2,4-DI- NITRO- TOLUENE TOTAL (UG/L)	2,6-DI- NITRO- TOLUENE TOTAL (UG/L)	DI-N- OCTYL PHTHAL- ATE TOTAL (UG/L)	BIS(2- ETHYL HEXYL) PHTHAL- ATE TOTAL (UG/L)	FLUOR- ANTHENE TOTAL (UG/L)	FLUOR- ENE TOTAL (UG/L)
MAY 02-02	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0	<10.0	7.0	<5.0	<5.0
MAY 09-09	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0
AUG 21-21	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0
AUG 31-31	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0
DATE	HEXA- CHLORO- BENZENE TOTAL (UG/L)	HEXA- CHLORO- CYCLO- PENT- ADIENE TOTAL (UG/L)	HEXA- CHLORO- ETHANE TOTAL (UG/L)	INDENO (1,2,3- CD) PYRENE TOTAL (UG/L)	ISO- PHORONE TOTAL (UG/L)	NITRO- BENZENE TOTAL (UG/L)	N-NITRO -SODI- METHY- LAMINE TOTAL (UG/L)	2- NITRO- PHENOL TOTAL (UG/L)	4- NITRO- PHENOL TOTAL (UG/L)	N- NITRO- SODI-N- PROPYL- AMINE TOTAL (UG/L)	N-NITRO -SODI- PHENY- LAMINE TOTAL (UG/L)
MAY 02-02	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0
MAY 09-09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0
AUG 21-21	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0
AUG 31-31	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0
DATE	PENTA- CHLORO- PHENOL TOTAL (UG/L)	PHENAN- THRENE TOTAL (UG/L)	PHENOL (C6H- 5OH) TOTAL (UG/L)	PYRENE TOTAL (UG/L)	2,4,6- TRI- CHLORO- PHENOL TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	P,P' DDT, TOTAL (UG/L)	ALPHA BHC TOTAL (UG/L)	BETA BENZENE HEXA- CHLOR- IDE TOTAL (UG/L)	DELTA BENZENE HEXA- CHLOR- IDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)
MAY 02-02	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03	<0.09	<0.030
MAY 09-09	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03	<0.09	<0.030
AUG 21-21	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03	<0.09	<0.030
AUG 31-31	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03	<0.09	<0.030

TRINITY RIVER BASIN

08048920 DEER CREEK OUTFALL AT I-35W, FORT WORTH, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	CHLOR-DANE CIS WATER TOTAL (UG/L)	CHLOR-DANE TRANS WATER TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	P,P' DDD, TOTAL (UG/L)	P,P' DDE, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	ENDO-SULFAN- I WATER WHOLE REC (UG/L)	ENDO-SULFAN BETA TOTAL (UG/L)	ENDO-SULFAN SULFATE TOTAL (UG/L)	ENDRIN WATER UNFLTRD REC (UG/L)	ENDRIN ALDE- HYDE TOTAL (UG/L)
MAY 02-02	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060	<0.20
MAY 09-09	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060	<0.20
AUG 21-21	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060	<0.20
AUG 31-31	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060	<0.20
DATE	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	AROCLOR 1016 PCB TOTAL (UG/L)	AROCLOR 1221 PCB TOTAL (UG/L)	AROCLOR 1232 PCB TOTAL (UG/L)	AROCLOR 1242 PCB TOTAL (UG/L)	AROCLOR 1248 PCB TOTAL (UG/L)	AROCLOR 1254 PCB TOTAL (UG/L)	AROCLOR 1260 PCB TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
MAY 02-02	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
MAY 09-09	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	0.10
AUG 21-21	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
AUG 31-31	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05

TRINITY RIVER BASIN

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08048970 VILLAGE CREEK AT EVERMAN, TX

LOCATION.--Lat 32°36'12", long 97°15'53", Tarrant County, Hydrologic Unit 12030102, at center of channel at downstream side of bridge on Rendon Road (Tarrant County Road 1015), 1.4 mi downstream from Deer Creek, and 1.8 mi southeast of Everman High School.

DRAINAGE AREA.--84.5 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder. Datum of gage is 589.93 ft above National Geodetic Vertical Datum of 1929 (Tarrant County Public Works Department reference mark).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Peak discharge from rating extended above 7,700 ft³/s on basis of area-velocity study. Rain gage at station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since about 1930, 27.37 ft date uncertain, but may be same date, Mar. 27, 1977, as date of maximum stage at discontinued downstream station, Village Creek at Kennedale (08048980). Flood of May 18, 1989, may have equalled, or slightly exceeded, the indicated known maximum stage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.9	.01	7.1	6.5	154	8.6	16	6.0	3.1	e1.4	e18
2	.00	2.7	.64	7.1	6.4	63	8.5	11	5.4	e2.5	e1.3	e16
3	21	3.9	528	7.0	6.4	32	8.4	28	5.6	e2.1	e1.1	e6.5
4	1.5	3.6	71	7.0	6.5	19	8.7	10	4.6	e1.6	e1.1	e2.1
5	.02	3.0	28	6.9	6.5	15	8.7	8.7	4.4	e1.4	e.69	e1.1
6	.00	2.4	13	6.8	6.5	12	8.3	e8.2	.10	e5.0	e.65	e.30
7	.00	1.8	11	6.9	6.5	12	8.1	e7.6	3.8	4.1	e.45	.08
8	.00	1.1	9.8	6.6	6.8	17	8.0	e7.1	e3.7	7.3	e.36	.04
9	.00	1.5	9.8	6.5	6.9	47	7.9	e25	e3.7	4.0	e.30	.04
10	.00	2.4	9.7	6.5	6.9	19	7.7	e7.9	e3.6	e5.7	e.20	.03
11	.00	5.9	8.9	7.9	7.0	13	7.5	60	e3.5	e17	e.20	.02
12	.06	8.5	8.8	7.5	6.6	12	7.2	966	e3.3	e6.1	e.12	.01
13	240	9.0	80	6.9	6.5	22	7.3	356	e3.2	e5.4	e.12	.01
14	2.8	17	25	6.7	6.4	16	6.9	116	e3.1	e37	e.09	.01
15	.02	3.2	12	6.5	6.4	13	6.6	119	3.1	e7.4	e.07	4.9
16	.00	4.4	10	6.5	6.4	12	6.6	45	3.0	e3.8	e.06	4.1
17	.02	4.5	9.7	8.2	6.5	11	6.2	27	2.9	e3.5	e.04	3.1
18	923	.72	9.0	6.8	6.6	11	6.1	14	2.8	e3.3	.03	2.1
19	965	.01	8.7	6.5	6.9	11	6.2	11	3.5	e3.2	.01	.64
20	284	.00	8.5	6.5	7.2	10	6.2	9.5	3.3	e3.1	.00	.08
21	30	.00	8.2	7.3	6.9	10	6.1	8.9	3.1	e3.0	1.1	.04
22	9.7	.00	18	8.9	7.6	9.7	6.5	8.4	e3.0	e2.8	.04	.03
23	7.6	.00	11	11	24	9.6	6.7	8.0	e2.9	e2.6	.03	.03
24	6.2	.00	8.9	8.7	9.8	9.5	5.8	7.6	e2.8	e2.4	.01	.03
25	5.5	.00	8.4	8.8	8.5	9.3	6.8	15	e2.8	e2.1	.00	.02
26	5.0	.64	8.0	8.1	7.7	34	8.3	18	e2.7	e2.6	.00	.01
27	4.6	2.7	7.7	7.8	7.5	53	7.0	12	e2.6	e3.1	.00	.01
28	4.3	.08	7.5	7.5	23	15	6.6	8.6	e2.5	e1.4	.00	.00
29	3.8	.03	7.2	7.0	---	11	80	7.5	e2.4	e.84	.00	.00
30	3.6	.01	7.1	6.7	---	9.4	83	7.5	e2.2	e.68	e.00	.00
31	3.5	---	7.2	6.5	---	8.9	---	6.9	---	e4.5	e.00	---
TOTAL	2521.22	81.99	960.75	226.7	295.8	700.4	366.5	1961.4	99.60	152.62	9.47	59.33
MEAN	81.3	2.73	31.0	7.31	10.6	22.6	12.2	63.3	3.32	4.92	.31	1.98
MAX	965	17	528	11	76	154	83	966	6.0	37	1.4	18
MIN	.00	.00	.01	6.5	6.4	8.9	5.8	6.9	.10	.68	.00	.00
AC-FT	5000	163	1910	450	587	1390	727	3890	198	303	19	118

TRINITY RIVER BASIN

08048970 VILLAGE CREEK AT EVERMAN, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1994, BY WATER YEAR (WY)

MEAN	65.2	13.6	89.1	33.0	71.8	36.4	70.9	113	47.9	6.18	5.91	4.76
MAX	240	48.4	367	117	162	54.7	233	339	141	14.3	21.7	14.1
(WY)	1992	1992	1992	1992	1993	1993	1990	1990	1993	1993	1991	1991
MIN	.68	1.81	.72	7.16	7.11	3.52	11.0	9.51	3.32	2.15	.31	.19
(WY)	1990	1990	1991	1993	1991	1991	1992	1993	1994	1990	1994	1990

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1990 - 1994

ANNUAL TOTAL	16202.58	7435.78	
ANNUAL MEAN	44.4	20.4	46.4
HIGHEST ANNUAL MEAN			92.6
LOWEST ANNUAL MEAN			20.4
HIGHEST DAILY MEAN	3230	966	5990
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		2890	11400
INSTANTANEOUS PEAK STAGE		11.18	21.96
ANNUAL RUNOFF (AC-FT)	32140	14750	33640
10 PERCENT EXCEEDS	66	18	63
50 PERCENT EXCEEDS	5.7	6.5	4.6
90 PERCENT EXCEEDS	.00	.02	.03

e Estimated

TRINITY RIVER BASIN

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08048970 VILLAGE CREEK AT EVERMAN, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1989 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1989 to September 1990.

pH: October 1989 to September 1990.

WATER TEMPERATURE: October 1989 to September 1990.

DISSOLVED OXYGEN: October 1989 to September 1990.

INSTRUMENTATION.--From October 1989 to September 1990, a four-parameter water-quality monitor continuously recorded specific conductance, pH, water temperature, and dissolved oxygen at this station.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,000 microsiemens on several days during January and May 1990; minimum, 129 microsiemens May 3, 1990.

pH: Maximum, 9.1 units Jan. 13, 1990; minimum, 7.0 units Nov. 22, 1989.

WATER TEMPERATURE: Maximum, 34.5°C July 11, 1990; minimum, 0.5°C Dec. 22, 1989.

DISSOLVED OXYGEN: Maximum, 20.8 mg/L Feb. 25, 1990; minimum, 2.4 mg/L Nov. 8, 1989.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)
NOV 09...	0915	1.6	674	8.4	10.5	10.2	92	1.0	280	51	93
DEC 17...	1331	9.0	597	7.4	11.0	13.5	125	5.0	220	39	76
FEB 11...	1246	6.7	790	7.4	6.0	15.5	127	1.0	260	41	81
MAR 28...	1226	15	59	7.2	14.5	11.5	114	2.5	220	29	73
MAY 19...	1315	11	677	7.6	24.0	9.2	111	0.9	260	8	86
JUN 30...	1300	2.0	773	8.0	30.0	7.8	105	1.5	230	39	73

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV 09...	11	47	1	3.8	230	88	46	0.30	11	436
DEC 17...	8.5	38	1	5.0	190	63	32	0.30	9.9	346
FEB 11...	13	68	2	3.3	220	110	57	0.40	2.8	466
MAR 28...	10	50	1	4.5	200	81	44	0.30	7.3	389
MAY 19...	10	47	1	4.5	250	69	35	0.30	13	415
JUN 30...	12	71	2	2.5	190	110	69	0.40	18	473

DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)
NOV 09...	--	--	<0.010	--	<0.050	0.030	0.27	0.30	0.030	0.020
DEC 17...	0.300	--	<0.010	0.300	0.300	0.030	0.27	0.30	0.070	0.070
FEB 11...	--	--	<0.010	--	<0.050	0.040	0.36	0.40	0.020	<0.010
MAR 28...	0.230	0.230	0.020	0.250	0.250	0.040	0.56	0.60	0.120	0.120
MAY 19...	0.200	0.200	0.030	0.230	0.230	0.070	0.73	0.80	0.090	0.070
JUN 30...	--	--	<0.010	--	<0.050	0.040	0.16	0.20	<0.010	<0.010

TRINITY RIVER BASIN

08048970 VILLAGE CREEK AT EVERMAN, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 09...	0.06	--	--	--	--	--	--	--	--	--
DEC 17...	0.21	--	--	--	--	--	--	--	--	--
FEB 11...	--	<1	46	<0.5	<1.0	<5	<3	<10	4	<10
MAR 28...	0.37	--	--	--	--	--	--	--	--	--
MAY 19...	0.21	--	--	--	--	--	--	--	--	--
JUN 30...	--	1	60	<0.5	<1.0	<5	<3	<10	<3	<10
DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 09...	--	--	--	--	--	--	--	--	--	--
DEC 17...	--	--	--	--	--	--	--	--	--	--
FEB 11...	11	5	<0.1	<10	<10	<1	<1.0	770	<6	<3
MAR 28...	--	--	--	--	--	--	--	--	--	--
MAY 19...	--	--	--	--	--	--	--	--	--	--
JUN 30...	14	7	<0.1	<10	<10	<1	<1.0	670	<6	<3

08049200 LAKE ARLINGTON AT ARLINGTON, TX

LOCATION.--Lat 32°42'58", long 97°11'32", Tarrant County, Hydrologic Unit 12030102, in new pumphouse at right end of Arlington Dam on Village Creek near western boundary of Arlington, 1.5 mi upstream from the Texas and Pacific Railway Co. bridge, and 7 mi upstream from mouth.

DRAINAGE AREA.--143 mi².

WATER-CONTENT RECORDS

PERIOD OF RECORD.--March 1957 to current year.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Sept. 9, 1957, non-recording gage at same site and datum.

REMARKS.--The lake is formed by a rolled earthfill dam 6,482 ft long. The service spillway is a 10-foot-diameter uncontrolled circular drop inlet. The spillway is an 882-foot-wide cut through natural ground near the right end of dam. The dam was completed and storage began Mar. 31, 1957. Capacities are based on a 1980 survey. The dam was built by the city of Arlington to impound water for municipal and industrial uses. Water is diverted from Cedar Creek Reservoir (station 08063010) into Lake Arlington. Water is pumped from the lake to a generating plant of Texas Electric Service Co. Telephone telemeter located at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	572.0	
Crest of spillway.....	559.7	64,360
Crest of drop inlet (top of conservation pool).....	550.0	39,930
Lowest gated outlet (invert).....	505.0	40

COOPERATION.--Capacity table provided by the city of Arlington.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 72,500 acre-ft May 17, 1989 (elevation, 562.42 ft); minimum since lake first filled in April 1957, 18,110 acre-ft Oct. 17, 1971 (elevation, 534.27 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 44,260 acre-ft May 15 at 0300 hours (elevation, 551.91 ft); minimum, 22,590 acre-ft Oct. 1 (elevation, 540.66 ft.)

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

534.0	14,060	546.0	31,750	557.0	56,900
538.0	18,870	550.0	39,930	560.0	65,220
542.0	24,650	554.0	49,230	563.0	74,310

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22590	38180	36550	39780	38820	39910	38740	38550	39630	34670	32040	26350
2	22630	38120	37650	39720	38670	40020	38610	38690	39590	34570	31890	26460
3	22910	37990	40110	39630	38610	39930	38550	38740	39500	34390	31670	26720
4	23120	37890	40200	39530	38570	39820	38480	38760	39400	34200	31410	26730
5	23210	37720	40110	39460	38570	39740	38480	38690	39250	33920	31090	26770
6	23400	37590	40000	39330	38610	39670	38480	38650	39080	33860	30820	26770
7	23540	37450	39930	39270	38610	39720	38480	38520	38820	33880	30540	26730
8	23640	37340	39870	39210	38670	39840	38480	38400	38480	34040	30370	26750
9	23730	37240	39820	39210	38690	39820	38480	38550	38230	34390	30220	26770
10	23810	37160	39740	39160	38740	39780	37910	38630	38010	34510	29990	26780
11	23960	37010	39700	39290	38760	39700	37840	39140	37780	34570	29790	26770
12	24060	36950	39820	39230	38820	39670	37720	42860	37720	34450	29530	26730
13	26330	36860	40070	39160	38860	39700	37610	43330	37550	34350	29240	26680
14	26610	36990	39950	39100	38930	39670	37430	44140	37320	34450	28910	26490
15	26840	36860	39930	39140	38950	39650	37240	43150	37300	34410	28620	26470
16	27010	36910	39910	39230	38950	39630	37030	42200	37300	34310	28400	26520
17	27230	36800	39890	39210	38930	39610	36820	41560	37130	34080	28140	26460
18	32690	36700	39870	39210	38950	39530	36570	41090	37070	33820	27840	26370
19	38520	36760	39890	39230	39010	39460	36430	40750	36860	33680	27600	26270
20	39800	36840	39840	39250	39120	39350	36260	40470	36700	33540	27390	26100
21	39820	36880	39820	39310	39290	39330	36180	40220	36590	33490	27530	26040
22	39760	36910	39950	39460	39570	39290	36050	40040	36490	33370	27480	25840
23	39630	36820	39930	39480	39760	39270	35950	39870	36390	33210	27410	25790
24	39530	36680	39930	39460	39740	39250	35760	39780	36280	32960	27270	25710
25	39380	36660	39890	39400	39630	39310	35610	39930	36120	32800	27060	25590
26	39230	36680	39820	39380	39570	39330	36840	40180	35800	32650	26780	25440
27	39100	36720	39870	39290	39500	39350	36700	40200	35420	32550	26490	25280
28	38930	36700	39820	39180	39570	39270	36590	40160	35070	32450	26170	25100
29	38670	36640	39780	39100	---	39140	37780	40020	34770	32240	25870	24900
30	38500	36590	39760	38990	---	39010	38520	39910	34730	32160	25540	24720
31	38370	---	39780	38890	---	38910	---	39800	---	32140	25380	---
MAX	39820	38180	40200	39780	39760	40020	38740	44140	39630	34670	32040	26780
MIN	22590	36590	36550	38890	38570	38910	35760	38400	34730	32140	25380	24720
(+)	549.27	548.42	549.93	549.51	549.83	549.52	549.34	549.94	547.51	546.20	542.44	542.04
(@)	+15750	-1780	+3190	-890	+680	-660	-390	+1280	-5070	-2590	-6760	-660

CAL YR 1993 MAX 45470 MIN 20250 (@) +4020
WTR YR 1994 MAX 44140 MIN 22590 (@) -2100

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

TRINITY RIVER BASIN

08049200 LAKE ARLINGTON AT ARLINGTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD---Chemical and biochemical analyses: January 1964 to current year.

324304097113601 - LAKE ARLINGTON SITE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
DEC												
29...	1245	39800	1.00	300	7.9	10.0	0.76	8.0	72	100	7	35
29...	1251	--	10.0	300	7.9	10.0	--	7.9	71	--	--	--
29...	1258	--	20.0	300	7.9	10.0	--	7.9	71	--	--	--
29...	1306	--	30.0	300	7.8	10.0	--	7.8	70	--	--	--
29...	1313	--	45.0	301	7.6	10.0	--	7.6	68	100	7	35
MAR												
29...	1232	39100	1.00	360	8.2	17.5	0.98	7.1	75	120	6	41
29...	1236	--	10.0	360	8.1	17.0	--	7.2	75	--	--	--
29...	1240	--	20.0	360	8.1	17.0	--	7.2	75	--	--	--
29...	1244	--	30.0	360	8.1	17.0	--	7.2	75	--	--	--
29...	1248	--	44.0	362	8.1	17.0	--	6.7	70	130	13	44
JUL												
12...	1302	34400	1.00	314	8.2	30.0	0.98	7.1	96	110	10	35
12...	1307	--	10.0	314	8.1	29.5	--	6.3	85	--	--	--
12...	1312	--	20.0	318	7.7	29.5	--	4.8	65	--	--	--
12...	1317	--	30.0	326	7.1	28.5	--	0.6	8	--	--	--
12...	1322	--	41.0	364	6.8	23.0	--	0.2	2	130	0	43

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
DEC												
29...	4.2	16	0.7	4.3	98	30	16	0.20	4.3	170	0.220	0.220
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	4.2	17	0.7	4.2	98	30	16	0.20	4.3	171	0.240	--
MAR												
29...	4.8	19	0.7	4.0	120	36	18	0.20	3.2	197	0.110	0.110
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	5.0	21	0.8	4.1	120	36	19	0.30	3.2	204	0.110	0.110
JUL												
12...	5.0	21	0.9	5.0	98	33	18	0.30	3.7	180	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	5.0	20	0.8	4.8	150	18	18	0.30	8.3	212	--	--

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
DEC											
29...	0.010	0.230	0.230	0.110	0.29	0.40	0.050	0.010	0.03	<3	4
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	<0.010	0.240	0.240	0.110	0.29	0.40	0.050	0.010	0.03	5	26
MAR											
29...	0.010	0.120	0.120	0.140	0.36	0.50	0.030	<0.010	--	6	36
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	0.010	0.120	0.120	0.180	0.42	0.60	0.030	0.010	0.03	7	200
JUL											
12...	<0.010	--	<0.050	<0.010	--	0.30	<0.010	<0.010	--	8	17
12...	--	--	--	--	--	--	--	--	--	--	--
12...	<0.010	--	<0.050	0.020	0.38	0.40	<0.010	<0.010	--	<10	20
12...	<0.010	--	<0.050	0.190	0.31	0.50	0.020	<0.010	--	30	430
12...	<0.010	--	<0.050	1.40	0.30	1.7	0.370	0.350	1.1	300	1900

TRINITY RIVER BASIN

311

08049200 LAKE ARLINGTON AT ARLINGTON, TX--Continued

324320097121101 - LAKE ARLINGTON SITE AL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
DEC							
29...	1330	1.00	300	8.0	10.0	9.2	82
29...	1334	10.0	300	8.0	10.0	8.8	79
29...	1338	20.0	300	8.0	10.0	8.9	80
29...	1341	35.0	300	7.9	10.0	9.0	81
MAR							
29...	1258	1.00	361	8.2	17.5	7.6	80
29...	1300	10.0	361	8.2	17.0	7.6	79
29...	1303	20.0	361	8.2	17.0	7.6	79
29...	1306	30.0	361	8.2	17.0	7.6	79
29...	1309	39.0	361	8.2	17.0	7.6	79
JUL							
12...	1332	1.00	310	8.4	30.5	7.8	107
12...	1336	10.0	311	8.2	30.5	7.0	96
12...	1340	20.0	314	8.0	30.0	6.1	83
12...	1344	30.0	337	7.1	27.5	0.2	3

324253097121801 - LAKE ARLINGTON SITE BC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
DEC							
29...	1351	1.00	300	8.0	10.0	9.3	83
29...	1354	10.0	301	8.0	10.0	9.3	83
29...	1357	20.0	301	8.0	10.0	9.3	83
29...	1400	30.0	301	8.0	10.0	9.2	82
29...	1403	41.0	301	8.0	10.0	9.4	84
MAR							
29...	1318	1.00	362	8.3	17.5	7.8	82
29...	1320	10.0	362	8.3	17.0	7.9	83
29...	1322	20.0	363	8.2	17.0	7.8	82
29...	1325	30.0	362	8.2	17.0	7.3	76
29...	1328	41.0	362	8.0	17.0	6.2	65
JUL							
12...	1357	1.00	310	8.2	31.0	7.0	97
12...	1401	10.0	315	8.0	30.5	5.6	77
12...	1405	20.0	318	7.6	29.5	3.7	50
12...	1409	35.0	354	7.0	24.0	0.3	4

324301097123301 - LAKE ARLINGTON SITE BL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
DEC							
29...	1409	1.00	301	8.0	10.0	9.4	84
29...	1412	10.0	301	8.0	10.0	9.4	84
29...	1417	20.0	301	8.0	10.0	9.3	83
29...	1420	31.0	302	8.0	10.0	9.3	83
MAR							
29...	1338	1.00	361	8.2	17.5	7.5	79
29...	1340	10.0	361	8.2	17.5	7.4	78
29...	1343	20.0	361	8.2	17.0	7.2	75
29...	1346	30.0	361	8.1	17.0	6.9	72
JUL							
12...	1418	1.00	315	8.3	31.0	7.2	99
12...	1423	10.0	315	8.0	30.0	6.1	83
12...	1427	20.0	321	7.5	29.5	3.6	48
12...	1431	29.0	331	7.1	29.0	0.4	5

TRINITY RIVER BASIN

08049200 LAKE ARLINGTON AT ARLINGTON, TX--Continued

324257097130301 - LAKE ARLINGTON SITE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
DEC							
29...	1428	1.00	302	8.0	13.5	9.3	90
29...	1431	10.0	302	8.0	13.0	9.1	87
29...	1435	21.0	302	8.0	13.0	9.2	88
MAR							
29...	1357	1.00	359	8.3	23.5	7.8	93
29...	1359	10.0	359	8.2	21.5	7.7	88
29...	1402	17.0	360	8.2	18.5	7.6	82
JUL							
12...	1443	1.00	317	8.0	37.5	5.7	88
12...	1445	10.0	319	8.0	35.5	5.7	85
12...	1448	18.0	319	7.9	33.0	5.3	76

324228097130301 - LAKE ARLINGTON SITE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
DEC							
29...	1445	1.00	303	8.0	12.5	9.2	87
29...	1450	10.0	303	8.0	11.0	9.3	85
29...	1455	20.0	303	8.0	10.5	9.3	84
MAR							
29...	1410	1.00	362	8.2	19.0	7.5	82
29...	1413	10.0	361	8.2	17.0	7.5	78
29...	1416	20.0	361	8.2	17.5	7.3	77
JUL							
12...	1500	1.00	319	7.9	31.5	5.2	72
12...	1504	10.0	320	7.6	30.0	4.2	57
12...	1508	18.0	321	7.3	30.0	1.8	24

324143097132201 - LAKE ARLINGTON SITE EC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
DEC											
29...	1513	1.00	301	8.2	9.5	0.58	9.7	86	110	4	35
29...	1520	10.0	305	8.1	9.0	--	9.8	86	--	--	--
29...	1526	25.0	305	8.1	9.0	--	10.1	88	110	6	36
MAR											
29...	1427	1.00	368	8.4	16.5	--	8.4	87	140	16	46
29...	1431	10.0	372	8.4	16.5	--	8.5	88	--	--	--
29...	1436	20.0	372	8.4	16.0	--	8.4	86	--	--	--
29...	1441	25.0	373	8.3	16.0	--	8.2	84	140	17	46
JUL											
12...	1525	1.00	310	8.3	31.0	--	7.2	99	110	12	35
12...	1530	10.0	307	8.2	30.0	--	6.8	92	--	--	--
12...	1535	20.0	309	8.0	30.0	--	5.9	80	110	13	35

TRINITY RIVER BASIN

313

08049200 LAKE ARLINGTON AT ARLINGTON, TX--Continued

324143097132201 - LAKE ARLINGTON SITE EC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
DEC											
29...	4.3	17	0.7	3.9	100	30	17	0.20	4.2	173	0.230
29...	--	--	--	--	--	--	--	--	--	--	--
29...	4.3	17	0.7	3.9	100	31	17	0.20	4.2	176	0.230
MAR											
29...	5.2	21	0.8	3.9	120	37	19	0.30	2.9	208	0.110
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	5.2	21	0.8	3.9	120	38	19	0.30	3.0	208	0.130
JUL											
12...	5.1	22	0.9	4.8	96	33	19	0.30	3.7	180	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	5.0	22	0.9	4.7	95	33	18	0.30	4.1	179	--

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
DEC											
29...	0.230	0.010	0.240	0.240	0.080	0.22	0.30	0.040	<0.010	<3	3
29...	--	--	--	--	--	--	--	--	--	--	--
29...	0.230	0.010	0.240	0.240	0.070	0.33	0.40	0.050	<0.010	7	11
MAR											
29...	0.110	0.020	0.130	0.130	0.070	0.23	0.30	<0.010	<0.010	10	2
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	0.130	0.010	0.140	0.140	0.060	0.34	0.40	0.020	<0.010	9	7
JUL											
12...	--	<0.010	--	<0.050	<0.010	--	0.30	<0.010	<0.010	3	3
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	<0.010	--	<0.050	0.020	0.28	0.30	<0.010	<0.010	12	27

324133097130601 - LAKE ARLINGTON SITE EL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
DEC							
29...	1533	1.00	305	8.2	9.5	9.8	87
29...	1536	10.0	305	8.1	9.0	9.7	85
29...	1539	18.0	306	8.1	9.0	9.9	86
MAR							
29...	1449	1.00	367	8.4	16.5	8.4	87
29...	1452	10.0	367	8.4	16.5	8.4	87
29...	1455	19.0	368	8.3	16.5	8.2	85
JUL							
12...	1543	1.00	309	8.3	31.0	7.5	104
12...	1546	10.0	309	8.3	31.0	7.5	104
12...	1549	16.0	310	8.0	30.0	5.8	79

TRINITY RIVER BASIN

08049200 LAKE ARLINGTON AT ARLINGTON, TX--Continued

324041097134601 - LAKE ARLINGTON SITE FC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
DEC											
29...	1555	1.00	321	8.1	8.5	10.0	86	110	7	38	4.6
29...	1600	10.0	321	8.1	8.5	9.9	85	--	--	--	--
29...	1605	16.0	322	8.1	8.5	10.1	87	110	6	38	4.6
MAR											
29...	1512	1.00	375	8.4	16.0	8.6	89	140	18	47	5.3
29...	1517	10.0	375	8.3	16.0	8.2	85	--	--	--	--
29...	1522	15.0	378	8.3	16.0	8.0	82	130	7	43	5.1
JUL											
12...	1605	1.00	304	8.3	30.5	7.5	103	110	13	35	5.0
12...	1611	5.00	305	8.3	30.5	7.4	101	--	--	--	--
12...	1616	12.0	298	7.8	29.0	5.2	69	100	11	34	4.5

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
DEC											
29...	18	0.7	4.1	110	34	19	0.20	4.1	187	0.230	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	19	0.8	3.9	110	33	18	0.20	4.2	187	0.240	0.240
MAR											
29...	21	0.8	4.3	120	39	19	0.30	2.8	212	0.130	0.130
29...	--	--	--	--	--	--	--	--	--	--	--
29...	21	0.8	4.1	120	39	19	0.20	2.9	208	0.130	0.130
JUL											
12...	21	0.9	4.8	95	33	18	0.20	3.9	178	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	20	0.9	4.4	92	31	17	0.30	4.1	171	--	--

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
DEC										
29...	<0.010	0.230	0.230	0.060	0.24	0.30	<0.010	<0.010	<3	10
29...	--	--	--	--	--	--	--	--	--	--
29...	0.010	0.250	0.250	0.060	0.24	0.30	0.040	<0.010	<3	10
MAR										
29...	0.010	0.140	0.140	0.070	0.23	0.30	<0.010	<0.010	13	2
29...	--	--	--	--	--	--	--	--	--	--
29...	0.010	0.140	0.140	0.060	0.24	0.30	<0.010	<0.010	14	4
JUL										
12...	<0.010	--	<0.050	<0.010	--	0.30	<0.010	<0.010	4	2
12...	--	--	--	--	--	--	--	--	--	--
12...	<0.010	--	<0.050	0.040	0.26	0.30	<0.010	<0.010	14	4

TRINITY RIVER BASIN

315

08049240 RUSH CREEK AT WOODLAND PARK BLVD., ARLINGTON, TX

LOCATION.--Lat 32°42'50", long 97°10'19", Tarrant County, Hydrologic Unit 12030102, near left bank at downstream side of bridge on Woodland Park Blvd., 0.3 mi upstream from bridge on Spur Highway 303, 0.6 mi downstream from bridge on Arkansas Lane, and 4.0 mi southwest of main Post Office in Arlington.

DRAINAGE AREA.----26.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1993 to current year.

GAGE.--Water-stage recorder. Datum of gage not determined.

REMARKS.--Records good except those for estimated daily discharges and those less than 3.0 ft³/s, which are poor. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.6	2.0	2.5	1.8	74	2.5	14	3.8	.00	.00	177
2	4.4	6.9	45	e2.4	1.7	22	2.4	71	3.3	.00	.00	68
3	72	3.1	300	e2.3	1.8	9.0	2.3	43	2.9	.00	.00	.02
4	8.4	1.8	30	e2.3	1.8	5.6	2.3	13	2.7	.00	.00	.00
5	2.0	1.7	15	e2.2	1.8	4.4	3.5	3.8	2.4	.00	.00	.00
6	1.7	1.7	7.6	e2.2	1.8	4.0	3.7	2.6	2.7	e.05	.00	.00
7	1.2	1.8	5.4	e2.1	1.8	4.1	1.9	2.4	2.3	.00	.00	.00
8	.92	1.9	4.7	e2.1	2.0	66	1.9	2.1	2.0	26	.00	.00
9	.82	2.2	4.1	e2.0	2.4	35	2.0	66	1.9	22	.00	.00
10	.73	2.3	4.1	e2.0	1.5	11	2.2	27	1.7	.00	.00	.00
11	.58	2.4	3.5	e30	1.6	5.4	5.0	106	23	.05	.00	.00
12	18	2.6	12	e17	1.3	6.6	4.5	514	18	.00	.00	.00
13	545	2.5	87	e9.0	1.3	29	1.4	323	3.0	.00	.00	.00
14	17	49	6.5	e6.0	1.4	8.9	1.2	227	1.9	.41	.00	.05
15	3.6	5.7	3.3	e3.5	1.6	5.5	1.1	85	40	.00	.00	.01
16	2.4	57	2.6	e2.4	1.6	5.0	.94	112	12	.00	.00	.00
17	6.2	15	2.5	e2.4	1.7	4.7	.86	40	2.4	.00	.00	.00
18	1490	4.0	2.3	e2.1	1.8	4.1	.89	24	43	.00	.00	.00
19	649	2.6	2.2	e2.1	3.8	4.0	.89	16	21	.00	.00	.00
20	62	2.1	2.1	e2.0	11	3.8	.91	11	6.2	.00	.01	.00
21	24	1.9	1.9	e2.0	2.9	3.2	1.0	8.7	1.6	.00	18	.00
22	14	2.0	33	e2.5	146	3.1	19	7.1	1.2	.00	.00	.00
23	8.6	2.0	12	e50	17	3.9	16	5.7	2.5	.00	.00	.00
24	7.0	2.2	3.3	e45	5.7	3.0	2.2	6.8	3.8	.00	.00	.00
25	4.2	7.0	2.7	e30	3.8	2.9	241	34	.85	.00	.00	.00
26	3.5	25	2.6	e4.5	2.8	20	238	46	.03	.00	.00	.00
27	2.8	13	2.4	e2.4	2.5	18	16	25	.00	.00	.00	.00
28	1.9	4.9	2.2	e2.1	70	3.9	19	21	.00	.00	.00	.00
29	1.9	2.6	2.2	e1.9	---	2.6	236	11	.00	.00	.00	.00
30	2.3	2.1	2.3	e1.9	---	2.4	185	7.3	.00	.00	.00	.00
31	1.6	---	2.3	e1.7	---	2.3	---	4.7	---	.00	157	---
MEAN	95.5	7.69	19.6	7.83	10.6	12.2	33.9	60.7	6.87	1.56	5.65	8.17
MAX	1490	57	300	50	146	74	241	514	43	26	157	177
MIN	.58	1.6	1.9	1.7	1.3	2.3	.86	2.1	.00	.00	.00	.00

SUMMARY STATISTICS

FOR 1994 WATER YEAR

ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
INSTANTANEOUS PEAK FLOW
INSTANTANEOUS PEAK STAGE
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

22.7
1490 Oct 18
.00 Jun 27
.00 Jun 27
9800 Oct 18
43.71 Oct 18
37
2.3
.00

e Estimated

08049240 RUSH CREEK AT WOODLAND PARK BLVD., ARLINGTON, TX--Continued

PERIOD OF RECORD.--Chemical and biochemical analyses: March 1993 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1993 to May 1994 (discontinued).

pH: April 1993 to May 1994 (discontinued).

WATER TEMPERATURES: April 1993 to May 1994 (discontinued).

DISSOLVED OXYGEN: April 1993 to April 1994 (discontinued).

INSTRUMENTATION.--April 1993 to May 1994, a four-parameter water-quality monitor recorded temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	
OCT													
18...	1211	105	235	8.1	20.5	7.1	80	79	19	26	3.5	9.5	
NOV													
16...	1038	117	483	7.5	11.0	9.0	82	160	70	47	9.3	29	
DEC													
20...	0912	2.2	950	7.6	10.0	9.3	83	320	160	94	21	63	
JAN													
11...	0845	20	815	8.4	11.0	10.2	94	240	150	68	17	61	
FEB													
03...	0915	1.9	1020	7.9	6.5	12.0	98	350	200	100	25	81	
17...	1413	1.8	1140	7.8	14.0	13.6	133	390	230	110	27	93	
MAR													
14...	1355	4.7	737	7.8	14.5	10.4	103	250	130	75	15	51	
APR													
18...	1422	1.1	1180	7.5	21.5	8.3	95	420	270	120	28	100	
MAY													
17...	0935	36	438	7.7	21.0	7.0	79	170	63	52	8.6	27	
JUN													
13...	1102	3.0	738	7.4	27.0	5.1	65	260	120	76	16	57	
JUL													
06...	1040	0.14	554	7.2	26.0	5.8	73	170	75	49	11	47	
DATE		SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE WATER DIS IT FIELD MG/L AS C03	BICAR- BONATE WATER DIS IT FIELD MG/L AS HC03	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CAC03	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
OCT													
18...	0.5	4.9	0	74	61	60	29	11	0.30	6.0	144	129	
NOV													
16...	1	5.3	0	104	85	85	92	33	0.30	6.9	291	276	
DEC													
20...	2	5.0	0	201	164	160	200	77	0.40	12	608	573	
JAN													
11...	2	3.8	48	16	93	100	190	73	0.30	4.1	499	476	
FEB													
03...	2	4.2	--	--	--	150	240	95	0.40	6.2	686	655	
17...	2	4.2	0	191	157	160	270	110	0.50	3.1	752	713	
MAR													
14...	1	4.3	--	--	--	120	150	63	0.40	5.3	463	444	
APR													
18...	2	5.7	0	180	148	150	280	120	0.50	8.4	798	753	
MAY													
17...	0.9	5.7	0	125	102	100	70	29	0.30	11	283	268	
JUN													
13...	2	5.2	0	162	132	130	150	62	0.50	9.4	488	458	
JUL													
06...	2	4.9	0	113	92	90	100	55	0.40	8.4	361	334	

TRINITY RIVER BASIN

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08049240 RUSH CREEK AT WOODLAND PARK BLVD., ARLINGTON, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 18...	0.440	0.440	0.030	0.470	0.470	0.060	1.1	0.54	0.54	0.60	0.60
NOV 16...	0.220	0.220	0.020	0.240	0.240	0.050	0.74	0.45	0.45	0.50	0.50
DEC 20...	0.390	--	<0.010	0.390	0.390	0.030	0.59	0.17	--	<0.20	0.20
JAN 11...	0.590	0.590	0.010	0.600	0.600	0.130	1.9	1.2	0.27	0.40	1.3
FEB 03...	0.330	0.330	0.030	0.360	0.360	0.020	0.66	0.28	0.18	0.20	0.30
FEB 17...	0.220	--	<0.010	0.220	0.220	0.030	0.42	0.17	--	<0.20	0.20
MAR 14...	0.420	0.420	0.040	0.460	0.460	0.020	0.86	0.38	0.28	0.30	0.40
APR 18...	0.220	0.220	0.040	0.260	0.260	0.100	0.86	0.50	0.40	0.50	0.60
MAY 17...	0.550	0.550	0.060	0.610	0.610	0.100	1.4	0.70	0.50	0.60	0.80
JUN 13...	0.270	0.270	0.020	0.290	0.290	0.080	0.89	0.52	0.42	0.50	0.60
JUL 06...	0.360	0.360	0.040	0.400	0.400	0.130	1.2	0.67	0.57	0.70	0.80
DATE	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 18...	0.130	0.110	0.120	0.37	7.2	4.9	316	90	96	100	31
NOV 16...	0.180	0.140	0.120	0.37	9.3	4.2	178	56	95	120	160
DEC 20...	<0.010	<0.010	<0.010	--	4.5	0.2	8	0.05	98	10	270
JAN 11...	0.310	0.020	0.020	0.06	5.7	>7.1	431	--	96	160	190
FEB 03...	<0.010	<0.010	<0.010	--	3.4	0.3	19	0.10	98	15	340
FEB 17...	0.010	<0.010	<0.010	--	3.2	0.4	8	0.04	96	7	260
MAR 14...	0.020	0.010	<0.010	--	4.9	0.4	3	0.04	96	18	130
APR 18...	0.030	<0.010	<0.010	--	4.0	0.4	23	0.07	92	10	500
MAY 17...	0.190	0.120	0.130	0.40	7.4	1.0	55	5.3	54	68	61
JUN 13...	0.050	<0.010	0.010	0.03	6.6	0.7	5	0.04	93	11	520
JUL 06...	0.150	0.110	0.090	0.28	14	0.9	18	0.01	97	67	160

08049240 RUSH CREEK AT WOODLAND PARK BLVD., ARLINGTON, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	600	570	585	1110	1060	1090	830	810	819	1060	1030	1050
2	610	580	595	1160	986	1080	920	150	794	1110	1060	1080
3	810	270	534	1180	1110	1160	290	150	236	1120	1100	1100
4	510	470	486	1110	1030	1060	460	290	379	1150	1110	1130
5	530	490	517	1070	1040	1060	590	460	535	1160	1130	1150
6	570	530	553	1090	1060	1070	710	590	645	1170	1150	1160
7	600	560	579	1090	1050	1070	770	710	740	1230	1170	1190
8	610	580	600	1070	1050	1060	830	770	809	---	---	e1230
9	670	590	645	1060	1050	1050	900	830	854	---	---	e1240
10	680	640	663	1070	1050	1060	970	900	945	---	---	e1250
11	680	640	660	1080	1060	1070	1010	970	993	---	---	e849
12	690	130	664	1080	1060	1070	1010	280	940	---	---	e750
13	340	130	228	1090	1060	1080	550	290	361	---	---	e840
14	490	340	424	1090	530	691	530	400	471	---	---	e925
15	570	480	531	700	570	641	640	530	588	1050	1020	1040
16	649	570	603	720	300	517	720	640	685	1040	495	1000
17	797	498	670	480	400	445	820	720	757	1080	568	999
18	498	90	177	600	480	535	877	799	849	1050	942	1020
19	249	99	177	680	590	626	924	877	898	1050	996	1020
20	486	249	372	750	680	710	990	924	947	1030	956	1010
21	684	486	596	790	740	767	1020	988	1000	1060	1030	1040
22	872	684	760	840	790	808	1060	601	799	1060	698	932
23	890	802	853	880	830	851	687	589	646	784	720	753
24	967	890	932	910	870	890	783	687	739	826	774	806
25	1010	967	996	1000	910	943	829	772	801	810	790	802
26	995	965	982	1000	710	893	866	827	843	860	810	827
27	1020	965	996	740	700	716	892	863	877	950	850	895
28	1030	1000	1020	790	720	761	956	891	921	1000	950	983
29	1070	1020	1040	820	790	808	974	944	960	990	970	980
30	1100	1040	1060	840	810	818	1010	972	989	1050	990	1010
31	1120	1100	1110	---	---	---	1030	1000	1020	1060	1020	1050
MONTH	1120	90	665	1180	300	880	1060	150	769	1230	495	1000

e Estimated

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1070	1020	1040	394	277	323	1030	980	1000	521	342	430
2	1090	990	1050	483	374	434	1090	1030	1050	617	230	509
3	1100	1030	1050	593	483	551	1110	1080	1090	405	219	309
4	1120	1090	1110	692	573	651	1120	1110	1120	594	405	496
5	1190	1120	1140	817	683	757	1160	1120	1130	---	---	---
6	1210	1170	1190	897	806	854	1200	890	1100	---	---	---
7	1220	1190	1210	967	887	927	1070	960	989	---	---	---
8	1220	1190	1200	981	430	807	1150	1070	1130	---	---	---
9	1350	1120	1250	540	431	474	1170	1140	1150	---	---	---
10	1370	1240	1340	670	540	608	1200	1170	1180	---	---	---
11	1240	1200	1210	790	670	738	1250	1190	1210	---	---	---
12	1200	1160	1180	950	790	851	1270	820	1170	---	---	---
13	1180	1130	1160	980	710	821	1250	1180	1220	---	---	---
14	1170	1130	1150	790	740	763	1190	1150	1170	---	---	---
15	1180	1150	1160	880	760	835	1170	1150	1160	---	---	---
16	1190	1130	1170	960	880	926	1200	1170	1180	---	---	---
17	1180	1150	1170	1020	950	975	1220	1170	1190	---	---	---
18	1200	1180	1190	1060	1000	1020	1200	1170	1180	---	---	---
19	1230	936	1200	1110	1050	1070	1200	1170	1190	---	---	---
20	1320	936	1210	1150	1090	1110	1220	1190	1210	---	---	---
21	1280	1170	1240	1190	1150	1160	1240	1210	1220	---	---	---
22	1170	319	418	1210	1180	1190	1270	610	1090	---	---	---
23	551	413	487	1200	690	1120	1030	850	928	---	---	---
24	616	551	594	1240	1170	1200	900	880	892	---	---	---
25	702	616	654	1240	1190	1220	910	160	784	---	---	---
26	779	702	743	1300	710	1160	460	170	319	---	---	---
27	815	761	786	780	600	729	620	460	547	---	---	---
28	860	223	740	860	750	800	760	600	681	---	---	---
29	---	---	---	920	860	893	750	60	268	---	---	---
30	---	---	---	970	910	936	342	116	232	---	---	---
31	---	---	---	1000	970	978	---	---	---	---	---	---
MONTH	1370	223	1040	1300	277	867	1270	60	993	617	219	436

TRINITY RIVER BASIN

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08049240 RUSH CREEK AT WOODLAND PARK BLVD., ARLINGTON, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	7.9	7.4	7.6	7.7	7.6	7.7	7.7	7.5	7.6	7.6	7.5	7.6
2	7.8	7.1	7.5	8.6	7.7	8.0	8.9	7.5	8.2	7.6	7.5	7.6
3	7.6	7.3	7.5	8.0	7.8	7.8	8.8	8.2	8.3	7.8	7.5	7.6
4	7.8	7.2	7.5	7.9	7.7	7.8	8.2	8.0	8.1	7.8	7.6	7.7
5	8.2	7.4	7.7	8.0	7.7	7.8	8.0	7.9	8.0	7.7	7.6	7.7
6	8.2	7.5	7.8	7.9	7.7	7.8	7.9	7.7	7.8	7.7	7.6	7.7
7	7.8	7.4	7.6	7.8	7.7	7.7	7.8	7.7	7.7	7.8	7.7	7.7
8	7.9	7.3	7.6	7.8	7.7	7.8	7.7	7.6	7.6	---	---	---
9	---	---	---	7.8	7.7	7.7	7.6	7.4	7.5	---	---	---
10	---	---	---	7.8	7.7	7.7	7.5	7.3	7.4	---	---	---
11	---	---	---	7.7	7.7	7.7	7.3	7.2	7.3	---	---	---
12	---	---	---	7.7	7.6	7.6	7.7	7.2	7.3	---	---	---
13	---	---	---	7.6	7.4	7.5	7.5	7.2	7.3	---	---	---
14	---	---	---	7.5	7.4	7.4	8.3	7.3	7.9	---	---	---
15	7.7	7.4	7.6	7.4	7.4	7.4	7.8	7.6	7.7	7.8	7.7	7.7
16	7.5	7.4	7.4	7.5	7.3	7.4	7.6	7.6	7.6	7.8	7.7	7.7
17	7.6	7.4	7.4	7.4	7.4	7.4	7.7	7.4	7.6	7.9	7.7	7.8
18	8.9	7.6	8.1	7.4	7.3	7.3	7.7	7.6	7.6	7.9	7.8	7.8
19	8.2	7.7	7.9	7.3	7.3	7.3	7.6	7.6	7.6	7.8	7.7	7.7
20	7.7	7.5	7.6	7.3	7.2	7.3	7.7	7.6	7.6	7.8	7.7	7.8
21	7.5	7.3	7.4	7.5	7.2	7.3	7.6	7.6	7.6	7.8	7.8	7.8
22	7.4	7.3	7.3	7.6	7.3	7.5	7.6	7.5	7.6	7.9	7.7	7.8
23	---	---	---	7.6	7.5	7.6	7.6	7.4	7.5	7.9	7.7	7.8
24	---	---	---	7.7	7.5	7.6	7.6	7.4	7.5	8.0	7.6	7.8
25	---	---	---	7.8	7.6	7.7	7.5	7.4	7.5	8.0	7.7	7.9
26	---	---	---	7.9	7.7	7.8	7.5	7.4	7.5	8.1	7.8	7.9
27	---	---	---	7.8	7.7	7.8	7.6	7.4	7.5	8.2	7.9	8.0
28	7.7	7.6	7.6	7.7	7.6	7.6	7.7	7.5	7.6	8.2	7.9	8.0
29	7.8	7.6	7.7	---	---	---	7.7	7.6	7.6	8.1	7.9	8.0
30	7.9	7.7	7.8	---	---	---	7.6	7.5	7.5	8.0	7.9	7.9
31	7.8	7.7	7.7	---	---	---	7.6	7.5	7.5	8.0	7.9	8.0
MONTH	8.9	7.1	7.6	8.6	7.2	7.6	8.9	7.2	7.6	8.2	7.5	7.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	8.0	7.9	8.0	8.0	8.0	8.0	7.9	7.7	7.8	7.7	7.6	7.6
2	7.9	7.8	7.9	8.1	7.9	8.0	7.9	7.6	7.7	7.8	7.6	7.7
3	7.9	7.8	7.9	8.1	7.9	8.0	7.8	7.6	7.7	7.8	7.7	7.7
4	7.9	7.8	7.8	---	---	---	7.8	7.5	7.6	7.7	7.6	7.6
5	7.9	7.7	7.8	---	---	---	7.8	7.5	7.7	---	---	---
6	7.9	7.7	7.8	---	---	---	7.9	7.6	7.8	---	---	---
7	8.0	7.8	7.9	---	---	---	7.6	7.5	7.6	---	---	---
8	8.0	7.9	7.9	---	---	---	7.6	7.5	7.6	---	---	---
9	8.1	7.9	8.1	---	---	---	7.5	7.4	7.5	---	---	---
10	8.2	8.1	8.1	---	---	---	7.5	7.4	7.4	---	---	---
11	8.1	8.0	8.1	8.0	7.6	7.8	7.7	7.4	7.5	---	---	---
12	8.0	7.8	7.9	7.9	7.7	7.8	7.8	7.7	7.7	---	---	---
13	7.9	7.7	7.8	8.1	7.6	7.8	7.7	7.6	7.6	---	---	---
14	7.8	7.7	7.8	8.2	7.5	7.9	7.6	7.5	7.6	---	---	---
15	7.8	7.7	7.7	8.2	7.7	7.9	7.7	7.4	7.5	---	---	---
16	8.0	7.7	7.8	8.0	7.6	7.8	7.6	7.4	7.5	---	---	---
17	8.1	7.9	8.0	8.0	7.7	7.9	7.6	7.4	7.5	---	---	---
18	8.1	7.9	8.0	7.9	7.7	7.7	7.6	7.4	7.5	---	---	---
19	8.1	7.9	8.0	7.8	7.5	7.6	7.5	7.4	7.5	---	---	---
20	8.1	7.9	8.0	7.7	7.5	7.6	7.5	7.4	7.4	---	---	---
21	8.1	7.9	8.0	7.7	7.6	7.7	7.4	7.3	7.4	---	---	---
22	8.4	7.9	8.0	7.7	7.6	7.6	8.0	7.3	7.4	---	---	---
23	8.5	7.9	8.0	7.8	7.6	7.6	7.5	7.4	7.4	---	---	---
24	8.1	7.7	7.9	7.8	7.6	7.7	7.4	7.2	7.3	---	---	---
25	---	---	---	7.8	7.6	7.7	7.7	7.2	7.3	---	---	---
26	---	---	---	7.7	7.5	7.7	7.7	7.3	7.4	---	---	---
27	---	---	---	7.6	7.5	7.5	7.4	7.3	7.4	---	---	---
28	8.2	7.9	8.0	7.7	7.4	7.5	7.5	7.4	7.4	---	---	---
29	---	---	---	7.8	7.6	7.7	7.8	7.5	7.7	---	---	---
30	---	---	---	7.9	7.6	7.7	7.9	7.6	7.7	---	---	---
31	---	---	---	7.9	7.7	7.8	---	---	---	---	---	---
MONTH	8.5	7.7	7.9	8.2	7.4	7.7	8.0	7.2	7.5	7.8	7.6	7.6

TRINITY RIVER BASIN

08049240 RUSH CREEK AT WOODLAND PARK BLVD., ARLINGTON, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	25.0	22.0	23.5	10.5	8.5	9.5	13.0	10.0	11.5	10.0	7.0	8.5
2	26.0	23.0	24.0	11.0	10.0	10.5	16.5	13.0	14.0	10.5	8.0	9.0
3	24.0	21.5	22.5	13.0	11.0	12.0	16.5	15.5	16.0	9.5	7.5	8.0
4	24.5	20.5	22.0	16.5	12.5	14.5	15.5	12.5	14.0	9.5	7.0	7.5
5	26.0	21.0	23.5	15.0	12.5	14.0	12.5	10.5	12.0	9.5	6.5	8.0
6	26.0	22.5	24.0	12.5	10.5	11.5	12.5	10.5	11.5	10.0	8.5	9.5
7	24.0	22.5	23.5	11.5	9.0	10.0	11.0	10.0	10.5	9.0	5.5	7.5
8	25.5	22.5	24.0	10.0	9.0	9.5	13.0	10.5	11.5	---	---	---
9	24.5	20.0	21.5	11.5	10.0	10.5	15.5	13.0	15.0	---	---	---
10	20.0	18.0	19.0	13.5	11.5	12.5	15.5	13.5	14.5	---	---	---
11	20.5	18.0	19.0	14.0	12.0	13.0	13.5	12.0	12.5	---	---	---
12	20.0	18.5	19.0	17.5	14.0	15.5	13.5	11.5	12.0	---	---	---
13	20.0	19.0	19.5	19.0	17.0	18.5	13.5	11.0	12.5	---	---	---
14	20.5	18.0	19.0	19.0	15.5	17.0	11.0	9.5	10.5	---	---	---
15	20.0	18.5	19.5	15.5	14.0	14.5	10.5	8.5	9.5	10.0	8.5	9.0
16	23.5	19.5	21.5	14.0	11.0	12.5	9.0	8.5	8.5	10.0	8.0	8.5
17	23.0	21.0	22.0	13.0	10.5	11.5	11.0	8.5	10.0	9.5	6.5	8.0
18	22.5	19.0	20.5	13.5	11.5	12.5	10.5	9.0	10.0	7.5	4.5	6.0
19	21.5	19.5	20.5	14.5	12.0	13.5	10.5	9.0	9.5	6.5	4.0	5.0
20	19.5	18.5	19.5	13.0	10.5	11.5	11.0	9.0	10.0	7.0	6.0	6.5
21	18.5	17.0	18.0	12.0	9.0	10.0	9.0	7.5	8.5	7.0	6.5	6.5
22	17.0	14.5	15.5	12.0	8.5	10.0	8.0	7.0	8.0	8.0	6.5	7.0
23	15.5	13.5	14.5	13.0	10.0	11.5	7.5	5.0	6.5	10.5	8.0	9.0
24	15.5	13.5	14.5	12.5	10.0	11.5	7.0	5.5	6.0	12.5	10.5	11.0
25	15.5	13.0	14.5	10.0	3.5	7.5	8.0	5.5	6.5	15.0	12.5	13.5
26	14.5	12.5	14.0	6.0	3.5	4.5	9.5	6.5	8.0	16.5	15.0	16.0
27	15.5	12.5	14.0	7.0	3.5	5.0	10.5	8.0	9.5	16.0	11.0	13.5
28	16.0	13.0	14.0	8.0	5.5	7.0	10.0	7.5	9.0	11.0	8.0	9.0
29	15.0	12.5	14.5	---	---	---	8.0	6.0	7.0	8.5	7.5	8.0
30	12.5	9.0	11.0	---	---	---	8.5	5.5	6.5	8.5	6.5	7.5
31	11.0	8.0	9.0	---	---	---	8.5	6.0	7.0	8.0	6.5	7.0
MONTH	26.0	8.0	18.5	19.0	3.5	11.5	16.5	5.0	10.5	16.5	4.0	8.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	8.0	5.0	6.0	10.5	9.0	10.0	19.5	14.0	16.5	18.5	14.0	16.0
2	8.5	5.0	6.5	12.5	7.5	10.0	20.0	16.0	18.0	17.5	14.5	15.5
3	9.5	6.5	7.5	12.5	8.5	10.5	20.0	16.0	18.0	16.0	14.0	15.0
4	11.5	8.5	10.0	15.0	11.5	13.0	20.5	16.0	18.0	20.0	15.0	17.5
5	13.0	10.0	11.5	17.5	13.5	15.0	20.0	16.5	18.5	---	---	---
6	14.0	10.0	11.5	19.0	16.0	17.5	16.5	12.0	14.0	---	---	---
7	13.5	10.5	12.0	20.0	17.5	18.5	18.0	12.5	14.5	---	---	---
8	17.0	13.0	15.0	19.5	12.0	16.0	19.5	14.0	16.5	---	---	---
9	16.0	6.0	10.0	12.0	9.5	10.5	21.5	17.5	19.0	---	---	---
10	6.0	4.0	5.0	13.0	7.5	10.0	21.5	20.0	21.0	---	---	---
11	7.5	4.0	5.5	13.5	10.0	12.0	21.0	19.0	20.5	---	---	---
12	8.5	6.5	7.5	13.0	11.5	12.0	20.0	15.5	18.0	---	---	---
13	10.0	6.0	8.0	16.0	11.5	13.5	22.5	17.0	19.5	---	---	---
14	9.5	6.0	8.0	17.0	11.5	14.0	23.5	19.5	21.5	---	---	---
15	12.0	8.0	9.5	18.5	14.5	16.5	24.0	21.5	22.0	---	---	---
16	13.5	9.5	11.0	19.0	15.5	17.5	23.5	19.0	21.5	---	---	---
17	15.0	10.5	12.5	20.5	16.0	18.0	24.0	18.5	21.0	---	---	---
18	14.5	12.5	13.5	22.0	18.0	19.5	24.0	18.5	21.0	---	---	---
19	15.5	14.0	15.0	23.0	19.0	21.0	23.5	20.0	21.5	---	---	---
20	16.5	14.5	15.5	22.5	20.0	21.5	23.5	20.5	22.0	---	---	---
21	16.5	14.5	15.5	21.5	18.0	20.0	24.0	21.0	22.5	---	---	---
22	14.5	12.5	13.0	20.0	16.0	18.0	25.0	21.5	22.5	---	---	---
23	12.5	10.0	11.5	22.5	17.5	20.0	25.5	20.5	22.5	---	---	---
24	11.5	8.0	10.0	21.5	18.5	20.5	25.5	22.0	23.5	---	---	---
25	12.5	10.0	11.0	18.5	16.5	17.5	24.0	20.0	22.5	---	---	---
26	11.0	8.5	9.5	19.0	17.0	17.5	23.0	19.5	21.0	---	---	---
27	10.0	8.5	9.0	17.5	15.0	16.5	25.0	21.5	23.0	---	---	---
28	11.0	9.0	9.5	16.0	12.5	14.5	24.0	18.5	20.5	---	---	---
29	---	---	---	17.5	13.0	15.0	19.5	13.5	17.5	---	---	---
30	---	---	---	17.5	14.0	15.5	16.5	13.5	15.0	---	---	---
31	---	---	---	18.0	13.5	15.5	---	---	---	---	---	---
MONTH	17.0	4.0	10.5	23.0	7.5	15.5	25.5	12.0	20.0	20.0	14.0	16.0

TRINITY RIVER BASIN

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08049240 RUSH CREEK AT WOODLAND PARK BLVD., ARLINGTON, TX--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	10.9	6.0	8.3	12.0	9.5	10.5	---	---	---	13.3	11.2	12.0
2	11.3	6.4	8.7	---	---	---	---	---	---	13.0	10.8	11.8
3	8.5	5.9	6.7	---	---	---	---	---	---	12.8	10.5	11.3
4	9.5	5.4	6.9	14.0	11.2	12.1	---	---	---	13.2	10.9	11.9
5	11.5	5.6	8.2	14.2	10.5	11.8	---	---	---	12.9	11.1	11.8
6	12.6	6.2	9.0	13.4	10.0	11.3	---	---	---	11.7	10.5	11.0
7	11.3	6.5	9.0	13.6	10.9	11.9	---	---	---	11.8	10.3	11.0
8	12.6	6.7	9.3	12.2	10.4	11.4	---	---	---	---	---	---
9	11.5	6.8	9.2	11.9	9.6	10.6	---	---	---	---	---	---
10	12.8	7.0	9.9	11.3	9.3	10.1	---	---	---	---	---	---
11	13.3	8.3	10.7	10.1	8.5	9.3	---	---	---	---	---	---
12	11.3	8.2	9.8	8.5	6.4	7.3	---	---	---	---	---	---
13	8.7	7.3	7.8	9.0	5.1	6.4	---	---	---	---	---	---
14	7.3	6.6	7.1	9.5	4.3	7.1	---	---	---	---	---	---
15	6.9	6.3	6.6	8.7	5.8	7.0	---	---	---	11.9	9.0	10.2
16	7.4	6.1	6.7	9.1	6.8	7.9	---	---	---	11.0	9.6	10.4
17	7.7	5.9	6.7	8.0	6.6	7.5	---	---	---	11.9	9.3	10.6
18	8.3	6.9	7.3	6.9	5.8	6.4	10.2	9.0	9.6	12.1	10.7	11.4
19	8.2	7.0	7.5	8.4	5.6	6.8	10.6	9.6	10.1	13.4	11.6	12.2
20	7.7	7.4	7.5	8.4	6.7	7.5	11.2	9.5	10.2	11.9	10.5	11.3
21	7.6	7.3	7.5	10.6	7.4	8.5	11.8	10.0	10.8	10.8	10.0	10.4
22	7.9	7.3	7.6	10.5	8.9	9.7	10.7	9.4	10.0	12.0	10.1	10.7
23	7.9	7.4	7.6	10.5	8.2	9.3	11.5	9.6	10.4	11.3	9.6	10.4
24	8.1	7.6	7.8	9.3	8.0	8.5	11.8	10.1	11.1	10.8	8.7	9.7
25	---	---	---	9.3	7.2	8.2	12.1	11.0	11.5	10.4	7.7	9.0
26	---	---	---	10.6	8.5	9.3	12.3	11.1	11.6	10.6	7.6	9.3
27	---	---	---	9.1	8.1	8.6	12.6	10.9	11.6	11.0	8.2	9.7
28	9.6	8.1	8.7	9.1	7.6	8.4	13.3	11.0	12.0	11.5	8.5	10.3
29	9.5	8.3	8.8	---	---	---	14.1	11.7	12.7	12.6	10.6	11.5
30	10.6	8.4	9.4	---	---	---	13.4	11.8	12.6	13.1	10.4	11.5
31	11.6	9.6	10.3	---	---	---	13.4	11.6	12.4	13.7	11.2	12.1
MONTH	13.3	5.4	8.2	14.2	4.3	9.0	14.1	9.0	11.2	13.7	7.6	10.9
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	13.9	11.7	12.4	11.0	10.8	10.9	15.2	11.1	12.5	---	---	---
2	13.5	11.5	12.3	11.9	10.4	11.2	14.1	9.6	11.6	---	---	---
3	13.4	11.2	12.0	12.4	10.2	11.1	12.5	8.1	9.8	---	---	---
4	12.4	10.5	11.2	12.5	9.7	11.2	11.5	7.4	9.2	---	---	---
5	12.8	10.2	11.3	13.1	9.7	11.4	10.1	6.9	8.4	---	---	---
6	12.4	10.0	10.9	13.6	9.7	11.8	11.6	7.9	9.2	---	---	---
7	12.0	10.1	10.8	13.5	9.8	11.9	11.0	8.6	9.6	---	---	---
8	11.3	9.5	10.3	13.2	9.7	10.7	10.9	7.8	9.0	---	---	---
9	11.0	9.1	9.8	11.6	10.2	10.8	11.6	6.8	8.1	---	---	---
10	12.6	10.8	11.5	12.8	10.0	11.1	8.0	6.2	7.1	---	---	---
11	12.9	11.4	12.1	13.6	9.3	11.4	7.7	5.6	6.4	---	---	---
12	13.0	11.1	11.9	12.1	9.5	10.9	9.6	6.6	8.0	---	---	---
13	13.9	11.2	12.2	13.7	9.5	11.2	9.9	7.5	8.6	---	---	---
14	14.0	11.2	12.3	15.8	8.4	11.8	10.3	6.8	8.2	---	---	---
15	14.5	11.2	12.5	15.6	9.0	12.5	10.8	5.8	8.0	---	---	---
16	14.3	11.1	12.3	14.5	9.6	12.5	10.8	5.7	7.9	---	---	---
17	14.3	10.8	12.0	13.6	10.6	12.1	11.3	5.7	7.9	---	---	---
18	13.1	10.1	11.3	11.1	9.0	10.3	11.0	6.2	8.1	---	---	---
19	10.4	8.5	9.6	---	---	---	9.5	6.1	7.6	---	---	---
20	10.7	7.4	9.1	---	---	---	8.2	5.2	6.5	---	---	---
21	10.4	8.3	9.1	---	---	---	---	---	---	---	---	---
22	10.4	8.7	9.6	---	---	---	---	---	---	---	---	---
23	10.4	9.3	9.8	---	---	---	---	---	---	---	---	---
24	11.5	9.5	10.4	---	---	---	---	---	---	---	---	---
25	11.9	9.6	10.8	---	---	---	---	---	---	---	---	---
26	13.2	10.6	11.8	---	---	---	---	---	---	---	---	---
27	13.7	11.8	12.6	---	---	---	---	---	---	---	---	---
28	13.4	10.9	12.2	---	---	---	---	---	---	---	---	---
29	---	---	---	11.2	8.2	9.6	---	---	---	---	---	---
30	---	---	---	13.3	9.3	11.0	---	---	---	---	---	---
31	---	---	---	15.1	10.4	12.2	---	---	---	---	---	---
MONTH	14.5	7.4	11.2	15.8	8.2	11.3	15.2	5.2	8.6	---	---	---

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX

LOCATION.--Lat 32°45'46", long 96°59'42", Dallas County, Hydrologic Unit 12030102, on left bank at upstream side of bridge on Belt Line Road, 1.3 mi northeast of Grand Prairie, 3.7 mi upstream from Mountain Creek, and at mile 514.6.

DRAINAGE AREA.--3,065 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1925 to current year.

REVISED RECORDS.--WSP 628: 1925. WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 405.42 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 6, 1933, nonrecording gage at bridge on old channel 2,500 ft southeast of present site at datum 7.56 ft higher. Dec. 6, 1933, to May 24, 1956, water-stage recorder at site 440 ft downstream from site of nonrecording gage at datum 7.56 ft higher than present datum. May 25, 1956, to Apr. 18, 1957, nonrecording gage at site 1.5 mi downstream at different datum. Apr. 19 to Aug. 13, 1957, nonrecording gage on bridge at present site and at datum 5.00 ft higher than present datum. Aug. 14, 1957, to Sept. 30, 1982, water-stage recorder at present site and at datum 5.00 ft higher than present datum.

REMARKS.--No estimated daily discharges. Records good. Flow is affected at times by three upstream reservoirs with a combined capacity of 248,600 acre-ft, of which 76,550 acre-ft is for flood control. During the current year, the city of Fort Worth discharged sewage effluent into the river upstream from this station. There are many diversions upstream from station for municipal, industrial, and other uses. The river channel at this station was relocated and rectified in 1956. Rain gage at station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 30.6 ft in May 1908 (former site and datum), from information by local resident. Flood in April 1922 reached a stage of 29.0 ft (former site and datum), from flood-marks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	201	993	322	302	453	2140	209	759	1150	628	251	3860
2	198	814	343	289	575	1290	249	622	1370	329	227	1040
3	676	696	3390	305	558	900	560	1280	1160	306	218	914
4	701	619	1240	344	543	851	283	554	891	261	213	406
5	301	560	922	320	445	764	241	396	705	251	210	294
6	232	350	1060	321	307	730	202	236	641	271	207	274
7	214	305	1160	346	290	706	246	198	596	590	230	260
8	212	297	1010	337	279	932	281	187	509	986	289	256
9	199	291	872	316	287	1470	158	295	378	726	236	273
10	199	293	788	309	284	1010	138	721	354	1030	215	301
11	198	289	752	512	289	588	148	891	365	2930	212	288
12	206	290	681	652	270	347	141	5560	545	673	204	257
13	4850	290	1150	385	260	469	133	5690	412	971	196	250
14	1730	653	912	332	263	455	130	7570	353	662	196	240
15	509	641	816	309	260	390	126	7940	525	948	213	468
16	339	636	898	305	295	460	164	7040	507	517	220	370
17	287	790	623	493	497	349	167	6470	378	341	203	309
18	2970	456	395	416	432	243	130	5990	317	288	195	292
19	7140	429	363	394	313	222	117	5580	375	268	192	248
20	7890	598	345	766	398	218	117	4670	341	248	218	236
21	4530	546	337	790	357	218	130	3360	291	240	388	268
22	4880	522	470	731	2140	214	142	2540	278	233	421	270
23	5050	476	745	851	1880	211	130	1910	274	228	251	260
24	4090	315	470	654	1860	207	133	1540	269	224	214	233
25	2430	285	481	682	1460	202	272	1640	260	219	205	239
26	1870	375	618	669	1080	265	2920	3670	254	221	199	230
27	1560	517	513	670	549	751	488	1880	251	218	191	225
28	1170	406	353	642	403	373	235	1950	254	214	187	218
29	1070	356	329	544	---	331	1190	2070	254	213	188	217
30	1040	335	321	686	---	419	2430	1470	515	210	204	212
31	1020	---	308	603	---	315	---	1240	---	230	437	---
TOTAL	57962	14423	22987	15275	17027	18040	12010	85919	14772	15674	7230	13208
MEAN	1870	481	742	493	608	582	400	2772	492	506	233	440
MAX	7890	993	3390	851	2140	2140	2920	7940	1370	2930	437	3860
MIN	198	285	308	289	260	202	117	187	251	210	187	212
AC-FT	115000	28610	45590	30300	33770	35780	23820	170400	29300	31090	14340	26200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1994, BY WATER YEAR (WY)

	502	421	462	433	610	719	827	1630	1128	402	236	334
MEAN	502	421	462	433	610	719	827	1630	1128	402	236	334
MAX	5779	4472	8319	4504	3281	4521	7245	14030	11990	3475	1478	3094
(WY)	1982	1982	1992	1992	1992	1945	1942	1990	1989	1941	1950	1962
MIN	13.6	18.9	25.0	21.7	26.7	22.5	42.6	48.5	48.2	21.1	17.7	15.6
(WY)	1940	1940	1940	1930	1930	1940	1936	1937	1934	1939	1929	1931

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1926 - 1994
ANNUAL TOTAL	357412	294527	642
ANNUAL MEAN	979	807	2629
HIGHEST ANNUAL MEAN			79.3
LOWEST ANNUAL MEAN			48900
HIGHEST DAILY MEAN	7890	Oct 20	7940
LOWEST DAILY MEAN	88	Jun 5	117
ANNUAL SEVEN-DAY MINIMUM	96	Jun 2	128
INSTANTANEOUS PEAK FLOW			9010
INSTANTANEOUS PEAK STAGE			22.00
ANNUAL RUNOFF (AC-FT)	708900	584200	465000
10 PERCENT EXCEEDS	2310	1680	1490
50 PERCENT EXCEEDS	545	354	170
90 PERCENT EXCEEDS	198	205	47

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: January 1964 to current year. Chemical and biochemical analyses: January 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1966 to September 1992, August 1993 to current year.

pH: October 1976 to September 1992, August 1993 to current year.

WATER TEMPERATURE: October 1966 to September 1992, August 1993 to current year.

DISSOLVED OXYGEN: October 1976 to September 1992, August 1993 to current year.

INSTRUMENTATION.--Since November 1976, a four-parameter water-quality monitor records water temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument, probe, or probe line. Where maximum or minimum specific conductance values are not shown, mean value is estimated. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance with the exception of the 1993 water year. Regression equations developed for this station may be obtained from the U.S. Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,320 microsiemens Dec. 12, 1978; minimum, 108 microsiemens May 1, 1986.

pH: Maximum, 8.6 units July 2, 1981, June 27, 1982, Mar. 26, 1983, Feb. 5, 1986; minimum, 6.6 units Jan. 6, 1979.

WATER TEMPERATURE: Maximum, 35.0°C Aug. 8, 1982; minimum, 3.0°C Jan. 9, 1973.

DISSOLVED OXYGEN: Maximum, 14.8 mg/L Dec. 14, 16, 1983; minimum, 0.0 mg/L on several days during period of record.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 934 microsiemens Apr. 21; minimum, 156 microsiemens July 11.

pH: Maximum, 8.7 units July 19; minimum, 7.2 units July 10.

WATER TEMPERATURE: Maximum, 32.5°C July 23; minimum, 8.5°C on several days.

DISSOLVED OXYGEN: Maximum, 14.2 mg/L Aug. 25; minimum, 2.5 mg/L Aug. 28.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CaCO3)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS Ca)
NOV 17...	1125	626	570	7.7	14.5	7.7	77	2.2	180	37	60
JAN 28...	1410	609	647	7.9	12.5	9.8	93	2.5	200	28	65
MAR 16...	1010	487	647	7.8	16.5	8.8	91	2.0	200	30	67
MAY 23...	1529	1810	501	8.2	23.5	7.6	91	0.7	180	23	56
JUN 24...	0925	280	794	7.8	29.0	6.3	84	1.9	200	28	62
AUG 31...	1435	202	777	8.0	29.5	7.0	94	--	170	41	54
DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
NOV 17...	7.5	45	1	6.7	140	64	47	0.40	7.9	337	2.58
JAN 28...	8.9	57	2	7.1	170	63	63	0.50	8.4	389	2.59
MAR 16...	8.2	51	2	6.2	170	68	54	0.50	4.8	376	2.77
MAY 23...	8.8	33	1	4.4	150	41	38	0.30	5.0	285	1.40
JUN 24...	9.8	84	3	11	170	80	86	1.0	9.9	486	8.87
AUG 31...	9.0	90	3	11	130	67	96	0.90	11	479	13.0
DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	
NOV 17...	2.58	0.020	2.60	2.60	0.040	0.36	0.40	0.290	0.320	0.98	
JAN 28...	2.59	0.110	2.70	2.70	0.320	0.88	1.2	0.560	0.530	1.6	
MAR 16...	2.77	0.030	2.80	2.80	0.070	0.93	1.0	0.490	0.510	1.6	
MAY 23...	--	<0.010	1.40	1.40	0.020	0.28	0.30	0.130	0.130	0.40	
JUN 24...	8.87	0.030	8.90	8.90	0.060	0.84	0.90	1.10	0.990	3.0	
AUG 31...	13.0	0.040	13.0	13.0	0.040	1.4	1.4	1.40	1.30	4.0	

TRINITY RIVER MAIN STEM

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

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. 1993	57962	405	227	35600	30	4710	36	5670	140
NOV. 1993	14423	598	330	12900	54	2120	57	2220	170
DEC. 1993	22987	539	299	18600	46	2870	50	3130	160
JAN. 1994	15275	660	363	15000	64	2620	64	2660	170
FEB. 1994	17027	619	341	15700	58	2670	60	2750	170
MAR. 1994	18040	581	321	15600	52	2530	55	2690	170
APR. 1994	12010	569	315	10200	52	1690	55	1770	160
MAY 1994	85919	525	292	67700	44	10300	49	11300	160
JUNE 1994	14772	658	362	14400	64	2540	64	2570	170
JULY 1994	15674	513	284	12000	45	1910	48	2050	150
AUG. 1994	7230	750	409	7990	79	1540	76	1470	180
SEPT 1994	13208	543	300	10700	50	1780	52	1860	150
TOTAL	294527	**	**	236000	**	37200	**	40200	**
WTD.AVG.	807	536	297	**	47	**	51	**	160

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	840	810	824	452	415	437	722	688	705	731	697	715
2	850	820	835	499	412	452	757	716	735	727	691	714
3	850	350	637	535	494	507	725	277	382	708	676	695
4	670	430	508	549	514	534	494	379	451	708	686	696
5	590	440	512	550	523	542	528	491	518	743	692	724
6	680	590	647	597	546	559	537	498	521	768	739	753
7	790	680	749	648	597	633	529	498	518	761	717	749
8	810	770	790	680	643	666	546	513	537	763	713	734
9	890	810	840	663	641	653	569	527	552	739	710	726
10	890	880	888	687	641	671	572	548	560	739	712	726
11	900	860	884	685	679	683	560	535	551	749	650	707
12	860	790	833	695	680	689	556	461	541	775	656	704
13	790	234	318	702	688	698	584	461	522	672	637	654
14	389	245	316	692	614	656	521	497	509	737	672	705
15	499	387	442	655	591	612	580	518	549	749	727	739
16	581	499	529	592	491	551	546	521	536	747	627	734
17	618	581	606	585	526	554	548	512	525	724	603	681
18	---	---	e400	630	480	561	641	548	591	729	701	716
19	362	269	316	697	630	661	675	631	646	740	700	725
20	351	226	271	703	620	651	677	640	660	752	613	654
21	483	351	450	642	599	625	690	655	672	613	554	577
22	482	450	464	640	595	616	724	676	699	565	535	555
23	450	425	436	626	575	603	724	613	651	646	550	590
24	446	422	438	682	619	637	629	585	603	592	549	572
25	443	424	434	759	682	725	676	629	644	615	584	596
26	455	422	438	773	704	749	655	578	598	649	603	627
27	449	426	441	751	654	691	584	549	568	647	619	631
28	457	434	450	665	630	648	636	583	597	681	619	648
29	461	434	451	676	648	660	674	636	657	693	650	673
30	459	424	448	688	663	675	690	663	678	705	600	675
31	467	422	445	---	---	---	716	681	701	625	574	599
MONTH	900	226	550	773	412	620	757	277	586	775	535	677

e Estimated

TRINITY RIVER MAIN STEM

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	8.1	7.8	7.9	8.1	8.0	8.0	7.7	7.5	7.6	7.9	7.7	7.8
2	7.9	7.7	7.9	8.1	8.0	8.0	7.6	7.5	7.5	7.9	7.7	7.8
3	7.9	7.5	7.7	8.0	7.9	7.9	8.1	7.5	7.7	8.0	7.8	7.9
4	7.6	7.5	7.5	8.0	7.9	8.0	7.8	7.7	7.7	7.9	7.7	7.8
5	7.8	7.5	7.6	8.0	7.9	8.0	7.8	7.7	7.7	7.9	7.7	7.8
6	8.0	7.7	7.8	8.1	8.0	8.0	8.0	7.8	7.9	7.9	7.7	7.8
7	8.0	7.8	7.9	8.0	7.9	8.0	8.1	7.9	8.0	7.9	7.7	7.8
8	7.9	7.7	7.8	8.0	7.9	7.9	8.0	7.9	7.9	7.9	7.7	7.8
9	7.9	7.7	7.8	8.0	7.9	7.9	8.0	8.0	8.0	8.1	7.7	7.9
10	7.8	7.7	7.8	8.0	7.9	7.9	8.0	7.7	7.9	7.9	7.7	7.8
11	7.7	7.6	7.7	8.0	7.9	7.9	7.7	7.5	7.6	7.8	7.6	7.7
12	7.7	7.7	7.7	8.0	7.9	7.9	7.6	7.5	7.6	7.9	7.6	7.8
13	8.3	7.7	8.0	8.0	7.9	7.9	7.7	7.5	7.6	7.8	7.7	7.7
14	8.1	7.8	7.9	8.0	7.7	7.9	7.7	7.6	7.7	7.9	7.7	7.8
15	7.8	7.8	7.8	7.9	7.7	7.8	7.8	7.7	7.7	7.9	7.7	7.8
16	7.8	7.6	7.7	7.9	7.7	7.8	7.9	7.8	7.8	7.8	7.7	7.8
17	7.6	7.6	7.6	---	---	---	7.9	7.8	7.8	7.8	7.7	7.8
18	---	---	---	---	---	---	7.8	7.6	7.7	8.0	7.7	7.9
19	8.2	7.9	8.1	7.9	7.8	7.9	7.7	7.6	7.6	7.9	7.7	7.8
20	8.2	7.9	8.1	8.1	7.9	8.0	7.8	7.6	7.7	8.0	7.6	7.8
21	8.0	7.9	8.0	8.1	7.9	7.9	7.8	7.7	7.7	8.1	7.9	8.0
22	8.1	8.0	8.1	8.0	7.9	8.0	7.7	7.6	7.7	8.2	8.0	8.1
23	8.1	8.0	8.1	8.0	7.9	7.9	7.7	7.5	7.7	8.2	7.9	8.1
24	8.1	8.1	8.1	7.9	7.8	7.9	7.7	7.7	7.7	8.2	8.1	8.1
25	8.1	8.0	8.0	7.9	7.8	7.8	7.8	7.7	7.7	8.2	8.0	8.1
26	8.0	7.9	8.0	7.9	7.8	7.8	7.9	7.6	7.8	8.2	8.1	8.1
27	8.1	7.9	8.0	7.8	7.7	7.7	7.9	7.8	7.9	8.2	7.7	7.9
28	8.1	7.8	7.9	7.8	7.7	7.7	7.9	7.8	7.9	7.8	7.7	7.8
29	8.1	8.0	8.1	7.7	7.6	7.6	7.9	7.7	7.8	7.8	7.7	7.8
30	---	---	---	7.7	7.5	7.6	7.9	7.7	7.8	7.9	7.7	7.8
31	8.2	8.0	8.1	---	---	---	7.9	7.7	7.8	8.0	7.9	8.0
MONTH	8.3	7.5	7.9	8.1	7.5	7.9	8.1	7.5	7.7	8.2	7.6	7.9

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	8.0	7.8	7.9	7.9	7.7	7.8	7.8	7.6	7.7	---	---	---
2	8.0	7.7	7.9	7.9	7.7	7.8	7.8	7.6	7.7	---	---	---
3	8.0	7.8	7.9	7.9	7.7	7.8	---	---	---	8.0	7.8	7.9
4	8.0	7.8	7.9	8.0	7.8	7.9	7.7	7.6	7.6	7.9	7.8	7.9
5	8.0	7.8	7.9	8.0	7.9	7.9	7.6	7.5	7.6	7.9	7.9	7.9
6	7.9	7.8	7.9	8.0	7.8	7.9	7.7	7.6	7.6	8.0	7.9	8.0
7	7.8	7.6	7.7	8.0	7.8	7.9	7.7	7.6	7.6	8.0	7.8	7.9
8	7.8	7.6	7.7	8.0	7.9	7.9	7.7	7.6	7.7	8.1	7.8	8.0
9	7.8	7.7	7.8	8.0	7.8	7.9	7.7	7.5	7.6	8.0	7.9	7.9
10	7.8	7.6	7.7	7.9	7.8	7.8	7.7	7.5	7.5	7.9	7.7	7.8
11	7.8	7.7	7.7	7.9	7.8	7.8	7.7	7.6	7.6	7.9	7.7	7.8
12	7.7	7.6	7.7	7.8	7.8	7.8	7.7	7.6	7.7	7.9	7.6	7.7
13	7.9	7.6	7.7	7.8	7.7	7.8	7.7	7.5	7.6	7.8	7.6	7.7
14	7.8	7.6	7.7	7.8	7.6	7.7	7.6	7.3	7.5	7.8	7.6	7.8
15	7.7	7.6	7.6	7.7	7.6	7.7	7.8	7.5	7.6	7.9	7.7	7.8
16	7.7	7.6	7.6	7.8	7.5	7.7	7.9	7.7	7.8	7.9	7.8	7.8
17	7.9	7.4	7.7	8.0	7.7	7.8	8.1	7.7	7.9	7.9	7.9	7.9
18	7.8	7.6	7.7	7.8	7.6	7.7	8.2	7.8	8.0	7.9	7.8	7.9
19	7.7	7.5	7.6	7.9	7.5	7.7	8.1	7.8	7.9	7.9	7.8	7.8
20	7.6	7.4	7.5	8.0	7.6	7.8	7.9	7.6	7.7	7.8	7.7	7.8
21	7.7	7.4	7.5	8.1	7.6	7.8	7.8	7.6	7.7	7.7	7.6	7.7
22	7.9	7.3	7.7	8.1	7.6	7.8	7.9	7.6	7.7	7.6	7.6	7.6
23	8.0	7.8	7.8	8.1	7.6	7.8	---	---	---	---	---	---
24	8.2	8.0	8.1	7.9	7.6	7.7	---	---	---	---	---	---
25	8.2	8.1	8.1	7.9	7.5	7.7	---	---	---	---	---	---
26	8.1	8.0	8.0	7.8	7.6	7.7	---	---	---	7.7	7.3	7.4
27	8.1	7.9	7.9	7.8	7.5	7.7	---	---	---	7.6	7.4	7.5
28	7.9	7.8	7.8	7.8	7.7	7.7	---	---	---	7.7	7.4	7.6
29	---	---	---	7.8	7.7	7.7	---	---	---	7.9	7.6	7.7
30	---	---	---	7.9	7.7	7.8	---	---	---	7.9	7.7	7.8
31	---	---	---	7.9	7.7	7.8	---	---	---	8.0	7.8	7.9
MONTH	8.2	7.3	7.8	8.1	7.5	7.8	8.2	7.3	7.7	8.1	7.3	7.8

TRINITY RIVER MAIN STEM

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08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.1	7.9	8.0	7.7	7.4	7.5	7.7	7.5	7.6	8.1	7.6	7.9
2	8.1	7.9	8.0	7.9	7.5	7.6	8.0	7.6	7.8	7.9	7.7	7.7
3	8.0	7.9	8.0	8.0	7.5	7.7	7.9	7.7	7.8	7.7	7.6	7.7
4	8.0	7.9	7.9	7.9	7.5	7.7	7.9	7.6	7.7	7.7	7.7	7.7
5	8.2	7.9	8.0	8.1	7.5	7.7	7.8	7.6	7.7	7.8	7.7	7.7
6	8.4	8.0	8.2	7.9	7.7	7.8	7.8	7.6	7.7	8.0	7.8	7.9
7	8.4	8.0	8.2	7.9	7.5	7.7	7.7	7.6	7.7	8.0	7.8	7.9
8	8.2	7.8	8.0	7.8	7.3	7.6	7.7	7.6	7.6	7.9	7.7	7.8
9	8.0	7.6	7.8	7.4	7.3	7.4	8.0	7.4	7.8	7.9	7.7	7.8
10	8.3	7.7	8.0	7.8	7.2	7.3	8.2	8.0	8.1	8.0	7.7	7.8
11	8.1	7.8	7.9	7.8	7.4	7.6	8.1	7.9	8.0	8.2	7.8	8.0
12	7.8	7.7	7.7	7.7	7.6	7.6	8.1	7.9	8.0	8.0	7.8	7.9
13	8.2	7.8	7.9	7.6	7.4	7.5	8.1	7.9	8.0	7.9	7.7	7.7
14	8.6	7.8	8.1	7.6	7.5	7.5	8.1	7.9	8.0	7.7	7.6	7.7
15	8.3	7.8	7.9	7.6	7.5	7.6	7.9	7.8	7.8	7.8	7.7	7.7
16	8.0	7.7	7.9	7.8	7.5	7.6	7.9	7.8	7.8	7.7	7.6	7.7
17	8.1	7.8	8.0	8.1	7.7	7.8	8.0	7.8	7.9	7.7	7.6	7.6
18	8.1	7.8	7.9	8.3	7.7	8.0	7.9	7.7	7.8	7.8	7.6	7.7
19	8.0	7.7	7.9	8.7	7.8	8.2	7.8	7.6	7.7	7.8	7.6	7.7
20	7.9	7.6	7.8	8.5	8.0	8.2	7.7	7.6	7.7	7.8	7.7	7.7
21	8.1	7.7	7.9	8.2	7.9	8.1	7.7	7.5	7.6	7.8	7.6	7.7
22	8.0	7.7	7.9	8.1	8.0	8.1	7.6	7.5	7.5	7.8	7.6	7.7
23	8.0	7.8	7.9	8.1	7.9	8.0	---	---	---	7.7	7.6	7.6
24	8.0	7.6	7.8	8.0	7.8	7.9	7.9	7.6	7.7	7.7	7.5	7.6
25	8.0	7.7	7.8	7.9	7.7	7.8	8.0	7.6	7.8	7.7	7.5	7.6
26	8.0	7.8	7.9	8.0	7.7	7.8	7.9	7.6	7.8	7.8	7.5	7.6
27	8.0	7.8	7.9	8.0	7.7	7.8	7.8	7.6	7.7	7.7	7.5	7.6
28	8.0	7.8	7.9	8.0	7.7	7.8	7.8	7.7	7.7	7.8	7.5	7.6
29	7.9	7.7	7.8	7.9	7.7	7.8	7.8	7.7	7.7	7.7	7.5	7.6
30	7.8	7.4	7.6	7.8	7.6	7.7	7.8	7.7	7.7	7.6	7.5	7.5
31	---	---	---	7.6	7.5	7.5	7.9	7.6	7.7	---	---	---
MONTH	8.6	7.4	7.9	8.7	7.2	7.7	8.2	7.4	7.8	8.2	7.5	7.7
YEAR	8.7	7.2	7.8									

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	26.5	25.0	26.0	14.5	12.5	14.0	15.0	14.0	14.5	12.5	11.5	12.0
2	27.0	25.0	26.0	15.0	14.0	14.5	16.5	15.0	16.0	13.0	12.0	12.5
3	26.5	22.5	24.5	16.0	15.0	15.5	17.0	15.5	16.5	12.0	11.5	12.0
4	24.5	23.0	24.0	17.5	15.0	16.5	16.0	14.5	15.5	12.0	11.5	11.5
5	25.5	23.0	24.0	17.5	16.0	16.5	14.5	14.0	14.5	12.0	11.0	11.5
6	26.5	24.5	25.5	16.0	14.5	15.0	14.0	12.5	13.5	13.0	12.0	12.5
7	26.0	25.5	26.0	15.0	14.0	14.5	13.0	12.0	12.5	12.5	10.5	11.5
8	26.5	25.0	25.5	15.0	14.0	14.5	13.5	12.0	12.5	10.5	9.5	10.0
9	26.0	23.5	25.0	16.5	15.0	15.5	14.5	13.5	14.0	11.0	10.0	10.5
10	23.5	22.0	22.5	18.0	16.0	17.0	15.5	14.5	15.0	12.5	11.0	12.0
11	22.5	21.5	22.0	17.0	17.0	17.0	15.0	14.0	14.5	13.5	11.5	13.0
12	22.5	21.5	22.0	19.5	17.0	18.5	14.0	14.0	14.0	13.5	11.5	12.0
13	22.5	20.0	20.5	20.5	19.0	20.0	15.0	12.5	14.0	13.5	12.0	12.5
14	21.0	20.0	20.5	20.5	18.0	19.5	13.0	12.5	12.5	13.5	12.5	13.0
15	21.5	20.5	21.0	19.5	17.0	17.5	13.0	11.0	12.0	13.0	12.0	12.5
16	23.5	21.5	22.5	17.5	13.0	15.5	11.5	11.0	11.5	12.0	11.5	12.0
17	23.5	23.0	23.5	---	---	---	12.0	11.5	11.5	12.0	10.5	11.5
18	---	---	---	---	---	---	13.0	12.0	12.5	12.0	9.0	10.0
19	22.5	20.5	21.5	16.5	16.0	16.0	13.5	13.0	13.0	10.5	8.5	9.0
20	20.5	19.5	20.0	16.0	14.5	15.0	14.0	13.0	13.5	11.0	8.5	9.5
21	20.0	19.5	20.0	14.5	13.0	14.0	13.0	12.5	12.5	9.0	8.5	8.5
22	20.0	19.0	19.5	14.5	12.0	13.5	12.5	11.5	12.0	9.5	8.5	9.0
23	19.5	18.5	19.0	15.5	13.0	14.0	12.0	10.0	10.5	11.0	9.0	10.0
24	18.5	18.0	18.5	15.5	13.5	14.5	10.5	9.0	9.5	13.0	10.0	11.0
25	18.5	18.0	18.5	13.5	10.5	12.5	11.5	10.0	10.5	---	---	---
26	19.0	18.5	18.5	11.5	10.5	11.0	11.5	9.0	10.5	15.5	14.0	14.5
27	19.0	17.5	18.5	11.5	9.5	10.5	12.0	9.5	11.0	15.0	13.5	14.5
28	18.0	17.0	17.5	11.5	8.5	10.0	12.0	11.0	11.5	13.5	11.5	12.5
29	18.0	17.0	17.5	12.5	11.0	11.5	11.5	11.0	11.0	11.5	10.5	11.0
30	---	---	---	14.0	12.0	13.0	11.5	11.0	11.0	12.0	9.5	10.5
31	14.0	13.0	13.5	---	---	---	12.0	11.0	11.5	10.0	9.0	9.5
MONTH	27.0	13.0	21.5	20.5	8.5	15.0	17.0	9.0	12.5	15.5	8.5	11.5

08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	10.5	8.5	9.5	12.0	10.0	11.0	19.0	16.0	17.5	---	---	---
2	10.5	8.5	9.5	11.5	10.0	11.0	19.5	17.5	18.5	---	---	---
3	11.0	8.5	10.0	12.5	11.0	12.0	---	---	---	17.5	16.5	16.5
4	12.5	9.5	11.0	14.0	12.0	13.0	20.0	17.5	18.5	20.0	16.5	18.5
5	13.0	11.0	12.0	15.0	13.5	14.0	20.0	18.0	19.5	22.5	19.0	20.5
6	13.5	11.5	12.5	16.5	14.5	15.5	18.5	16.5	17.5	23.5	21.0	22.0
7	15.0	13.5	14.0	17.5	16.0	16.5	18.5	16.5	17.5	23.5	23.0	23.0
8	17.0	15.0	16.0	17.5	14.0	16.5	18.5	16.5	18.0	23.0	21.5	22.5
9	17.0	11.5	14.0	14.5	12.0	13.5	20.5	18.5	19.5	22.5	21.5	22.0
10	11.5	10.0	11.0	13.0	11.0	12.0	21.5	20.5	21.0	22.0	21.5	22.0
11	11.5	10.0	10.5	13.5	11.5	12.5	21.5	20.5	21.0	22.5	21.0	22.0
12	12.0	11.0	11.5	14.0	13.0	13.5	21.5	19.0	20.0	21.5	21.0	21.5
13	13.0	11.0	12.0	15.5	13.5	14.5	22.0	19.5	20.5	22.0	21.5	22.0
14	12.5	11.5	12.0	16.5	14.0	15.0	23.0	21.0	21.5	22.0	21.5	21.5
15	14.0	12.0	13.0	18.0	15.0	16.5	23.5	22.0	22.5	22.5	22.0	22.5
16	15.0	13.5	14.0	19.0	16.0	17.5	23.0	21.0	22.0	23.0	22.5	22.5
17	15.0	14.0	14.5	19.5	16.5	18.0	23.0	20.5	22.0	23.0	22.5	23.0
18	---	---	---	20.5	18.0	19.5	23.5	20.5	22.0	23.5	22.5	23.0
19	15.5	15.0	15.0	22.0	19.0	20.5	24.0	22.0	23.0	23.5	23.0	23.0
20	17.0	15.5	16.5	22.0	20.0	21.0	23.5	22.5	23.0	23.5	23.0	23.5
21	16.5	15.5	16.0	21.5	20.0	21.0	24.0	23.0	23.5	23.5	22.5	23.0
22	16.0	13.0	14.0	20.5	18.5	19.5	25.0	23.0	24.0	24.0	22.5	23.0
23	13.5	11.5	13.0	21.5	19.5	20.5	25.5	23.5	24.5	23.5	23.0	23.0
24	11.5	11.0	11.5	21.5	20.5	21.0	---	---	---	24.5	23.0	23.5
25	12.5	11.0	11.5	20.5	18.5	19.5	---	---	---	26.5	21.5	24.0
26	12.0	10.5	11.0	19.5	19.0	19.5	---	---	---	24.0	22.5	23.0
27	11.0	10.0	10.5	19.5	17.5	18.5	---	---	---	24.0	23.0	23.5
28	12.0	11.0	11.5	18.0	16.5	17.0	---	---	---	25.0	24.0	24.5
29	---	---	---	18.0	15.5	17.0	---	---	---	24.5	23.5	24.0
30	---	---	---	18.0	15.5	17.0	---	---	---	26.0	23.5	24.5
31	---	---	---	18.0	15.5	17.0	---	---	---	27.5	25.0	26.0
MONTH	17.0	8.5	12.5	22.0	10.0	16.5	25.5	16.0	21.0	27.5	16.5	22.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	28.0	25.5	26.5	31.0	29.0	30.0	30.0	27.5	28.5	26.5	25.0	25.5
2	27.5	25.5	26.5	30.5	29.0	30.0	30.0	28.0	29.0	27.0	25.5	26.0
3	27.0	25.5	26.0	31.0	29.0	30.0	30.5	28.5	29.5	27.5	26.0	26.5
4	28.0	25.5	26.5	31.0	29.0	30.0	31.0	29.0	30.0	29.0	26.0	27.0
5	28.5	26.5	27.5	31.0	29.5	30.0	31.0	29.5	30.0	29.5	27.5	28.5
6	29.5	27.0	28.5	30.0	28.5	29.0	31.0	29.5	30.0	29.5	28.0	28.5
7	30.0	27.5	29.0	30.5	28.0	29.0	30.5	28.0	29.5	28.5	26.5	27.5
8	30.0	28.0	29.0	30.0	26.0	28.0	29.5	27.5	28.5	28.0	25.0	27.0
9	30.0	28.5	29.5	28.5	27.0	28.0	---	---	---	28.0	27.0	27.5
10	30.5	28.5	29.5	27.5	25.0	27.0	30.0	28.5	29.0	28.5	26.5	27.5
11	29.5	27.0	28.0	27.0	24.0	25.5	30.5	28.5	29.5	28.5	27.0	27.5
12	28.5	26.0	27.5	29.5	26.5	27.5	31.0	29.0	30.0	28.5	27.0	28.0
13	29.5	27.0	28.0	29.0	28.0	28.5	31.0	29.5	30.0	29.0	27.5	28.0
14	29.5	27.5	28.5	28.5	27.5	28.0	31.5	29.0	30.5	29.0	27.5	28.0
15	28.5	25.5	27.0	29.5	27.5	28.5	30.5	29.0	29.5	29.0	27.5	28.0
16	29.0	26.0	27.5	30.5	28.0	29.5	30.0	28.5	29.0	28.0	27.0	27.5
17	30.0	27.5	28.5	31.5	29.0	30.0	30.5	28.5	29.5	27.0	23.5	25.0
18	30.5	28.0	29.5	32.0	29.5	30.5	31.0	29.0	30.0	27.0	22.5	25.5
19	30.5	29.0	29.5	31.5	29.5	30.5	31.5	29.5	30.5	27.0	25.0	26.0
20	31.0	28.5	29.5	31.5	30.0	30.5	30.5	28.5	29.5	27.0	25.5	26.0
21	31.0	28.5	30.0	31.5	29.5	30.5	30.0	27.5	28.5	26.5	25.5	26.0
22	30.5	28.5	29.5	32.0	30.0	31.0	30.0	28.0	29.0	26.0	23.0	24.5
23	31.0	29.0	30.0	32.5	30.0	31.0	---	---	---	---	---	---
24	31.5	29.5	30.5	32.0	30.5	31.0	30.5	29.0	29.5	23.5	22.0	22.5
25	31.5	29.5	30.5	31.5	30.5	30.5	31.0	29.0	30.0	23.5	21.5	22.5
26	31.5	29.5	30.5	30.5	29.5	30.0	31.5	29.5	30.5	24.5	22.5	23.5
27	31.5	29.5	30.5	30.0	28.0	29.0	31.0	29.5	30.0	25.5	23.5	24.5
28	31.0	29.5	30.0	30.0	27.5	29.0	31.0	29.0	30.0	26.5	24.5	25.5
29	31.0	29.5	30.0	29.5	28.0	28.5	31.0	29.0	30.0	27.0	25.5	26.0
30	30.5	27.0	29.5	28.5	27.5	28.0	31.0	29.0	30.0	26.5	25.0	26.0
31	---	---	---	29.0	26.5	27.5	30.5	26.5	29.5	---	---	---
MONTH	31.5	25.5	29.0	32.5	24.0	29.5	31.5	26.5	29.5	29.5	21.5	26.5
YEAR	32.5	8.5	20.5									

TRINITY RIVER MAIN STEM

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08049500 WEST FORK TRINITY RIVER AT GRAND PRAIRIE, TX--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	8.3	6.3	7.3	9.8	9.3	9.5	9.6	8.2	9.0	8.7	6.0	7.6
2	7.5	6.1	6.7	9.6	9.1	9.4	9.4	8.0	8.6	9.7	6.3	8.1
3	7.5	5.5	6.2	9.1	8.9	9.0	10.8	7.1	8.6	10.2	7.1	8.7
4	5.9	5.0	5.5	9.1	8.6	8.8	8.9	8.2	8.5	10.9	7.2	9.2
5	6.8	5.1	6.0	9.2	8.4	8.8	8.6	8.4	8.5	10.8	8.0	9.5
6	7.4	5.8	6.4	9.6	8.5	9.1	9.7	8.6	9.1	9.9	6.9	8.5
7	7.0	5.5	6.2	9.6	8.6	9.2	10.2	9.7	10.0	11.0	6.6	8.9
8	6.5	5.1	5.7	9.4	8.5	8.9	10.0	9.6	9.9	10.9	7.2	9.4
9	6.2	4.7	5.6	9.1	8.2	8.7	9.6	8.8	9.3	11.7	7.6	9.8
10	6.6	5.2	5.8	9.2	8.0	8.6	9.1	8.2	8.6	10.7	7.0	8.9
11	6.1	5.3	5.7	8.9	8.1	8.6	8.7	8.0	8.3	9.4	7.3	8.3
12	5.8	5.3	5.6	8.6	7.6	8.1	8.7	7.6	8.0	9.3	7.7	8.3
13	7.7	4.5	6.3	8.1	6.7	7.5	8.6	7.4	7.9	8.7	6.5	7.6
14	6.5	6.2	6.4	7.8	6.6	7.2	8.7	7.6	8.2	8.6	6.1	7.4
15	6.7	6.3	6.6	7.8	6.4	7.2	9.2	8.3	8.7	8.8	6.1	7.5
16	6.5	6.1	6.3	8.5	6.3	7.1	9.1	8.6	8.8	8.3	6.2	7.4
17	6.4	5.8	6.1	8.4	7.1	7.6	9.1	7.8	8.6	8.8	6.5	7.7
18	---	---	---	7.8	7.0	7.5	8.7	7.0	7.9	10.7	8.7	9.5
19	---	---	---	7.8	7.1	7.5	8.0	6.5	7.4	11.9	8.5	10.4
20	6.9	6.2	6.6	9.1	7.4	8.4	7.8	5.2	6.8	11.9	10.5	11.4
21	7.9	6.9	7.5	10.1	8.7	9.5	7.4	5.3	6.4	12.4	11.7	12.1
22	8.2	7.8	8.0	10.5	9.8	10.1	8.3	5.9	7.0	12.4	11.8	12.1
23	8.3	8.1	8.2	10.2	9.4	9.8	8.9	8.1	8.4	12.3	11.2	11.9
24	8.4	8.2	8.3	10.0	8.8	9.3	8.6	7.3	8.1	11.7	10.6	11.0
25	8.3	8.2	8.3	9.8	8.7	9.2	8.4	6.7	7.9	---	---	---
26	8.3	8.1	8.2	11.8	9.5	10.4	8.9	8.3	8.7	10.9	10.2	10.5
27	8.5	8.2	8.3	11.5	10.2	10.8	8.8	7.6	8.3	10.4	9.8	10.2
28	8.5	8.3	8.4	11.5	10.4	11.0	8.6	6.1	7.4	11.0	10.0	10.4
29	8.5	8.1	8.3	10.4	9.2	9.8	8.6	6.0	7.5	10.9	10.4	10.6
30	9.3	8.4	8.8	10.4	8.8	9.6	8.4	6.4	7.6	12.2	10.4	11.1
31	9.7	9.0	9.4	---	---	---	8.5	6.1	7.4	12.6	11.4	12.2
MONTH	9.7	4.5	7.0	11.8	6.3	8.9	10.8	5.2	8.2	12.6	6.0	9.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	12.6	11.5	12.1	12.4	10.2	10.8	9.3	7.5	8.5	---	---	---
2	13.3	11.5	12.4	11.1	10.0	10.5	8.7	7.3	8.2	---	---	---
3	12.9	11.7	12.3	10.7	10.0	10.2	---	---	---	8.3	7.3	7.9
4	12.4	11.3	11.9	10.4	9.9	10.2	7.8	6.3	7.1	8.3	7.4	7.8
5	12.0	10.6	11.3	10.5	9.4	9.9	7.6	5.9	6.8	8.0	7.1	7.5
6	11.3	9.7	10.5	10.3	9.4	9.9	8.3	6.5	7.5	8.5	6.8	7.6
7	10.4	8.8	9.7	9.7	9.0	9.3	8.8	6.8	7.7	8.8	7.0	7.9
8	10.0	8.1	9.2	10.5	8.6	9.1	9.2	7.3	8.2	10.2	7.0	8.7
9	9.1	7.8	8.6	9.9	9.2	9.6	8.7	6.1	7.4	9.5	7.5	8.3
10	10.1	8.2	9.1	10.5	9.6	10.1	8.3	5.5	6.9	8.6	7.0	7.7
11	11.0	9.2	10.2	10.6	9.5	10.1	7.9	6.3	7.1	7.9	6.3	7.2
12	10.4	8.9	9.9	9.5	8.8	9.1	8.9	6.4	7.6	9.1	5.4	6.8
13	11.4	8.8	10.2	9.1	8.6	8.8	9.4	6.9	8.2	7.5	6.9	7.3
14	11.5	9.6	10.5	9.1	8.3	8.8	9.5	7.4	8.4	8.4	7.5	7.9
15	11.3	9.2	10.3	10.0	7.7	8.6	9.8	6.7	8.1	8.5	7.5	8.1
16	11.9	9.1	10.5	10.7	8.4	9.5	10.1	6.8	8.5	8.7	8.4	8.5
17	11.9	9.0	10.7	11.1	8.6	9.8	11.5	7.6	9.4	8.8	8.4	8.6
18	---	---	---	10.1	7.9	9.2	11.8	7.8	9.9	8.8	8.4	8.6
19	10.1	8.7	9.3	10.1	7.1	8.8	11.0	8.4	9.7	---	---	---
20	10.0	7.7	8.9	9.9	7.0	8.6	10.3	7.6	9.0	---	---	---
21	10.4	8.7	9.6	10.9	6.9	9.0	10.3	7.3	8.9	---	---	---
22	10.9	7.8	9.4	12.0	7.7	9.9	10.9	7.1	8.8	---	---	---
23	10.8	9.4	9.8	12.2	7.8	10.0	10.9	7.2	9.2	8.4	7.5	7.9
24	11.3	10.7	10.9	10.1	7.1	8.3	---	---	---	8.1	6.3	7.4
25	11.3	10.6	11.0	9.6	6.5	8.0	---	---	---	8.6	6.3	7.6
26	11.6	10.8	11.2	8.7	7.0	7.8	---	---	---	9.5	6.1	7.7
27	11.6	10.5	11.0	8.4	7.2	7.7	---	---	---	9.4	7.7	8.6
28	10.9	9.5	10.0	8.8	7.2	7.9	---	---	---	9.3	8.2	8.6
29	---	---	---	9.3	7.3	8.4	---	---	---	9.6	8.6	9.1
30	---	---	---	9.7	7.8	8.8	---	---	---	9.6	8.3	8.9
31	---	---	---	9.7	7.8	8.8	---	---	---	8.8	7.3	8.1
MONTH	13.3	7.7	10.4	12.4	6.5	9.2	11.8	5.5	8.2	10.2	5.4	8.0

TRINITY RIVER BASIN

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08049580 MOUNTAIN CREEK NEAR VENUS, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 32°29'27", long 97°07'22", Johnson County, Hydrologic Unit 12030102, on right bank on downstream side of highway embankment near right end of bridge on Farm Road 157, 3.0 mi upstream from Grassy Creek, 3.2 mi upstream from Reece Branch, and 3.9 mi north of Venus.

DRAINAGE AREA.--25.5 mi².

PERIOD OF RECORD.--November 1985 to September 1987. October 1987 to current year (peaks above base discharge).
Water-quality records.--Chemical analyses: December 1985 to September 1993.

GAGE.--Water-stage recorder. Datum of gage is 580.49 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Daily values and peaks discharges less than 580 ft³/s are not published. Rain gage at station.
Satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 580 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

TRINITY RIVER BASIN

08049700 WALNUT CREEK NEAR MANSFIELD, TX

LOCATION.--Lat 32°34'51", long 97°06'06", Tarrant County, Hydrologic Unit 12030102, on right bank at downstream side of bridge on county road, 2.6 mi northeast of Mansfield, 3.3 mi downstream from Texas and New Orleans Railroad Co. bridge, and 10.2 mi upstream from mouth.

DRAINAGE AREA.--62.8 mi².

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 531.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Rain gage at station. Satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 18	0315	2,130	19.60	May 12	0645	705	12.34
Oct. 19	1015	1,330	16.15	May 13	1200	840	13.27

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.69	.76	1.2	.95	90	1.3	e12	1.8	.17	.07	12
2	.00	.94	5.9	1.2	.94	29	1.3	34	1.4	.16	.03	9.8
3	.06	1.0	88	1.1	.94	6.7	1.3	41	1.2	.22	.01	2.1
4	.01	.81	27	1.1	.94	3.4	1.3	7.5	1.1	.18	.00	.26
5	.01	.76	4.9	1.2	.91	2.4	1.3	4.2	1.0	.15	.00	.17
6	.00	.68	2.6	1.1	.91	2.0	1.3	2.9	.89	.15	.00	.10
7	.00	.68	1.9	1.1	.97	1.8	1.1	2.4	.81	.14	.00	.08
8	.00	.63	1.9	1.1	1.1	33	1.1	1.9	.72	.17	.00	.08
9	.00	1.0	1.6	1.1	.85	81	1.2	13	.65	.11	.00	.08
10	.00	.78	1.6	1.1	.90	13	1.3	5.3	.62	.11	.00	.08
11	.00	.68	1.3	1.2	1.1	4.3	1.6	18	.57	10	.00	.07
12	.00	1.0	1.4	1.3	.94	2.7	1.5	449	.72	.49	.00	.06
13	155	1.3	92	1.4	.94	3.5	1.3	437	.69	.44	.00	.06
14	1.8	5.1	13	1.2	.77	3.2	1.2	116	.60	9.3	.00	.04
15	.08	.88	3.7	1.2	.85	2.6	1.1	38	14	1.3	.00	.05
16	.04	14	2.5	1.1	.70	2.2	1.0	19	1.9	.29	.00	.10
17	7.4	3.0	2.1	3.4	.60	1.9	.89	12	.62	.20	.00	.06
18	761	1.5	1.7	1.3	.60	1.9	.84	8.7	.39	.12	.00	.02
19	523	1.0	1.6	1.1	.65	1.7	.83	6.5	.32	.10	.00	.01
20	180	.83	1.5	1.3	1.4	1.6	.81	5.4	.32	.09	.00	.00
21	17	.78	1.3	1.3	1.3	1.5	.81	4.4	.29	.08	32	.00
22	3.3	.68	4.3	2.3	103	1.3	.88	3.9	.27	.08	.18	.00
23	1.5	.68	3.3	3.1	30	1.4	.87	3.2	.27	.08	.09	.00
24	1.1	.68	2.3	2.2	4.7	1.5	.81	3.2	.63	.06	.06	.00
25	.92	1.1	1.8	2.2	2.6	1.2	2.0	10	.29	.06	.05	.00
26	.75	1.5	1.6	2.1	1.7	12	38	18	.21	.05	.03	.00
27	.66	1.6	1.5	1.8	1.3	12	3.1	12	.24	.05	.01	.00
28	.58	.99	1.4	1.7	6.0	4.3	2.2	5.4	.18	.02	.00	.00
29	.59	.84	1.3	1.3	---	2.2	e118	4.0	.17	.01	.00	.00
30	.57	.81	1.2	1.2	---	1.6	e94	3.5	.19	.00	.00	.00
31	.57	---	1.2	1.1	---	1.4	---	2.2	---	.06	.00	---
TOTAL	1655.94	46.92	278.16	46.1	168.56	328.3	284.24	1303.6	33.06	24.44	32.53	25.22
MEAN	53.4	1.56	8.97	1.49	6.02	10.6	9.47	42.1	1.10	.79	1.05	.84
MAX	761	14	92	3.4	103	90	118	449	14	10	32	12
MIN	.00	.63	.76	1.1	.60	1.2	.81	1.9	.17	.00	.00	.00
AC-FT	3280	93	552	91	334	651	564	2590	66	48	65	50
CFSM	.85	.02	.14	.02	.10	.17	.15	.67	.02	.01	.02	.01
IN.	.98	.03	.16	.03	.10	.19	.17	.77	.02	.01	.02	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1994, BY WATER YEAR (WY)

	MEAN	19.2	3.75	16.9	6.89	20.1	24.4	37.6	53.7	30.0	4.13	2.13	6.53
MAX	272	36.3	326	64.5	157	184	174	378	300	57.1	21.8	67.4	
(WY)	1992	1992	1992	1992	1993	1977	1990	1989	1986	1975	1979	1973	
MIN	.000	.000	.000	.000	.014	.13	.40	.074	.030	.000	.000	.000	
(WY)	1964	1961	1964	1964	1981	1981	1963	1978	1962	1963	1964	1961	1971

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1961 - 1994

ANNUAL TOTAL	13866.98	4227.07	18.8
ANNUAL MEAN	38.0	11.6	82.2
HIGHEST ANNUAL MEAN			1.34
LOWEST ANNUAL MEAN			1992
HIGHEST DAILY MEAN	2350	761	7900
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		2130	22800
INSTANTANEOUS PEAK STAGE		19.60	33.77
ANNUAL RUNOFF (AC-FT)	27510	8380	13590
ANNUAL RUNOFF (CFSM)	.60	.18	.30
ANNUAL RUNOFF (INCHES)	8.21	2.50	4.06
10 PERCENT EXCEEDS	75	12	12
50 PERCENT EXCEEDS	2.5	1.1	.22
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

08049800 JOE POOL LAKE NEAR DUNCANVILLE, TX

LOCATION.--Lat 32°38'36", long 97°00'03", Dallas County, Hydrologic Unit 12030102, in control room of outlet works tower located 285 ft upstream from centerline of Joe Pool Dam on Mountain Creek, 0.7 mi downstream from Walnut Creek, 0.7 mi upstream from bridge over Mountain Creek on Camp Wisdom Road, 1.0 mi downstream from John Penn Branch, 5.5 mi west of water towers in downtown Duncanville, 7.1 mi upstream from Mountain Creek Dam on Mountain Creek, and 11.2 mi upstream from mouth.

DRAINAGE AREA.--232 mi².

PERIOD OF RECORD.--August 1985 to current year.

Water-quality records.--Chemical and biochemical analyses: January 1986 to September 1993.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark).

REMARKS.--The lake is formed by a rolled earthfill dam 22,360 ft long, including a 50-foot uncontrolled broad-crested concrete spillway. Impoundment of water began Jan. 7, 1986, after closure of the dam was completed in December 1985. The flood-control outlet works consist of a 10.5-foot-diameter conduit that is controlled by two 4.75- by 10.5-foot slide gates. Above an elevation of 541 ft, water will flow over a 50-foot-long uncontrolled broad-crested concrete spillway located 0.5 mi to left of the outlet works tower. The low-flow outlet works consist of four 3- by 5-foot slide gates having invert elevations at 486.0, 495.0, 504.0, and 513.0 ft that open to a wet-well. Discharge from the wet-well to the 10.5-foot-diameter conduit is controlled by a 2- by 4-foot gate with invert at elevation 483.0 ft. A low-flow bypass system consisting of a turbine pump and 10-inch-diameter piping is also available for use if needed. The capacity table was provided by the U.S. Army Corps of Engineers. The lake was built for water supply, conservation, and flood control. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	564.5	-
Crest of spillway.....	541.0	362,700
Top of conservation pool.....	522.0	176,900
Lowest gated outlet.....	466.0	1,095

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 274,600 acre-ft May 20, 1990 (elevation, 533.21 ft); minimum since initial filling began, 1,595 acre-ft Jan. 24, 1986 (elevation, 467.65 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 185,600 acre-ft May 17 (elevation, 523.15 ft); minimum daily, 148,300 acre-ft Sept. 30 (elevation, 517.97 ft).

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

517.0	141,800	520.0	162,300	523.0	184,500
518.0	148,700	521.0	169,500	525.0	200,200
519.0	155,700	522.0	176,900	524.0	192,200

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163400	173700	173000	174100	173400	179300	177500	178200	163300	159600	155600	152300
2	163100	173600	173600	174100	173300	179400	177400	179000	162900	159500	155400	152300
3	163500	173600	174100	173900	173300	179100	177300	179300	162700	159300	155200	152200
4	163500	173600	174300	173800	173300	178500	177300	179400	162700	159100	155000	152000
5	163400	173300	174300	173900	173200	178400	177100	179200	162500	158900	154900	151900
6	163300	173200	174100	173600	173200	178300	177000	179000	162300	158800	154700	151700
7	163100	173000	174100	173600	173200	178200	176800	178800	162200	158600	154600	151700
8	163000	173000	174100	173500	173200	178900	176700	178500	162000	158500	154600	151600
9	162600	173000	174200	173300	173100	179600	176800	178600	161900	158300	154400	151500
10	162500	172900	174100	173400	173200	179400	176700	178700	161700	158500	154300	151300
11	162500	172900	174100	173600	173200	178900	177200	178500	161700	158600	154100	151200
12	162500	172900	174700	173500	173200	178700	177100	181500	161600	158400	154100	151000
13	164100	172900	175000	173500	173200	178400	177000	183800	161400	158300	153900	150900
14	164000	173300	174900	173400	173000	177900	177000	184600	161300	158600	153700	150900
15	164000	173300	174900	173300	173000	177500	176900	184600	161700	158500	153600	150900
16	163900	173600	174800	173300	173000	177300	176800	185400	161700	158400	153500	150800
17	165300	173800	174800	173300	172900	177300	176700	185600	161600	158300	153200	150600
18	169700	173800	174800	173300	173000	177300	176700	185200	161500	158200	153200	150400
19	173800	173600	174700	173300	174400	177300	176700	183700	161400	157900	153000	150300
20	175400	173600	174700	173300	174400	177400	176600	181300	161300	157700	153000	150200
21	175400	173600	174700	173300	175000	177300	176600	178800	161200	157500	153200	150000
22	175300	173400	174700	173300	177600	177300	176600	176500	161000	157400	153000	149800
23	175300	173300	174700	173300	177900	177300	176500	174100	161000	157200	153000	149500
24	175200	173200	174700	173600	178100	177200	176500	171600	160800	157000	152800	149200
25	175000	173300	174700	173600	177800	177200	177300	169400	160600	156800	152700	149000
26	174800	173300	174400	173600	177900	177400	177500	167500	160400	156400	152500	148900
27	174700	173300	174400	173600	178100	177900	177500	165900	160200	156300	152300	148800
28	174500	173300	174400	173600	178500	177900	177400	164900	160000	156100	152200	148600
29	174200	173200	174400	173600	---	177700	178500	164200	159900	155900	152000	148500
30	174100	173200	174400	173500	---	177600	178300	164000	159800	156000	151900	148300
31	173900	---	174100	173500	---	177600	---	163600	---	155700	152100	---
MAX	175400	173800	175000	174100	178500	179600	178500	185600	163300	159600	155600	152300
MIN	162500	172900	173000	173000	172900	177200	176500	163600	159800	155700	151900	148300
(+)	521.60	521.50	521.62	521.54	522.21	522.10	522.19	520.17	519.64	519.06	518.53	517.97
(@)	+10300	-700	+900	-600	+5000	-400	+700	-14700	-3800	-4100	-3600	-3800

CAL YR 1993 MAX 194900 MIN 162500 (0) -3800
WTR YR 1994 MAX 185600 MIN 148300 (0) -15300

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

TRINITY RIVER BASIN

08049860 MOUNTAIN CREEK OUTFALL AT I-20, DUNCANVILLE, TX

LOCATION.--Lat 32°40'14", long 96°59'59", Dallas County, Hydrologic Unit 12030102, between eastbound and westbound Interstate Highway I-20 lanes, 0.75 mi east of FM 1182 road intersection, and 4.5 mi east of the intersection with Great Southwest Parkway.

DRAINAGE AREA.--0.18 mi².

PERIOD OF RECORD.-- Chemical and biochemical analyses: December 1993 to September 1994.

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events from storm sewer systems draining urban basins. This study is in cooperation with the North Central Texas Council of Governments to fulfill requirements (by EPA) for the Texas Department of Transportation in applying for a National Pollution Discharge Elimination System (NPDES) storm-water discharge permit.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	PRECIP- ITATION TOTAL INCHES/ STORM	ELAPSED TIME OF STORM (HOURS)	STORM WATER FLOW (MGD)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	PH WATER WHOLE LAB (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	
DEC													
02-03	1532	0.59	11.3	0.30	864	981	8.4	7.6	19.0	86	6.8	4500	
JAN													
11-11	0550	0.23	3.0	0.06	2240	1100	8.2	7.4	12.0	140	>9.2	K100	
FEB													
28-28	1800	0.29	2.8	0.14	886	664	7.8	7.6	11.5	87	8.4	2200	
MAR													
08-08	1145	0.20	3.8	0.08	905	906	7.5	7.5	16.0	56	4.3	1700	
APR													
11-11	1320	0.66	1.8	0.16	252	490	8.6	7.4	19.0	110	6.0	8000	
MAY													
09-09	1230	0.56	4.5	0.28	513	546	7.5	7.6	20.0	49	6.5	11000	
AUG													
20-20	1820	0.85	1.7	0.15	351	443	7.6	7.4	29.0	120	9.2	--	
DATE		STREP- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	
DEC													
02-03	28000	290	200	86	659	136	699	80	21	92	41	2	
JAN													
11-11	1200	260	200	61	715	102	750	72	20	110	47	3	
FEB													
28-28	5100	200	150	44	444	386	456	55	14	57	38	2	
MAR													
08-08	5800	270	190	84	599	73	647	77	20	82	39	2	
APR													
11-11	26000	130	100	26	342	211	309	38	7.8	37	38	1	
MAY													
09-09	68000	170	110	56	349	58	372	48	11	42	35	1	
AUG													
20-20	18000	85	55	30	263	164	240	24	6.1	39	49	2	
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	ANTIMONY TOTAL (UG/L AS SB)	ARSENIC TOTAL (UG/L AS AS)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
DEC													
02-03	5.7	370	23	0.490	1.8	0.200	0.030	<10.0	2	<10	<1	3	
JAN													
11-11	4.4	420	11	1.30	2.9	0.250	0.050	<10.0	2	<10	<1	5	
FEB													
28-28	2.8	260	6.6	0.320	2.1	0.430	0.020	<10.0	5	<10	<1	12	
MAR													
08-08	3.1	350	10	0.400	1.2	0.090	0.020	<10.0	<1	<10	<1	3	
APR													
11-11	2.6	170	36	0.310	3.2	0.530	0.050	<10.0	4	<10	<1	18	
MAY													
09-09	3.4	200	3.6	0.160	1.8	0.110	0.010	<10.0	<1	<10	<1	3	
AUG													
20-20	3.4	110	5.2	0.830	3.6	0.560	0.210	<10.0	3	<10	<1	9	

08049860 MOUNTAIN CREEK OUTFALL AT I-20, DUNCANVILLE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	CYANIDE, TOTAL EPA (MG/L AS CN)	CYANIDE TOTAL (MG/L AS CN)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL COV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, TOTAL RECOV- ERABLE EPA (UG/L AS AG)	THAL- LIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
DEC 02-03	9	<0.010	<0.010	32	<0.10	11	<1	<1	<0.500	<10	110	25
JAN 11-11	13	<0.010	<0.010	35	<0.10	21	1	<1	<0.500	<5	190	38
FEB 28-28	19	<0.010	<0.010	90	<0.10	26	<1	<1	<0.500	<20	200	29
MAR 08-08	7	<0.010	<0.010	12	<0.10	8	<1	<1	<0.500	<5	80	18
APR 11-11	20	<0.010	<0.010	120	<0.10	47	<1	<1	<0.500	<10	260	31
MAY 09-09	6	<0.010	<0.010	10	<0.10	5	<1	<1	<0.500	<5	40	16
AUG 20-20	11	<0.010	<0.010	140	<0.10	32	<1	<1	<0.500	<5	210	42
DATE	OIL AND GREASE, TOTAL RECOV- ERABLE GRAVI- METRIC (MG/L)	PHENOLS TOTAL (UG/L)	ACRO- LEIN TOTAL (UG/L)	ACRYLO- NITRILE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	BROMO- BENZENE WATER, TOTAL (UG/L)	METHANE BROMO- CHLORO- WAT- UNFLTRD REC (UG/L)	BROMO- FORM TOTAL (UG/L)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L)	BENZENE SEC BUTYL- WATER UNFLTRD REC (UG/L)	BENZENE TERT- BUTYL- WATER UNFLTRD REC (UG/L)	CARBON- TETRA- CHLO- RIDE TOTAL (UG/L)
DEC 02-03	6	10	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	<0.20	<0.2
JAN 11-11	<1	3	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	<0.20	<0.2
FEB 28-28	<1	1	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	<0.20	<0.2
MAR 08-08	1	2	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	<0.20	<0.2
APR 11-11	<1	10	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	<0.20	<0.2
MAY 09-09	<1	5	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	<0.20	<0.2
AUG 20-20	<1	14	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	<0.20	<0.2
DATE	CHLORO- BENZENE TOTAL (UG/L)	CHLORO- DI- BROMO- METHANE TOTAL (UG/L)	CHLORO- ETHANE TOTAL (UG/L)	2- CHLORO- ETHYL- VINYL- ETHER TOTAL (UG/L)	CHLORO- FORM TOTAL (UG/L)	METHYL- CHLO- RIDE TOTAL (UG/L)	O- CHLORO- TOLUENE WATER WHOLE TOTAL (UG/L)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L)	DIBROMO CHLORO- PROPANE WATER WHOLE TOT.REC (UG/L)	DI- BROMO- METHANE WATER WHOLE RECOVER (UG/L)	1,2- DIBROMO ETHANE WATER WHOLE TOTAL (UG/L)	DI- CHLORO- BROMO- METHANE TOTAL (UG/L)
DEC 02-03	<0.20	<0.2	<0.2	<1.0	<0.2	0.2	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
JAN 11-11	<0.20	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
FEB 28-28	<0.20	<0.2	<0.2	<1.0	<0.2	0.3	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
MAR 08-08	<0.20	<0.2	<0.2	<1.0	<0.2	4.0	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
APR 11-11	<0.20	<0.2	<0.2	<1.0	<0.2	3.8	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
MAY 09-09	<0.20	<0.2	<0.2	<1.0	<0.2	0.3	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
AUG 20-20	<0.20	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
DATE	1,1-DI- CHLORO- ETHYL- ENE TOTAL (UG/L)	1,1-DI- CHLORO- PRO- PENE, WAT, WH TOTAL (UG/L)	BENZENE O- CHLORO- WATER UNFLTRD REC (UG/L)	BENZENE 1,3-DI- CHLORO- WATER UNFLTRD REC (UG/L)	BENZENE 1,4-DI- CHLORO- WATER UNFLTRD REC (UG/L)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (UG/L)	1,1-DI- CHLORO- ETHANE TOTAL (UG/L)	1,2-DI- CHLORO- ETHANE TOTAL (UG/L)	1,2-DI- PHENYL- HYDRA- ZINE WATER TOT.REC (UG/L)	CIS-1,2- DI- CHLORO- ETHENE WATER TOTAL (UG/L)	1,2- TRANSDI- CHLORO- ETHENE TOTAL (UG/L)	1,2-DI- CHLORO- PROPANE TOTAL (UG/L)
DEC 02-03	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
JAN 11-11	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
FEB 28-28	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
MAR 08-08	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
APR 11-11	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
MAY 09-09	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
AUG 20-20	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2

TRINITY RIVER BASIN

08049860 MOUNTAIN CREEK OUTFALL AT I-20, DUNCANVILLE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	1,3-DI- CHLORO- PROPANE WAT. WH TOTAL (UG/L)	2,2-DI- CHLORO- PROPANE WAT. WH TOTAL (UG/L)	CIS 1,3-DI- CHLORO- PROPENE TOTAL (UG/L)	TRANS- 1,3-DI- CHLORO- PROPENE TOTAL (UG/L)	ETHYL- BENZENE TOTAL (UG/L)	HEXA- CHLORO- BUT- ADIENE TOTAL (UG/L)	ISO- PROPYL- BENZENE WATER WHOLE REC (UG/L)	P-ISO- PROPYL- TOLUENE WATER WHOLE REC (UG/L)	METHYL- BROMIDE TOTAL (UG/L)	METHYL- ENE CHLORO- RIDE TOTAL (UG/L)	METHYL ETHER TERT- BUTYL WAT UNF REC (UG/L)	NAPHTH- ALENE TOTAL (UG/L)
DEC 02-03	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<1.0	<5.0
JAN 11-11	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<1.0	<5.0
FEB 28-28	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<1.0	<5.0
MAR 08-08	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<1.0	<5.0
APR 11-11	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<0.2	<5.0
MAY 09-09	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<0.2	<5.0
AUG 20-20	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<0.2	<5.0
DATE	BENZENE N-PROPYL WAT UNFLTRD REC (UG/L)	STYRENE TOTAL (UG/L)	ETHANE, 1112- TETRA- CHLORO- WAT UNF REC (UG/L)	ETHANE, 1,1,2,2- TETRA- CHLORO- WAT UNF REC (UG/L)	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	1,2,3- TRI- CHLORO BENZENE WAT. WH REC (UG/L)	BENZENE 1,2,4- TRI- CHLORO- WAT UNF REC (UG/L)	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L)	1,1,2- TRI- CHLORO- ETHANE TOTAL (UG/L)	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L)	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L)
DEC 02-03	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
JAN 11-11	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
FEB 28-28	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
MAR 08-08	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
APR 11-11	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
MAY 09-09	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
AUG 20-20	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
DATE	123-TRI CHLORO- PROPANE WATER WHOLE TOTAL (UG/L)	FREON- 113 WATER UNFLTRD REC (UG/L)	PSEUDO- CUMENE WATER UNFLTRD REC (UG/L)	MESIT- YLENE WATER UNFLTRD REC (UG/L)	VINYL CHLORO- RIDE TOTAL (UG/L)	XYLENE WATER UNFLTRD REC (UG/L)	ACE- NAPHTH- ENE TOTAL (UG/L)	ACE- NAPHTH- YLENE TOTAL (UG/L)	ANTHRA- CENE TOTAL (UG/L)	BENZO- DINE TOTAL (UG/L)	BENZO A ANTHRAC- ENE 1,2- BENZANT- HRACENE TOTAL (UG/L)	BENZO- A- PYRENE TOTAL (UG/L)
DEC 02-03	<0.2	<0.5	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
JAN 11-11	<0.2	<0.5	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
FEB 28-28	<0.2	<0.5	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
MAR 08-08	<0.2	<0.5	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
APR 11-11	<0.2	<0.2	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
MAY 09-09	<0.2	<0.2	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
AUG 20-20	<0.2	<0.2	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
DATE	BENZO B FLUOR- AN- THENE TOTAL (UG/L)	BENZO K FLUOR- AN- THENE TOTAL (UG/L)	BENZOGH I PERYL ENE 1,12- BENZOP- ERYLENE TOTAL (UG/L)	4- BROMO- PHENYL ETHER TOTAL (UG/L)	N-BUTYL BENZYL PHTHAL- ATE TOTAL (UG/L)	BIS (2- CHLORO- ETHOXY) METHANE TOTAL (UG/L)	BIS 2- CHLORO- ETHYL ETHER TOTAL (UG/L)	BIS (2- CHLORO- ISO- PROPYL) ETHER TOTAL (UG/L)	PARA- CHLORO- META CRESOL TOTAL (UG/L)	2- CHLORO- NAPH- THALENE TOTAL (UG/L)	2- CHLORO- PHENOL TOTAL (UG/L)	4- CHLORO- PHENYL ETHER TOTAL (UG/L)
DEC 02-03	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0
JAN 11-11	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0
FEB 28-28	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0
MAR 08-08	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0
APR 11-11	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0
MAY 09-09	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0
AUG 20-20	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0

08049860 MOUNTAIN CREEK OUTFALL AT I-20, DUNCANVILLE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	CHRY- SENE TOTAL (UG/L)	1,2,5,6- DIBENZ- -ANTHRA- -CENE TOTAL (UG/L)	3,3'- DI- CHLORO- BENZ- DINE TOTAL (UG/L)	2,4-DI- CHLORO- PHENOL TOTAL (UG/L)	DIETHYL PHTHAL- ATE TOTAL (UG/L)	DI- METHYL PHTHAL- ATE TOTAL (UG/L)	2,4-DI- METHYL- PHENOL TOTAL (UG/L)	DI-N- BUTYL PHTHAL- ATE TOTAL (UG/L)	4,6- DINITRO- -ORTHO- CRESOL TOTAL (UG/L)	2,4- DI- NITRO- PHENOL TOTAL (UG/L)	2,4-DI- NITRO- TOLUENE TOTAL (UG/L)	2,6-DI- NITRO- TOLUENE TOTAL (UG/L)
DEC 02-03	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
JAN 11-11	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
FEB 28-28	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
MAR 08-08	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
APR 11-11	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
MAY 09-09	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
AUG 20-20	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
DATE	DI-N- OCTYL PHTHAL- ATE TOTAL (UG/L)	BIS(2- ETHYL HEXYL) PHTHAL- ATE TOTAL (UG/L)	FLUOR- ANTHENE TOTAL (UG/L)	FLUOR- ENE TOTAL (UG/L)	HEXA- CHLORO- BENZENE TOTAL (UG/L)	HEXA- CHLORO- CYCLO- PENT- ADIENE TOTAL (UG/L)	HEXA- CHLORO- ETHANE TOTAL (UG/L)	INDENO (1,2,3- CD) PYRENE TOTAL (UG/L)	ISO- PHORONE TOTAL (UG/L)	NITRO- BENZENE TOTAL (UG/L)	N-NITRO- -SODI- METHY- LAMINE TOTAL (UG/L)	2- NITRO- PHENOL TOTAL (UG/L)
DEC 02-03	<10.0	7.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
JAN 11-11	<10.0	9.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
FEB 28-28	<10.0	13.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
MAR 08-08	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
APR 11-11	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
MAY 09-09	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
AUG 20-20	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
DATE	4- NITRO- PHENOL TOTAL (UG/L)	N- NITRO- -SODI- N- PROPYL- AMINE TOTAL (UG/L)	N-NITRO- -PHENY- LAMINE TOTAL (UG/L)	PENTA- CHLORO- PHENOL TOTAL (UG/L)	PHENAN- THRENE TOTAL (UG/L)	PHENOL (C6H- 5OH) TOTAL (UG/L)	PYRENE TOTAL (UG/L)	2,4,6- TRI- CHLORO- PHENOL TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	P,P' DDT, TOTAL (UG/L)	ALPHA BHC TOTAL (UG/L)	BETA BENZENE HEXA- CHLOR- IDE TOTAL (UG/L)
DEC 02-03	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
JAN 11-11	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
FEB 28-28	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
MAR 08-08	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
APR 11-11	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
MAY 09-09	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
AUG 20-20	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
DATE	DELTA BENZENE HEXA- CHLOR- IDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	CHLOR- DANE CIS WATER WHOLE TOTAL (UG/L)	CHLOR- DANE TRANS WATER WHOLE TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	P,P' DDD, TOTAL (UG/L)	P,P' DDE, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN- I WATER WHOLE REC (UG/L)	ENDO- SULFAN BETA TOTAL (UG/L)	ENDO- SULFAN SULFATE TOTAL (UG/L)	ENDRIN WATER UNFLTRD REC (UG/L)
DEC 02-03	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
JAN 11-11	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
FEB 28-28	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
MAR 08-08	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
APR 11-11	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
MAY 09-09	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
AUG 20-20	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060

TRINITY RIVER BASIN

08049860 MOUNTAIN CREEK OUTFALL AT I-20, DUNCANVILLE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	ENDRIN ALDE- HYDE TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	AROCLOR 1016 PCB TOTAL (UG/L)	AROCLOR 1221 PCB TOTAL (UG/L)	AROCLOR 1232 PCB TOTAL (UG/L)	AROCLOR 1242 PCB TOTAL (UG/L)	AROCLOR 1248 PCB TOTAL (UG/L)	AROCLOR 1254 PCB TOTAL (UG/L)	AROCLOR 1260 PCB TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
DEC 02-03	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
JAN 11-11	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
FEB 28-28	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
MAR 08-08	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
APR 11-11	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
MAY 09-09	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
AUG 20-20	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05

08049950 FISH CREEK OUTFALL AT I-20, ARLINGTON, TX

LOCATION.--Lat 32°40'38" Long 97°05'32", Tarrant County, Hydrologic Unit 12030102, storm sewer outfall to Fish Creek 200 ft east of Collins Street overpass on south side of I-20 eastbound lanes and 1 mi west of I-20 and Highway 360 intersection.

DRAINAGE AREA.--0.02 mi².

PERIOD OF RECORD.-- Chemical and biochemical analyses: February 1994 to September 1994.

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events from storm sewer systems draining urban basins. This study is in cooperation with the North Central Texas Council of Governments to fulfill requirements (by EPA) for the Texas Department of Transportation in applying for a National Pollution Discharge Elimination System (NPDES) storm-water discharge permit.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	PRECIPITATION TOTAL INCHES/ STORM	ELAPSED TIME OF STORM (HOURS)	STORM WATER FLOW (MGD)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	PH WATER WHOLE LAB (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	
FEB 28- MAR 01 MAR 08-08 MAY 09-09	1807 1145 1250	0.56 0.27 0.44	4.2 4.8 4.2	0.10 0.04 0.08	120 204 139	152 399 197	7.7 7.3 8.4	7.5 7.2 7.1	11.0 15.0 20.0	59 70 <10	6.0 6.4 4.9	2100 41000 450000	
DATE		STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SOLIDS, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	
FEB 28- MAR 01 MAR 08-08 MAY 09-09	3700 19000 150000	55 160 81	30 85 24	25 71 57	83 238 109	67 90 30	103 267 140	21 60 31	0.65 1.5 0.86	3.7 13 3.6	12 15 8	0.2 0.5 0.2	
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS P)	ANTIMONY TOTAL (UG/L AS SB)	ARSENIC TOTAL (UG/L AS AS)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
FEB 28- MAR 01 MAR 08-08 MAY 09-09	2.6 3.5 4.6	17 100 27	3.7 7.6 3.3	0.880 1.30 0.430	1.0 1.3 1.2	0.380 0.250 0.310	0.320 0.200 0.220	<10.0 <10.0 <10.0	3 2 1	<10 <10 <10	<1 <1 <1	3 3 2	
DATE		COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	CYANIDE, TOTAL EPA (MG/L AS CN)	CYANIDE TOTAL (MG/L AS CN)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, TOTAL RECOV- ERABLE EPA (UG/L AS AG)	THAL- LIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
FEB 28- MAR 01 MAR 08-08 MAY 09-09	11 12 10	<0.010 <0.010 <0.010	<0.010 <0.010 <0.010	15 11 8	<0.10 <0.10 <0.10	4 4 3	<1 <1 <1	<1 <1 <1	<0.500 <0.500 0.740	<5 <5 <5	40 50 30	18 24 19	
DATE		OIL AND GREASE, TOTAL RECOV. GRAVI- METRIC (MG/L)	PHENOLS TOTAL (UG/L)	ACRO- LEIN TOTAL (UG/L)	ACRYLO- NITRILE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	BROMO- BENZENE WATER, WHOLE, TOTAL (UG/L)	METHANE BROMO CHLORO- WAT UNFLTRD REC (UG/L)	BROMO- FORM TOTAL (UG/L)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L)	BENZENE SEC BUTYL- WATER UNFLTRD REC (UG/L)	BENZENE TERT- BUTYL- WATER UNFLTRD REC (UG/L)	CARBON- TETRA- CHLO- RIDE TOTAL (UG/L)
FEB 28- MAR 01 MAR 08-08 MAY 09-09	2 <1 <1	7 4 5	<20 <20 <20	<20 <20 <20	<0.2 <0.2 <0.2	<0.2 <0.2 <0.2	<0.20 <0.20 <0.20	<0.2 <0.2 <0.2	<0.20 <0.20 <0.20	<0.20 <0.20 <0.20	<0.20 <0.20 <0.20	<0.2 <0.2 <0.2	

08049950 FISH CREEK OUTFALL AT I-20, ARLINGTON, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	CHLORO-FORM TOTAL (UG/L)	METHYL-CHLORIDE TOTAL (UG/L)	0-CHLORO-TOLUENE WHOLE TOTAL (UG/L)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L)	DIBROMO-CHLORO-PROPANE WATER WHOLE TOT.REC (UG/L)	DI-BROMO-METHANE WATER WHOLE RECOVER (UG/L)	1,2-DIBROMO-ETHANE WATER WHOLE TOTAL (UG/L)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L)
FEB 28-												
MAR 01	<0.20	<0.2	<0.2	<1.0	<0.2	0.3	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
MAR 08-08	<0.20	<0.2	<0.2	<1.0	<0.2	3.7	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
MAY 09-09	<0.20	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
DATE	1,1-DI-CHLORO-ETHYLENE TOTAL (UG/L)	1,1-DI-CHLORO-PROPENE, WAT. WH TOTAL (UG/L)	BENZENE O-CHLORO- WATER UNFLTRD REC (UG/L)	BENZENE 1,3-DI-CHLORO- WATER UNFLTRD REC (UG/L)	BENZENE 1,4-DI-CHLORO- WATER UNFLTRD REC (UG/L)	DI-CHLORO- DI-FLUORO- METHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-PHENYL-HYDRAZINE WATER TOT.REC (UG/L)	CIS-1,2- DI-CHLORO- ETHYLENE WATER TOTAL (UG/L)	1,2- TRANSDI- CHLORO- ETHYLENE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)
FEB 28-												
MAR 01	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
MAR 08-08	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
MAY 09-09	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
DATE	1,3-DI-CHLORO-PROPANE WAT. WH TOTAL (UG/L)	2,2-DI-CHLORO-PROPANE WAT. WH TOTAL (UG/L)	CIS 1,3-DI-CHLORO- PROPENE TOTAL (UG/L)	TRANS- 1,3-DI-CHLORO- PROPENE TOTAL (UG/L)	ETHYL- BENZENE TOTAL (UG/L)	HEXA- CHLORO- BUT- ADIENE TOTAL (UG/L)	ISO- PROPYL- BENZENE WATER WHOLE REC (UG/L)	P-ISO- PROPYL- TOLUENE WATER WHOLE REC (UG/L)	METHYL- BROMIDE TOTAL (UG/L)	METHYL- ENE CHLORO- RIDE TOTAL (UG/L)	METHYL ETHER TERT- BUTYL WAT UNF REC (UG/L)	NAPHTH- ALENE TOTAL (UG/L)
FEB 28-												
MAR 01	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<1.0	<5.0
MAR 08-08	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<1.0	<5.0
MAY 09-09	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<0.2	<5.0
DATE	BENZENE N-PROPYL WATER UNFLTRD REC (UG/L)	STYRENE TOTAL (UG/L)	ETHANE, 1112- TETRA- CHLORO- WAT UNF REC (UG/L)	ETHANE, 1,1,2,2- TETRA- CHLORO- WAT UNF REC (UG/L)	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	1,2,3- TRI- CHLORO- BENZENE WAT. WH REC (UG/L)	BENZENE 1,2,4- TRI- CHLORO- WAT UNF REC (UG/L)	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L)	1,1,2- TRI- CHLORO- ETHANE TOTAL (UG/L)	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L)	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L)
FEB 28-												
MAR 01	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
MAR 08-08	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
MAY 09-09	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
DATE	123-TRI- CHLORO- PROPANE WATER WHOLE TOTAL (UG/L)	FREON- 113 WATER UNFLTRD REC (UG/L)	PSEUDO- CUMENE WATER UNFLTRD REC (UG/L)	MESIT- YLENE WATER UNFLTRD REC (UG/L)	VINYL CHLORO- RIDE TOTAL (UG/L)	XYLENE WATER UNFLTRD REC (UG/L)	ACE- NAPHTH- ENE TOTAL (UG/L)	ACE- NAPHTH- YLENE TOTAL (UG/L)	ANTHRA- CENE TOTAL (UG/L)	BENZI- DINE TOTAL (UG/L)	BENZO A ANTHRAC- ENE1,2- BENZANT- HRACENE TOTAL (UG/L)	BENZO- A- PYRENE TOTAL (UG/L)
FEB 28-												
MAR 01	<0.2	<0.5	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
MAR 08-08	<0.2	<0.5	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
MAY 09-09	<0.2	<0.2	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
DATE	BENZO B FLUORO- AN- THENE TOTAL (UG/L)	BENZO K FLUORO- AN- THENE TOTAL (UG/L)	BENZOGH I PERYL ENE1,12- BENZOP- ERYLENE TOTAL (UG/L)	4- BROMO- PHENYL ETHER TOTAL (UG/L)	N-BUTYL BENZYL PHTHAL- ATE TOTAL (UG/L)	BIS (2- CHLORO- ETHOXY) METHANE TOTAL (UG/L)	BIS 2- CHLORO- ETHYL ETHER TOTAL (UG/L)	BIS (2- CHLORO- ISO- PROPYL) ETHER TOTAL (UG/L)	PARA- CHLORO- META- CRESOL TOTAL (UG/L)	2- CHLORO- NAPH- THALENE TOTAL (UG/L)	2- CHLORO- PHENOL TOTAL (UG/L)	4- CHLORO- PHENYL ETHER TOTAL (UG/L)
FEB 28-												
MAR 01	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0
MAR 08-08	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0
MAY 09-09	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0

TRINITY RIVER BASIN

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08049950 FISH CREEK OUTFALL AT I-20, ARLINGTON, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	CHRY- SENE TOTAL (UG/L)	1,2,5,6- DIBENZ- ANTHRA- CENE TOTAL (UG/L)	3,3'- DI- CHLORO- BENZID- INE TOTAL (UG/L)	2,4-DI- CHLORO- PHENOL TOTAL (UG/L)	DIETHYL PHTHAL- ATE TOTAL (UG/L)	DI- METHYL PHTHAL- ATE TOTAL (UG/L)	2,4-DI- METHYL- PHENOL TOTAL (UG/L)	DI-N- BUTYL PHTHAL- ATE TOTAL (UG/L)	4,6- DINITRO -ORTHO- CRESOL TOTAL (UG/L)	2,4,- DI- NITRO- PHENOL TOTAL (UG/L)	2,4-DI- NITRO- TOLUENE TOTAL (UG/L)	2,6-DI- NITRO- TOLUENE TOTAL (UG/L)
FEB 28-												
MAR 01	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
MAR 08-08	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
MAY 09-09	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
DATE	DI-N- OCTYL PHTHAL- ATE TOTAL (UG/L)	BIS(2- ETHYL HEXYL) PHTHAL- ATE TOTAL (UG/L)	FLUOR- ANTHENE TOTAL (UG/L)	FLUOR- ENE TOTAL (UG/L)	HEXA- CHLORO- BENZENE TOTAL (UG/L)	HEXA- CHLORO- CYCLO- PENT- ADIENE TOTAL (UG/L)	HEXA- CHLORO- ETHANE TOTAL (UG/L)	INDENO (1,2,3- CD) PYRENE TOTAL (UG/L)	ISO- PHORONE TOTAL (UG/L)	NITRO- BENZENE TOTAL (UG/L)	N-NITRO- SODI- METHY- LAMINE TOTAL (UG/L)	2- NITRO- PHENOL TOTAL (UG/L)
FEB 28-												
MAR 01	<10.0	7.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
MAR 08-08	<10.0	8.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
MAY 09-09	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
DATE	4- NITRO- PHENOL TOTAL (UG/L)	N- NITRO- SODI-N- PROPYL- AMINE TOTAL (UG/L)	N-NITRO -SODI- PHENY- LAMINE TOTAL (UG/L)	PENTA- CHLORO- PHENOL TOTAL (UG/L)	PHENAM- THRENE TOTAL (UG/L)	PHENOL (C6H- 5OH) TOTAL (UG/L)	PYRENE TOTAL (UG/L)	2,4,6- TRI- CHLORO- PHENOL TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	P,P' DDT, TOTAL (UG/L)	ALPHA BHC TOTAL (UG/L)	BETA BENZENE HEXA- CHLOR- IDE TOTAL (UG/L)
FEB 28-												
MAR 01	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
MAR 08-08	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
MAY 09-09	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
DATE	DELTA BENZENE HEXA- CHLOR- IDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	CHLOR- DANE CIS WATER WHOLE TOTAL (UG/L)	CHLOR- DANE TRANS WATER WHOLE TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	P,P' DDD, TOTAL (UG/L)	P,P' DDE, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN- I WATER WHOLE REC (UG/L)	ENDO- SULFAN BETA TOTAL (UG/L)	ENDO- SULFAN TOTAL (UG/L)	ENDRIN WATER UNFLTRD REC (UG/L)
FEB 28-												
MAR 01	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
MAR 08-08	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
MAY 09-09	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
DATE	ENDRIN ALDE- HYDE TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	AROCLOR 1016 PCB TOTAL (UG/L)	AROCLOR 1221 PCB TOTAL (UG/L)	AROCLOR 1232 PCB TOTAL (UG/L)	AROCLOR 1242 PCB TOTAL (UG/L)	AROCLOR 1248 PCB TOTAL (UG/L)	AROCLOR 1254 PCB TOTAL (UG/L)	AROCLOR 1260 PCB TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
FEB 28-												
MAR 01	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
MAR 08-08	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
MAY 09-09	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05

TRINITY RIVER BASIN

08050050 MOUNTAIN CREEK LAKE NEAR GRAND PRAIRIE, TX

LOCATION.--Lat 32°43'55", long 96°56'35", Dallas County, Hydrologic Unit 12030102, at right end of spillway in Mountain Creek Dam on Mountain Creek, 2.5 mi upstream from Texas and Pacific Railway Co. bridge, and 3.7 mi southeast of Grand Prairie.

DRAINAGE AREA.--295 mi².

PERIOD OF RECORD.--October 1960 to current year.

Water-quality records.--Chemical analyses: October 1969 to September 1985.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 21, 1960, non-recording gage at powerplant at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 5,800 ft long, including a controlled spillway with six 34- by 27-foot tainter gates. The dam was completed in December 1936 and deliberate impoundment began on Mar. 24, 1937. The lake was built and is operated by Dallas Power and Light Co. to supply cooling water for their generating plant. The capacity curve is based on a survey made in 1963. For statement regarding regulation by Joe Pool Dam, see station 08049900. Satellite telemeter and rain gage at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	467.0	-
Top of gates.....	458.0	25,720
Top of dry weather conservation pool.....	457.0	22,840
Top of wet weather conservation pool.....	456.0	20,260
Crest of spillway (sill of tainter gates).....	431.0	0

COOPERATION.--The capacity curve was provided by the Dallas Power and Light Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 28,360 acre-ft May 17, 1989 (elevation, 458.80 ft); minimum, 14,120 acre-ft Oct. 18, 1972 (elevation, 453.25 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 24,650 acre-ft Oct. 18 at 0500 hours (elevation, 457.63 ft); minimum, 18,430 acre-ft Oct. 2 (elevation, 455.23 ft).

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

453.0	13,600	456.0	20,260	458.0	25,720
454.0	15,670	457.0	22,840	459.0	29,020
455.0	17,890				

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18770	20240	21500	22950	22220	21810	22380	21550	22250	22450	21990	21140
2	18620	20310	22010	22950	22220	21990	22400	22300	22430	22400	21450	21550
3	19050	20360	23300	23010	22270	22480	22400	22610	22580	22270	21420	21730
4	19050	20310	23560	22930	22190	22840	21420	22190	22580	22190	21370	21730
5	19030	20260	22760	23040	22190	23330	22350	21680	22560	22170	21320	21680
6	19030	20240	22790	22810	22220	23620	22270	21270	22530	22090	21270	21520
7	19030	20210	22810	22870	22270	23470	22270	21470	22560	22090	21270	21500
8	18980	20210	22870	22930	21320	23010	22350	21700	22400	22500	21240	21450
9	18860	20210	22900	22900	22170	22300	22400	22190	22350	22450	21190	21420
10	18860	20210	22870	22930	22190	22690	22480	22630	22270	23100	21140	21370
11	18840	20260	22870	23160	22250	23130	22350	22140	22400	22840	21090	21320
12	21320	20340	23100	23210	22190	22870	22380	22040	22450	22840	21030	21290
13	20600	20360	22580	23240	22190	22190	22400	23100	22350	22980	20960	21210
14	20650	20670	22610	23190	22190	22740	22400	22660	22270	23360	20830	21210
15	20670	20650	22660	23190	22190	23130	22220	22840	22950	22690	20780	21160
16	20620	21140	22660	23190	22220	23590	22170	22980	22950	22660	20720	21110
17	23500	21240	22690	23360	22220	22350	22140	23160	22950	22740	20700	21030
18	24140	21340	22710	23360	22250	22250	22140	22430	22930	22610	20650	20960
19	20360	21230	22760	23360	22300	22320	22090	21860	22930	22450	20600	20880
20	20470	21240	22740	23390	22430	22170	22070	23270	22870	22170	20720	20830
21	20520	21240	22760	23440	22500	22190	22070	23160	22810	21940	20750	20800
22	20540	21240	22870	22010	22900	22250	22140	22840	22790	22300	20670	20720
23	20540	21210	22930	22090	22980	22220	22120	22530	22840	22270	20650	20600
24	20540	21240	22930	22190	23100	22140	22090	22220	22790	22220	20600	20540
25	20540	21240	22930	22270	22900	22170	22810	22120	22760	22190	20360	20490
26	20490	21370	23040	22270	22980	22300	21810	22580	22630	22070	20440	20470
27	20490	21420	22930	22250	22960	22430	21960	22170	22500	22040	20470	20470
28	23070	21400	22900	22250	22810	22400	21910	21990	22350	22040	20390	20470
29	20260	21420	22930	22220	---	22350	21760	22450	22350	21990	20360	20340
30	20340	21420	22950	22170	---	22350	21500	21830	22500	22010	20340	20310
31	20290	---	23010	22190	---	22350	---	22040	---	22040	20830	---
MAX	24140	21420	23560	23440	23100	23620	22810	23270	22950	23360	21990	21730
MIN	18620	20210	21500	22010	21320	21810	21420	21270	22250	21940	20340	20310
(+)	456.01	456.45	457.06	456.75	456.99	456.81	456.48	456.69	456.87	456.69	456.22	456.02
(#)	+1520	+1130	+1590	-820	+620	-460	-850	+540	+460	-460	-1210	-520

CAL YR 1993 MAX 24600 MIN 18290 (#) +710
WTR YR 1994 MAX 24140 MIN 18620 (#) +1540

(+) Elevation, in feet, at end of month.
(#) Change in contents, in acre-feet.

08050100 MOUNTAIN CREEK AT GRAND PRAIRIE, TX

LOCATION.--Lat 32°44'51", long 96°55'32", Dallas County, Hydrologic Unit 12030102, on roadway embankment at upstream right end of downstream bridge on Jefferson Street, 1,000 ft upstream from bridge on U.S. Highway 80, 1.2 mi upstream from Texas and Pacific Railroad Co. bridge, 1.5 mi downstream from Mountain Creek Lake Dam, and 4.4 mi east of Grand Prairie.

DRAINAGE AREA.--298 mi².

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 404.31 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 19, 1984, at datum 3.0 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Since March 1937, flow regulated by Mountain Creek Lake (station 08050050), 1.5 mi upstream. Several observations of water temperature were made during the year. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.6	.83	.56	1.4	1010	.54	1.2	3.6	3.2	1.4	13
2	2.2	2.0	24	.43	1.4	12	1.5	17	3.5	2.6	1.6	12
3	3.4	2.1	63	.46	1.1	1.9	2.5	117	3.4	2.6	1.9	5.3
4	3.2	2.1	13	.34	1.3	1.5	.52	353	3.4	2.3	1.7	2.9
5	3.0	1.1	513	3.3	.88	1.2	.51	291	3.4	2.3	1.7	2.5
6	2.5	1.4	2.6	3.0	.87	1.1	.60	401	3.5	2.5	1.9	2.5
7	2.2	1.5	1.6	.53	.96	92	.43	5.0	3.6	2.8	1.8	2.4
8	2.1	1.2	1.3	.35	1.2	963	.26	4.8	3.5	7.6	2.6	2.8
9	1.9	1.1	1.3	.36	.81	804	.28	8.1	3.1	3.1	1.9	3.0
10	2.9	1.0	.88	.52	1.4	5.5	.41	7.3	3.4	75	1.8	2.9
11	2.9	.97	.69	1.5	1.4	2.6	1.3	835	4.0	1040	1.9	2.9
12	2.7	1.2	.95	.93	1.2	310	.65	e2620	4.1	7.0	1.8	2.7
13	28	1.1	630	.67	.98	726	.19	e103	3.0	3.9	1.8	2.8
14	6.0	3.4	7.0	.43	.94	3.1	.10	e454	3.3	7.1	1.8	2.8
15	4.6	1.0	2.9	.26	1.0	2.0	.11	e51	12	408	1.7	4.1
16	5.1	9.3	2.2	.45	.89	1.6	.04	e23	4.5	2.3	2.1	5.3
17	4.4	2.8	2.1	2.4	.90	610	.06	9.9	2.7	1.8	2.2	3.4
18	485	1.7	1.6	.94	.95	72	.06	454	2.7	1.8	2.0	3.7
19	5510	1.3	1.4	.78	1.4	1.5	.03	968	3.2	1.8	1.9	3.9
20	e724	1.5	1.2	1.4	4.0	1.1	.03	146	3.1	1.8	1.9	3.8
21	e6.2	1.7	1.2	.90	1.8	.96	.04	1340	3.0	1.6	3.5	3.5
22	3.8	1.4	1.1	728	455	1.1	.06	1290	3.7	1.6	2.1	3.7
23	3.0	1.3	.90	28	8.2	.71	.05	1280	3.6	1.5	2.0	5.0
24	2.6	.95	.54	2.9	4.6	.64	.04	1290	4.2	1.3	1.8	4.4
25	2.7	1.8	.41	2.5	3.4	.90	.46	1290	4.0	1.4	1.7	4.8
26	2.4	2.6	.70	2.0	2.1	1.5	1420	1390	4.4	1.4	2.1	4.1
27	1.9	2.1	1.0	1.6	1.9	1.8	6.9	1340	3.1	1.5	1.9	3.7
28	2.2	1.6	.41	1.6	183	.98	.23	884	3.3	1.7	1.9	3.1
29	1.7	1.1	.28	1.4	---	.88	555	143	2.6	1.5	1.9	3.4
30	2.7	.92	.31	1.4	---	.59	406	563	4.9	1.3	2.1	3.4
31	2.8	---	.34	1.3	---	.73	---	4.7	---	1.6	2.6	---
TOTAL	6830.2	55.84	1278.74	791.21	684.98	4632.89	2398.90	17684.0	113.8	1595.9	61.0	123.8
MEAN	220	1.86	41.2	25.5	24.5	149	80.0	570	3.79	51.5	1.97	4.13
MAX	5510	9.3	630	728	455	1010	1420	2620	12	1040	3.5	13
MIN	1.7	.92	.28	.26	.81	.59	.03	1.2	2.6	1.3	1.4	2.4
AC-FT	13550	111	2540	1570	1360	.9190	4760	35080	226	3170	121	246

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1994, BY WATER YEAR (WY)

	MEAN	75.3	62.4	83.9	101	142	179	206	302	147	35.9	9.72	20.3
MAX	785	1286	1102	1483	714	1104	1170	1941	1028	511	88.6	188	188
(WY)	1974	1992	1972	1992	1975	1977	1966	1969	1990	1989	1962	1973	1973
MIN	.22	.30	.26	.11	.17	.30	.91	.68	.50	.21	.16	.36	.36
(WY)	1989	1964	1976	1976	1964	1976	1987	1984	1971	1972	1972	1972	1972

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1961 - 1994

ANNUAL TOTAL	58877.66	36251.26	
ANNUAL MEAN	161	99.3	
HIGHEST ANNUAL MEAN			113
LOWEST ANNUAL MEAN			506
HIGHEST DAILY MEAN	5510	Oct 19	4.39
LOWEST DAILY MEAN	.28	Dec 29	24700
ANNUAL SEVEN-DAY MINIMUM	.49	Dec 25	.00
INSTANTANEOUS PEAK FLOW			.02
INSTANTANEOUS PEAK STAGE			38100
ANNUAL RUNOFF (AC-FT)	116800	71900	25.12
10 PERCENT EXCEEDS	635	161	82210
50 PERCENT EXCEEDS	1.8	2.1	30
90 PERCENT EXCEEDS	.99	.54	1.1
			.30

e Estimated

TRINITY RIVER BASIN

08050400 ELM FORK TRINITY RIVER AT GAINESVILLE, TX

LOCATION.--Lat 33°37'27", Long 97°09'22", Cooke County, Hydrologic Unit 12030103, on downstream right bank at end of the bridge on Farm Road 51, 31 ft downstream from the centerline of the road, 0.6 mi west of Cooke County courthouse in Gainesville, 1.0 mi upstream from Interstate Highway 35, and 1.2 mi downstream from Dozier Creek.

DRAINAGE AREA.--174 mi².

PERIOD OF RECORD.--August 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 700.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature were made during the year. Rain gage at station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1981 reached a peak stage of 28.1 ft, from information furnished by an employee of the Gainesville Department of Public Works.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	46	26	40	23	2010	29	429	64	7.0	2.7	2.5
2	2.2	45	28	40	22	809	29	771	54	6.6	2.6	2.1
3	2.1	42	1990	39	20	557	31	1330	48	5.7	2.6	2.1
4	2.3	39	697	38	21	418	30	423	43	5.6	2.5	2.0
5	2.4	36	291	37	20	302	26	256	40	5.8	2.8	1.9
6	2.6	33	177	37	19	260	24	189	37	6.7	2.4	1.9
7	2.6	32	139	36	18	211	21	144	34	5.8	3.4	2.1
8	2.6	30	125	35	18	219	22	115	31	15	2.5	2.2
9	13	30	119	34	157	308	20	108	29	98	2.1	3.7
10	6.9	30	95	35	120	177	19	107	32	494	2.0	2.5
11	6.9	30	78	50	217	145	22	96	32	463	1.8	2.1
12	10	30	73	53	262	126	22	210	37	75	1.7	1.9
13	78	33	80	48	128	153	19	880	33	39	1.7	1.9
14	20	37	74	42	87	146	17	298	27	22	1.7	1.8
15	14	40	65	37	72	122	17	163	25	15	1.7	1.7
16	11	75	59	35	60	105	16	130	23	11	1.7	422
17	9.1	104	58	43	51	92	16	104	21	8.0	1.7	111
18	159	64	56	39	48	81	14	81	19	6.3	1.7	19
19	4500	51	53	33	47	68	14	70	18	5.4	1.7	8.6
20	2100	44	51	31	80	63	14	63	17	4.5	2.9	5.0
21	864	38	49	30	91	55	14	54	16	4.2	2.0	4.0
22	631	35	53	31	2190	50	14	50	14	4.1	1.7	3.4
23	349	35	62	44	716	47	14	46	13	3.6	1.6	3.0
24	231	33	56	45	373	46	13	43	12	3.6	1.4	2.7
25	156	30	51	44	251	42	14	41	11	3.3	1.7	2.4
26	103	30	48	41	185	43	901	206	9.5	3.2	1.7	2.2
27	81	30	46	37	144	60	865	196	8.6	3.0	1.6	2.0
28	73	29	44	31	578	42	214	149	7.8	2.8	1.6	2.0
29	67	28	42	27	---	36	666	170	7.1	2.8	1.6	1.9
30	61	29	41	26	---	33	1380	109	7.1	2.7	1.6	1.7
31	50	---	41	25	---	30	---	78	---	2.7	2.5	---
TOTAL	9612.9	1188	4867	1163	6018	6856	4517	7109	770.1	1335.4	62.9	623.3
MEAN	310	39.6	157	37.5	215	221	151	229	25.7	43.1	2.03	20.8
MAX	4500	104	1990	53	2190	2010	1380	1330	64	494	3.4	422
MIN	2.1	28	26	25	18	30	13	41	7.1	2.7	1.4	1.7
AC-FT	19070	2360	9650	2310	11940	13600	8960	14100	1530	2650	125	1240

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1994, BY WATER YEAR (WY)

	MEAN	84.8	31.7	181	95.6	155	188	185	408	217	22.4	3.48	41.2
MAX	310	157	743	316	348	565	1063	1359	659	91.1	7.95	105	
(WY)	1994	1992	1992	1992	1987	1990	1990	1990	1989	1987	1992	1992	
MIN	.72	2.56	2.61	5.72	18.0	6.54	6.25	5.79	5.36	1.02	.025	1.40	
(WY)	1989	1990	1991	1986	1991	1986	1991	1988	1988	1988	1988	1990	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1986 - 1994

ANNUAL TOTAL	61918.08	44122.6	134
ANNUAL MEAN	170	121	277
HIGHEST ANNUAL MEAN			35.2
LOWEST ANNUAL MEAN			1990
HIGHEST DAILY MEAN	7270	4500	12500
LOWEST DAILY MEAN	.98	1.4	.00
ANNUAL SEVEN-DAY MINIMUM	1.1	1.6	.00
INSTANTANEOUS PEAK FLOW		8190	24000
INSTANTANEOUS PEAK STAGE		17.02	25.33
ANNUAL RUNOFF (AC-FT)	122800	87520	97310
10 PERCENT EXCEEDS	309	224	257
50 PERCENT EXCEEDS	50	33	17
90 PERCENT EXCEEDS	2.0	2.1	1.4

08050410 ELM FORK TRINITY RIVER NEAR GAINESVILLE, TX

LOCATION.--Lat 33°34'56", long 97°07'49", Cooke County, Hydrologic Unit 12030103, on Farm Road 2071 bridge, over center of channel at downstream side of bridge, 1.0 mi downstream from Atchison, Topeka, and Santa Fe Railroad Co. bridge, and 3.0 mi south of Cooke County Courthouse in Gainesville.

DRAINAGE AREA.--1.79 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1988 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)
DEC 08...	1056	118	640	8.0	9.5	23	7.3	10.4	93	3.2	220	32
FEB 03...	1047	26	731	8.2	6.0	8	0.50	--	--	0.4	240	0
MAR 24...	1020	52	631	7.9	19.0	13	1.0	9.0	99	0.9	250	36
MAY 10...	1356	122	582	7.9	19.0	21	8.8	8.4	92	1.0	230	23
JUL 13...	1456	46	558	7.9	27.0	23	5.7	6.5	83	0.7	160	0
AUG 30...	1431	5.0	941	8.1	29.0	13	7.5	9.4	126	5.1	130	0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L)
DEC 08...	81	5.0	42	1	4.1	190	34	62	0.20	11	362	18
FEB 03...	86	5.9	70	2	3.1	250	56	68	0.50	3.4	460	8
MAR 24...	90	5.5	45	1	2.8	210	51	48	0.30	4.1	381	8
MAY 10...	85	4.9	38	1	3.1	210	35	40	0.20	11	348	31
JUL 13...	59	4.1	54	2	4.6	190	32	36	0.20	13	326	22
AUG 30...	44	4.2	170	7	6.4	320	62	60	0.90	13	580	35

DATE	RESIDUE VOLA- TILE, SUS- PENDED (MG/L)	RESIDUE FIXED NON FILTER- ABLE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
DEC 08...	<1	--	1.68	1.68	0.020	1.70	1.70	0.120	0.48	0.60	0.120
FEB 03...	6	2	2.95	2.95	0.050	3.00	3.00	0.040	1.3	1.3	0.320
MAR 24...	6	2	1.39	1.39	0.010	1.40	1.40	0.020	0.18	0.20	0.110
MAY 10...	12	19	1.17	1.17	0.030	1.20	1.20	0.070	0.93	1.0	0.100
JUL 13...	5	17	2.29	2.29	0.010	2.30	2.30	0.040	1.4	1.4	0.300
AUG 30...	9	26	9.65	9.65	0.050	9.70	9.70	0.050	0.75	0.80	2.10

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
DEC 08...	0.110	0.34	7.9	--	--	--	--	--	--	--	--
FEB 03...	0.330	1.0	3.9	<1	85	<0.5	<1.0	<5	<3	<10	15
MAR 24...	0.100	0.31	4.4	~1	88	<0.5	<1.0	<5	<3	<10	12
MAY 10...	0.100	0.31	5.7	--	--	--	--	--	--	--	--
JUL 13...	0.290	0.89	6.7	2	68	<0.5	<1.0	<5	<3	<10	28
AUG 30...	1.90	5.8	7.8	3	48	<0.5	<1.0	6	<3	<10	5

TRINITY RIVER BASIN

08050410 ELM FORK TRINITY RIVER NEAR GAINESVILLE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC 08...	--	--	--	--	--	--	--	--	--	--	--
FEB 03...	<10	9	18	<0.1	<10	<10	<1	<1.0	470	<6	8
MAR 24...	<10	10	7	<0.1	10	<10	<1	<1.0	430	<6	7
MAY 10...	--	--	--	--	--	--	--	--	--	--	--
JUL 13...	<10	16	3	<0.1	<10	<10	<1	<1.0	290	<6	25
AUG 30...	<10	13	5	--	<10	30	<1	<1.0	290	<6	6

TRINITY RIVER BASIN

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08050800 TIMBER CREEK NEAR COLLINSVILLE, TX

LOCATION.--Lat 33°33'16", long 96°56'49", Cooke County, Hydrologic Unit 12030103, on left bank 13 ft to the left of bridge on Farm Road 902 and 19 ft downstream from the centerline of the road, 2.1 mi west of Collinsville, and 3.0 mi upstream from mouth.

DRAINAGE AREA.--38.8 mi².

PERIOD OF RECORD.--August 1985 to current year.

Water-quality records.--Chemical and biochemical analyses: April 1993 to September 1993

GAGE.--Water-stage recorder. Datum of gage is 640.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Several observations of water temperature were made during the year. Rain gage at station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1981 reached a peak stage of 15.0 ft, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0945	1,230	12.68	July 10	2400	13,330	14.94
Dec. 3	2015	1,010	12.30				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	1.1	3.0	3.3	4.4	186	5.2	41	12	1.2	1.8	16
2	e.00	1.5	3.0	2.8	4.1	95	6.0	43	8.5	1.1	1.8	9.7
3	e.00	1.6	655	2.8	3.8	41	7.4	487	6.3	.82	1.6	10
4	e.00	1.4	531	2.9	3.6	27	5.5	53	5.4	.62	1.5	4.5
5	e.00	1.8	40	3.0	3.5	20	6.0	26	4.7	.53	1.4	2.5
6	e.00	2.0	21	3.8	3.4	18	6.0	17	55	.40	1.1	e1.7
7	e.00	2.0	13	2.9	3.2	16	5.3	8.8	16	.24	18	e1.1
8	e.00	1.4	7.9	2.4	3.3	18	5.7	6.1	5.8	.71	33	e.56
9	e.00	1.4	6.8	2.5	4.2	46	5.9	7.1	4.5	667	4.7	e.20
10	e.00	1.4	6.0	2.8	5.7	23	6.2	9.0	4.3	2190	2.2	1.1
11	e.00	1.3	4.6	19	4.6	17	6.7	7.8	25	5410	e1.4	3.2
12	e.00	1.5	4.3	13	9.3	14	6.6	17	13	561	e1.1	1.9
13	9.3	1.7	32	5.7	7.6	14	7.5	697	5.3	70	e.89	1.1
14	3.5	13	11	4.0	5.3	15	7.8	369	3.5	35	e.63	.54
15	.00	15	6.5	3.4	4.5	12	7.7	36	135	44	e.43	.16
16	.00	263	4.5	3.0	4.2	9.4	6.9	20	68	22	e.27	190
17	.00	189	5.0	6.5	3.8	8.6	6.8	14	11	13	e.23	92
18	3.0	24	4.2	5.9	3.5	9.4	6.4	11	5.3	9.4	e.17	33
19	874	14	3.9	4.1	3.8	11	6.8	8.9	5.3	7.3	e.13	9.6
20	843	8.8	3.6	4.1	11	9.0	6.9	7.7	4.7	6.2	5.2	e1.8
21	40	7.1	3.4	4.6	7.1	7.1	7.6	6.9	3.1	5.2	13	e1.0
22	16	5.5	3.5	5.4	779	4.9	7.6	6.3	2.7	4.5	3.7	.93
23	9.3	4.6	3.8	9.3	263	4.9	6.7	5.4	2.5	4.3	e1.4	.72
24	6.0	4.5	3.3	9.7	36	6.1	6.2	4.6	2.3	3.4	e.76	e.61
25	3.9	3.8	3.3	7.9	23	5.4	6.0	4.7	2.1	2.9	e.25	e.55
26	2.7	3.5	3.5	17	15	6.4	14	11	1.9	2.6	e.14	e.52
27	2.0	3.4	2.9	18	12	32	74	11	1.7	2.5	e.10	e.47
28	1.7	3.4	2.6	8.0	11	11	41	5.8	1.3	2.3	e.07	e.38
29	1.4	3.3	2.6	6.0	---	6.8	49	141	1.0	2.1	e.05	.27
30	1.3	3.2	2.7	5.4	---	5.7	236	154	1.1	2.0	e.03	.17
31	1.2	---	2.8	4.9	---	5.0	---	23	---	1.8	e.02	---
TOTAL	1818.30	589.2	1400.7	194.1	1242.9	704.7	577.4	2260.1	418.3	9074.12	97.07	386.28
MEAN	58.7	19.6	45.2	6.26	44.4	22.7	19.2	72.9	13.9	293	3.13	12.9
MAX	874	263	655	19	779	186	236	697	135	5410	33	190
MIN	.00	1.1	2.6	2.4	3.2	4.9	5.2	4.6	1.0	.24	.02	.16
AC-FT	3610	1170	2780	385	2470	1400	1150	4480	830	18000	193	766
CFSM	1.51	.51	1.16	.16	1.14	.59	.50	1.88	.36	7.54	.08	.33
IN.	1.74	.56	1.34	.19	1.19	.68	.55	2.17	.40	8.70	.09	.37

TRINITY RIVER BASIN

08050800 TIMBER CREEK NEAR COLLINSVILLE, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1994, BY WATER YEAR (WY)

MEAN	27.6	11.8	62.5	22.5	41.8	38.6	56.5	82.9	44.7	38.1	1.07	9.65
MAX	135	40.5	326	73.1	95.3	89.6	259	168	193	293	4.40	32.0
(WY)	1992	1992	1992	1992	1993	1990	1990	1989	1989	1994	1990	1992
MIN	.000	.000	.097	.60	2.00	2.72	1.82	.69	1.10	.000	.000	.026
(WY)	1988	1990	1990	1986	1991	1986	1987	1988	1988	1988	1986	1990

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1986 - 1994	
ANNUAL TOTAL	14433.78		18763.17			
ANNUAL MEAN	39.5		51.4		36.5	
HIGHEST ANNUAL MEAN					72.7	
LOWEST ANNUAL MEAN					10.1	
HIGHEST DAILY MEAN	1860		5410		5410	
LOWEST DAILY MEAN	.00		.00		.00	
ANNUAL SEVEN-DAY MINIMUM	.00		.00		.00	
INSTANTANEOUS PEAK FLOW			13300		13300	
INSTANTANEOUS PEAK STAGE			14.94		14.94	
INSTANTANEOUS LOW FLOW			.00		.00	
ANNUAL RUNOFF (AC-FT)	28630		37220		26440	
ANNUAL RUNOFF (CFSM)	1.02		1.32		.94	
ANNUAL RUNOFF (INCHES)	13.84		17.99		12.78	
10 PERCENT EXCEEDS	37		40		28	
50 PERCENT EXCEEDS	3.9		4.9		2.2	
90 PERCENT EXCEEDS	.00		.53		.00	

e Estimated

08050815 JORDAN CREEK TRIBUTARY NEAR COLLINSVILLE, TX.

LOCATION.--Lat 33°32'15", long 96°55'22", Grayson County, Hydrologic Unit 12030103, at culvert on gravel road, 0.4 mi upstream from mouth of Jordan Creek, and 1.5 mi southwest of Collinsville.

DRAINAGE AREA.--1.65 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1988 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CaCO3)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)
OCT 21...	1455	2.1	228	8.0	16.0	110	23	7.8	80	3.1	56	0
DEC 10...	1008	0.64	593	8.0	12.0	28	6.0	8.6	81	4.0	130	0
FEB 01...	1130	0.44	759	8.2	3.0	22	2.5	--	--	0.4	150	0
MAR 23...	1422	0.54	729	8.6	21.0	24	1.5	15.0	174	1.0	160	0
MAY 11...	1658	0.55	623	8.0	21.0	23	2.9	6.5	74	0.8	150	0
JUL 14...	1416	0.92	382	7.6	26.5	55	6.4	6.1	77	1.2	100	0

DATE	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CaCO3 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS Cl)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)
OCT 21...	17	3.4	22	1	7.6	69	15	15	0.30	6.1	131	25
DEC 10...	39	6.9	76	3	6.6	190	49	39	0.30	8.6	350	7
FEB 01...	46	8.4	110	4	5.5	260	65	63	0.50	5.2	469	8
MAR 23...	49	8.8	110	4	4.9	250	59	61	0.40	3.7	448	11
MAY 11...	47	8.4	74	3	5.5	210	47	44	0.30	11	369	3
JUL 14...	31	5.3	37	2	7.3	130	26	22	0.20	9.7	220	15

DATE	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)
OCT 21...	22	3	0.330	0.330	0.030	0.360	0.360	0.180	1.5	1.7	0.420
DEC 10...	1	6	1.61	1.61	0.090	1.70	1.70	0.100	0.90	1.0	0.350
FEB 01...	4	4	2.14	2.14	0.060	2.20	2.20	0.030	0.47	0.50	0.320
MAR 23...	8	3	0.210	0.210	0.010	0.220	0.220	0.040	0.36	0.40	0.350
MAY 11...	2	1	0.800	0.800	0.050	0.850	0.850	0.030	0.47	0.50	0.240
JUL 14...	9	6	0.770	0.770	0.220	0.990	0.990	0.120	0.68	0.80	0.310

DATE	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 21...	0.430	1.3	12	--	--	--	--	--	--	--	--
DEC 10...	0.360	1.1	9.3	--	--	--	--	--	--	--	--
FEB 01...	0.340	1.0	5.0	<1	32	<0.5	<1.0	<5	<3	<10	24
MAR 23...	0.340	1.0	6.8	1	32	<0.5	<1.0	<5	<3	<10	57
MAY 11...	0.240	0.74	6.8	--	--	--	--	--	--	--	--
JUL 14...	0.290	0.89	8.1	2	51	<0.5	<1.0	<5	<3	<10	150

TRINITY RIVER BASIN

08050815 JORDAN CREEK TRIBUTARY NEAR COLLINSVILLE, TX.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 21...	--	--	--	--	--	--	--	--	--	--	--
DEC 10...	--	--	--	--	--	--	--	--	--	--	--
FEB 01...	<10	9	84	<0.1	<10	<10	<1	<1.0	300	<6	17
MAR 23...	<10	11	39	<0.1	<10	<10	<1	<1.0	310	<6	3
MAY 11...	--	--	--	--	--	--	--	--	--	--	--
JUL 14...	<10	4	3	<0.1	<10	<10	<1	<1.0	190	<6	9

TRINITY RIVER BASIN

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08050840 RANGE CREEK NEAR COLLINSVILLE, TX

LOCATION.--Lat 33°31'34", long 96°48'25", Delta County, Hydrologic Unit 12030103, on downstream left bank at bridge on Farm Road 902, 1.8 mi upstream from Case Creek, 2.5 mi downstream from Little Elm Creek, 6.5 mi east southeast from the Post Office in Collinsville.

DRAINAGE AREA.--29.2 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1992 to current year.

GAGE.--Water-stage recorder. Datum of gage is 621.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those below 1 ft³/s and those for estimated daily discharges, which are fair. Rain gage at station. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.08	.74	.47	.48	15	.06	6.4	.54	.02	.03	51
2	.00	.08	.94	.45	.48	16	.06	21	.22	.02	.03	24
3	.00	.08	526	.41	.41	4.8	.06	202	.11	.02	.03	22
4	.00	.08	91	.33	.37	2.6	.05	9.7	.06	.01	.03	3.4
5	.00	.05	12	.36	.37	1.8	.04	2.6	.03	.01	.02	1.2
6	.00	.04	5.1	.38	.35	1.4	.03	1.1	.07	.01	.02	.44
7	.00	.04	3.4	.27	.34	1.2	.02	.55	.04	.01	12	.19
8	.00	.03	2.6	.24	.32	4.7	.02	.33	.03	.01	45	3.6
9	.00	.03	2.6	.26	.32	56	.02	.23	.02	12	3.4	11
10	.00	.03	2.4	.27	.36	6.9	.02	.22	2.3	56	.82	2.4
11	.00	.03	1.8	9.1	.43	3.1	.03	.75	12	991	.36	.83
12	.00	.03	1.8	e5.0	.49	1.8	.02	99	4.2	23	.14	.37
13	68	.03	101	e2.5	.68	1.5	.02	500	.86	4.1	.06	.15
14	4.6	.07	9.3	e1.8	.59	1.6	.02	42	.22	7.6	.06	.07
15	1.3	.14	3.7	e1.5	.45	1.3	.01	5.7	15	37	.05	.05
16	.50	14	2.3	e1.4	.35	.91	.01	2.5	23	4.4	.05	155
17	.16	19	1.9	e2.3	.28	.68	.01	1.3	2.5	1.4	.04	7.3
18	118	3.6	1.4	2.4	.30	.53	.01	.72	.58	.49	.04	1.8
19	2580	1.9	1.2	1.2	.31	.41	.00	.42	6.4	.15	.04	.66
20	516	1.3	1.2	.82	.35	.38	.00	.25	5.0	.07	28	.27
21	13	.85	.94	.71	.86	.33	.00	.14	1.0	.06	51	.11
22	3.0	.67	.93	.92	479	.20	.00	.07	.23	.06	3.2	.07
23	1.3	.62	.95	4.9	47	.18	.00	.05	.05	.05	.86	.05
24	.79	.50	.94	4.4	6.6	.16	.00	.04	.03	.05	.38	.05
25	.54	.38	.85	4.0	3.4	.11	.00	.04	.02	.05	.14	.05
26	.40	.40	.73	3.4	2.0	.12	.01	.04	.02	.04	.06	.05
27	.32	.46	.61	2.0	1.4	.12	11	.03	.02	.04	.06	.04
28	.29	.62	.55	1.3	1.4	.11	.87	.02	.02	.04	.05	.04
29	.17	1.0	.54	.86	---	.09	10	3.5	.02	.04	.05	.04
30	.12	.83	.49	.56	---	.10	145	6.1	.02	.03	.05	.04
31	.10	---	.49	.45	---	.07	---	1.6	---	.03	.22	---
TOTAL	3308.59	46.97	780.40	54.96	549.69	124.20	167.39	908.40	74.61	1137.81	146.29	286.27
MEAN	107	1.57	25.2	1.77	19.6	4.01	5.58	29.3	2.49	36.7	4.72	9.54
MAX	2580	19	526	9.1	479	56	145	500	23	991	51	155
MIN	.00	.03	.49	.24	.28	.07	.00	.02	.02	.01	.02	.04
AC-FT	6560	93	1550	109	1090	246	332	1800	148	2260	290	568

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1994, BY WATER YEAR (WY)

	MEAN	53.4	1.54	41.4	3.63	26.7	11.8	29.1	35.2	15.4	18.4	2.36	5.91
MAX	107	1.57	57.7	5.48	33.7	19.7	52.6	41.0	28.3	36.7	4.72	9.54	
(WY)	1994	1994	1993	1993	1993	1993	1993	1993	1993	1994	1994	1994	
MIN	.000	1.51	25.2	1.77	19.6	4.01	5.58	29.3	2.49	.000	.000	2.28	
(WY)	1993	1993	1994	1994	1994	1994	1994	1994	1994	1993	1993	1993	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1993 - 1994

ANNUAL TOTAL	9624.67	7585.58	
ANNUAL MEAN	26.4	20.8	20.4
HIGHEST ANNUAL MEAN			20.8
LOWEST ANNUAL MEAN			20.1
HIGHEST DAILY MEAN	2580	2580	2580
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		7640	7640
INSTANTANEOUS PEAK STAGE		23.32	23.32
ANNUAL RUNOFF (AC-FT)	19090	15050	14790
10 PERCENT EXCEEDS	15	12	13
50 PERCENT EXCEEDS	.46	.40	.31
90 PERCENT EXCEEDS	.00	.02	.00

e Estimated

TRINITY RIVER BASIN

08050840 RANGE CREEK NEAR COLLINSVILLE, TX--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD---Chemical and biochemical analyses: October 1992 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
OCT 20...	1446	152	244	7.9	16.5	100	85	7.8	81	1.7	100	22
DEC 08...	1525	2.7	439	7.9	9.0	48	22	10.0	88	3.6	200	40
FEB 01...	1559	0.54	549	8.1	5.5	55	16	15.6	125	0.2	240	59
MAR 23...	1037	0.18	551	7.9	18.5	28	3.1	8.3	91	1.0	250	53
MAY 11...	1437	0.49	358	7.7	20.5	58	29	6.3	71	1.4	150	24
JUL 14...	1210	1.3	290	7.6	26.5	48	30	5.8	73	1.1	110	21
DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)
OCT 20...	36	2.6	11	0.5	3.0	79	34	4.8	0.30	14	158	141
DEC 08...	72	3.8	16	0.5	3.8	150	61	6.2	0.20	11	272	26
FEB 01...	86	5.0	31	0.9	3.6	180	120	14	0.40	3.3	371	22
MAR 23...	92	5.2	29	0.8	3.6	200	86	11	0.30	3.1	351	11
MAY 11...	55	3.9	18	0.6	4.3	130	43	6.1	0.30	12	227	33
JUL 14...	39	2.8	13	0.5	4.7	88	38	8.2	0.20	17	178	35
DATE	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	
OCT 20...	31	110	0.980	0.980	0.020	1.00	1.00	0.030	1.2	1.2	0.170	
DEC 08...	<1	--	0.990	0.990	0.010	1.00	1.00	0.020	0.38	0.40	0.070	
FEB 01...	11	11	0.023	0.023	0.040	0.063	0.063	0.050	1.2	1.2	0.050	
MAR 23...	8	3	0.064	--	<0.010	0.064	0.064	0.020	0.48	0.50	0.020	
MAY 11...	12	21	1.46	1.46	0.140	1.60	1.60	0.050	0.95	1.0	0.070	
JUL 14...	11	24	0.180	--	<0.010	0.180	0.180	0.020	0.88	0.90	0.190	
DATE	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	
OCT 20...	0.170	0.52	13	--	--	--	--	--	--	--	--	
DEC 08...	0.090	0.28	7.0	--	--	--	--	--	--	--	--	
FEB 01...	0.050	0.15	11	1	65	<0.5	<1.0	<5	<3	<10	49	
MAR 23...	0.020	0.06	8.8	1	73	<0.5	1.0	<5	<3	<10	35	
MAY 11...	0.070	0.21	9.9	--	--	--	--	--	--	--	--	
JUL 14...	0.170	0.52	16	4	44	<0.5	<1.0	<5	<3	<10	150	

TRINITY RIVER BASIN

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08050840 RANGE CREEK NEAR COLLINSVILLE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 20...	--	--	--	--	--	--	--	--	--	--	--
DEC 08...	--	--	--	--	--	--	--	--	--	--	--
FEB 01...	<10	8	17	<0.1	<10	<10	<1	<1.0	580	<6	5
MAR 23...	<10	10	10	<0.1	<10	<10	<1	<1.0	620	<6	13
MAY 11...	--	--	--	--	--	--	--	--	--	--	--
JUL 14...	<10	<4	6	<0.1	10	<10	<1	<1.0	270	6	20

TRINITY RIVER BASIN

08051100 RAY ROBERTS LAKE NEAR PILOT POINT, TX

LOCATION.--Lat 32°21'19", long 97°02'59", Denton County, Hydrologic Unit 12030103, in control room of outlet works tower located 336 ft upstream from centerline of Ray Roberts Dam (and Farm Road 455 which is located on top of dam) on Elm Fork Trinity River, 3.7 mi upstream from Bray Branch, 5.7 mi southwest of Pilot Point, and at river mile 60.0.

DRAINAGE AREA.--692 mi².

WATER-CONTENT RECORDS

PERIOD OF RECORD.--July 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Lake is formed by a rolled earthfill dam 15,250 ft long. There is an uncontrolled, broad-crested spillway excavated in natural ground about 5,000 ft right of right end of dam. A reinforced concrete tower houses the flood-control and low-flow gates and operating equipment. Construction started Sept. 16, 1980, and closure was made in May 1986. The dam was built and is owned by the U.S. Army Corps of Engineers. Deliberate impoundment started June 30, 1987. The lake was built for water supply, flood control, and recreation purposes. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	665.0	-
Spillway crest (uncontrolled).....	645.5	1,262,000
Top of flood-control pool.....	640.5	1,065,000
Top of conservation pool.....	632.5	799,600
Invert, lowest gated outlet.....	551.0	990

COOPERATION.--Records of elevations and contents provided by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,219,000 acre-ft May 3, 1990 (elevation, 644.48 ft); minimum since initial filling began, 990 acre-ft July 1, 1987 (elevation, 551.00 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 652,400 acre-ft Sept. 17 (elevation, 627.08 ft); minimum daily, 527,200 acre-ft Feb. 18 (elevation, 621.72 ft).

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

620.0	491,200	628.0	675,800	633.0	814,500
622.0	533,300	630.0	729,000	634.0	844,800
624.0	578,100	631.0	756,700	635.0	876,000
626.0	625,500	632.0	785,200	636.0	908,100

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	534600	555300	546200	539200	531600	551800	541100	556000	549300	542900	643600	647300
2	534400	553500	547500	538500	531100	554000	541400	557100	549100	542500	642800	648800
3	534200	552000	579500	537900	530000	554000	541400	561000	548600	541800	642600	648800
4	533700	550900	585000	537600	530300	553300	540900	559200	548200	541400	642100	648300
5	533500	549100	580400	536500	529800	552000	542000	556000	547500	540700	641800	648100
6	533300	547500	574200	537000	529400	550600	540900	553100	547100	540300	641300	647600
7	532900	546400	568700	535900	529200	549800	540300	550900	546400	539800	644300	647300
8	533100	545800	564800	535500	528300	549100	540300	548200	546000	540000	644300	647100
9	533500	545500	563000	534600	529400	548000	540000	547500	546000	551800	644300	646600
10	532900	545100	560300	534600	529000	547500	540700	547100	546000	569100	643800	646100
11	532400	544700	557600	536100	528500	547300	541800	550000	546400	637800	643600	645600
12	535000	544700	556000	536100	529200	548000	540700	554000	546400	645800	643100	645100
13	534800	545300	554900	535900	529000	548400	540300	577600	545500	647300	642600	644600
14	534800	546900	552200	535900	528700	547800	540300	575800	545300	649300	642300	644300
15	534400	546700	549100	535000	528500	548200	540300	569600	547100	649800	641800	644300
16	534600	551800	547100	535700	528300	547500	540300	564100	547500	649800	641300	651300
17	534800	553100	546400	535200	527900	546400	540000	560700	547500	649800	640800	652400
18	538300	552700	545500	534200	527200	546400	539800	556900	547300	649600	640300	652100
19	610300	552200	544700	533700	528100	545500	539800	553500	547300	649300	639800	651800
20	628000	551500	544000	533500	528300	545100	540000	551300	547800	648800	648300	651300
21	622900	550900	543600	533100	529800	544400	540000	549500	547500	648800	648600	650600
22	616600	549800	543800	533500	547100	543800	540000	547800	547300	648300	648300	650600
23	609600	549300	543600	533300	551100	543800	539800	546900	546900	648100	647600	649800
24	602400	549300	543100	533700	549100	543800	539400	546400	546400	647300	647300	649100
25	594900	549100	542500	533300	547500	543300	539800	546000	545300	647300	646800	648300
26	587400	548200	541800	533900	545500	543300	541100	546400	545300	646600	646300	647800
27	579500	547800	541800	533700	543600	542900	545800	546200	544400	645800	645600	647600
28	573000	547300	541100	533300	543800	542200	546400	545800	544400	645300	644800	647300
29	568700	547100	540500	532900	---	542200	551300	549100	543600	644600	644600	646800
30	563400	546700	540000	533300	---	541800	556000	550000	543600	644300	644100	646300
31	559200	---	539400	531800	---	541600	---	550000	---	643800	645600	---
MAX	628000	555300	585000	539200	551100	554000	556000	577600	549300	649800	648600	652400
MIN	532400	544700	539400	531800	527200	541600	539400	545800	543600	539800	639800	644300
(+)	621.96	622.61	622.28	621.93	622.48	622.38	623.03	622.76	622.47	626.74	626.81	626.84
(@)	+24200	-12500	-7300	-7600	+12000	-2200	+14400	-6000	-6400	+100200	+1800	+700

CAL YR 1993 MAX 872200 MIN 529000 (@) -267100
WTR YR 1994 MAX 652400 MIN 527200 (@) -111300

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

TRINITY RIVER BASIN

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08051100 RAY ROBERTS LAKE NEAR PILOT POINT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: February 1989 to current year.

REVISED RECORDS.--TX-93-1 Phytoplankton.

332138097024101 - RAY ROBERTS LAKE SITE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
FEB										
15...	1144	529000	1.00	292	8.2	8.0	0.85	10.9	94	K1
15...	1148	--	10.0	291	8.2	7.0	--	10.6	89	--
15...	1152	--	20.0	291	8.2	7.0	--	10.6	89	--
15...	1157	--	30.0	291	8.2	7.0	--	10.6	89	--
15...	1201	--	40.0	291	8.2	7.0	--	10.4	87	--
15...	1205	--	50.0	292	8.2	7.0	--	10.5	88	--
15...	1210	--	60.0	292	8.1	7.0	--	10.5	88	--
15...	1215	--	68.0	293	8.1	7.0	--	11.0	92	--
JUN										
09...	0940	546000	1.00	296	7.6	25.0	1.52	5.7	71	K1
09...	0943	--	10.0	296	7.5	24.0	--	5.1	63	--
09...	0947	--	20.0	297	7.4	23.5	--	4.9	60	--
09...	0951	--	30.0	298	7.0	20.0	--	0.7	8	--
09...	0955	--	40.0	305	7.0	18.5	--	0.6	7	--
09...	0959	--	50.0	304	7.0	18.5	--	0.5	6	--
09...	1004	--	60.0	309	6.9	18.5	--	0.4	4	--
09...	1008	--	67.0	309	6.7	19.0	--	0.3	3	--
AUG										
04...	1152	642000	1.00	271	8.0	27.5	1.34	6.3	82	K5
04...	1156	--	10.0	270	8.0	27.5	--	6.2	80	--
04...	1201	--	20.0	267	7.8	27.0	--	5.4	69	--
04...	1207	--	30.0	267	7.8	27.0	--	5.3	68	--
04...	1212	--	40.0	260	7.0	23.5	--	0	0	--
04...	1217	--	50.0	318	7.1	21.0	--	0	0	--
04...	1222	--	60.0	323	7.1	20.0	--	0	0	--
04...	1227	--	72.0	330	7.1	20.0	--	0	0	--

DATE	STREP- TOCOCI FECAL KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)
FEB									
15...	K1	110	2	38	3.7	15	0.6	4.5	110
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	110	3	38	3.8	15	0.6	4.4	110
JUN									
09...	K1	110	4	37	3.6	15	0.6	3.8	100
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	120	3	40	3.7	16	0.6	3.9	110
AUG									
04...	K2	94	9	32	3.5	15	0.7	4.1	85
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	120	1	42	4.0	16	0.6	4.1	120

TRINITY RIVER BASIN

08051100 RAY ROBERTS LAKE NEAR PILOT POINT, TX--Continued

332138097024101 - RAY ROBERTS LAKE SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
FEB									
15...	17	18	0.20	3.6	167	0.460	--	<0.010	0.460
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	17	18	0.20	3.7	167	0.460	--	<0.010	0.460
JUN									
09...	18	18	0.20	2.2	162	0.430	0.430	0.010	0.440
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	0.450	0.450	0.010	0.460
09...	--	--	--	--	--	0.590	--	<0.010	0.590
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	19	18	0.20	4.1	176	0.690	--	<0.010	0.690
AUG									
04...	17	18	0.20	2.5	143	--	--	<0.010	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	<0.010	--
04...	--	--	--	--	--	--	--	<0.010	--
04...	--	--	--	--	--	--	--	--	--
04...	14	19	0.20	6.6	182	--	--	<0.010	--
DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB									
15...	0.460	0.020	0.28	0.30	<0.010	<0.010	--	<3	1
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
15...	0.460	0.040	0.36	0.40	0.020	<0.010	--	<3	41
JUN									
09...	0.440	0.010	0.29	0.30	<0.010	<0.010	--	<3	3
09...	--	--	--	--	--	--	--	--	--
09...	0.460	0.020	0.28	0.30	<0.010	<0.010	--	<10	30
09...	0.590	0.020	0.28	0.30	<0.010	<0.010	--	<10	10
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	0.690	0.040	0.46	0.50	0.030	<0.010	--	4	360
AUG									
04...	<0.050	0.030	0.27	0.30	0.010	<0.010	--	<3	12
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	<0.050	0.040	0.26	0.30	0.020	<0.010	--	<10	170
04...	<0.050	0.200	0.30	0.50	0.020	<0.010	--	60	700
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
04...	<0.050	0.580	0.42	1.0	0.100	0.080	0.25	1200	1600

TRINITY RIVER BASIN

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08051100 RAY ROBERTS LAKE NEAR PILOT POINT, TX--Continued

332200097010001 - RAY ROBERTS LAKE SITE AL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB							
15...	1225	1.00	291	8.2	8.0	10.8	93
15...	1228	10.0	290	8.2	7.0	10.6	89
15...	1232	20.0	292	8.2	7.0	10.6	89
15...	1236	30.0	290	8.2	7.0	10.6	89
15...	1240	40.0	290	8.2	7.0	10.7	90
15...	1243	55.0	291	8.2	7.0	11.0	92
JUN							
09...	1015	1.00	295	7.7	25.0	7.0	87
09...	1017	10.0	296	7.6	25.0	6.8	84
09...	1020	20.0	299	7.2	24.0	5.1	62
09...	1024	30.0	299	6.9	22.0	2.0	23
09...	1027	40.0	301	6.7	19.0	1.1	12
09...	1030	50.0	308	6.6	18.5	0.5	5
09...	1036	56.0	306	6.4	18.5	0.5	5
AUG							
04...	1245	1.00	270	8.1	28.0	6.5	85
04...	1248	10.0	267	7.9	27.0	5.6	72
04...	1251	20.0	268	7.7	27.0	5.1	66
04...	1255	30.0	269	7.5	26.0	4.0	51
04...	1259	40.0	256	7.0	23.5	0	0
04...	1303	50.0	318	7.1	21.0	0	0
04...	1306	64.0	321	7.1	20.0	0	0

332301097050601 - RAY ROBERTS LAKE SITE BC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB							
15...	1104	1.00	292	8.2	7.5	11.0	93
15...	1107	10.0	291	8.2	7.0	10.8	90
15...	1110	20.0	292	8.1	7.0	10.8	90
15...	1114	30.0	290	8.1	7.0	10.7	90
15...	1118	40.0	290	8.1	7.0	10.8	90
15...	1122	50.0	291	8.1	7.0	10.7	90
15...	1126	60.0	291	8.0	7.0	10.3	86
15...	1130	72.0	295	7.7	7.0	10.3	86
JUN							
09...	1220	1.00	299	8.0	27.5	8.4	109
09...	1227	10.0	300	7.8	26.5	7.7	98
09...	1232	20.0	298	7.4	24.5	5.5	68
09...	1237	30.0	298	7.0	20.5	0	0
09...	1244	40.0	309	7.0	19.5	0	0
09...	1250	50.0	308	7.0	19.0	0	0
09...	1256	60.0	310	7.0	19.0	0	0
09...	1301	72.0	309	6.8	19.0	0	0
AUG							
04...	1531	1.00	269	8.2	29.5	7.2	97
04...	1535	10.0	267	8.2	28.0	7.1	93
04...	1538	20.0	268	7.9	27.5	5.9	77
04...	1541	30.0	269	7.5	26.5	4.1	52
04...	1544	40.0	270	7.0	23.0	0	0
04...	1547	50.0	316	7.1	21.5	0	0
04...	1550	60.0	325	7.1	20.5	0	0
04...	1553	75.0	329	7.1	20.0	0	0

TRINITY RIVER BASIN

08051100 RAY ROBERTS LAKE NEAR PILOT POINT, TX--Continued

332353097020101 - RAY ROBERTS LAKE SITE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB							
15...	1258	1.00	287	8.2	9.0	10.7	94
15...	1305	10.0	286	8.3	7.0	10.8	90
15...	1309	20.0	286	8.2	7.0	10.6	89
15...	1313	30.0	285	8.2	7.0	10.6	89
15...	1317	40.0	286	8.2	7.0	10.6	89
15...	1322	50.0	286	8.2	7.0	10.5	88
15...	1326	60.0	286	8.1	7.0	10.4	87
15...	1330	70.0	286	8.1	7.0	10.2	85
15...	1334	75.0	285	8.1	7.0	10.6	89
JUN							
09...	1055	1.00	290	7.9	26.5	8.4	107
09...	1058	10.0	288	7.8	26.5	8.1	103
09...	1101	20.0	292	7.6	26.0	7.3	92
09...	1104	30.0	300	6.6	21.0	0.5	6
09...	1107	40.0	303	6.4	19.5	0.4	4
09...	1110	50.0	304	6.2	18.5	0.6	7
09...	1113	60.0	307	6.3	18.5	0.6	7
09...	1117	76.0	309	5.5	18.5	0.2	2
AUG							
04...	1321	1.00	267	8.3	29.0	7.2	96
04...	1324	10.0	265	8.1	27.5	6.7	87
04...	1327	20.0	266	7.7	27.0	4.9	63
04...	1330	30.0	268	7.4	26.5	3.5	45
04...	1333	40.0	237	6.9	23.5	0	0
04...	1337	50.0	315	7.1	21.0	0	0
04...	1340	60.0	325	7.1	20.0	0	0
04...	1343	70.0	326	7.1	20.0	0	0
04...	1346	76.0	323	7.1	20.0	0	0

332459097063001 - RAY ROBERTS LAKE SITE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
FEB												
15...	1547	1.00	301	8.4	9.5	0.79	11.0	98	K2	K2	110	1
15...	1550	10.0	309	8.4	7.0	--	11.0	92	--	--	--	--
15...	1554	20.0	316	8.3	7.0	--	10.4	87	--	--	--	--
15...	1557	30.0	369	8.3	7.0	--	10.2	85	--	--	--	--
15...	1602	40.0	394	8.2	7.0	--	10.1	85	--	--	--	--
15...	1609	47.0	405	8.2	7.0	--	9.9	83	--	--	150	6
JUN												
09...	1321	1.00	295	7.9	29.0	0.61	7.8	104	K1	K1	100	2
09...	1326	10.0	296	7.8	28.5	--	6.9	91	--	--	--	--
09...	1332	20.0	298	7.8	28.0	--	7.0	92	--	--	--	--
09...	1338	30.0	321	7.1	22.0	--	0	0	--	--	--	--
09...	1343	40.0	325	7.2	21.0	--	0	0	--	--	--	--
09...	1348	46.0	321	7.2	21.0	--	0	0	--	--	120	2
AUG												
04...	1609	1.00	270	8.4	30.0	0.98	8.2	111	K18	K1	100	15
04...	1613	10.0	267	8.2	28.5	--	7.1	94	--	--	--	--
04...	1617	20.0	276	7.4	28.0	--	2.8	37	--	--	--	--
04...	1620	30.0	283	7.1	27.5	--	0.7	9	--	--	--	--
04...	1623	40.0	297	7.0	27.0	--	0	0	--	--	--	--
04...	1627	48.0	335	7.1	22.0	--	0	0	--	--	120	0

TRINITY RIVER BASIN

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08051100 RAY ROBERTS LAKE NEAR PILOT POINT, TX--Continued

332459097063001 - RAY ROBERTS LAKE SITE DC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
FEB												
15...	39	3.8	16	0.7	4.4	110	18	18	0.20	3.4	172	0.460
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	52	4.7	27	1	4.2	140	26	31	0.30	2.7	236	0.570
JUN												
09...	36	3.6	16	0.7	3.9	100	18	20	0.20	2.9	164	0.280
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	41	3.7	15	0.6	3.8	120	18	18	0.20	4.7	177	0.430
AUG												
04...	34	3.6	16	0.7	3.8	85	17	17	0.20	2.8	145	--
04...	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--	--
04...	43	4.1	16	0.6	4.2	130	12	18	0.20	7.1	189	--
DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB												
15...	0.460	0.010	0.470	0.470	0.020	0.28	0.30	0.010	<0.010	--	<3	4
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	0.570	0.020	0.590	0.590	0.060	0.34	0.40	0.020	<0.010	--	<3	40
JUN												
09...	0.280	0.030	0.310	0.310	0.030	0.37	0.40	<0.010	<0.010	--	9	36
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	0.430	0.010	0.440	0.440	0.160	0.34	0.50	0.010	0.020	0.06	130	810
AUG												
04...	--	<0.010	--	<0.050	0.020	0.28	0.30	0.020	<0.010	--	<3	82
04...	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	<0.010	--	<0.050	0.760	0.44	1.2	0.070	0.070	0.21	1300	1800

TRINITY RIVER BASIN

08051100 RAY ROBERTS LAKE NEAR PILOT POINT, TX--Continued

332509096595301 - RAY ROBERTS LAKE SITE EC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	
FEB													
15...	1354	1.00	282	8.3	10.0	1.13	10.9	98	K6	K1	110	2	
15...	1358	10.0	276	8.3	7.5	--	10.8	92	--	--	--	--	
15...	1403	20.0	277	8.2	7.0	--	10.5	88	--	--	--	--	
15...	1408	30.0	279	8.2	7.0	--	10.5	88	--	--	--	--	
15...	1412	40.0	280	8.2	7.5	--	10.6	90	--	--	--	--	
15...	1416	50.0	278	8.2	7.5	--	10.6	90	--	--	--	--	
15...	1420	61.0	278	8.2	7.5	--	11.0	93	--	--	110	3	
JUN													
09...	1135	1.00	277	8.1	28.0	1.46	9.0	118	K1	K1	100	8	
09...	1141	10.0	280	7.9	27.5	--	8.9	116	--	--	--	--	
09...	1147	20.0	284	7.7	27.0	--	0.3	4	--	--	--	--	
09...	1153	30.0	284	6.2	22.0	--	0	0	--	--	--	--	
09...	1159	42.0	295	6.0	20.0	--	0	0	--	--	110	3	
AUG													
04...	1406	1.00	264	8.3	29.0	1.52	7.2	96	27	K11	98	10	
04...	1409	10.0	263	8.1	28.0	--	6.6	86	--	--	--	--	
04...	1412	20.0	263	7.6	27.5	--	4.7	61	--	--	--	--	
04...	1415	30.0	256	7.2	27.0	--	1.6	21	--	--	--	--	
04...	1420	40.0	272	7.1	24.5	--	0	0	--	--	--	--	
04...	1424	50.0	305	7.0	21.5	--	0	0	--	--	--	--	
04...	1428	62.0	328	7.0	21.0	--	0	0	--	--	120	0	
DATE		CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
FEB													
15...	36	3.7	15	0.6	4.3	100	17	17	0.20	3.6	160	0.420	
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	36	3.7	14	0.6	4.4	100	17	17	0.20	4.2	160	0.430	
JUN													
09...	34	3.6	15	0.7	4.5	92	18	18	0.20	2.0	152	0.270	
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	36	4.0	15	0.6	3.9	100	19	18	0.20	4.4	164	0.053	
AUG													
04...	33	3.8	16	0.7	3.8	88	17	17	0.20	2.2	146	--	
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
04...	41	4.0	16	0.6	4.3	130	13	19	0.20	6.5	186	--	
DATE		NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB													
15...	--	<0.010	0.420	0.420	0.010	0.29	0.30	<0.010	<0.010	--	--	<3	2
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	<0.010	0.430	0.430	0.030	0.37	0.40	0.010	<0.010	--	--	<3	16
JUN													
09...	0.270	0.010	0.280	0.280	0.020	0.18	0.20	<0.010	<0.010	--	--	<3	16
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	<0.010	0.053	0.053	0.330	0.37	0.70	<0.010	<0.010	--	--	190	770
AUG													
04...	--	<0.010	--	<0.050	0.020	0.28	0.30	<0.010	<0.010	--	--	<3	27
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	<0.010	--	<0.050	0.790	0.31	1.1	0.120	0.120	0.37	1500	1500	

TRINITY RIVER BASIN

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08051100 RAY ROBERTS LAKE NEAR PILOT POINT, TX--Continued

332758097063301 - RAY ROBERTS LAKE SITE FC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB							
15...	1642	1.00	391	8.6	9.5	12.6	112
15...	1645	10.0	450	8.3	7.0	11.2	94
15...	1649	20.0	490	8.0	7.0	10.0	84
15...	1653	28.0	496	8.0	7.0	10.1	85
JUN							
09...	1410	1.00	303	7.8	30.0	7.2	98
09...	1414	10.0	318	7.4	29.5	4.5	61
09...	1418	20.0	362	7.0	29.0	1.2	16
09...	1422	27.0	362	7.0	28.5	0	0
AUG							
04...	1646	1.00	269	8.4	30.0	8.1	110
04...	1649	10.0	272	8.0	29.0	6.1	81
04...	1653	50.0	346	6.9	28.0	0	0
04...	1656	30.0	362	6.9	28.0	0	0

08051100 RAY ROBERTS LAKE NEAR PILOT POINT, TX--Continued

Ray Roberts Lake Site AC (332138097024101)

Phytoplankton Analyses October 1993 to September 1994

Date	2-15-94
Time	1144

TOTAL CELLS/mL	11,004
NUMBER OF SPECIES	17
DEPTH COLLECTED (ft.)	1.4

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	89
Order Pennales	
<i>Cocconeis placentula</i>	45
<i>Navicula cuspidata</i>	45
<i>Nitzschia denticula</i>	89
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	952
<i>Chlamydomonas</i> sp.	89
<i>Groenbladia</i> sp.	1,130
<i>Micractinium pusillum</i>	59
<i>Scenedesmus bijuga</i>	30
<i>Scenedesmus quadricauda</i>	89
<i>Selenastrum Westii</i>	119
CYANOPHYTA	
<i>Aphanizomenon flos-aquae</i>	1,190
<i>Aphanocapsa delicatissima</i>	5,948
<i>Chroococcus limneticus</i>	387
<i>Merismopedia tenuissima</i>	357
EUGLENOPHYTA	
<i>Trachelomonas</i> spp.	178
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	208

TRINITY RIVER BASIN

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08051100 RAY ROBERTS LAKE NEAR PILOT POINT, TX--Continued

Ray Roberts Lake Site DC (332459097063001)

Phytoplankton Analyses October 1993 to September 1994

Date	2-15-94
Time	1547

TOTAL CELLS/mL	11,183
NUMBER OF SPECIES	15
DEPTH COLLECTED (ft.)	1.3

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	30
Order Pennales	
<i>Fragilaria crotonensis</i>	40
<i>Synedra ulna</i>	20
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	744
<i>Chlamydomonas</i> sp.	119
<i>Pediastrum duplex</i>	30
<i>Scenedesmus opoliensis</i>	59
<i>Scenedesmus quadricauda</i>	30
<i>Selenastrum Westii</i>	297
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	8,922
<i>Aphanocapsa elachista</i>	297
<i>Aphanothece microspora</i>	59
<i>Chroococcus limneticus</i>	357
EUGLENOPHYTA	
<i>Trachelomonas</i> spp.	149
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	30

08051100 RAY ROBERTS LAKE NEAR PILOT POINT, TX--Continued

Ray Roberts Lake Site AC (332138097024101)

Phytoplankton Analyses October 1993 to September 1994

Date	6-9-94
Time	0940

TOTAL CELLS/mL	14,098
NUMBER OF SPECIES	10
DEPTH COLLECTED (ft.)	2.5

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Pennales	
<i>Cymbella parva</i>	21
<i>Navicula rhyncocephala</i>	8
CHLOROPHYTA	
<i>Chlamydomonas</i> sp.	30
<i>Pediastrum duplex</i>	30
<i>Scenedesmus opoliensis</i>	30
CYANOPHYTA	
<i>Aphanizomenon flos-aquae</i>	595
<i>Aphanocapsa delicatissima</i>	11,004
<i>Chroococcus limneticus</i>	238
<i>Merismopedia tenuissima</i>	952
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	1,190

TRINITY RIVER BASIN

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08051100 RAY ROBERTS LAKE NEAR PILOT POINT, TX--Continued

Ray Roberts Lake Site DC (332459097063001)

Phytoplankton Analyses October 1993 to September 1994

Date	6-9-94
Time	1321

TOTAL CELLS/mL	10,290
NUMBER OF SPECIES	12
DEPTH COLLECTED (ft)	1.0

OrganismsCells/mL

BACILLARIOPHYTA

Order Pennales

<i>Cocconeis placentula</i>	17
<i>Cymbella parva</i>	34
<i>Navicula rhyncocephala</i>	68

CHLOROPHYTA

<i>Ankistrodesmus falcatus</i>	30
<i>Chlamydomonas</i> sp.	89
<i>Cosmarium</i> sp.	30
<i>Scenedesmus opoliensis</i>	149

CYANOPHYTA

<i>Aphanizomenon flos-aquae</i>	2,082
<i>Aphanocapsa delicatissima</i>	6,840
<i>Chroococcus limneticus</i>	595

EUGLENOPHYTA

<i>Trachelomonas</i> sp.	297
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CRYPTOPHYTA

<i>Cryptomonas erosa</i>	59
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08051100 RAY ROBERTS LAKE NEAR PILOT POINT, TX--Continued

Ray Roberts Lake Site AC (332138097024101)

Phytoplankton Analyses October 1993 to September 1994

Date	8-4-94
Time	1152

TOTAL CELLS/mL	20,907
NUMBER OF SPECIES	12
DEPTH COLLECTED (ft.)	1.6

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	30
Order Pennales	
<i>Fragilaria crotonensis</i>	736
<i>Navicula rhyncocephala</i>	7
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	119
<i>Pediastrum duplex</i>	30
<i>Scenedesmus opoliensis</i>	59
<i>Staurastrum</i> sp.	59
CYANOPHYTA	
<i>Aphanizomenon flos-aquae</i>	1,190
<i>Aphanocapsa delicatissima</i>	16,060
<i>Aphanocapsa elachista</i>	595
<i>Chroococcus limneticus</i>	119
<i>Merismopedia tenuissima</i>	1,903

TRINITY RIVER BASIN

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08051100 RAY ROBERTS LAKE NEAR PILOT POINT, TX--Continued

Ray Roberts Lake Site DC (332459097063001)

Phytoplankton Analyses October 1993 to September 1994

Date	8-4-94
Time	1609

TOTAL CELLS/mL	14,424
NUMBER OF SPECIES	9
DEPTH COLLECTED (ft.)	

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	89
Order Pennales	
<i>Cymbella parva</i>	75
<i>Fragilaria crotonensis</i>	936
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	446
<i>Cosmarium</i> sp.	59
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	11,599
<i>Chroococcus limneticus</i>	595
<i>Merismopedia tenuissima</i>	476
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	149

TRINITY RIVER BASIN

08051500 CLEAR CREEK NEAR SANGER, TX

LOCATION.--Lat 33°20'10", long 97°10'45". Denton County, Hydrologic Unit 12030103, at the downstream side near right end of bridge on county road, 1,350 ft downstream from Duck Creek, 1.1 mi upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, and 1.8 mi south of Sanger.

DRAINAGE AREA.--295 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1949 to current year.

REVISED RECORDS.--WSP 1512: 1950, 1955. WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 582.23 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to Apr. 18, 1975, water-stage recorder at datum 5.00 ft higher. Apr. 18, 1975, to June 9, 1988, at site 950 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There are no appreciable diversions above station. Flow affected at times by discharge from the flood-detention pools of 51 floodwater-retarding structures with a combined detention capacity of 38,850 acre-ft. These structures control runoff from 149 mi² in the Clear Creek watershed. Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--31 years (water years 1950-80), 74.3 ft³/s (53,830 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1950-80).--Maximum discharge, 18,200 ft³/s Sept. 13, 1950 (gage height, 29.80 ft) at site and datum then in use; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1880, 36.5 ft in May 1908, from information by Gulf, Colorado, and Santa Fe Railway Co. Flood in May 1935 reached a stage of 34.0 ft, from information by Texas Department of Transportation. Both peaks now referenced to present site and datum.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	44	33	48	50	1110	51	310	62	11	7.8	23
2	4.0	44	34	47	48	714	50	177	54	11	7.3	49
3	4.2	44	1640	45	45	402	50	633	46	41	6.4	23
4	4.4	43	1430	45	45	282	51	375	40	22	6.1	e14
5	4.1	42	986	42	49	217	50	217	41	13	5.5	e9.9
6	3.7	39	440	40	47	190	48	132	42	12	5.3	e8.3
7	3.4	37	220	42	46	165	48	97	40	11	5.1	6.5
8	3.1	37	161	39	46	148	49	80	31	15	6.1	6.1
9	2.8	37	138	40	74	197	49	70	26	103	6.7	7.2
10	2.6	37	123	41	129	188	49	100	26	397	5.3	14
11	5.5	37	94	83	78	146	49	203	25	684	4.6	16
12	e6.2	37	86	89	92	127	52	1180	30	150	4.1	10
13	e8.7	37	203	66	92	166	48	1660	32	68	3.5	8.2
14	e13	55	109	56	70	234	44	1060	27	56	2.8	7.7
15	e8.1	52	80	50	63	174	41	692	23	86	2.4	7.4
16	e6.3	442	73	48	58	135	37	470	23	63	2.4	1140
17	e6.1	256	71	62	56	113	32	327	23	32	2.3	1030
18	e266	111	66	59	55	104	29	174	22	24	2.1	355
19	2430	70	63	49	55	94	30	114	21	19	2.1	227
20	2520	52	61	49	78	85	32	89	20	16	8.0	174
21	1360	46	56	48	94	76	32	77	20	13	14	107
22	1110	42	65	56	1660	69	33	68	18	12	6.7	72
23	780	39	96	119	1220	65	33	60	17	9.5	3.7	48
24	535	38	88	113	597	65	30	60	16	15	2.7	34
25	267	36	71	105	320	65	30	54	16	11	2.2	23
26	118	36	64	98	217	61	34	154	14	9.8	1.9	19
27	77	36	59	80	176	65	503	216	12	9.6	1.2	17
28	62	36	55	66	161	62	235	138	10	8.6	.94	15
29	56	35	51	56	---	55	152	105	9.9	7.4	.55	13
30	51	33	49	52	---	51	487	82	11	7.0	.33	12
31	48	---	48	51	---	51	---	77	---	7.2	.61	---
TOTAL	9770.7	1930	6813	1884	5721	5676	2458	9251	797.9	1944.1	130.73	3496.3
MEAN	315	64.3	220	60.8	204	183	81.9	298	26.6	62.7	4.22	117
MAX	2520	442	1640	119	1660	1110	503	1660	62	684	14	1140
MIN	2.6	33	33	39	45	51	29	54	9.9	7.0	.33	6.1
AC-FT	19380	3830	13510	3740	11350	11260	4880	18350	1580	3860	259	6930

TRINITY RIVER BASIN

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08051500 CLEAR CREEK NEAR SANGER, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1994#, BY WATER YEAR (WY)

MEAN	270	61.6	162	92.8	161	218	211	454	316	40.2	7.34	36.6
MAX	2739	344	1157	421	475	719	1811	1764	1307	174	20.2	155
(WY)	1982	1982	1992	1992	1989	1990	1990	1990	1989	1982	1982	1986
MIN	.70	1.09	5.83	6.62	9.22	26.2	27.7	15.5	13.1	.16	.000	.000
(WY)	1989	1981	1984	1981	1981	1986	1981	1984	1983	1984	1988	1983

SUMMARY STATISTICS FOR 1993 CALENDAR YEAR FOR 1994 WATER YEAR WATER YEARS 1981 - 1994#

ANNUAL TOTAL	78315.6	49872.73	169
ANNUAL MEAN	215	137	476
HIGHEST ANNUAL MEAN			20.0
LOWEST ANNUAL MEAN			39700
HIGHEST DAILY MEAN	4680 Jun 9	2520 Oct 20	1982
LOWEST DAILY MEAN	2.6 Oct 10	.33 Aug 30	1983
ANNUAL SEVEN-DAY MINIMUM	3.3 Aug 18	1.1 Aug 25	1981
INSTANTANEOUS PEAK FLOW		4380 Oct 19	1980
INSTANTANEOUS PEAK STAGE		19.71 Oct 19	1981
ANNUAL RUNOFF (AC-FT)	155300	98920	122700
10 PERCENT EXCEEDS	484	266	308
50 PERCENT EXCEEDS	66	49	30
90 PERCENT EXCEEDS	5.2	6.1	1.4

e Estimated

Period of regulated streamflow.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: April 1959, January 1966, October 1984 to current year. Sediment analyses: February 1966 to May 1977.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1969 to August 1977.

WATER TEMPERATURE: May 1968 to August 1977.

SUSPENDED SEDIMENT DISCHARGE: May 1968 to August 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (1972-77): Maximum daily, 1,920 microsiemens Oct. 12, 1976; minimum daily, 182 microsiemens July 29, 1973.

WATER TEMPERATURE (1968-70, 1972-77): Maximum daily, 39.0°C June 8, 1969; minimum daily, 0.0°C Jan. 9, 1970.

SEDIMENT CONCENTRATION: Maximum daily mean, 7,370 mg/L May 12, 1972; minimum, no flow on many days.

SEDIMENT LOADS: Maximum daily, 79,000 tons May 7, 1969; minimum daily, 0 tons on many days.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	
OCT 21...	1100	1320	217	8.0	17.0	--	--	8.6	89	--	96	
NOV 17...	1502	190	360	8.0	11.5	--	--	10.2	95	--	150	
DEC 10...	1511	121	470	8.2	14.0	21	15	9.6	95	3.0	210	
21...	1425	56	580	8.3	7.0	--	--	12.0	100	--	250	
JAN 12...	1505	85	668	8.3	9.0	--	--	11.4	100	--	250	
FEB 01...	0845	50	583	8.0	3.0	--	--	12.6	94	--	250	
23...	1010	1240	366	8.1	10.0	--	--	10.2	91	--	160	
MAR 18...	0914	104	556	8.0	17.5	--	--	9.3	100	--	240	
APR 20...	1035	33	635	7.8	20.5	--	--	8.2	92	--	250	
MAY 14...	0930	1080	305	7.8	20.0	--	--	7.9	89	--	140	
JUN 14...	1450	26	559	7.8	29.0	--	--	8.3	111	--	210	
JUL 07...	1233	9.8	534	7.8	28.5	--	--	8.4	111	--	200	
07...	1238	9.8	--	--	--	--	--	--	--	--	200	
AUG 09...	1321	5.1	673	7.7	27.5	--	--	8.9	114	--	210	
SEP 20...	1203	185	254	8.1	22.5	--	--	8.0	93	--	110	
DATE		HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CAC03	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)
OCT 21...	14	35	2.2	6.1	0.3	3.0	0	100	82	82	11	
NOV 17...	11	54	4.5	13	0.5	3.7	0	173	142	140	21	
DEC 10...	12	76	5.9	17	0.5	3.2	--	--	--	200	29	
21...	0	86	8.2	24	0.7	1.9	0	314	257	260	35	
JAN 12...	29	86	8.1	38	1	2.0	0	267	219	220	39	
FEB 01...	140	86	8.5	26	0.7	1.8	--	--	--	110	42	
23...	13	58	3.8	15	0.5	1.4	2	176	148	150	25	
MAR 18...	25	84	7.6	22	0.6	1.9	0	264	216	210	38	
APR 20...	36	79	14	41	1	2.2	0	267	218	210	53	
MAY 14...	15	50	3.4	11	0.4	3.3	0	151	124	120	17	
JUN 14...	26	60	15	37	1	1.8	0	226	186	180	47	
JUL 07...	32	57	13	36	1	3.4	0	200	164	160	46	
07...	--	57	13	35	1	3.4	--	--	--	--	46	
AUG 09...	30	61	15	56	2	1.8	0	224	184	180	61	
SEP 20...	7	38	3.6	8.5	0.4	3.0	0	125	103	100	13	

TRINITY RIVER BASIN

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08051500 CLEAR CREEK NEAR SANGER, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L)	RESIDUE VOLATILE, SUS- PENDED (MG/L)	RESIDUE FIXED NON FILTER- ABLE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
OCT 21...	5.8	0.30	11	142	130	--	--	--	1.26	1.26	0.040
NOV 17...	11	0.20	11	219	207	--	--	--	0.750	0.750	0.030
DEC 10...	17	0.20	12	--	283	30	21	9	0.410	--	<0.010
DEC 21...	23	0.20	10	349	344	--	--	--	0.240	0.240	0.010
JAN 12...	64	0.30	7.8	387	378	--	--	--	0.280	--	<0.010
FEB 01...	28	0.30	8.4	319	383	--	--	--	0.250	0.250	0.050
FEB 23...	12	0.30	7.6	231	214	--	--	--	0.530	0.530	0.030
MAR 18...	24	0.20	7.7	321	316	--	--	--	0.180	0.180	0.010
APR 20...	45	0.30	10	352	376	--	--	--	0.075	0.075	0.020
MAY 14...	9.1	0.20	10	201	181	--	--	--	0.660	0.660	0.020
JUN 14...	40	0.30	15	334	328	--	--	--	0.088	--	<0.010
JUL 07...	43	0.30	12	325	309	--	--	--	--	--	<0.010
JUL 07...	44	0.30	12	326	314	--	--	--	--	--	<0.010
AUG 09...	71	0.30	12	408	389	--	--	--	0.071	--	<0.010
SEP 20...	7.3	0.20	9.5	161	146	--	--	--	0.290	0.290	0.010

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
OCT 21...	1.30	1.30	0.030	1.7	0.37	0.37	0.40	0.40	0.050	0.060
NOV 17...	0.780	0.780	0.020	1.2	0.38	0.48	0.50	0.40	0.060	0.040
DEC 10...	0.410	0.410	0.020	--	--	1.5	1.5	--	--	<0.010
DEC 21...	0.250	0.250	0.020	--	--	--	<0.20	<0.20	<0.010	<0.010
JAN 12...	0.280	0.280	0.020	0.48	0.18	--	<0.20	0.20	0.020	<0.010
FEB 01...	0.300	0.300	0.030	--	--	0.17	0.20	<0.20	<0.010	<0.010
FEB 23...	0.560	0.560	0.040	1.3	0.66	0.36	0.40	0.70	0.100	0.030
MAR 18...	0.190	0.190	0.030	--	--	--	<0.20	<0.20	<0.010	<0.010
APR 20...	0.095	0.095	0.030	0.30	0.17	--	<0.20	0.20	0.020	<0.010
MAY 14...	0.680	0.680	0.030	1.7	0.97	0.47	0.50	1.0	0.200	0.030
JUN 14...	0.088	0.088	0.020	0.29	0.18	--	<0.20	0.20	<0.010	<0.010
JUL 07...	--	<0.050	0.020	0.30	0.28	0.18	0.20	0.30	<0.010	<0.010
JUL 07...	--	<0.050	0.020	0.40	0.38	0.18	0.20	0.40	0.030	<0.010
AUG 09...	0.071	0.071	0.030	0.37	0.27	--	<0.20	0.30	<0.010	<0.010
SEP 20...	0.300	0.300	0.030	0.70	0.37	0.27	0.30	0.40	0.060	<0.010

TRINITY RIVER BASIN
08051500 CLEAR CREEK NEAR SANGER, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT										
21...	0.080	0.25	--	6.2	>5.6	535	1910	89	190	22
NOV										
17...	0.040	0.12	--	6.6	1.4	69	26	97	31	6
DEC										
10...	0.020	0.06	6.1	--	--	--	--	--	--	--
21...	0.020	0.06	--	3.8	0.2	32	3.4	83	8	21
JAN										
12...	<0.010	--	--	--	0.4	76	13	73	5	13
FEB										
01...	<0.010	--	--	3.1	0.3	39	5.3	97	6	21
23...	0.030	0.09	--	6.6	>5.6	1440	4510	48	99	11
MAR										
18...	<0.010	--	--	3.2	0.5	61	13	97	8	6
APR										
20...	<0.010	--	--	2.8	0.4	57	3.8	100	11	17
MAY										
14...	0.030	0.09	--	6.9	4.2	672	1960	69	56	2
JUN										
14...	<0.010	--	--	2.1	0.4	50	2.0	97	6	8
JUL										
07...	<0.010	--	--	3.6	1.1	64	0.24	95	10	2
07...	<0.010	--	--	3.4	1.2	66	--	93	12	1
AUG										
09...	<0.010	--	--	2.5	0.2	37	0.06	91	<3	15
SEP										
20...	0.010	0.03	--	4.5	2.5	202	110	99	20	2

TRINITY RIVER BASIN

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08052700 LITTLE ELM CREEK NEAR AUBREY, TX

LOCATION.--Lat 33°17'00", long 96°53'33", Denton County, Hydrologic Unit 12030103, on left bank at downstream side of bridge on Farm Road 1385, 1.5 mi upstream from Mustang Creek, 5.5 mi east of Aubrey, and 18 mi upstream from Lewisville Dam on the Elm Fork Trinity River.

DRAINAGE AREA.--75.5 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1956 to September 1976, October 1979 to current year.

REVISED RECORDS.--WDR TX-70-1: 1969.

GAGE.--Water-stage recorder. Datum of gage is 534.76 ft above National Geodetic Vertical Datum of 1929 (Texas Department of Transportation benchmark).

REMARKS.--No estimated daily discharges. Records good. There are several small diversions above station for irrigation. Flow affected at times by discharge from the flood-detention pools of 17 floodwater-retarding structures with a combined detention capacity of 10,460 acre-ft. These structures control runoff from 36.4 mi² above this station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1900, 18.2 ft in May 1941, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	2000	3,720	16.51	May 13	1930	2,770	16.14
Dec. 3	2230	2,790	16.15	July 11	1145	36,200	18.27
May 12	1100	1,080	14.50	July 15	0345	1,490	15.14

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	8.7	2.0	.83	.84	158	.88	6.5	3.2	.04	.65	362
2	1.5	5.9	1.8	.74	.68	146	.85	7.6	1.6	.01	.40	199
3	1.4	4.9	1.140	1.2	.56	59	1.0	215	.92	.00	.26	210
4	2.3	4.0	1.170	1.2	.44	30	1.8	41	.71	.00	.48	92
5	3.2	2.8	444	1.1	.37	18	2.5	15	.59	.00	.45	48
6	2.6	2.4	373	.98	.26	13	1.7	8.2	.71	.00	.35	23
7	1.9	2.2	297	1.2	.46	11	2.0	5.1	.89	.00	1.4	8.0
8	1.6	2.1	168	1.0	.48	37	2.7	3.5	1.2	.97	3.2	4.5
9	1.5	1.8	98	1.0	.56	293	3.1	2.6	.73	.54	1.4	3.0
10	1.9	1.5	61	.99	.80	101	3.6	2.7	.99	194	.74	2.1
11	2.2	2.1	36	1.1	.85	54	3.6	36	18	11600	.53	1.7
12	1.7	3.0	19	1.5	.79	28	3.3	772	9.9	1440	.35	1.4
13	8.3	2.9	108	2.9	.73	20	3.3	1750	4.5	559	.28	1.2
14	6.8	45	61	3.5	.61	16	3.2	1100	2.0	437	.32	.98
15	12	44	31	3.3	.57	11	3.9	326	5.7	1110	.16	.88
16	10	157	16	3.0	.59	7.7	3.8	208	78	257	.06	2.2
17	7.4	208	9.6	5.0	.47	5.1	3.3	155	22	179	.11	1.1
18	106	65	6.4	5.9	.41	4.0	3.1	119	9.0	144	.28	.76
19	1600	30	4.7	3.4	1.1	2.8	2.8	91	4.5	113	.20	.61
20	1850	14	3.5	2.9	2.1	2.0	3.3	53	10	99	20	.68
21	572	7.3	2.8	2.8	1.8	1.5	3.8	30	21	92	127	.75
22	448	4.2	2.3	3.5	631	1.3	3.8	22	15	88	23	.82
23	409	2.9	2.4	13	355	1.1	3.7	6.4	8.0	83	6.4	.93
24	381	2.2	2.1	7.0	149	.87	3.5	2.3	3.9	78	2.8	1.1
25	325	1.8	1.6	4.9	76	.85	4.4	1.4	2.0	68	1.6	.93
26	194	1.9	1.3	4.8	42	1.0	7.8	1.4	1.3	60	1.0	.72
27	145	2.2	1.2	3.8	20	1.3	7.8	1.3	.93	44	.64	.73
28	105	3.1	1.1	2.5	12	1.2	7.1	1.1	.56	23	.50	.68
29	72	3.2	1.2	1.7	---	1.1	7.6	20	.25	4.7	.43	.62
30	38	2.5	.96	1.3	---	1.2	13	37	.22	1.9	.32	.48
31	16	---	.91	1.1	---	.98	---	8.1	---	1.1	44	---
TOTAL	6329.3	638.6	4067.87	89.14	1300.47	1029.00	116.23	5048.2	228.30	16730.72	239.31	970.87
MEAN	204	21.3	131	2.88	46.4	33.2	3.87	163	7.61	540	7.72	32.4
MAX	1850	208	1170	13	631	293	13	1750	78	11600	127	362
MIN	1.4	1.5	.91	.74	.26	.85	.85	1.1	.22	.00	.06	.48
AC-FT	12550	1270	8070	177	2580	2040	231	10010	453	33190	475	1930

TRINITY RIVER BASIN

08052700 LITTLE ELM CREEK NEAR AUBREY, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1994b, BY WATER YEAR (WY)

MEAN	59.6	49.8	46.2	21.4	55.5	44.3	70.5	129	56.1	22.2	2.42	35.2
MAX	641	332	398	108	315	251	677	897	286	540	28.5	258
(WY)	1982	1975	1992	1992	1986	1990	1957	1982	1989	1994	1966	1964
MIN	.000	.000	.000	.000	.000	.026	.10	.000	.000	.000	.000	.000
(WY)	1957	1959	1959	1959	1959	1963	1959	1959	1972	1964	1957	1958

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1957 - 1994b

ANNUAL TOTAL	24799.04	36788.01	49.3
ANNUAL MEAN	67.9	101	178
HIGHEST ANNUAL MEAN			2.24
LOWEST ANNUAL MEAN			11600
HIGHEST DAILY MEAN	2050 Feb 25	11600 Jul 11	11600 Jul 11 1994
LOWEST DAILY MEAN	.00 Jun 5	.00 Jul 3	.00 Oct 1 1956
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 3	.01 Jul 1	.00 Oct 1 1956
INSTANTANEOUS PEAK FLOW		36200 Jul 11	36200 Jul 11 1994
INSTANTANEOUS PEAK STAGE		18.27 Jul 11	18.27 Jul 11 1994
ANNUAL RUNOFF (AC-FT)	49190	72970	35710
10 PERCENT EXCEEDS	152	157	77
50 PERCENT EXCEEDS	4.7	3.1	.57
90 PERCENT EXCEEDS	.00	.56	.00

b Break in record.

TRINITY RIVER BASIN

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08052700 LITTLE ELM CREEK NEAR AUBREY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: June 1962 to June 1963, June 1965 to January 1968. Chemical and biochemical analyses: October 1984 to current year. Sediment analyses: April 1966 to October 1974.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1966 to June 1975.

WATER TEMPERATURES: February 1966 to June 1975.

SUSPENDED SEDIMENT DISCHARGE: February 1966 to September 1975.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (1966-68, 1971-74): Maximum daily, 1,380 microsiemens Jan. 24, Feb. 25, 1967; minimum daily, 195 microsiemens June 4, 1968.

WATER TEMPERATURE (1966-68, 1971-74): Maximum daily, 33.0°C June 16, 1968; minimum daily, 0.0°C Feb. 22, 1968.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,750 mg/L Aug. 13, 1966; minimum daily mean, no flow on many days.

SEDIMENT LOADS: Maximum daily, 17,900 tons May 31, 1967; minimum daily, 0 tons on many days.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
OCT 22...	1502	453	229	8.3	16.0	96	230	8.1	83	2.4	92	25
DEC 09...	1708	90	258	7.9	14.0	110	190	9.6	95	4.1	100	19
FEB 04...	1146	0.44	555	8.4	9.5	45	22	12.0	107	0.8	200	23
MAR 24...	1526	0.86	566	8.1	13.0	28	7.1	9.7	94	1.2	210	48
MAY 12...	1602	868	334	7.4	22.0	110	250	5.8	68	2.1	130	53
JUL 15...	1716	1050	246	7.4	24.0	76	98	5.8	70	1.6	100	19
DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)
OCT 22...	33	2.4	9.3	0.4	3.9	67	31	5.0	0.30	10	140	183
DEC 09...	37	2.9	11	0.5	4.7	85	38	4.7	0.20	9.6	165	286
FEB 04...	69	5.4	47	1	5.1	170	120	15	0.40	0.33	370	47
MAR 24...	73	5.9	51	2	5.2	160	120	17	0.40	0.70	370	17
MAY 12...	46	3.9	16	0.6	5.6	78	63	5.4	0.30	11	213	364
JUL 15...	37	2.6	8.1	0.3	4.8	84	36	3.7	0.10	13	157	182
DATE	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	
OCT 22...	37	146	1.06	1.06	0.040	1.10	1.10	0.010	1.8	1.8	0.160	
DEC 09...	48	238	1.26	1.26	0.040	1.30	1.30	0.060	0.44	0.50	0.130	
FEB 04...	13	34	0.800	0.800	0.070	0.870	0.870	0.030	0.47	0.50	0.080	
MAR 24...	10	7	0.170	--	<0.010	0.170	0.170	0.030	0.47	0.50	<0.010	
MAY 12...	76	288	3.31	3.31	0.090	3.40	3.40	0.060	0.94	1.0	0.170	
JUL 15...	25	157	0.120	0.120	0.010	0.130	0.130	0.030	0.67	0.70	0.170	

TRINITY RIVER BASIN

08052700 LITTLE ELM CREEK NEAR AUBREY, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 22...	0.130	0.40	12	--	--	--	--	--	--	--	--
DEC 09...	0.140	0.43	13	--	--	--	--	--	--	--	--
FEB 04...	0.080	0.25	8.8	2	43	<0.5	<1.0	<5	<3	<10	7
MAR 24...	<0.010	--	9.1	<1	<100	<10	<1.0	<1	2	4	50
MAY 12...	0.130	0.40	18	--	--	--	--	--	--	--	--
JUL 15...	0.130	0.40	12	5	28	<0.5	<1.0	<5	<3	<10	80
DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 22...	--	--	--	--	--	--	--	--	--	--	--
DEC 09...	--	--	--	--	--	--	--	--	--	--	--
FEB 04...	<10	11	3	<0.1	<10	<10	<1	<1.0	560	<6	3
MAR 24...	<1	10	20	<0.1	1	3	<1	<1.0	600	2	<10
MAY 12...	--	--	--	--	--	--	--	--	--	--	--
JUL 15...	<10	15	1	<0.1	<10	<10	<1	<1.0	290	<6	8

TRINITY RIVER BASIN

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08052730 PECAN CREEK NEAR AUBREY, TX

LOCATION.--Lat 33°17'50", long 96°55'06", Denton County, Hydrologic Unit 12030103, at Farm Road 428 bridge, over center of channel at downstream side of bridge, 1.1 mi downstream from unnamed tributary on right bank, 2.2 mi upstream from unnamed tributary on right bank, and 4.0 mi east of Aubrey.

DRAINAGE AREA.--32.2 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: December 1985 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
OCT 21...	1810	25	206	8.2	16.0	120	60	8.1	83	2.3	75	26
DEC 09...	1134	3.6	719	7.8	13.0	68	27	8.7	85	3.0	260	160
FEB 03...	1514	1.1	1260	7.7	5.5	28	5.0	12.6	102	0.1	520	350
MAR 25...	1102	0.15	1320	7.6	15.0	28	5.0	7.6	76	0.6	540	370
JUL 15...	1216	195	103	6.7	24.0	110	62	6.8	82	2.1	37	0
19...	0830	3.3	757	7.2	25.5	56	35	6.0	75	1.0	280	160
DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)
OCT 21...	22	4.9	8.9	0.4	4.7	49	45	6.7	0.20	10	135	59
DEC 09...	74	19	46	1	6.5	100	210	30	0.30	13	463	32
FEB 03...	140	40	94	2	4.4	160	460	72	0.70	4.2	914	11
MAR 25...	150	40	100	2	5.5	170	450	78	0.60	3.7	934	20
JUL 15...	11	2.2	4.2	0.3	4.3	38	11	3.7	<0.10	8.4	69	148
19...	79	19	48	1	5.3	120	210	40	0.30	15	488	69
DATE	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+N03 TOTAL (MG/L AS N)	NITRO-GEN, NO2+N03 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	
OCT 21...	26	33	0.610	0.610	0.020	0.630	0.630	0.060	1.2	1.3	0.160	
DEC 09...	8	24	0.410	0.410	0.010	0.420	0.420	0.050	0.35	0.40	0.020	
FEB 03...	4	7	--	--	0.050	--	<0.050	0.030	0.37	0.40	0.020	
MAR 25...	12	8	--	--	<0.010	--	<0.050	0.020	0.48	0.50	0.020	
JUL 15...	29	119	0.100	0.100	0.010	0.110	0.110	0.080	0.72	0.80	0.250	
19...	16	53	0.110	--	<0.010	0.110	0.110	0.080	0.42	0.50	0.020	
DATE	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	
OCT 21...	0.170	0.52	10	--	--	--	--	--	--	--	--	
DEC 09...	0.020	0.06	9.2	--	--	--	--	--	--	--	--	
FEB 03...	0.020	0.06	5.7	<1	78	<0.5	<1.0	<5	<3	<10	9	
MAR 25...	<0.010	--	7.8	<1	77	<0.5	<1.0	<5	<3	<10	13	
JUL 15...	0.180	0.55	14	4	25	<0.5	<1.0	<5	<3	<10	150	
19...	0.020	0.06	7.7	--	--	--	--	--	--	--	--	

[illegible]

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX

LOCATION.--Lat 33°04'09", long 96°57'51", Denton County, Hydrologic Unit 12030103, in intake structure of Lewisville Dam on Elm Fork Trinity River, 2 mi upstream from bridge on State Highway 121, 2.4 mi northeast of Lewisville, 12 mi upstream from Denton Creek, and 30.0 mi upstream from mouth.

DRAINAGE AREA.--1,660 mi².

WATER-CONTENT RECORDS

PERIOD OF RECORD.--November 1954 to current year. Prior to October 1970, published as Garza-Little Elm Reservoir near Lewisville.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 17, 1955, non-recording gage at site 4,000 ft upstream at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 32,888 ft long, including a 560-foot uncontrolled off-channel concrete-gravity spillway with ogee weir section. Deliberate impoundment began Nov. 1, 1954, and the dam was completed in August 1955. The controlled low-flow outlet works consist of a 16.0-foot-diameter conduit that is controlled by three 6.5- by 13.0-foot broome-type gates and two 60-inch steel pipes with service valves. The lake was built for flood control and water conservation. The city of Dallas obtains most of its municipal water supply from this lake. The capacity table is based on a survey made in 1965. Inflow is affected at times by discharge from the flood-detention pools of 118 floodwater-retarding structures with a combined detention capacity of 81,670 acre-ft. These structures control runoff from 298 mi² in the Elm Fork Trinity River, Clear, Little Elm, and Hickory Creeks watersheds. An unknown amount of water was diverted for municipal and industrial uses. Satellite telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	560.0	-
Crest of spillway.....	532.0	981,800
Top of conservation pool.....	515.0	457,600
Lowest intakes to wet wells (invert).....	481.0	42,560
Invert of three broome-type gates.....	448.0	0

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,181,000 acre-ft May 4, 1990 (elevation, 536.73 ft); minimum since initial filling in 1957, 184,700 acre-ft Sept. 28, 1980 (elevation, 498.65 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 789,600 acre-ft July 15 (elevation, 526.74 ft); minimum daily, 595,300 acre-ft Oct. 17 (elevation, 520.42 ft).

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

518.0	530,800	524.0	701,600	529.0	869,000
520.0	583,500	526.0	765,100	530.0	905,500
522.0	641,000	528.0	833,100	531.0	943,100

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	600900	685000	641600	641600	646600	660700	639200	644500	685900	628600	651400	646900
2	602100	682200	643400	642200	645100	657700	640400	647500	678800	627500	649000	655000
3	601800	676400	660400	642200	643900	654400	639500	651100	671900	626300	647200	656200
4	601200	672500	676400	641000	645100	651400	637700	651400	664300	624800	646000	654400
5	600100	666700	680400	640400	645400	648400	640400	649000	657400	623100	645100	652900
6	599800	658900	682200	643100	645400	645100	637700	647500	650800	621900	643900	650800
7	599000	652000	682500	641300	645400	644500	636300	646900	646900	620800	646000	648100
8	599500	648100	681300	641000	647200	647200	635400	644800	645100	622800	645700	645700
9	598100	646000	677600	640100	647200	648400	634800	644800	644800	625400	644800	643700
10	597000	644500	673700	641600	646300	648400	635400	644500	643900	649000	644500	641900
11	596100	643100	669100	642500	645100	646900	637100	658000	643900	756900	643700	641000
12	597800	643400	665800	642800	646900	645700	635700	692900	642800	772000	642500	640100
13	597300	642500	663100	642800	646300	644200	635100	743100	642200	768700	641300	639200
14	596400	643900	659200	643400	646300	643700	634500	762800	641300	765400	640100	638600
15	595800	642800	655600	642800	646600	643700	635100	774300	643900	789600	638900	638000
16	596100	644800	653200	646000	646600	642500	634800	781200	643700	781900	637700	638000
17	595300	646300	651100	645100	646600	642200	634200	780600	643100	773000	636900	640700
18	598700	645100	648700	644200	646000	643400	633600	776900	643100	763400	635400	640400
19	628300	644500	646300	644200	646900	642800	633300	772000	642500	753700	633600	639500
20	674300	642800	643100	645100	648100	645400	635100	765400	641600	744700	634500	638900
21	684300	641900	641300	645100	650800	643700	635100	758200	640700	736400	635400	638000
22	688600	641000	642500	646300	663100	642800	635100	751100	639800	726900	634500	638300
23	692000	641600	642500	647200	666700	643100	634800	743400	638600	717200	633300	638000
24	694800	643100	642800	647500	667000	643700	634200	735100	637100	707500	632700	636600
25	696900	642800	642200	648400	669700	642200	637100	729400	634800	698800	631600	635700
26	699400	641900	641600	649900	665500	642800	636000	724100	634200	690200	630100	634800
27	699100	641600	642800	651400	662500	643400	638300	717500	631900	679500	628900	634200
28	698200	641900	643100	650800	661900	641300	638300	710300	631300	671200	627800	633600
29	698800	641600	642200	649600	---	641900	641000	706200	630100	665200	626300	633000
30	693900	641600	641600	649600	---	640700	643700	699700	629500	660700	625700	631900
31	688900	---	641000	647800	---	640100	---	692900	---	655600	633000	---
MAX	699400	685000	682500	651400	669700	660700	643700	781200	685900	789600	651400	656200
MIN	595300	641000	641000	640100	643900	640100	633300	644500	629500	620800	625700	631900
(+)	523.59	522.02	522.00	522.23	522.70	521.97	522.09	523.72	521.61	522.49	521.73	521.69
(#)	+86000	-47300	-600	+6800	+14100	-21800	+3600	+49200	-63400	-26100	-22600	-1100

CAL YR 1993 MAX 730400 MIN 589900 (#) -46400
WTR YR 1994 MAX 789600 MIN 595300 (#) +29000

(+) Elevation, in feet, at end of month.
(#) Change in contents, in acre-feet.

TRINITY RIVER BASIN

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: March 1962 to July 1964, December 1969 to current year.

REVISED RECORDS.--TX-93-1 Phytoplankton.

330419096575401 - LEWISVILLE LAKE SITE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
JAN										
20...	1045	645000	1.00	299	8.1	7.0	0.88	10.9	91	K7
20...	1050	--	10.0	300	8.1	7.0	--	10.9	91	--
20...	1055	--	20.0	298	8.1	7.0	--	10.8	90	--
20...	1101	--	30.0	302	8.1	7.0	--	10.9	91	--
20...	1106	--	40.0	300	8.1	7.0	--	11.0	92	--
20...	1111	--	50.0	300	8.1	7.0	--	10.9	91	--
20...	1117	--	60.0	300	8.1	7.0	--	11.0	92	--
20...	1123	--	66.0	305	8.1	7.0	--	11.0	92	--
JUN										
08...	1101	645000	1.00	321	7.3	24.0	1.80	2.0	24	K1
08...	1104	--	10.0	320	7.3	23.5	--	2.0	24	--
08...	1109	--	20.0	323	7.3	23.0	--	1.0	12	--
08...	1114	--	30.0	326	7.3	22.0	--	0.5	6	--
08...	1119	--	40.0	335	7.3	20.5	--	1.0	11	--
08...	1125	--	50.0	343	7.2	19.5	--	0.2	2	--
08...	1130	--	64.0	340	7.2	19.5	--	0.6	7	--
AUG										
03...	1215	647000	1.00	267	8.0	28.0	1.10	6.4	83	K1
03...	1219	--	10.0	268	7.7	27.0	--	5.5	70	--
03...	1224	--	20.0	268	7.7	27.0	--	5.3	68	--
03...	1228	--	30.0	270	7.6	27.0	--	4.9	63	--
03...	1233	--	40.0	270	7.5	27.0	--	4.7	60	--
03...	1238	--	50.0	253	7.0	24.5	--	0.3	4	--
03...	1242	--	63.0	331	7.0	22.0	--	0.5	6	--

DATE	STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RA110	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)
JAN									
20...	K5	110	0	36	3.7	17	0.7	4.2	110
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	110	0	37	3.7	17	0.7	4.4	110
JUN									
08...	K1	110	0	39	3.9	18	0.7	3.9	110
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	130	2	44	4.1	19	0.7	3.8	120
AUG									
03...	K1	95	6	32	3.6	17	0.8	3.9	89
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	120	0	43	4.1	18	0.7	3.8	130

TRINITY RIVER BASIN

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08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330419096575401 - LEWISVILLE LAKE SITE AC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
JAN									
20...	25	16	0.30	3.8	173	0.360	0.360	0.020	0.380
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	24	16	0.30	3.8	173	0.350	0.350	0.020	0.370
JUN									
08...	28	16	0.20	1.8	181	0.300	0.300	0.010	0.310
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	28	18	0.20	4.6	199	0.450	--	<0.010	0.450
AUG									
03...	24	14	0.20	3.4	152	--	--	<0.010	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	<0.010	--
03...	--	--	--	--	--	--	--	<0.010	--
03...	19	16	0.20	8.1	196	--	--	0.010	--
DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN									
20...	0.380	0.020	0.28	0.30	0.010	<0.010	--	<3	<1
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
20...	0.370	0.030	0.27	0.30	0.020	<0.010	--	<3	1
JUN									
08...	0.310	0.050	0.35	0.40	<0.010	<0.010	--	5	3
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
08...	0.450	0.080	0.32	0.40	0.020	0.020	0.06	18	350
AUG									
03...	<0.050	0.020	0.28	0.30	0.010	<0.010	--	<3	32
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
03...	<0.050	0.030	0.27	0.30	0.010	<0.010	--	<10	70
03...	<0.050	0.310	0.29	0.60	0.110	0.070	0.21	70	440
03...	<0.050	0.830	0.37	1.2	0.270	0.270	0.83	700	1300

TRINITY RIVER BASIN

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330410096584501 - LEWISVILLE LAKE SITE AL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
20...	1131	1.00	299	8.1	7.0	10.8	90
20...	1133	10.0	301	8.1	7.0	10.8	90
20...	1135	20.0	299	8.1	7.0	10.9	91
20...	1138	30.0	300	8.1	7.0	10.8	90
20...	1141	40.0	300	8.1	7.0	10.9	91
20...	1144	50.0	300	8.1	7.0	10.9	91
20...	1147	55.0	299	8.0	7.0	10.8	90
JUN							
08...	1139	1.00	319	7.3	24.0	2.2	27
08...	1141	10.0	320	7.3	23.5	2.0	24
08...	1144	20.0	325	7.3	23.0	0.7	8
08...	1148	30.0	331	7.3	22.0	0.5	6
08...	1151	40.0	342	7.3	20.5	0.5	6
08...	1154	50.0	343	7.3	20.0	0.3	3
08...	1157	55.0	345	7.2	19.5	0.3	3
AUG							
03...	1249	1.00	266	8.0	27.5	6.7	86
03...	1252	10.0	268	7.8	27.0	5.6	72
03...	1255	20.0	269	7.5	27.0	4.5	58
03...	1258	30.0	269	7.5	27.0	4.6	59
03...	1301	40.0	270	7.4	26.5	3.7	47
03...	1304	51.0	271	7.1	24.0	0.5	6

330450096560501 - LEWISVILLE LAKE SITE BC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN							
20...	1158	1.00	302	8.2	7.0	10.9	91
20...	1201	10.0	309	8.2	7.0	10.9	91
20...	1203	20.0	323	8.3	6.5	11.0	91
20...	1205	30.0	329	8.3	6.5	11.0	91
20...	1207	37.0	336	8.2	6.5	11.4	94
JUN							
08...	1211	1.00	333	7.9	27.0	6.7	86
08...	1215	10.0	332	7.8	26.5	6.6	84
08...	1219	20.0	329	7.4	25.0	3.0	37
08...	1221	30.0	342	7.3	22.0	0.3	4
08...	1223	37.0	364	7.2	21.0	0.2	2
AUG							
03...	1317	1.00	310	8.3	28.5	8.0	105
03...	1320	10.0	296	8.0	27.5	6.4	83
03...	1323	20.0	274	7.6	27.0	4.9	63
03...	1326	30.0	281	7.3	26.5	3.2	41
03...	1330	35.0	341	7.0	25.5	0.3	4

330606097025601 - LEWISVILLE LAKE SITE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JAN								
20...	1506	1.00	305	8.4	6.0	0.61	10.6	87
20...	1508	10.0	307	8.4	6.0	--	10.7	87
20...	1511	20.0	311	8.4	6.0	--	10.6	87
20...	1514	31.0	299	8.6	5.5	--	10.4	84
JUN								
08...	1558	1.00	268	8.1	29.5	0.70	6.7	90
08...	1601	10.0	272	7.8	29.0	--	6.0	80
08...	1604	20.0	293	7.1	27.0	--	0.4	5
08...	1608	29.0	322	7.2	24.5	--	0.2	2
AUG								
03...	1640	1.00	262	8.2	30.0	0.73	7.6	102
03...	1644	10.0	263	7.8	28.5	--	5.9	77
03...	1648	20.0	268	7.4	28.5	--	4.0	52
03...	1652	28.0	280	7.0	28.0	--	0.3	4

TRINITY RIVER BASIN

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08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330755096572001 - LEWISVILLE LAKE SITE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
JAN										
20...	1228	1.00	300	8.3	6.5	11.0	90	0.360	0.360	0.020
20...	1232	10.0	301	8.3	6.5	11.0	90	--	--	--
20...	1236	20.0	300	8.3	6.5	11.0	90	--	--	--
20...	1239	30.0	300	8.3	6.5	10.9	90	--	--	--
20...	1241	41.0	299	8.3	6.5	11.0	90	0.380	0.380	0.010
JUN										
08...	1245	1.00	262	8.3	28.5	7.8	103	--	--	<0.010
08...	1255	20.0	266	8.1	28.0	7.1	93	--	--	--
08...	1300	30.0	268	7.9	27.5	6.4	83	--	--	--
08...	1305	42.0	336	7.2	22.5	0.4	5	--	--	<0.010
AUG										
03...	1435	1.00	255	8.5	30.0	9.1	123	0.110	--	<0.010
03...	1438	10.0	257	8.2	28.5	7.5	98	--	--	--
03...	1442	20.0	261	7.5	28.0	3.8	49	--	--	--
03...	1445	30.0	264	7.1	27.5	0.9	12	--	--	--
03...	1449	39.0	269	7.1	27.5	0.3	4	--	--	<0.010

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN										
20...	0.380	0.380	0.020	0.28	0.30	0.020	<0.010	--	<10	<10
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	0.390	0.390	0.030	0.27	0.30	0.020	<0.010	--	<10	<10
JUN										
08...	--	<0.050	0.020	0.28	0.30	<0.010	<0.010	--	<10	40
08...	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--
08...	--	<0.050	0.320	0.38	0.70	0.050	0.030	0.09	310	840
AUG										
03...	0.110	0.110	0.040	0.26	0.30	0.020	<0.010	--	<10	20
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
03...	--	<0.050	0.200	0.30	0.50	0.020	<0.010	--	50	150

330959096565301 - LEWISVILLE LAKE SITE EC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
JAN												
20...	1256	1.00	297	8.3	6.0	0.49	10.9	88	K6	K3	110	7
20...	1300	10.0	298	8.3	6.0	--	10.9	88	--	--	--	--
20...	1303	20.0	294	8.2	6.0	--	10.7	87	--	--	--	--
20...	1307	27.0	297	8.2	6.0	--	11.0	89	--	--	110	3
JUN												
08...	1324	1.00	251	8.0	29.5	0.46	6.4	86	K9	K4	82	2
08...	1327	10.0	254	8.0	29.5	--	6.5	87	--	--	--	--
08...	1331	20.0	254	7.9	29.0	--	6.4	85	--	--	--	--
08...	1335	26.0	255	7.5	29.0	--	5.8	77	--	--	84	4
AUG												
03...	1508	1.00	248	8.5	29.0	0.61	9.2	122	K3	K1	86	4
03...	1512	10.0	253	8.1	28.0	--	6.8	88	--	--	--	--
03...	1517	20.0	256	7.3	28.0	--	3.2	42	--	--	--	--
03...	1521	26.0	261	7.1	27.5	--	0.6	8	--	--	96	1

TRINITY RIVER BASIN

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330959096565301 - LEWISVILLE LAKE SITE EC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
JAN												
20...	38	3.7	15	0.6	4.6	100	32	13	0.30	5.3	177	0.700
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	38	3.7	15	0.6	4.5	110	32	12	0.30	5.3	178	0.710
JUN												
08...	27	3.5	15	0.7	4.0	80	27	13	0.20	3.4	142	0.075
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	28	3.5	16	0.8	3.9	80	28	14	0.20	3.2	145	0.054
AUG												
03...	29	3.3	15	0.7	4.3	82	24	13	0.30	3.6	142	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
03...	33	3.4	13	0.6	4.3	95	23	11	0.30	5.9	151	--

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN											
20...	0.700	0.020	0.720	0.720	0.060	0.24	0.30	<0.010	<0.010	7	96
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	0.710	0.020	0.730	0.730	0.040	0.26	0.30	0.030	<0.010	14	140
JUN											
08...	0.075	0.020	0.095	0.095	0.050	0.35	0.40	<0.010	<0.010	<3	7
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	0.054	0.020	0.074	0.074	0.160	0.34	0.50	<0.010	<0.010	<3	32
AUG											
03...	--	<0.010	--	<0.050	0.020	0.28	0.30	<0.010	<0.010	6	18
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	0.010	--	<0.050	0.190	0.31	0.50	0.010	<0.010	64	88

330722096592201 - LEWISVILLE LAKE SITE FC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
JAN										
20...	1337	1.00	300	8.5	6.5	10.4	85	0.280	0.280	0.020
20...	1342	10.0	299	8.6	6.5	10.6	87	--	--	--
20...	1347	20.0	301	8.6	6.0	10.6	86	--	--	--
20...	1352	30.0	301	8.6	6.0	11.5	93	--	--	--
20...	1357	40.0	303	8.7	6.0	11.5	93	--	--	--
20...	1402	47.0	301	8.6	6.0	12.0	97	0.190	0.190	0.020
JUN										
08...	1420	1.00	273	8.2	28.5	7.3	96	--	--	<0.010
08...	1423	10.0	277	7.9	28.0	6.5	85	--	--	--
08...	1427	20.0	277	7.8	27.5	6.1	79	--	--	--
08...	1430	30.0	314	7.2	25.0	1.8	22	--	--	--
08...	1434	38.0	313	7.2	24.5	1.3	16	--	--	<0.010
AUG										
03...	1353	1.00	256	8.5	29.0	9.0	119	--	--	<0.010
03...	1356	10.0	261	8.2	28.0	7.1	92	--	--	--
03...	1359	20.0	261	7.8	27.5	5.5	71	--	--	--
03...	1403	30.0	262	7.5	27.5	4.3	55	--	--	--
03...	1407	43.0	264	7.4	27.5	3.8	49	0.020	0.020	0.040

TRINITY RIVER BASIN

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08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330722096592201 - LEWISVILLE LAKE SITE FC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN										
20...	0.300	0.300	0.020	0.28	0.30	<0.010	<0.010	--	<10	<10
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	0.210	0.210	0.030	0.27	0.30	<0.010	<0.010	--	<10	30
JUN										
08...	--	<0.050	0.020	0.28	0.30	<0.010	<0.010	--	<10	60
08...	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--
08...	--	<0.050	0.180	0.32	0.50	0.070	0.080	0.25	30	730
AUG										
03...	--	<0.050	0.030	0.27	0.30	0.020	<0.010	--	<10	<10
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
03...	0.060	0.060	0.080	0.32	0.40	0.040	0.030	0.09	20	20

330944097003601 - LEWISVILLE LAKE SITE GC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)
JAN												
20...	1423	1.00	301	8.7	6.0	0.49	10.9	88	K1	K1	110	0
20...	1428	10.0	305	8.7	8.5	--	11.3	98	--	--	--	--
20...	1433	20.0	322	8.7	5.5	--	10.3	83	--	--	120	0
JUN												
08...	1450	1.00	263	7.9	29.5	0.49	6.4	86	K10	K1	90	0
08...	1453	10.0	263	7.8	8.0	--	29.5	--	--	--	--	--
08...	1457	19.0	267	7.7	29.0	--	5.8	77	--	--	90	0
AUG												
03...	1546	1.00	255	8.6	29.5	--	9.5	127	K7	K14	97	1
03...	1551	10.0	260	7.9	28.0	--	5.9	77	--	--	--	--
03...	1556	20.0	260	7.6	28.0	--	4.4	57	--	--	91	0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
JAN												
20...	39	3.8	16	0.7	4.1	120	20	17	0.20	0.80	173	0.190
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	43	4.2	18	0.7	4.2	130	22	19	0.30	0.30	188	0.240
JUN												
08...	30	3.7	16	0.7	4.2	90	19	17	0.20	4.4	149	--
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	30	3.7	16	0.7	3.8	90	19	16	0.20	4.2	147	--
AUG												
03...	33	3.6	16	0.7	3.8	96	17	14	0.20	3.7	149	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
03...	31	3.3	15	0.7	4.2	92	18	14	0.20	3.3	144	--

TRINITY RIVER BASIN

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

330944097003601 - LEWISVILLE LAKE SITE GC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JAN												
20...	0.190	0.010	0.200	0.200	0.020	0.28	0.30	<0.010	<0.010	--	<3	<1
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	0.240	0.010	0.250	0.250	0.020	0.28	0.30	<0.010	<0.010	--	<3	2
JUN												
08...	--	<0.010	--	<0.050	0.030	0.27	0.30	0.010	0.010	0.03	5	9
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	<0.010	--	<0.050	0.050	0.25	0.30	0.030	0.020	0.06	13	35
AUG												
03...	--	<0.010	--	<0.050	0.080	0.22	0.30	0.040	0.020	0.06	93	41
03...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	<0.010	--	<0.050	0.020	0.28	0.30	0.030	0.010	0.03	8	6

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

Lewisville Lake Site AC (330419096575401)

Phytoplankton Analyses October 1993 to September 1994

Date	1-20-94
Time	1045

TOTAL CELLS/mL	11,301
NUMBER OF SPECIES	18
DEPTH COLLECTED (ft.)	1.4

OrganismsCells/mL

BACILLARIOPHYTA

Order Centrales

Cyclotella ocellata

1,079

Stephanodiscus astraea

170

Order Pennales

Cymbella parva

149

Gomphonema parvulum

297

Navicula cuspidata

446

Nitzschia denticula

297

CHLOROPHYTA

Ankistrodesmus falcatus

506

Chlamydomonas sp.

238

Cosmarium sp.

30

Pediastrum duplex

89

Selenastrum Westii

178

Staurastrum sp.

30

CYANOPHYTA

Aphanocapsa delicatissima

5,948

Aphanothece microspora

238

Chroococcus limneticus

1,011

EUGLENOPHYTA

Phacus sp.

30

Trachelomonas spp.

297

CRYPTOPHYTA

Cryptomonas erosa

268

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX—Continued

Lewisville Lake Site GC (330944097003601)

Phytoplankton Analyses October 1993 to September 1994

Date	1-20-94
Time	1423

TOTAL CELLS/mL	13,324
NUMBER OF SPECIES	20
DEPTH COLLECTED (ft.)	0.8

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHY	
Order Centrales	
<i>Cyclotella ocellata</i>	4,610
Order Pennales	
<i>Cocconeis placentula</i>	250
<i>Diatoma hiemale</i>	250
<i>Navicula cuspidata</i>	500
<i>Nitzschia denticula</i>	250
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	773
<i>Chlamydomonas</i> sp.	89
<i>Pediastrum duplex</i>	30
<i>Scenedesmus bijuga</i>	59
<i>Scenedesmus opoliensis</i>	59
<i>Selenastrum Westii</i>	89
<i>Staurastrum</i> sp.	30
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	3,271
<i>Aphanocapsa elachista</i>	595
<i>Aphanothece microspora</i>	268
<i>Chroococcus limneticus</i>	1,071
<i>Merismopedia tenuissima</i>	476
EUGLENOPHYTA	
<i>Euglena</i> sp.	59
<i>Trachelomonas</i> spp.	476
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	119

TRINITY RIVER BASIN

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08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

Lewisville Lake Site AC (330419096575401)

Phytoplankton Analyses October 1993 to September 1994

Date	6-8-94
Time	1101

TOTAL CELLS/mL	5,412
NUMBER OF SPECIES	8
DEPTH COLLECTED (ft.)	3.0

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	59
Order Pennales	
<i>Cymbella parva</i>	45
<i>Navicula rhyncocephala</i>	45
CHLOROPHYTA	
<i>Scenedesmus opoliensis</i>	59
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	4,461
<i>Aphanocapsa elachista</i>	595
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	89
PYRRHOPHYTA	
<i>Gymnodinium</i> sp.	59

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

Lewisville Lake Site GC (330944097003601)

Phytoplankton Analyses October 1993 to September 1994

Date	6-8-94
Time	1450

TOTAL CELLS/mL	14,365
NUMBER OF SPECIES	12
DEPTH COLLECTED (ft.)	0.8

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	59
Order Pennales	
<i>Cymbella parva</i>	149
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	89
<i>Chlamydomonas</i> sp.	30
<i>Cosmarium</i> sp.	30
<i>Scenedesmus opoliensis</i>	30
CYANOPHYTA	
<i>Aphanizomenon flos-aquae</i>	892
<i>Aphanocapsa delicatissima</i>	7,138
<i>Aphanocapsa elachista</i>	1,784
<i>Chroococcus limneticus</i>	119
<i>Merismopedia tenuissima</i>	3,926
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	119

TRINITY RIVER BASIN

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08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

Lewisville Lake Site AC (330419096575401)

Phytoplankton Analyses October 1993 to September 1994

Date	8-3-94
Time	1215
<hr/>	
TOTAL CELLS/mL	36,343
NUMBER OF SPECIES	15
DEPTH COLLECTED (ft.)	1.8
<hr/>	

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	149
Order Pennales	
<i>Fragilaria crotonensis</i>	164
<i>Navicula rhyncocephala</i>	164
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	208
<i>Cosmarium</i> sp.	89
<i>Pediastrum duplex</i>	30
<i>Scenedesmus bijuga</i>	59
<i>Scenedesmus opoliensis</i>	149
CYANOPHYTA	
<i>Anabaena spiroides</i>	1,487
<i>Aphanizomenon flos-aquae</i>	9,219
<i>Aphanocapsa delicatissima</i>	14,573
<i>Aphanocapsa elachista</i>	5,353
<i>Chroococcus limneticus</i>	714
<i>Merismopedia tenuissima</i>	3,926
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	59

08052800 LEWISVILLE LAKE NEAR LEWISVILLE, TX--Continued

Lewisville Lake Site GC (323858097265601)

Phytoplankton Analyses October 1993 to September 1994

Date	8-3-94
Time	1546

TOTAL CELLS/mL	33,069
NUMBER OF SPECIES	15
DEPTH COLLECTED (ft.)	

<u>Organisms</u>	<u>Cells/mL</u>
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	476
Order Pennales	
<i>Fragilaria crotonensis</i>	208
CHLOROPHYTA	
<i>Actinastrum</i> sp.	30
<i>Ankistrodesmus falcatus</i>	238
<i>Cosmarium</i> sp.	89
<i>Pediastrum duplex</i>	59
<i>Scenedesmus opoliensis</i>	89
<i>Staurastrum</i> sp.	59
CYANOPHYTA	
<i>Anabaena spiroides</i>	1,487
<i>Aphanizomenon flos-aquae</i>	11,896
<i>Aphanocapsa delicatissima</i>	7,435
<i>Aphanocapsa elachista</i>	2,974
<i>Chroococcus limneticus</i>	476
<i>Merismopedia tenuissima</i>	7,494
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	59

08053000 ELM FORK TRINITY RIVER NEAR LEWISVILLE, TX

LOCATION.--Lat 33°02'44", long 96°57'39", Denton County, Hydrologic Unit 12030103, on left bank at downstream edge of highway right-of-way, 90 ft to left of left end of bridge on State Highway 121, 1.8 mi east of Lewisville, 1.9 mi downstream from Lewisville Lake, 8.3 mi upstream from Denton Creek, and 28.2 mi upstream from mouth.

DRAINAGE AREA.--1,673 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1949 to current year.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 432.39 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to Jan. 6, 1950, nonrecording gage 0.6 mi upstream at datum 3.26 ft lower.

REMARKS.--Records good except those for periods of estimated daily discharge, which are fair. Flow regulated by Lewisville Lake (station 08052800) 1.9 mi upstream since November 1954. Most of low flow is used by the city of Dallas for municipal supply (see station 08055500). Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--5 years (water years 1950-54) prior to regulation, 402 ft³/s (291,200 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1950-54).--Maximum discharge, 21,700 ft³/s Sept. 15, 1950 (gage height, 30.75 ft); no flow June 14, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1907, 33.8 ft in 1908, present site and datum, from information by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	226	3720	220	257	656	2450	182	528	3640	215	1980	379
2	256	3720	210	258	657	2750	178	558	3630	213	1110	102
3	278	3720	305	255	419	2950	189	820	3630	222	567	402
4	250	3720	1190	254	207	3080	182	2030	3670	222	393	725
5	253	3730	3470	213	205	3080	175	3150	3640	245	222	982
6	134	3720	3790	164	206	3050	171	3050	3360	279	164	960
7	92	3710	4040	161	206	2340	155	2220	2000	255	173	995
8	96	3140	4030	161	206	1210	154	2130	532	262	172	868
9	98	1280	4020	177	e202	1210	155	1670	515	208	160	693
10	98	870	3960	169	e200	1180	150	929	508	314	160	485
11	96	586	3950	175	e202	1170	98	913	398	2020	160	295
12	143	603	3960	170	e204	1170	35	986	137	1310	246	248
13	151	607	4000	170	e210	1170	36	211	112	4010	364	244
14	14	643	3910	170	e211	910	36	102	27	4940	363	231
15	39	613	3640	167	212	602	35	94	41	5250	329	213
16	39	643	3130	168	214	595	109	576	173	5200	292	192
17	35	612	1910	184	213	538	194	2560	354	5120	281	175
18	27	808	1820	167	213	416	140	3860	355	5060	270	168
19	16	1050	1810	175	212	426	115	4350	355	4900	257	162
20	.00	938	1800	171	213	411	67	4420	354	4850	257	190
21	e177	721	1170	171	318	409	59	4420	283	4830	240	218
22	e3480	453	284	175	535	405	35	4410	246	4820	193	216
23	3670	252	272	176	549	314	33	4400	279	4810	180	206
24	3680	251	262	377	1240	231	32	4290	279	4820	159	181
25	3680	247	260	242	2190	229	55	3730	278	4840	214	168
26	3680	252	262	19	2340	205	85	3320	277	4830	273	194
27	3700	247	261	15	2350	141	98	3320	293	4760	270	215
28	3700	244	256	161	2360	141	160	3590	307	4190	253	182
29	3710	242	254	648	---	116	204	3650	291	2850	234	216
30	3740	243	255	655	---	109	418	3670	261	2250	232	233
31	3730	---	258	656	---	156	---	3650	---	2210	321	---
TOTAL	39288.00	41585	58959	7081	17150	33164	3735	77607	30225	90305	10489	10738
MEAN	1267	1386	1902	228	612	1070	124	2503	1007	2913	338	358
MAX	3740	3730	4040	656	2360	3080	418	4420	3670	5250	1980	995
MIN	.00	242	210	15	200	109	32	94	27	208	159	102
AC-FT	77930	82480	116900	14050	34020	65780	7410	153900	59950	179100	20800	21300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1994#, BY WATER YEAR (WY)

	421	647	664	535	633	757	644	1326	1439	893	495	338
MEAN	421	647	664	535	633	757	644	1326	1439	893	495	338
MAX	3628	6300	4681	5267	4611	3871	3547	8391	5222	4479	4101	2480
(WY)	1982	1982	1982	1992	1992	1992	1977	1990	1957	1989	1982	1962
MIN	23.1	37.3	35.0	15.2	23.6	37.7	14.0	84.4	109	157	54.7	65.0
(WY)	1959	1955	1955	1955	1955	1955	1989	1981	1955	1961	1963	1958

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1955 - 1994#
ANNUAL TOTAL	652067.00	420326.00	733
ANNUAL MEAN	1786	1152	3062
HIGHEST ANNUAL MEAN			94.2
LOWEST ANNUAL MEAN			19000
HIGHEST DAILY MEAN	4290 Mar 16	5250 Jul 15	May 4 1990
LOWEST DAILY MEAN	.00 Oct 20	.00 Oct 20	Oct 20 1993
ANNUAL SEVEN-DAY MINIMUM	24 Oct 14	24 Oct 14	Nov 3 1983
INSTANTANEOUS PEAK FLOW		5320 Jul 15	19600 May 4 1990
INSTANTANEOUS PEAK STAGE		22.21 Jul 15	30.15 May 4 1990
ANNUAL RUNOFF (AC-FT)	1293000	833700	531100
10 PERCENT EXCEEDS	3930	3720	3130
50 PERCENT EXCEEDS	1290	279	201
90 PERCENT EXCEEDS	223	116	74

e Estimated

Period of regulated streamflow.

08053000 ELM FORK TRINITY RIVER NEAR LEWISVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January 1981 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1981 to September 1990.

WATER TEMPERATURE: November 1976 to September 1990.

INSTRUMENTATION.--From November 1976 to October 1981, water temperature was continuously recorded at this station.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,050 microsiemens Feb. 5, 8, 1989; minimum daily, 200 microsiemens May 13, 1982.

WATER TEMPERATURE (water years 1976-89): Maximum, 33.5°C July 16, Aug. 18, 1988, Sept. 14, 15, 1989; minimum, 0.0°C Jan. 31, Feb. 9, 1979.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CaCO3)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)
DEC 07...	1121	4040	301	7.8	10.0	12	8.1	12.2	108	2.5	110	10
JAN 20...	1112	171	343	8.3	8.0	14	2.5	11.6	98	0.8	120	0
MAR 23...	1058	296	370	7.9	16.0	22	4.6	9.6	99	1.1	130	9
JUN 08...	1135	524	362	7.2	22.5	8	4.2	3.8	45	0.4	130	--
AUG 03...	1630	563	280	7.9	27.0	14	1.0	5.4	69	1.0	99	13
30...	0933	232	294	7.7	27.0	--	--	4.8	61	4.8	100	13

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L)
DEC 07...	37	3.9	18	0.8	3.7	98	26	16	0.20	4.2	169	19
JAN 20...	40	4.0	21	0.8	4.7	120	31	19	0.30	3.6	198	6
MAR 23...	43	4.3	22	0.9	4.5	120	36	20	0.30	1.6	203	17
JUN 08...	44	4.1	19	0.7	4.6	--	31	--	0.20	2.5	--	10
AUG 03...	34	3.4	16	0.7	4.0	86	26	15	0.20	4.0	156	20
30...	35	3.6	18	0.8	4.3	89	25	16	0.30	4.9	162	--

DATE	RESIDUE VOLATILE, SUSPENDED (MG/L)	RESIDUE FIXED NON FILTER- ABLE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
DEC 07...	11	8	0.320	0.320	0.020	0.340	0.340	0.030	0.27	0.30	0.020
JAN 20...	8	0	0.370	0.370	0.030	0.400	0.400	0.710	0.29	1.0	0.170
MAR 23...	12	5	0.220	0.220	0.020	0.240	0.240	0.650	0.25	0.90	0.040
JUN 08...	10	0	0.630	--	<0.010	0.630	0.630	0.050	0.35	0.40	0.060
AUG 03...	9	11	0.310	0.310	0.010	0.320	0.320	0.080	0.22	0.30	0.050
30...	--	--	0.340	0.340	0.020	0.360	0.360	0.120	0.68	0.80	0.110

[illegible]

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

08053500 DENTON CREEK NEAR JUSTIN, TX

LOCATION.--Lat 33°07'08", long 97°17'25", Denton County, Hydrologic Unit 12030104, on right bank at downstream side of bridge on Farm Road 156, 100 ft upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 2.2 mi north of Justin, 3.0 mi upstream from Olivers Creek, 12.9 mi upstream from Harriet Creek, and 32.9 mi upstream from Grapevine Dam.

DRAINAGE AREA.--400 mi².

PERIOD OF RECORD.--October 1949 to current year.

Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

REVISED RECORDS.--WSP 1732: 1950(M). WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 606.66 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. There are several small diversions above station. Flow is affected at times by discharge from the flood-detention pools of 84 floodwater-retarding structures with a combined detention capacity of 52,750 acre-ft. These structures control runoff from 197 mi² in the Denton Creek watershed. Several observations of water temperature were made during the year. Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--31 years (water years 1950-80), 77.4 ft³/s (56,080 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1950-80).--Maximum discharge, 29,800 ft³/s May 24, 1957 (gage height, 17.64 ft); no flow at times in 1949-65, 1967-74, 1976-80.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1935 was the highest since 1908 and reached a stage of 20.6 ft at site about 1,500 ft upstream, from information by local resident. Flood in May 1908 reached a stage about 1.0 ft higher than flood in May 1935, from information by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	48	44	66	67	599	53	226	108	15	9.4	43
2	4.2	47	44	65	65	663	55	123	81	15	8.5	89
3	5.3	46	916	64	63	364	57	180	67	29	7.7	42
4	4.9	44	972	61	63	213	56	223	58	19	7.4	12
5	5.2	41	419	59	62	159	58	119	53	13	7.1	9.1
6	6.3	41	254	58	61	132	57	77	48	12	7.6	6.6
7	6.6	37	170	57	60	115	52	59	44	12	8.0	5.3
8	6.8	36	133	54	59	104	51	51	41	20	7.6	5.0
9	7.4	36	120	53	61	123	52	47	38	21	7.1	24
10	6.9	37	110	53	207	118	53	53	40	152	6.9	23
11	7.5	37	96	61	115	100	53	236	36	2150	6.4	15
12	7.9	39	88	103	89	90	53	3320	36	153	5.7	9.9
13	12	42	227	84	73	113	49	3940	36	192	5.3	8.3
14	15	45	139	70	63	154	47	1330	33	114	4.6	7.6
15	12	51	104	61	59	122	46	851	30	1150	4.9	8.1
16	10	155	94	57	57	103	43	616	29	112	4.5	779
17	9.7	208	90	73	54	92	40	430	28	50	11	854
18	144	102	86	75	53	87	39	324	26	35	6.9	240
19	2740	90	82	63	53	81	38	247	24	27	5.2	116
20	3750	67	80	60	62	78	37	196	23	22	4.2	52
21	963	57	75	61	70	73	37	155	23	19	5.2	32
22	530	53	86	65	1030	67	37	119	21	19	9.7	24
23	375	51	128	144	1020	65	36	96	20	20	6.0	21
24	269	53	107	127	407	65	35	82	18	16	4.3	19
25	186	47	94	114	237	64	35	75	17	14	3.3	17
26	142	46	86	112	162	73	44	75	16	13	2.9	16
27	107	47	81	102	131	71	45	354	15	12	2.5	15
28	78	47	77	86	120	64	62	180	14	11	2.2	14
29	64	46	72	77	---	59	52	114	13	9.9	1.8	13
30	57	44	68	74	---	56	165	115	14	9.6	1.4	13
31	52	---	67	70	---	54	---	177	---	9.6	17	---
TOTAL	9589.5	1740	5209	2329	4623	4321	1537	14190	1050	4466.1	192.3	2532.9
MEAN	309	58.0	168	75.1	165	139	51.2	458	35.0	144	6.20	84.4
MAX	3750	208	972	144	1030	663	165	3940	108	2150	17	854
MIN	4.2	36	44	53	53	54	35	47	13	9.6	1.4	5.0
AC-FT	19020	3450	10330	4620	9170	8570	3050	28150	2080	8860	381	5020

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1994#, BY WATER YEAR (WY)

	MEAN	290	71.7	156	88.3	164	194	225	511	357	53.4	8.73	33.9
MAX	2828	524	1321	437	497	522	2095	2036	1815	260	24.9	242	
(WY)	1982	1982	1992	1992	1993	1990	1990	1982	1989	1982	1982	1986	
MIN	.000	.29	3.84	4.30	14.1	29.5	20.4	8.24	14.4	.000	.000	.000	
(WY)	1989	1981	1981	1981	1981	1986	1981	1984	1988	1984	1981	1983	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1981 - 1994#

ANNUAL TOTAL	77007.2	51779.8	180
ANNUAL MEAN	211	142	577
HIGHEST ANNUAL MEAN			21.9
LOWEST ANNUAL MEAN			1982
HIGHEST DAILY MEAN	4430	3940	18600
LOWEST DAILY MEAN	1.0	1.4	.00
ANNUAL SEVEN-DAY MINIMUM	1.0	2.6	.00
INSTANTANEOUS PEAK FLOW		7720	34700
INSTANTANEOUS PEAK STAGE		15.35	18.68
ANNUAL RUNOFF (AC-FT)	152700	102700	130200
10 PERCENT EXCEEDS	408	210	268
50 PERCENT EXCEEDS	69	54	30
90 PERCENT EXCEEDS	5.2	7.6	.16

Period of regulated streamflow.

08054500 GRAPEVINE LAKE NEAR GRAPEVINE, TX

LOCATION.--Lat 32°58'21", long 97°03'22", Tarrant County, Hydrologic Unit 12030104, in intake structure of Grapevine Dam on Denton Creek, 2.7 mi northeast of Grapevine, 4.3 mi upstream from bridge on State Highway 121, and 11.7 mi upstream from mouth.

DRAINAGE AREA.--695 mi².

PERIOD OF RECORD.--July 1952 to current year. Prior to October 1970, published as Grapevine Reservoir. Water-quality records.--Chemical and biochemical analyses: October 1969 to August 1986.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 16, 1953, non-recording gage at site 1,000 ft upstream at present datum.

REMARKS.--The lake is formed by a rolled earthfill dam 12,850 ft long, including a 500-foot uncontrolled off-channel concrete-gravity spillway with an ogee weir section. The dam was completed in June 1952, and deliberate impoundment began July 3, 1952. The controlled outlet works consist of a 13.0-foot-diameter concrete conduit that is controlled by two 6.5- by 13.0-foot broome-type gates and two 30-inch steel pipes with service valves. The capacity table, used since April 1972, is based on a survey made in October 1966. The lake was built for flood control, navigation, and water conservation. The city of Dallas uses part of this water for their municipal supply. An unknown amount of water is diverted for industrial and municipal uses. Inflow is affected at times by discharge from the flood-detention pools of 87 floodwater-retarding structures with a combined detention capacity of 57,850 acre-ft. These structures control runoff from 217 mi² in the Denton Creek watershed. Satellite telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	588.0	-
Crest of spillway.....	560.0	425,500
Top of conservation pool.....	535.0	181,100
Lowest intake to wet wells (invert).....	500.5	22,140
Invert of two broome-type gates.....	475.0	100

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 471,200 acre-ft Nov. 1, 1981 (elevation, 563.29 ft); minimum since lake first filled in 1957, 94,480 acre-ft Feb. 26, 1979 (elevation, 520.67 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 232,900 acre-ft May 17, 18 (elevation, 541.59 ft); minimum daily, 156,900 acre-ft Oct. 11, 12 (elevation, 531.55 ft).

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

531.0	153,300	542.0	236,500	549.0	302,000
535.0	181,100	545.0	263,300	551.0	322,400
539.0	211,500	547.0	282,300	553.0	343,800

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	158300	186700	182300	182400	182400	183700	181300	178100	213400	177600	192100	177300
2	158200	186000	182900	182400	182000	184600	181500	179200	211600	177300	190000	177300
3	158700	185000	186500	182200	181800	184800	181300	179800	209700	176900	188000	177400
4	158500	184100	190200	182000	181900	184700	181200	180400	207600	176600	185900	177100
5	158300	183200	191500	181900	182000	184400	181400	180600	205700	176300	184700	176800
6	158100	182600	192000	182100	182000	183900	180900	180700	203800	176000	184000	176400
7	157900	182100	192400	181600	182100	183200	180600	180900	201000	175700	184000	176100
8	157900	181800	192700	181400	182200	182900	180500	180800	197200	176500	183400	175900
9	157500	181800	193000	181300	182200	182100	180500	181000	193700	176800	182900	175600
10	157100	181800	193200	181400	182400	181800	180400	181300	190500	179400	182300	175500
11	156900	181500	193200	181700	182400	181800	180700	183400	188100	197400	181800	175300
12	156900	181700	193700	181800	182600	182000	180100	202500	185600	198600	181300	175000
13	157700	181700	194600	181800	182600	182100	179700	222800	183700	200800	180800	174700
14	157500	182100	194700	181800	182600	182400	179400	228600	183100	202100	180400	174400
15	157400	182100	194100	181700	182600	182600	178900	230900	182300	205000	179900	174100
16	157500	183000	193200	182300	182600	182600	178400	232300	181800	205200	179300	175000
17	157400	183900	192000	182100	182600	182600	178200	232900	181300	205200	178900	178000
18	158500	184000	190400	182100	182400	182600	178000	232900	181000	204900	178400	178600
19	171500	183700	188900	182000	182600	182600	177800	232000	181000	204500	177800	178600
20	192100	183400	187300	182100	182600	182800	177700	231100	180700	204100	177800	178400
21	194600	182900	185800	182100	183400	182500	177300	230300	180400	204000	177300	178100
22	195100	182700	184500	182400	187700	182300	177000	229500	180000	203500	176800	177800
23	195100	182600	184100	183200	189900	182300	176600	228600	179600	203200	176300	177500
24	194600	182700	184000	183700	189400	182300	176000	225500	179300	202800	175800	177000
25	193900	182800	183700	184000	187900	182100	176300	225500	179000	202400	175300	176600
26	193200	182600	183400	184100	185800	182400	176200	224100	178600	202200	174800	176300
27	192200	182500	183300	184000	183700	182300	176300	222400	178400	201400	174300	175900
28	191200	182400	182900	183700	183000	182000	176100	220500	177900	200100	173800	175500
29	190400	182400	182600	183400	---	181800	176500	218700	177700	198100	173300	175300
30	189000	182300	182600	183200	---	181600	177700	216900	177800	196200	172700	174800
31	187800	---	182400	182900	---	181500	---	215100	---	194100	175500	---
MAX	195100	186700	194700	184100	189900	184800	181500	232900	213400	205200	192100	178600
MIN	156900	181500	182300	181300	181800	181500	176000	178100	177700	175700	172700	174100
(+)	535.91	535.17	535.18	535.25	535.26	535.05	534.53	539.45	534.54	536.75	534.22	534.12
(#)	+29100	-5500	+100	+500	+100	-1500	-3800	+37400	-37300	+16300	-18600	-700

CAL YR 1993 MAX 228800 MIN 155100 (#) +100
WTR YR 1994 MAX 232900 MIN 156900 (#) +16100

(+) Elevation, in feet, at end of month.
(#) Change in contents, in acre-feet.

08055500 ELM FORK TRINITY RIVER NEAR CARROLLTON, TX

LOCATION.--Lat 32°57'57", long 96°56'39", Dallas County, Hydrologic Unit 12030103, near left bank at downstream side of bridge on Sandy Lake Road, 40 ft upstream from Carrollton Dam, 0.3 mi downstream from Denton Creek, 1.0 mi upstream from St. Louis Southwestern Railway Lines bridge, 2.3 mi northwest of Carrollton, and 18.2 mi upstream from mouth.

DRAINAGE AREA.--2,459 mi².

PERIOD OF RECORD.--January 1907 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to November 1923, published as "near Dallas".

REVISED RECORDS.--WSP 788: 1924. WSP 1148: Drainage area at former site. WSP 1632: 1908(M). WSP 1922: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 431.40 ft above National Geodetic Vertical Datum of 1929. Prior to November 1923, nonrecording gage at site 15.5 mi downstream at different datum. Nov. 1, 1923, to Nov. 13, 1934, nonrecording gage, and Nov. 14, 1934, to July 6, 1938, water-stage recorder at present site and datum. July 7, 1938, to Apr. 14, 1939, nonrecording gage at site 9.3 mi downstream at datum 22.94 ft lower. Apr. 15, 1939, to Sept. 30, 1955, water-stage recorder at site 8.5 mi downstream at datum 22.94 ft lower. Oct. 1, 1955, to Sept. 30, 1987, water-stage recorder at present site and at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow largely regulated by Lewisville Lake (station 08052800) since November 1954, and by Grapevine Lake (station 08054500) since July 1952. The city of Dallas diverts water from the pool at gage and from the river 14 mi downstream for municipal use. A water treatment plant returns water to the river below the station. In addition, Dallas Power and Light Co. diverts water from the pool at gage into North Lake for cooling water at their electric generating plant. Several observations of water temperature were made during the year. Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--47 years (water years 1908-54), 818 ft³/s (592,600 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1908-54).--Maximum gage height, about 19 ft May 25, 1908, present site and datum, from information by local resident; estimated discharge, 145,000 ft³/s, at site 8.5 mi downstream, from information by U.S. Army Corps of Engineers; maximum gage height subsequent to 1908, 16.5 ft Apr. 26, 1942, present site and datum, from observation by National Weather Service; discharge at site 8.5 mi downstream, 90,700 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1866 reached about the same stage as flood of May 25, 1908.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	4240	177	302	1010	3520	166	633	4980	185	3230	1820
2	118	4250	274	305	1010	3610	170	891	4960	166	2250	484
3	116	4220	930	310	804	3760	179	1010	4890	181	1410	468
4	242	4220	829	327	386	3900	225	1830	4880	126	1270	689
5	338	4230	3400	263	357	3920	199	3200	4900	163	896	985
6	244	3940	3830	215	353	3940	213	3370	4750	230	246	910
7	199	3900	4090	190	354	3600	180	2470	3730	206	340	929
8	200	3580	4110	123	355	2200	205	2280	2250	361	402	871
9	205	1370	4120	139	355	2190	220	1950	2240	298	212	675
10	199	885	4150	151	352	1860	179	1010	2210	854	206	397
11	198	542	4130	234	353	1430	180	979	1870	7520	193	174
12	217	478	4130	203	352	1370	174	3100	1290	1720	228	96
13	653	452	4270	183	349	1330	89	950	1080	4220	344	130
14	290	648	4120	171	347	1110	105	235	236	5220	408	130
15	297	562	4150	178	346	681	132	362	438	5690	409	110
16	286	644	3930	186	347	661	221	388	675	5540	351	114
17	286	576	2820	265	349	633	241	2510	418	5470	261	124
18	418	632	2770	196	359	460	129	4190	366	5400	219	118
19	1800	1090	2760	145	363	476	140	5190	356	5240	192	90
20	687	1020	2770	116	365	456	203	5320	331	5160	249	118
21	976	814	2160	143	451	480	362	5190	299	5140	298	140
22	4150	553	1130	165	1120	477	268	5220	221	5120	235	140
23	4520	207	863	210	825	414	171	5180	269	5100	197	111
24	4550	166	462	325	1730	263	98	5220	246	5090	158	92
25	4460	212	479	433	3720	267	152	5220	209	5100	160	95
26	4230	230	461	183	4000	256	334	4810	168	5090	245	143
27	4280	223	456	326	4030	187	45	4690	196	5110	205	169
28	4210	213	452	402	3840	190	94	5050	191	5110	116	69
29	4210	205	397	1010	---	177	222	5250	190	4170	162	116
30	4230	184	339	1020	---	159	994	5170	271	3530	157	113
31	4270	---	302	1020	---	164	---	5010	---	3430	572	---
TOTAL	51104	44486	69261	9439	28582	44141	6290	97878	49110	105940	15821	10620
MEAN	1649	1483	2234	304	1021	1424	210	3157	1637	3417	510	354
MAX	4550	4250	4270	1020	4030	3940	994	5320	4980	7520	3230	1820
MIN	25	166	177	116	346	159	45	235	168	126	116	69
AC-FT	101400	88240	137400	18720	56690	87550	12480	194100	97410	210100	31380	21060

TRINITY RIVER BASIN

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08055500 ELM FORK TRINITY RIVER NEAR CARROLLTON, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1994#, BY WATER YEAR (WY)

MEAN	420	721	804	641	759	881	842	1557	1736	1036	571	311
MAX	3554	8830	6785	6614	5868	4858	4126	10920	6757	6224	6003	3406
(WY)	1982	1982	1982	1992	1992	1992	1977	1990	1990	1989	1982	1962
MIN	27.8	4.21	.78	.80	2.06	3.30	43.5	38.4	80.0	94.9	58.2	14.8
(WY)	1981	1957	1978	1957	1957	1957	1955	1980	1959	1979	1979	1985

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1955 - 1994#	
ANNUAL TOTAL	724766		532672		857	
ANNUAL MEAN	1986		1459		4289	
HIGHEST ANNUAL MEAN					76.0	
LOWEST ANNUAL MEAN					25300	
HIGHEST DAILY MEAN	5990	Feb 25	7520	Jul 11	.00	May 5 1990
LOWEST DAILY MEAN	14	Sep 16	25	Oct 1	.00	Dec 2 1954
ANNUAL SEVEN-DAY MINIMUM	64	Sep 15	112	Sep 19	.00	Jan 7 1959
INSTANTANEOUS PEAK FLOW			7520	Jul 11	33000	Sep 21 1964
INSTANTANEOUS PEAK STAGE			9.58	Jul 11	13.48	May 5 1990
ANNUAL RUNOFF (AC-FT)	1438000		1057000		620700	
10 PERCENT EXCEEDS	4240		4530		3760	
50 PERCENT EXCEEDS	1370		414		144	
90 PERCENT EXCEEDS	153		149		34	

Period of regulated streamflow.

TRINITY RIVER BASIN

08055690 BACHMAN BRANCH OUTFALL AT I-635, DALLAS, TX

LOCATION.--Lat 32°55'26", long 96°49'09", Dallas County, Hydrologic Unit 12030105, storm sewer outfall to Bachmann Branch under grass shoulder of eastbound on ramp from Dallas Tollway to I-635 Highway and 0.25 mi east of the intersection of Inwood Road and I-635.

DRAINAGE AREA.--0.02 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: December 1993 to September 1994.

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events from storm sewer systems draining urban basins. This study is in cooperation with the North Central Texas Council of Governments to fulfill requirements (by EPA) for the Texas Department of Transportation in applying for a National Pollution Discharge Elimination System (NPDES) storm-water discharge permit.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	PRECIPITATION TOTAL INCHES/ STORM	ELAPSED TIME OF STORM (HOURS)	STORM WATER FLOW (MGD)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	PH WATER WHOLE LAB (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, 0.7 UM-MF (COLS./ 100 ML)
DEC 02-02	1652	0.20	2.6	0.06	307	306	8.0	7.5	18.0	99	10	120000
JAN 11-11	0142	0.22	8.3	0.04	286	308	7.8	6.9	12.0	93	8.7	K53000
FEB 28-28	1828	0.39	3.5	0.08	658	159	7.9	7.6	11.5	50	7.2	34000
MAR 08-08	1145	0.32	3.8	0.08	140	191	8.3	7.3	11.5	65	7.3	K860000
APR 11-11	1327	0.30	1.3	0.06	231	198	7.5	6.6	20.0	84	10	K620000
MAY 09-09	1335	0.23	3.4	0.04	261	--	7.5	--	19.5	<10	5.2	K3200000
AUG 05-05	0801	0.31	1.5	0.08	390	343	6.7	7.1	24.5	93	8.3	250000
DATE	STREP- TOC/CCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO
DEC 02-02	100000	82	12	70	167	136	184	31	1.2	21	34	1
JAN 11-11	54000	100	62	41	167	42	185	39	1.3	9.5	16	0.4
FEB 28-28	16000	47	9	38	87	44	94	18	0.61	6.7	22	0.4
MAR 08-08	20000	50	6	44	93	104	92	19	0.63	5.5	18	0.3
APR 11-11	310000	63	35	28	103	60	125	24	0.80	5.2	14	0.3
MAY 09-09	840000	--	--	64	--	--	--	--	--	--	--	--
AUG 05-05	K180000	140	--	--	198	17	229	53	1.7	8.4	11	0.3
DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	ANTIMONY TOTAL (UG/L AS SB)	ARSENIC TOTAL (UG/L AS AS)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
DEC 02-02	6.0	28	24	0.720	1.4	0.420	0.250	<10.0	3	<10	1	4
JAN 11-11	5.4	57	10	1.40	2.4	0.260	0.150	<10.0	2	<10	<1	4
FEB 28-28	3.0	18	6.4	0.520	1.3	0.190	0.120	<10.0	2	<10	<1	3
MAR 08-08	2.9	18	4.0	0.380	1.2	0.220	0.080	<10.0	2	<10	<1	5
APR 11-11	4.5	37	4.4	0.800	1.4	0.180	0.180	<10.0	1	<10	<1	3
MAY 09-09	--	--	--	0.750	1.3	0.170	0.160	<10.0	1	<10	<1	3
AUG 05-05	4.3	80	5.7	1.70	1.8	0.160	0.140	<10.0	1	<10	<1	5

08055690 BACHMAN BRANCH OUTFALL AT I-635, DALLAS, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	CYANIDE, TOTAL EPA (MG/L AS CN)	CYANIDE TOTAL (MG/L AS CN)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	THAL- LIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
DEC 02-02	20	<0.010	<0.010	26	<0.10	7	<1	<1	<0.500	<10	240	25
JAN 11-11	16	<0.010	<0.010	13	<0.10	4	<1	<1	0.710	<10	100	24
FEB 28-28	13	<0.010	<0.010	11	<0.10	3	<1	<1	<0.500	<5	80	13
MAR 08-08	17	<0.010	<0.010	22	<0.10	5	<1	<1	<0.500	<5	120	16
APR 11-11	14	0.052	<0.010	9	<0.10	4	<1	<1	<0.500	<10	80	23
MAY 09-09	23	<0.010	0.010	6	<0.10	3	<1	<1	<0.500	<10	50	20
AUG 05-05	17	<0.010	<0.010	10	<0.10	4	<1	<1	<1.00	<5	120	24
DATE	OIL AND GREASE, TOTAL RECOV- GRAVI- METRIC (MG/L)	PHENOLS TOTAL (UG/L)	ACRO- LEIN TOTAL (UG/L)	ACRYLO- NITRILE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	BROMO- BENZENE WHOLE, TOTAL (UG/L)	METHANE CHLORO- WAT UNFLTRD REC (UG/L)	BROMO- FORM TOTAL (UG/L)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L)	BENZENE SEC BUTYL- WATER UNFLTRD REC (UG/L)	BENZENE TERT- BUTYL- WATER UNFLTRD REC (UG/L)	CARBON- TETRA- CHLO- RIDE TOTAL (UG/L)
DEC 02-02	<1	4	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	<0.20	<0.2
JAN 11-11	4	12	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	<0.20	<0.2
FEB 28-28	1	12	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	<0.20	<0.2
MAR 08-08	2	2	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	<0.20	<0.2
APR 11-11	1	8	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	<0.20	<0.2
MAY 09-09	<1	16	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	<0.20	<0.2
AUG 05-05	<1	9	<20	<20	<0.2	<0.2	<0.20	<0.2	<0.20	<0.20	<0.20	<0.2
DATE	CHLORO- BENZENE TOTAL (UG/L)	CHLORO- DI- BROMO- METHANE TOTAL (UG/L)	CHLORO- ETHANE TOTAL (UG/L)	2- CHLORO- ETHYL- VINYL- ETHER TOTAL (UG/L)	CHLORO- FORM TOTAL (UG/L)	METHYL- CHLO- RIDE TOTAL (UG/L)	O- CHLORO- TOLUENE WATER WHOLE TOTAL (UG/L)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L)	DIBROMO CHLORO- PROPANE WATER WHOLE TOT.REC (UG/L)	DI- BROMO- METHANE WATER WHOLE RECOVER (UG/L)	1,2- DIBROMO ETHANE WATER WHOLE TOTAL (UG/L)	DI- CHLORO- BROMO- METHANE TOTAL (UG/L)
DEC 02-02	<0.20	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
JAN 11-11	<0.20	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
FEB 28-28	<0.20	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
MAR 08-08	<0.20	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
APR 11-11	<0.20	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
MAY 09-09	<0.20	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
AUG 05-05	<0.20	<0.2	<0.2	<1.0	<0.2	4.3	<0.2	<0.20	<1.0	<0.2	<0.2	<0.2
DATE	1,1-DI- CHLORO- ETHYL- ENE TOTAL (UG/L)	1,1-DI- CHLORO- PRO- PENE, WAT. WH TOTAL (UG/L)	BENZENE O- CHLORO- WATER UNFLTRD REC (UG/L)	BENZENE 1,3-DI- CHLORO- WATER UNFLTRD REC (UG/L)	BENZENE 1,4-DI- CHLORO- WATER UNFLTRD REC (UG/L)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (UG/L)	1,1-DI- CHLORO- ETHANE TOTAL (UG/L)	1,2-DI- CHLORO- ETHANE TOTAL (UG/L)	1,2-DI- PHENYL- HYDRA- ZINE WATER TOT.REC (UG/L)	CIS-1,2- DI- CHLORO- ETHENE WATER TOTAL (UG/L)	1,2- TRANSDI- CHLORO- ETHENE TOTAL (UG/L)	1,2-DI- CHLORO- PROPANE TOTAL (UG/L)
DEC 02-02	<0.2	<0.2	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
JAN 11-11	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
FEB 28-28	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
MAR 08-08	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
APR 11-11	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
MAY 09-09	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2
AUG 05-05	<0.2	<0.2	<5.0	<5.0	<5.0	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2

TRINITY RIVER BASIN

08055690 BACHMAN BRANCH OUTFALL AT I-635, DALLAS, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	1,3-DI- CHLORO- PROPANE WAT. WH TOTAL (UG/L)	2,2-DI- CHLORO- PROPANE WAT. WH TOTAL (UG/L)	CIS 1,3-DI- CHLORO- PROPENE TOTAL (UG/L)	TRANS- 1,3-DI- CHLORO- PROPENE TOTAL (UG/L)	ETHYL- BENZENE TOTAL (UG/L)	HEXA- CHLORO- BUT- ADIENE TOTAL (UG/L)	ISO- PROPYL- BENZENE WATER WHOLE REC (UG/L)	P-ISO- PROPYL- TOLUENE WATER WHOLE REC (UG/L)	METHYL- BROMIDE TOTAL (UG/L)	METHYL- ENE CHLO- RIDE TOTAL (UG/L)	METHYL ETHER TERT- BUTYL WAT UNF REC (UG/L)	NAPHTH- ALENE TOTAL (UG/L)
DEC 02-02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.2	<0.2	<1.0	<0.2
JAN 11-11	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<1.0	<5.0
FEB 28-28	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<1.0	<5.0
MAR 08-08	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<1.0	<5.0
APR 11-11	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<0.2	<5.0
MAY 09-09	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<0.2	<5.0
AUG 05-05	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<0.20	<0.20	<0.2	<0.2	<0.2	<5.0
DATE	BENZENE N-PROPYL WATER UNFLTRD REC (UG/L)	STYRENE TOTAL (UG/L)	ETHANE, 1112- TETRA- CHLORO- WAT UNF REC (UG/L)	ETHANE, 1,1,2,2- TETRA- CHLORO- WAT UNF REC (UG/L)	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	1,2,3- TRI- CHLORO BENZENE WAT. WH REC (UG/L)	BENZENE 1,2,4- TRI- CHLORO- WAT UNF REC (UG/L)	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L)	1,1,2- TRI- CHLORO- ETHANE TOTAL (UG/L)	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L)	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L)
DEC 02-02	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
JAN 11-11	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
FEB 28-28	<0.20	<0.2	<0.2	<0.2	<0.2	0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
MAR 08-08	<0.20	<0.2	<0.2	<0.2	<0.2	0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
APR 11-11	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
MAY 09-09	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
AUG 05-05	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<5.0	<0.2	<0.2	<0.2	<0.2
DATE	123-TRI CHLORO- PROPANE WATER WHOLE TOTAL (UG/L)	FREON- 113 WATER UNFLTRD REC (UG/L)	PSEUDO- CUMENE WATER UNFLTRD REC (UG/L)	MESIT- YLENE WATER UNFLTRD REC (UG/L)	VINYL CHLO- RIDE TOTAL (UG/L)	XYLENE WATER UNFLTRD REC (UG/L)	ACE- NAPHTH- ENE TOTAL (UG/L)	ACE- NAPHTH- YLENE TOTAL (UG/L)	ANTHRA- CENE TOTAL (UG/L)	BENZI- DINE TOTAL (UG/L)	BENZO A ANTHRAC- ENE1,2- BENZANT HRACENE TOTAL (UG/L)	BENZO- A- PYRENE TOTAL (UG/L)
DEC 02-02	<0.2	<0.5	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
JAN 11-11	<0.2	<0.5	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
FEB 28-28	<0.2	<0.5	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
MAR 08-08	<0.2	<0.5	0.40	<0.20	<0.2	0.30	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
APR 11-11	<0.2	<0.2	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
MAY 09-09	0.5	<0.2	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
AUG 05-05	<0.2	<0.2	<0.20	<0.20	<0.2	<0.20	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0
DATE	BENZO B FLUOR- AN- THENE TOTAL (UG/L)	BENZO K FLUOR- AN- THENE TOTAL (UG/L)	BENZOGH I PERYL ENE1,12- BENZOP ERYLENE TOTAL (UG/L)	4- BROMO- PHENYL ETHER TOTAL (UG/L)	N-BUTYL BENZYL PHTHAL- ATE TOTAL (UG/L)	BIS (2- CHLORO- ETHOXY) METHANE TOTAL (UG/L)	BIS 2- CHLORO- ETHYL ETHER TOTAL (UG/L)	BIS (2- CHLORO- ISO- PROPYL) ETHER TOTAL (UG/L)	PARA- CHLORO- META CRESOL TOTAL (UG/L)	2- CHLORO- NAPH- THALENE TOTAL (UG/L)	2- CHLORO- PHENOL TOTAL (UG/L)	4- CHLORO- PHENYL ETHER TOTAL (UG/L)
DEC 02-02	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0
JAN 11-11	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0
FEB 28-28	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0
MAR 08-08	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0
APR 11-11	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0
MAY 09-09	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0
AUG 05-05	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0

08055690 BACHMAN BRANCH OUTFALL AT I-635, DALLAS, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	CHRY- SENE TOTAL (UG/L)	1,2,5,6- DIBENZ- ANTHRA- CENE TOTAL (UG/L)	3,3'- DI- CHLORO- BENZ- DINE TOTAL (UG/L)	2,4-DI- CHLORO- PHENOL TOTAL (UG/L)	DIETHYL PHTHAL- ATE TOTAL (UG/L)	DI- METHYL PHTHAL- ATE TOTAL (UG/L)	2,4-DI- METHYL- PHENOL TOTAL (UG/L)	DI-N- BUTYL PHTHAL- ATE TOTAL (UG/L)	4,6- DINITRO- -ORTHO- CRESOL TOTAL (UG/L)	2,4,- DI- NITRO- PHENOL TOTAL (UG/L)	2,4-DI- NITRO- TOLUENE TOTAL (UG/L)	2,6-DI- NITRO- TOLUENE TOTAL (UG/L)
DEC 02-02	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
JAN 11-11	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
FEB 28-28	<10.0	<10.0	<20.0	<5.0	6.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
MAR 08-08	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
APR 11-11	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
MAY 09-09	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
AUG 05-05	<10.0	<10.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<5.0
DATE	DI-N- OCTYL PHTHAL- ATE TOTAL (UG/L)	BIS(2- ETHYL HEXYL) PHTHAL- ATE TOTAL (UG/L)	FLUOR- ANTHENE TOTAL (UG/L)	FLUOR- ENE TOTAL (UG/L)	HEXA- CHLORO- BENZENE TOTAL (UG/L)	HEXA- CHLORO- CYCLO- PENT- ADIENE TOTAL (UG/L)	HEXA- CHLORO- ETHANE TOTAL (UG/L)	INDENO (1,2,3- CD) PYRENE TOTAL (UG/L)	ISO- PHORONE TOTAL (UG/L)	NITRO- BENZENE TOTAL (UG/L)	N-NITRO -SODI- METHY- LAMINE TOTAL (UG/L)	2- NITRO- PHENOL TOTAL (UG/L)
DEC 02-02	<10.0	20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
JAN 11-11	<10.0	20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
FEB 28-28	<10.0	23.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
MAR 08-08	<10.0	20.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
APR 11-11	<10.0	13.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
MAY 09-09	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
AUG 05-05	<10.0	29.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
DATE	4- NITRO- PHENOL TOTAL (UG/L)	N- NITRO- SODI-N- PROPYL- AMINE TOTAL (UG/L)	N-NITRO -PHENY- LAMINE TOTAL (UG/L)	PENTA- CHLORO- PHENOL TOTAL (UG/L)	PHENAN- THRENE TOTAL (UG/L)	PHENOL (C6H- 5OH) TOTAL (UG/L)	PYRENE TOTAL (UG/L)	2,4,6- TRI- CHLORO- PHENOL TOTAL (UG/L)	ALDRIN, BHC TOTAL (UG/L)	P,P' DDT, TOTAL (UG/L)	ALPHA BHC TOTAL (UG/L)	BETA BENZENE HEXA- CHLOR- IDE TOTAL (UG/L)
DEC 02-02	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
JAN 11-11	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
FEB 28-28	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
MAR 08-08	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
APR 11-11	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
MAY 09-09	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
AUG 05-05	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<20.0	<0.040	<0.10	<0.03	<0.03
DATE	DELTA BENZENE HEXA- CHLOR- IDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	CHLOR- DANE CIS WATER WHOLE TOTAL (UG/L)	CHLOR- DANE TRANS WATER WHOLE TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	P,P' DDO, TOTAL (UG/L)	P,P' DDE, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN- I WATER WHOLE REC (UG/L)	ENDO- SULFAN BETA TOTAL (UG/L)	ENDO- SULFAN SULFATE TOTAL (UG/L)	ENDRIN WATER UNFLTRD REC (UG/L)
DEC 02-02	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
JAN 11-11	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
FEB 28-28	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
MAR 08-08	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
APR 11-11	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
MAY 09-09	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060
AUG 05-05	<0.09	<0.030	<0.10	<0.10	<0.1	<0.10	<0.04	<0.020	<0.10	<0.04	<0.60	<0.060

TRINITY RIVER BASIN

08055690 BACHMAN BRANCH OUTFALL AT I-635, DALLAS, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	ENDRIN ALDE- HYDE TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	AROCLOR 1016 PCB TOTAL (UG/L)	AROCLOR 1221 PCB TOTAL (UG/L)	AROCLOR 1232 PCB TOTAL (UG/L)	AROCLOR 1242 PCB TOTAL (UG/L)	AROCLOR 1248 PCB TOTAL (UG/L)	AROCLOR 1254 PCB TOTAL (UG/L)	AROCLOR 1260 PCB TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
DEC 02-02	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
JAN 11-11	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	0.2	<0.1	<0.05
FEB 28-28	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	0.1	<0.1	<0.05
MAR 08-08	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
APR 11-11	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
MAY 09-09	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.10
AUG 05-05	<0.20	<0.030	<0.80	<2	<0.1	<1.0	<0.1	<0.1	<0.1	0.2	<0.1	<0.05

TRINITY RIVER MAIN STEM

405

08057000 TRINITY RIVER AT DALLAS, TX

LOCATION.--Lat 32°46'29", long 96°49'18", Dallas County, Hydrologic Unit 12030100, on right bank (levee) 90 ft downstream from Commerce Street viaduct in Dallas, 5.2 mi downstream from confluence of West and Elm Forks, and at mile 500.3.

DRAINAGE AREA.--6,106 mi².

PERIOD OF RECORD.--October 1898 to December 1899 (gage heights only published in WSP 28 and 37), July 1903 to current year. Daily discharges are not available for all periods prior to 1931.

REVISED RECORDS.--WSP 850: 1903-6 (monthly and annual means). WSP 1732: 1937(M). WSP 1922: Drainage area. WDR TX-73-1: 1972.

GAGE.--Water-stage recorder. Datum of gage is 368.02 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1898, to Dec. 31, 1899, nonrecording gage at site 2 mi upstream at different datum. July 1, 1903, to July 20, 1930, non-recording gage at present site and datum. July 21, 1930, to Sept. 30, 1932, nonrecording gage at site 6 mi downstream at datum 3.08 ft lower.

REMARKS.--No estimated daily discharges. Records good. At times, flow is affected by storage in seven major upstream reservoirs, with a combined capacity of 1,703,000 acre-ft of which 846,200 acre-ft is for flood control. The city of Dallas diverts water for municipal use from the Elm Fork, Lake Ray Hubbard (on the East Fork), and from Lake Tawakoni (on the Sabine River), and purchases water from North Texas Municipal Water District (from the East Fork). Sewage effluent from the City of Dallas is returned to the river downstream from this station. The Trinity River Authority and the City of Fort Worth discharge sewage effluent into the river upstream from this station. For additional information on diversions and effluent returns for this station, see stations 08048000, 08049200, and 08049500. Several observations of water temperature were made during the year. Rain gage at station. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--31 years (water years 1903-33) prior to regulation by upstream reservoirs, 1,330 ft³/s (963,500 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1903-33).--Maximum discharge, 184,000 ft³/s May 25, 1908 (gage height, 52.6 ft), from rating curve extended above 109,000 ft³/s. Maximum stage since at least 1840, that of May 25, 1908.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1866 reached about the same stage as that of May 25, 1908.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	391	4520	696	732	1410	6420	708	3270	5500	1000	3360	8490
2	499	4470	982	717	1540	5420	778	2350	5430	632	2980	6220
3	982	4360	6190	724	1540	4280	1410	3900	5270	553	1980	3720
4	1050	4270	4680	754	1150	4140	962	3190	4880	511	1480	1370
5	628	4240	3590	762	870	4110	882	3120	4620	492	1250	1150
6	546	4090	4150	702	729	4100	769	3950	4540	499	841	1210
7	457	3910	4490	671	693	4100	736	3430	4420	725	567	1140
8	413	3840	4510	645	701	4570	829	2910	3770	1770	1030	1250
9	385	3140	4410	629	707	5400	715	2940	2730	1500	645	1160
10	381	1660	4330	620	708	3910	696	2960	2570	1620	519	914
11	391	1070	4320	918	708	2840	962	2910	2610	11200	488	736
12	390	876	4300	1150	687	2230	852	10300	2550	11100	476	568
13	5370	866	5400	778	674	3180	691	13100	1690	7330	466	506
14	5210	1600	4990	705	673	2360	616	12200	1120	5210	531	505
15	1150	1730	4420	661	677	1660	612	13300	1340	5740	694	596
16	663	1930	4450	657	665	1470	623	11300	1830	5540	634	718
17	830	2230	4110	1120	820	1690	755	9660	1150	5040	545	550
18	5320	1310	3300	937	833	1460	675	10200	939	4800	486	527
19	14200	1370	3140	714	733	1060	590	11800	1030	4690	455	488
20	18300	1790	3090	902	916	1010	705	11200	856	4590	514	474
21	9400	1620	3060	965	830	1020	987	10300	721	4500	865	467
22	7370	1340	2440	1300	4030	1030	855	9340	636	4450	758	491
23	8850	1050	2120	1760	4260	1020	792	8370	590	4420	547	496
24	8790	733	1410	1060	3320	925	674	7640	592	4380	486	470
25	7110	672	983	1300	3910	861	752	7390	562	4370	464	465
26	5740	831	1120	1060	4280	1070	4400	8510	530	4380	449	460
27	4980	1000	1090	911	4180	1560	2430	8420	509	4360	437	456
28	4680	909	930	981	4040	1110	896	7480	510	4330	456	469
29	4560	788	886	1150	---	854	2840	6770	512	4250	435	443
30	4510	734	827	1550	---	935	5160	6640	945	3790	444	442
31	4500	---	761	1710	---	857	---	5760	---	3450	977	---
TOTAL	128046	62949	95175	29245	46284	76652	35352	224610	64952	121222	26259	36951
MEAN	4131	2098	3070	943	1653	2473	1178	7245	2165	3910	847	1232
MAX	18300	4520	6190	1760	4280	6420	5160	13300	5500	11200	3360	8490
MIN	381	672	696	620	665	854	590	2350	509	492	435	442
AC-FT	254000	124900	188800	58010	91800	152000	70120	445500	128800	240400	52080	73290

TRINITY RIVER MAIN STEM

08057000 TRINITY RIVER AT DALLAS, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 1994#, BY WATER YEAR (WY)

MEAN	1165	1264	1388	1182	1838	1988	2445	4012	3210	1293	721	799
MAX	10050	14150	12860	13350	10410	14910	27050	28050	17390	8629	6075	7107
(WY)	1982	1982	1992	1992	1992	1945	1942	1990	1941	1989	1982	1962
MIN	68.2	68.2	53.0	62.4	76.9	68.2	91.5	213	68.0	51.9	50.2	52.4
(WY)	1935	1956	1939	1940	1940	1956	1955	1937	1953	1956	1956	1956

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1934 - 1994#	
ANNUAL TOTAL	1263244		947697			
ANNUAL MEAN	3461		2596			
HIGHEST ANNUAL MEAN					1773	
LOWEST ANNUAL MEAN					7154	1982
HIGHEST DAILY MEAN	20800	Feb 26	18300	Oct 20	115	1956
LOWEST DAILY MEAN	356	Sep 6	381	Oct 10	103000	Apr 26 1942
ANNUAL SEVEN-DAY MINIMUM	380	Sep 6	423	Oct 6	10	Oct 1 1953
INSTANTANEOUS PEAK FLOW			20400	Oct 20	26	Apr 12 1935
INSTANTANEOUS PEAK STAGE			36.07	Oct 20	111000	Apr 26 1942
ANNUAL RUNOFF (AC-FT)	2506000		1880000		47.10	May 3 1990
10 PERCENT EXCEEDS	6960		5620		1285000	
50 PERCENT EXCEEDS	3300		1150		5110	
90 PERCENT EXCEEDS	434		508		383	
					103	

Period of regulated streamflow.

TRINITY RIVER MAIN STEM

407

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX

LOCATION.--Lat 32°45'04", long 96°47'07", Dallas County, Hydrologic Unit 12030105, on right bank at abandoned bridge abutment, 0.2 mi upstream from Cedar Crest Blvd. bridge, 1.8 mi southeast of Dallas City Hall, 2.1 mi downstream from Coombs Creek, and 2.7 mi downstream from Commerce Street Bridge (station 08057000).

PERIOD OF RECORD.--Chemical and biochemical analyses: February 1984 to September 1993 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1984 to current year.

pH: February 1984 to current year.

WATER TEMPERATURES: February 1984 to current year.

DISSOLVED OXYGEN: February 1984 to current year.

INSTRUMENTATION.--Since February 1984, a four-parameter water-quality monitor records temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the U.S. Geological Survey District office upon request. Records of discharge are given for gaging station 08057000. No appreciable inflow between the two stations.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,030 microsiemens Feb. 12, 1988; minimum, 93 microsiemens Oct. 20, 1984.

pH: Maximum, 8.6 units Oct. 20, 1984; minimum, 6.8 units Sept. 6, 1988.

WATER TEMPERATURE: Maximum, 33.5°C Aug. 12, 1987; minimum, 5.0°C Feb. 7, 8, 1989.

DISSOLVED OXYGEN: Maximum, 13.7 mg/L Feb. 8, 1989; minimum, 0.0 mg/L July 21, 1985.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 860 microsiemens Apr. 16 and 17; minimum, 184 microsiemens Oct. 18.

pH: Maximum, 8.5 units Aug. 30 and Sept. 14; minimum, 6.5 units July 9 and 10.

WATER TEMPERATURE: Maximum, 31.5°C on several days; minimum, 7.5°C Jan. 22.

DISSOLVED OXYGEN: Maximum, 12.6 mg/L Dec. 17; minimum, 2.6 mg/L June 29.

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. 1993	128046	369	216	74700	23	7930	47	16400	130
NOV. 1993	62949	434	252	42900	29	4990	55	9390	140
DEC. 1993	95175	413	240	61800	27	6910	53	13500	140
JAN. 1994	29245	623	353	27900	52	4100	77	6090	170
FEB. 1994	46284	505	290	36300	37	4680	63	7930	150
MAR. 1994	76652	472	273	56400	33	6910	60	12300	150
APR. 1994	35352	592	336	32100	49	4650	73	7000	160
MAY 1994	224610	412	241	146000	27	16100	53	32000	140
JUNE 1994	64952	447	259	45400	31	5390	57	9940	140
JULY 1994	121222	357	209	68500	22	7120	46	15000	120
AUG. 1994	26259	550	314	22300	44	3110	69	4860	160
SEPT 1994	36951	449	259	25800	33	3250	57	5640	140
TOTAL	947697	**	**	640000	**	75100	**	140000	**
WTD.AVG.	2596	431	250	**	29	**	55	**	140

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	749	718	730	376	361	369	---	---	e620	667	635	652
2	776	259	695	369	361	365	---	---	e660	659	639	650
3	710	376	505	373	361	370	441	338	384	663	643	652
4	573	467	525	373	369	372	447	322	381	663	639	651
5	514	494	502	376	365	372	488	395	436	663	639	652
6	592	502	547	365	357	361	395	383	388	714	655	687
7	690	592	641	361	357	360	392	384	386	753	714	736
8	769	690	731	365	361	363	388	380	382	749	718	739
9	780	761	771	435	361	393	384	376	380	769	714	741
10	800	769	789	471	435	455	384	365	377	733	714	727
11	824	800	807	545	471	509	380	373	376	725	380	661
12	816	792	802	576	545	560	384	365	375	718	671	690
13	808	267	363	580	552	566	412	349	388	698	675	680
14	369	278	311	585	514	537	400	373	385	678	663	670
15	478	369	435	580	514	544	388	361	371	710	671	695
16	561	478	535	516	384	456	396	380	386	729	576	715
17	569	478	522	518	415	478	392	384	388	663	576	618
18	490	184	309	518	486	504	396	388	392	659	600	640
19	318	224	285	529	475	507	400	392	397	671	647	657
20	506	263	286	518	490	508	404	396	398	706	639	687
21	451	282	367	510	486	502	447	400	407	639	596	616
22	455	409	437	529	486	512	518	412	465	600	482	570
23	409	392	401	576	518	551	561	518	540	584	486	533
24	400	392	395	---	---	e600	545	525	538	584	545	571
25	392	384	386	---	---	e620	576	545	567	---	---	e560
26	384	380	381	---	---	e600	612	553	592	612	533	578
27	384	376	380	---	---	e600	580	545	567	647	600	630
28	384	380	381	---	---	e580	569	545	558	608	592	603
29	384	376	380	---	---	e580	580	553	566	616	518	579
30	380	373	377	---	---	e610	620	580	605	545	518	528
31	380	365	373	---	---	---	647	612	633	537	467	501
MONTH	824	184	495	585	357	490	647	322	461	769	380	641

e Estimated

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	475	467	470	446	388	425	686	651	660	---	---	e400
2	---	---	e490	399	388	396	731	686	704	---	---	e420
3	---	---	e480	399	396	397	743	340	616	---	---	e400
4	590	511	559	406	397	402	641	588	624	---	---	e420
5	609	589	601	409	400	405	641	471	600	---	---	e430
6	624	597	613	414	400	407	681	622	652	446	401	419
7	638	603	621	413	396	406	748	676	724	417	388	403
8	673	626	657	449	388	422	763	732	749	443	417	434
9	663	655	659	450	388	438	733	688	700	439	421	433
10	729	659	678	448	432	440	727	696	708	569	427	484
11	736	695	715	467	448	457	768	442	650	584	481	500
12	700	668	687	468	448	462	700	541	650	505	313	391
13	689	668	679	487	446	477	743	699	721	374	316	332
14	679	664	671	504	467	488	832	743	792	449	374	411
15	678	666	672	531	466	506	835	822	829	453	388	420
16	677	660	670	590	531	569	860	798	829	431	389	411
17	734	664	709	581	555	571	860	761	827	---	---	e430
18	732	649	677	579	515	536	761	718	739	---	---	e440
19	658	639	648	623	579	602	---	---	e750	---	---	e430
20	684	524	637	635	603	620	---	---	e750	---	---	e420
21	686	625	662	635	626	630	---	---	e600	---	---	e420
22	626	436	482	635	616	625	---	---	e580	---	---	e400
23	491	407	448	625	611	618	---	---	e660	---	---	e400
24	495	426	478	689	619	664	---	---	e680	---	---	e400
25	490	419	448	704	686	693	---	---	e700	---	---	e410
26	420	405	411	716	407	647	---	---	e530	---	---	e420
27	410	389	400	710	558	638	---	---	e480	---	---	e420
28	402	379	395	689	588	621	---	---	e500	---	---	e420
29	---	---	---	641	587	609	---	---	e480	---	---	e410
30	---	---	---	685	641	656	---	---	e400	---	---	e410
31	---	---	---	721	654	683	---	---	---	---	---	e410
MONTH	736	379	583	721	388	533	860	340	663	584	313	418

e Estimated

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	e430	661	618	644	---	---	e370	348	257	302
2	---	---	e420	661	627	642	---	---	e380	342	214	290
3	422	406	413	644	628	635	---	---	e410	404	311	362
4	429	416	422	713	638	678	---	---	e440	431	391	404
5	448	428	437	720	710	715	---	---	e470	454	417	443
6	460	318	420	758	709	728	---	---	e520	460	443	450
7	387	318	340	776	755	769	---	---	e600	472	458	465
8	332	293	306	773	529	603	---	---	e540	488	427	462
9	393	309	355	550	538	545	---	---	e500	509	438	481
10	434	339	383	571	419	541	---	---	e600	561	499	531
11	470	403	446	466	297	365	---	---	e660	605	549	587
12	505	434	478	316	271	294	---	---	e670	638	600	622
13	581	454	502	384	303	352	---	---	e700	681	628	659
14	636	501	561	381	343	350	---	---	e680	683	671	677
15	640	451	565	391	347	369	---	---	e600	704	682	688
16	492	456	477	353	333	339	643	606	620	702	619	656
17	535	471	505	357	333	341	684	618	666	662	620	635
18	547	469	527	---	---	e340	745	650	697	699	657	684
19	550	450	503	---	---	e330	774	737	761	711	687	702
20	571	544	561	---	---	e320	780	530	705	707	685	695
21	581	555	567	---	---	e320	661	588	619	726	705	714
22	623	571	605	---	---	e320	705	592	656	749	721	735
23	653	613	643	---	---	e330	705	656	675	750	686	731
24	657	643	649	---	---	e330	675	659	668	715	685	705
25	---	---	e660	---	---	e330	727	663	689	746	706	729
26	690	666	677	---	---	e320	782	716	756	746	732	741
27	710	689	697	---	---	e320	782	775	778	745	723	731
28	819	691	766	---	---	e320	779	730	755	736	679	705
29	821	807	812	---	---	e330	785	767	778	741	697	724
30	809	377	617	---	---	e350	795	761	773	752	736	743
31	---	---	---	---	---	e360	---	---	e780	---	---	---
MONTH	821	293	525	776	271	436	795	530	630	752	214	602
YEAR	860	184	539									

e Estimated

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.8	7.6	7.7	8.0	7.9	8.0	---	---	---	7.9	7.7	7.8
2	8.2	7.7	7.8	8.0	7.9	7.9	7.9	7.7	7.8	7.9	7.7	7.8
3	8.1	7.8	7.9	8.1	7.9	8.0	7.9	7.7	7.8	7.8	7.7	7.8
4	7.9	7.8	7.8	8.1	8.1	8.1	7.8	7.7	7.7	7.9	7.7	7.8
5	7.9	7.8	7.8	8.2	8.1	8.1	7.9	7.7	7.8	8.1	7.7	7.9
6	8.0	7.7	7.8	8.2	8.2	8.2	8.0	7.9	8.0	8.1	8.0	8.1
7	8.0	7.9	7.9	8.2	8.2	8.2	8.1	8.0	8.1	8.1	8.0	8.1
8	7.9	7.2	7.6	8.2	8.2	8.2	8.1	8.1	8.1	8.2	8.1	8.1
9	7.2	6.9	7.0	8.2	8.1	8.1	8.2	8.1	8.1	8.2	8.0	8.1
10	6.9	6.6	6.8	8.1	8.0	8.0	8.2	8.1	8.1	8.2	8.1	8.2
11	7.4	6.7	7.0	8.0	7.9	7.9	8.2	8.1	8.1	8.2	7.9	8.1
12	7.5	7.2	7.4	8.0	7.7	7.8	8.2	8.0	8.2	8.2	8.0	8.1
13	7.9	7.4	7.8	---	---	---	8.2	8.0	8.1	8.2	8.1	8.2
14	7.8	7.7	7.8	---	---	---	8.1	8.0	8.1	8.2	8.1	8.1
15	7.7	7.7	7.7	---	---	---	8.2	8.1	8.1	8.2	8.1	8.2
16	7.7	7.7	7.7	---	---	---	8.2	8.1	8.1	8.2	8.1	8.1
17	7.8	7.6	7.7	---	---	---	8.2	8.1	8.1	8.2	8.1	8.2
18	8.0	7.7	7.8	---	---	---	8.1	8.1	8.1	8.2	8.1	8.2
19	8.0	7.8	7.9	8.2	8.0	8.1	8.1	8.1	8.1	8.2	8.1	8.2
20	8.0	7.8	7.9	8.2	8.1	8.2	8.2	8.1	8.1	8.2	7.9	8.1
21	8.0	7.9	7.9	8.3	8.2	8.2	8.2	8.1	8.1	8.1	8.0	8.1
22	8.1	7.7	8.0	8.3	8.2	8.2	8.2	8.1	8.1	8.2	8.0	8.1
23	8.1	7.5	8.0	8.3	8.1	8.2	8.1	8.0	8.0	8.2	7.9	8.1
24	8.0	8.0	8.0	8.3	7.4	7.9	8.0	7.9	8.0	7.9	7.8	7.9
25	8.0	8.0	8.0	7.8	7.2	7.6	7.9	7.9	7.9	---	---	---
26	8.0	7.9	7.9	8.2	7.1	7.9	8.0	7.9	7.9	7.9	7.7	7.8
27	7.9	7.9	7.9	8.2	8.1	8.2	8.0	7.9	8.0	7.7	7.7	7.7
28	8.0	7.9	7.9	8.4	8.0	8.2	8.0	7.9	8.0	7.7	7.7	7.7
29	8.0	7.9	8.0	8.0	7.3	7.7	8.0	7.9	7.9	7.8	7.6	7.7
30	8.0	8.0	8.0	---	---	---	7.9	7.8	7.9	7.8	7.7	7.8
31	8.0	8.0	8.0	---	---	---	7.9	7.8	7.8	7.9	7.7	7.8
MONTH	8.2	6.6	7.8	8.4	7.1	8.0	8.2	7.7	8.0	8.2	7.6	8.0

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	7.9	7.8	7.8	8.0	7.7	7.9	7.9	7.6	7.8	---	---	---
2	---	---	---	7.9	7.8	7.8	7.9	7.5	7.8	---	---	---
3	---	---	---	7.9	7.9	7.9	7.9	7.7	7.8	---	---	---
4	---	---	---	8.0	7.8	7.9	7.7	7.5	7.6	---	---	---
5	7.9	7.8	7.9	7.9	7.9	7.9	7.7	7.6	7.7	---	---	---
6	7.9	7.8	7.9	7.9	7.7	7.8	7.8	7.7	7.8	---	---	---
7	8.0	7.8	7.9	7.8	7.6	7.7	7.9	7.8	7.9	8.1	8.1	8.1
8	7.9	7.7	7.8	8.0	7.6	7.8	7.9	7.8	7.9	8.1	8.1	8.1
9	7.8	7.7	7.7	8.0	7.8	7.9	8.0	7.8	7.9	8.2	8.1	8.1
10	7.8	7.7	7.7	7.9	7.8	7.8	7.9	7.8	7.8	8.1	7.8	8.0
11	7.7	7.7	7.7	7.9	7.3	7.7	7.8	7.6	7.7	8.0	7.7	7.8
12	7.7	7.7	7.7	7.4	7.4	7.4	7.6	7.6	7.6	8.0	7.9	7.9
13	7.7	7.7	7.7	8.0	7.4	7.6	7.8	7.5	7.7	7.9	7.8	7.8
14	7.7	7.6	7.7	7.9	7.6	7.8	7.8	7.5	7.7	8.0	7.8	7.9
15	7.9	7.6	7.7	7.9	7.7	7.8	7.8	7.4	7.6	8.0	7.9	7.9
16	7.9	7.8	7.9	7.8	7.7	7.8	7.8	7.5	7.7	8.0	7.7	7.9
17	7.9	7.8	7.9	7.9	7.7	7.8	7.8	7.4	7.7	---	---	---
18	7.9	7.7	7.8	8.1	7.8	7.9	7.9	7.7	7.8	---	---	---
19	7.8	7.7	7.8	7.9	7.6	7.7	8.1	7.7	7.9	---	---	---
20	7.8	7.6	7.7	7.8	7.6	7.7	8.1	7.8	7.9	---	---	---
21	7.8	7.6	7.7	7.6	7.5	7.6	---	---	---	---	---	---
22	7.8	7.6	7.7	8.2	7.5	7.6	---	---	---	---	---	---
23	7.7	7.6	7.6	8.2	7.9	8.1	---	---	---	---	---	---
24	7.9	7.6	7.7	8.1	7.7	7.9	---	---	---	---	---	---
25	8.0	7.9	7.9	8.1	7.3	7.9	---	---	---	---	---	---
26	8.1	8.0	8.0	7.3	7.2	7.2	---	---	---	---	---	---
27	8.2	8.0	8.1	7.7	7.2	7.3	---	---	---	---	---	---
28	8.1	8.0	8.1	7.9	7.6	7.7	---	---	---	---	---	---
29	---	---	---	7.9	7.9	7.9	---	---	---	---	---	---
30	---	---	---	8.0	7.8	7.9	---	---	---	---	---	---
31	---	---	---	7.9	7.8	7.9	---	---	---	---	---	---
MONTH	8.2	7.6	7.8	8.2	7.2	7.8	8.1	7.4	7.8	8.2	7.7	7.9
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	---	---	---	7.6	7.5	7.6	---	---	---	7.8	7.3	7.6
2	---	---	---	7.7	7.6	7.6	---	---	---	---	---	---
3	8.3	7.6	8.0	7.9	7.6	7.7	---	---	---	8.1	8.0	8.1
4	8.0	7.9	8.0	7.9	7.6	7.8	---	---	---	8.0	7.9	8.0
5	8.0	7.9	8.0	7.8	7.7	7.7	---	---	---	8.2	8.0	8.1
6	8.1	8.0	8.0	7.7	7.6	7.6	---	---	---	8.1	8.0	8.1
7	8.1	8.0	8.1	7.6	7.4	7.5	---	---	---	8.1	7.9	8.0
8	8.1	7.0	7.5	7.5	6.8	7.0	---	---	---	7.9	7.8	7.9
9	7.9	7.2	7.6	6.8	6.5	6.6	---	---	---	8.0	7.8	7.9
10	8.0	7.8	7.9	6.9	6.5	6.6	---	---	---	8.0	7.8	7.9
11	7.8	7.6	7.7	7.7	6.6	7.3	---	---	---	8.2	7.9	8.0
12	7.7	7.6	7.6	7.7	7.3	7.4	---	---	---	8.2	8.0	8.1
13	8.0	7.6	7.8	7.5	7.3	7.4	---	---	---	8.4	8.1	8.2
14	8.0	7.8	7.9	7.6	7.5	7.5	---	---	---	8.5	8.1	8.2
15	7.9	7.5	7.7	7.7	7.5	7.6	---	---	---	8.2	7.9	8.1
16	8.0	7.4	7.8	7.9	7.7	7.8	---	---	---	8.0	7.8	7.9
17	8.1	7.9	8.0	8.0	7.8	7.9	---	---	---	8.0	7.9	7.9
18	8.2	7.9	8.1	8.0	7.9	8.0	---	---	---	8.0	7.9	7.9
19	8.2	7.9	8.1	8.1	7.0	7.5	---	---	---	8.0	7.9	7.9
20	8.3	8.1	8.2	7.6	7.3	7.4	---	---	---	8.0	7.8	7.9
21	8.3	8.1	8.2	---	---	---	---	---	---	8.1	7.8	8.0
22	8.3	8.1	8.2	---	---	---	---	---	---	7.9	7.8	7.8
23	8.3	8.1	8.1	---	---	---	8.0	7.7	7.9	7.9	7.7	7.8
24	8.2	7.9	8.0	---	---	---	8.2	7.9	8.1	7.9	7.8	7.9
25	8.2	8.0	8.1	---	---	---	8.2	7.9	8.1	7.9	7.8	7.9
26	8.0	7.7	7.9	---	---	---	8.2	7.9	8.0	8.0	7.8	7.9
27	7.9	7.7	7.8	---	---	---	8.2	7.8	8.0	8.1	7.8	7.9
28	7.9	7.7	7.8	---	---	---	8.1	7.9	8.0	8.2	7.9	8.0
29	7.9	7.8	7.9	---	---	---	8.4	7.9	8.2	8.2	7.8	8.0
30	7.9	7.5	7.6	---	---	---	8.5	8.3	8.4	8.3	7.7	8.0
31	---	---	---	---	---	---	8.4	7.4	8.0	---	---	---
MONTH	8.3	7.0	7.9	8.1	6.5	7.5	8.5	7.4	8.1	8.5	7.3	8.0
YEAR	8.5	6.5	7.9									

TRINITY RIVER MAIN STEM

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08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	26.5	23.5	25.0	15.0	14.5	15.0	---	---	---	13.0	11.5	12.0
2	28.0	25.5	26.5	15.0	15.0	15.0	16.5	15.5	16.5	13.0	11.5	12.0
3	---	---	---	16.0	14.5	15.5	17.0	15.5	16.0	12.0	11.0	11.5
4	---	---	---	16.5	16.0	16.0	16.0	15.0	15.5	12.0	11.0	11.5
5	25.5	24.0	25.0	16.0	15.0	16.0	15.0	12.5	14.0	12.0	11.0	11.5
6	25.0	23.5	24.5	15.0	14.0	14.5	12.5	12.0	12.5	13.0	11.5	12.5
7	25.5	24.5	25.0	14.0	13.5	14.0	12.0	11.5	12.0	12.5	11.0	11.5
8	26.0	24.5	25.0	14.0	13.5	14.0	12.0	11.5	12.0	11.5	10.5	11.0
9	25.5	23.0	24.5	14.5	14.0	14.0	13.0	12.0	12.5	12.0	10.5	11.5
10	23.0	21.5	22.0	15.5	14.5	15.0	13.0	13.0	13.0	13.5	11.5	12.5
11	23.0	21.0	22.0	16.5	15.0	16.0	13.0	12.5	12.5	14.0	12.5	13.5
12	22.5	21.5	22.0	18.0	16.5	17.5	12.5	12.0	12.0	13.5	12.5	13.0
13	22.5	20.0	20.5	19.0	18.0	18.5	12.5	12.0	12.5	14.0	12.5	13.0
14	20.5	19.5	20.0	19.0	18.0	18.5	12.5	11.5	12.0	14.0	13.0	13.5
15	20.5	20.0	20.5	18.0	17.0	17.5	11.5	11.0	11.0	13.5	12.0	13.0
16	23.0	20.5	22.0	17.0	14.5	15.5	11.0	11.0	11.0	12.5	12.0	12.5
17	23.0	22.0	22.5	15.5	14.0	15.0	11.0	11.0	11.0	12.0	10.5	11.0
18	22.0	20.5	21.0	15.5	14.5	15.0	11.5	11.0	11.0	10.5	10.0	10.0
19	21.5	21.0	21.0	15.5	14.5	15.5	11.5	11.0	11.0	10.5	9.0	10.0
20	21.0	19.0	20.0	15.0	14.5	14.5	11.5	11.0	11.5	---	---	---
21	19.5	18.5	19.0	14.5	14.0	14.0	11.0	10.5	11.0	11.0	9.5	10.0
22	19.5	19.0	19.0	14.0	13.0	13.5	11.0	10.5	11.0	10.5	7.5	10.0
23	19.0	18.5	19.0	15.5	13.5	14.5	11.0	10.5	10.5	11.0	8.0	9.5
24	19.0	18.5	18.5	---	---	---	10.5	10.0	10.0	12.0	11.0	12.0
25	19.0	18.5	18.5	---	---	---	11.0	10.0	10.5	13.5	12.0	13.0
26	19.0	18.5	19.0	---	---	---	11.5	10.5	11.0	16.0	13.0	14.5
27	19.0	18.5	18.5	11.0	9.5	10.0	12.0	11.0	11.5	16.0	13.5	15.0
28	18.5	18.0	18.0	12.0	10.5	11.0	11.5	10.5	11.5	13.5	12.0	13.0
29	18.0	16.5	18.0	---	---	---	11.0	10.5	10.5	12.5	10.5	11.5
30	17.0	15.5	16.0	---	---	---	11.5	10.5	11.0	10.5	10.0	10.0
31	15.5	15.0	15.0	---	---	---	12.0	11.0	11.5	10.0	9.0	9.5
MONTH	28.0	15.0	21.0	19.0	9.5	15.0	17.0	10.0	12.0	16.0	7.5	12.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	9.5	8.5	9.0	10.5	9.5	10.0	17.0	15.5	16.5	---	---	---
2	---	---	---	10.0	9.0	9.5	18.5	17.0	17.5	---	---	---
3	---	---	---	10.5	9.5	10.0	19.5	17.5	18.5	---	---	---
4	12.0	9.5	11.5	11.5	10.5	11.0	19.5	18.0	18.5	---	---	---
5	13.5	12.0	12.5	12.0	11.0	11.5	20.0	18.5	19.5	---	---	---
6	14.0	12.0	13.0	13.0	12.0	12.0	18.5	16.5	17.5	20.0	19.5	19.5
7	15.0	13.0	14.0	13.0	12.5	12.5	19.0	16.5	17.5	20.5	20.0	20.0
8	16.5	14.0	15.5	14.0	12.5	13.5	19.5	17.5	18.5	20.5	19.5	20.0
9	16.5	11.5	14.5	12.5	11.0	11.5	21.0	19.0	19.5	20.0	19.5	20.0
10	11.5	10.5	11.0	11.0	10.0	10.5	22.0	20.0	21.0	21.0	20.0	20.0
11	12.0	10.0	11.0	11.5	9.5	10.5	21.5	19.5	21.0	22.5	20.5	21.0
12	12.0	11.0	11.5	10.5	9.5	9.5	21.0	18.5	19.5	22.5	21.5	22.0
13	12.5	10.5	11.5	10.5	9.5	10.0	22.0	20.0	20.5	22.5	21.5	22.0
14	12.5	11.0	11.5	13.0	10.0	11.5	23.0	21.0	21.5	22.5	21.5	22.0
15	14.0	11.5	13.0	15.0	12.5	13.5	23.5	22.0	22.5	23.0	22.0	22.5
16	14.5	12.5	13.5	16.0	14.5	15.0	23.0	20.5	22.0	23.5	22.5	23.0
17	15.5	13.5	14.5	16.5	15.0	15.5	23.0	21.0	22.0	---	---	---
18	15.5	14.0	15.0	17.0	15.5	16.0	23.5	21.0	22.0	---	---	---
19	15.5	15.0	15.0	18.0	16.0	17.0	---	---	---	---	---	---
20	16.0	15.5	16.0	18.0	17.5	18.0	---	---	---	---	---	---
21	16.0	16.0	16.0	18.5	16.5	17.5	---	---	---	---	---	---
22	16.0	13.5	14.5	18.0	16.5	17.5	---	---	---	22.5	22.0	22.5
23	13.5	12.5	13.0	18.5	17.0	18.0	---	---	---	23.0	22.0	22.5
24	13.0	11.5	12.0	19.0	17.5	18.5	---	---	---	23.0	22.0	22.5
25	12.0	10.5	11.0	17.5	16.5	17.0	---	---	---	23.0	22.5	22.5
26	10.5	9.5	10.0	17.5	16.5	17.0	---	---	---	23.0	22.5	23.0
27	9.5	9.0	9.5	17.0	16.0	16.5	---	---	---	23.0	22.0	22.5
28	10.0	9.0	9.5	16.0	15.0	16.0	---	---	---	22.5	22.5	22.5
29	---	---	---	16.0	15.0	15.5	---	---	---	22.5	22.0	22.5
30	---	---	---	17.0	15.5	16.0	---	---	---	23.0	22.5	22.5
31	---	---	---	17.0	15.0	16.0	---	---	---	23.5	22.5	23.0
MONTH	16.5	8.5	12.5	19.0	9.0	14.0	23.5	15.5	20.0	23.5	19.5	22.0

TRINITY RIVER MAIN STEM

08057055 TRINITY RIVER AT CEDAR CREST BOULEVARD, DALLAS, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	23.5	23.0	23.5	30.0	28.5	29.5	---	---	---	27.5	26.0	26.0
2	---	---	---	31.0	29.0	30.0	---	---	---	26.5	25.5	26.0
3	23.5	23.0	23.5	31.0	29.0	30.0	---	---	---	27.5	26.0	26.5
4	24.0	23.0	23.5	31.0	29.0	30.0	---	---	---	28.0	26.5	27.5
5	24.5	23.5	24.0	31.0	29.0	30.0	---	---	---	28.5	27.0	28.0
6	24.5	23.5	24.0	30.0	28.5	29.0	---	---	---	29.0	27.5	28.0
7	25.5	24.0	25.0	30.0	28.0	29.0	---	---	---	28.5	27.0	28.0
8	26.5	25.0	26.0	30.0	26.0	28.0	---	---	---	27.5	26.5	27.0
9	26.5	25.5	26.0	28.5	27.5	28.0	---	---	---	27.5	26.5	27.0
10	26.0	25.5	25.5	28.0	25.0	27.0	---	---	---	28.0	26.0	27.5
11	25.5	25.0	25.5	26.5	25.0	25.5	---	---	---	28.5	26.5	27.5
12	26.0	25.0	25.5	26.5	25.0	26.0	---	---	---	28.5	27.5	28.0
13	27.0	26.0	26.0	27.0	26.5	26.5	---	---	---	29.5	27.5	28.5
14	28.0	25.5	27.0	26.5	25.5	26.0	---	---	---	29.5	27.5	28.5
15	27.5	25.5	26.0	26.5	25.5	26.5	---	---	---	29.0	28.0	28.5
16	27.5	25.5	26.5	27.0	26.5	26.5	30.0	28.5	29.0	28.5	27.0	28.0
17	28.5	26.0	27.5	27.0	26.5	26.5	30.5	28.5	29.5	28.0	26.0	27.0
18	29.0	27.0	28.0	27.0	26.5	27.0	31.5	29.5	30.5	27.5	26.0	26.5
19	29.5	27.5	28.5	27.0	26.5	27.0	31.5	29.5	30.5	27.5	25.5	26.5
20	30.0	28.0	29.0	27.0	26.5	26.5	30.5	28.0	29.0	28.0	25.5	26.5
21	30.0	28.0	29.0	---	---	---	29.5	28.0	29.0	27.0	26.0	26.5
22	30.0	28.5	29.5	---	---	---	29.5	28.0	29.0	26.0	23.0	24.5
23	31.0	29.0	30.0	---	---	---	30.0	28.5	29.0	24.5	22.5	23.0
24	31.0	29.0	30.0	---	---	---	31.0	29.0	30.0	24.0	22.0	23.0
25	31.5	29.5	30.0	---	---	---	31.5	29.5	30.0	24.5	22.0	23.0
26	31.5	29.0	30.0	---	---	---	31.5	29.5	30.5	25.5	22.5	24.0
27	31.5	29.5	30.0	---	---	---	31.5	29.5	30.5	26.5	24.0	25.0
28	30.5	29.0	30.0	---	---	---	31.5	29.5	30.5	27.0	25.0	26.0
29	31.0	29.0	30.0	---	---	---	31.0	29.0	29.5	27.5	25.5	26.5
30	31.0	26.0	29.0	---	---	---	31.5	29.5	30.0	27.0	25.5	26.0
31	---	---	---	---	---	---	30.5	26.0	29.0	---	---	---
MONTH	31.5	23.0	27.0	31.0	25.0	27.5	31.5	26.0	29.5	29.5	22.0	26.5
YEAR	31.5	7.5	19.5									

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	10.7	7.7	9.0	10.0	9.8	9.9	---	---	---	10.9	10.4	10.6
2	11.1	6.8	8.9	9.9	9.8	9.8	9.6	8.8	9.2	10.8	10.3	10.6
3	8.0	6.0	6.8	10.2	9.7	10.0	9.5	7.5	8.7	11.0	10.2	10.6
4	6.9	6.5	6.7	10.2	10.0	10.1	8.7	7.5	8.2	11.0	10.2	10.7
5	7.5	6.9	7.2	10.4	10.0	10.2	11.2	8.7	10.0	11.5	10.3	10.9
6	7.7	7.1	7.5	10.7	10.3	10.5	11.8	11.0	11.3	11.2	10.4	10.7
7	8.3	7.1	7.6	10.8	10.6	10.7	11.6	11.0	11.3	11.3	10.2	10.7
8	8.5	7.2	7.8	10.8	10.7	10.8	11.9	11.6	11.8	11.7	10.9	11.3
9	9.1	7.2	8.1	10.8	10.3	10.6	12.0	11.4	11.6	11.6	10.7	11.3
10	9.1	7.8	8.3	10.3	10.0	10.1	11.7	11.4	11.6	11.5	10.7	11.1
11	9.4	8.1	8.6	10.0	9.6	9.8	11.9	11.6	11.7	10.7	8.9	10.0
12	8.6	7.8	8.2	9.6	9.2	9.4	12.3	11.3	11.8	10.2	9.3	9.7
13	8.1	5.3	7.1	9.3	9.0	9.1	12.0	11.3	11.9	10.5	9.6	10.1
14	6.8	6.0	6.6	9.0	7.9	8.4	12.0	11.6	11.8	10.3	9.5	10.0
15	7.7	6.8	7.3	8.6	8.0	8.3	12.1	11.7	11.9	10.8	9.8	10.3
16	7.9	7.7	7.7	9.2	8.2	8.8	12.5	11.9	12.2	10.7	9.4	10.1
17	7.7	7.0	7.4	9.0	8.7	8.9	12.6	12.3	12.5	10.5	9.2	10.0
18	---	---	---	9.2	8.7	9.0	12.4	12.1	12.2	10.8	10.0	10.4
19	---	---	---	9.6	8.7	9.1	12.2	11.9	12.1	11.1	10.5	10.8
20	---	---	---	9.7	9.3	9.5	12.3	12.0	12.1	10.9	9.6	10.2
21	7.1	5.7	6.2	10.2	9.5	9.8	12.1	11.7	12.0	10.5	10.0	10.2
22	8.0	7.1	7.7	10.2	9.5	9.8	12.0	11.5	11.7	11.3	10.3	10.5
23	8.3	8.0	8.2	9.9	9.2	9.6	11.5	11.2	11.4	11.3	10.1	10.6
24	8.3	8.2	8.3	11.2	8.9	10.5	11.5	11.3	11.4	10.1	9.8	9.9
25	8.5	8.2	8.4	12.0	10.0	11.3	11.3	11.0	11.1	10.2	9.4	9.7
26	8.7	8.4	8.5	12.0	10.0	11.0	11.2	10.9	11.0	10.0	9.1	9.4
27	9.0	8.7	8.8	10.2	9.2	9.9	11.2	10.8	11.0	9.6	8.8	9.1
28	9.0	8.9	9.0	10.4	9.2	9.6	11.1	10.6	10.9	10.2	9.2	9.7
29	9.1	8.9	9.0	11.5	9.2	10.5	11.2	10.8	11.0	10.6	9.6	10.1
30	9.6	9.1	9.4	11.1	7.6	9.0	11.1	10.7	10.9	11.0	10.6	10.8
31	9.9	9.6	9.8	---	---	---	11.0	10.5	10.8	11.5	10.6	11.0
MONTH	11.1	5.3	8.0	12.0	7.6	9.8	12.6	7.5	11.2	11.7	8.8	10.4

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

08057200 WHITE ROCK CREEK AT GREENVILLE AVENUE, DALLAS, TX

LOCATION.--Lat 32°53'21", long 96°45'23", Dallas County, Hydrologic Unit 12030105, on left bank 20 ft upstream from bridge on Greenville Avenue in Dallas, 1.1 mi downstream from Texas and New Orleans Railroad Co. bridge, 1.2 mi downstream from Cottonwood Creek, 2.9 mi upstream from White Rock Lake, and 8.2 mi northeast of Dallas County Courthouse.

DRAINAGE AREA.--66.4 mi².

PERIOD OF RECORD.--August 1961 to September 1980, April 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 24, 1961, non-recording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. There is some regulation of low flow by diversions from small dams upstream from station. Several observations of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges above base discharge of 2,900 ft³/s:

Date	Time	Discharge (ft ³ /s)	Elevation (ft)	Date	Time	Discharge (ft ³ /s)	Elevation (ft)
Oct. 13	0230	16,100	487.59	May 13	Unknown	Unknown	Unknown
Oct. 19	0945	7,400	485.16	May 29	1230	3,230	482.63
Dec. 3	0330	4,890	483.93	July 10	2345	22,200	488.69
Feb. 28	2345	7,680	485.27	Aug. 31	2200	13,400	486.99
Apr. 30	0345	3,100	482.47	Sep. 2	1530	3,700	483.11
May 12	Unknown	Unknown	Unknown				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	20	31	32	27	e1750	32	74	49	35	19	1670
2	13	43	344	30	27	e454	65	313	41	22	16	688
3	154	39	1140	29	26	e165	68	214	37	22	14	104
4	32	28	169	28	27	e109	36	80	34	19	12	58
5	22	23	93	27	27	e89	36	60	29	16	28	45
6	18	20	74	29	25	e81	36	49	46	16	16	38
7	17	19	63	26	27	e82	30	44	28	14	574	32
8	20	19	57	26	e28	e474	27	40	25	196	139	43
9	26	18	54	25	e42	e281	28	94	57	114	40	35
10	16	19	49	26	e26	e74	29	58	131	1280	30	30
11	16	19	44	167	e26	e66	179	93	139	4600	25	27
12	14	23	62	46	e26	64	52	e3740	77	181	20	26
13	1830	25	277	36	e25	83	31	e1500	44	249	18	24
14	48	284	64	28	e24	64	26	297	33	132	17	23
15	33	48	54	27	e23	61	24	201	270	285	17	39
16	93	279	51	57	e22	54	20	88	89	154	15	33
17	72	82	49	143	e21	50	21	72	52	56	15	24
18	412	47	45	37	e20	44	20	62	43	43	16	22
19	1760	39	44	32	e21	44	17	54	41	34	14	22
20	234	33	44	34	e56	45	17	47	35	28	74	21
21	75	32	41	35	e24	40	19	40	29	24	90	18
22	52	30	52	62	e462	38	23	34	26	23	30	22
23	42	27	42	60	e44	42	21	32	40	24	18	23
24	36	29	37	55	e20	38	19	29	29	23	10	20
25	32	47	36	45	e16	39	156	49	23	18	9.6	18
26	29	102	35	40	e15	64	121	133	26	17	8.6	15
27	26	70	34	35	e14	61	34	55	19	16	7.9	14
28	24	50	32	31	e496	40	30	40	17	13	6.6	13
29	24	36	32	30	---	34	640	531	17	12	6.5	9.2
30	29	37	31	30	---	32	737	97	92	32	3.5	8.7
31	22	---	32	28	---	31	---	59	---	28	2040	---
TOTAL	5232	1587	3212	1336	1637	4593	2594	8279	1618	7726	3349.7	3164.9
MEAN	169	52.9	104	43.1	58.5	148	86.5	267	53.9	249	108	105
MAX	1830	284	1140	167	496	1750	737	3740	270	4600	2040	1670
MIN	11	18	31	25	14	31	17	29	17	12	3.5	8.7
AC-FT	10380	3150	6370	2650	3250	9110	5150	16420	3210	15320	6640	6280

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994b, BY WATER YEAR (WY)

	75.7	47.4	78.0	42.2	83.7	94.7	125	152	89.3	38.9	26.1	64.8
MEAN	449	167	627	131	330	405	690	460	800	252	108	624
(WY)	1992	1965	1992	1992	1990	1990	1966	1990	1989	1962	1994	1964
MIN	.83	2.96	4.35	5.85	6.19	12.0	16.6	15.8	7.25	.78	1.26	.92
(WY)	1964	1964	1964	1976	1967	1971	1971	1972	1980	1964	1963	1963

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1962 - 1994b

ANNUAL TOTAL	37090.8	44328.6	77.2
ANNUAL MEAN	102	121	189
HIGHEST ANNUAL MEAN			20.8
LOWEST ANNUAL MEAN			14700
HIGHEST DAILY MEAN	4040	4600	14700
LOWEST DAILY MEAN	2.4	3.5	.01
ANNUAL SEVEN-DAY MINIMUM	2.9	7.5	.41
INSTANTANEOUS PEAK FLOW		37500	39200
INSTANTANEOUS PEAK STAGE		490.38	490.59
ANNUAL RUNOFF (AC-FT)	73570	87930	55950
10 PERCENT EXCEEDS	172	173	105
50 PERCENT EXCEEDS	36	34	18
90 PERCENT EXCEEDS	5.2	17	3.6

e Estimated

b Break in record.

08057410 TRINITY RIVER BELOW DALLAS, TX

LOCATION.--Lat 32°42'26", long 96°44'08", Dallas County, Hydrologic Unit 12030105, on right bank at downstream side of bridge on South Loop Highway 12, 1.0 mi downstream from White Rock Creek, 1.5 mi upstream from Fivemile Creek, 6.4 mi southeast of Dallas County Courthouse in Dallas, and at mile 491.8.

DRAINAGE AREA.--6,278 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 365.89 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow affected at times by eight upstream reservoirs with a combined capacity of 1,714,400 acre-ft, of which 846,200 acre-ft is for flood control. Several cities within the Dallas-Fort Worth metroplex divert water for municipal use and return it to the river as sewage effluents above this station. Low flows are sustained by sewage effluents. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 25, 1908, reached a stage of 41.1 ft, from information by U.S. Army Corps of Engineers, and is the highest since that date. Floods in 1866 and 1908 reached about the same stage at Dallas.

REVISIONS.--The daily discharge for May 19, 1989, has been revised to 46,600 ft³/s. Revised monthly discharges in cubic feet per second for May 1989 and mean daily discharges for water year 1989 and calendar year 1990 are given below. These figures supercede those published in WDR TX-89-1 and TX-90-1.

		TOTAL	MEAN	AC-FT
May	1989.....	396160	12780	785800
WTR YR	1989.....	1664446	4560	3301000
CAL YR	1989.....	1654117	4532	3281000

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	583	4650	903	767	1410	6470	844	4910	6430	1360	3360	7130
2	631	4620	962	752	1480	7070	784	2970	5830	852	3130	8670
3	1400	4480	5660	786	1510	5070	1820	4750	5720	671	2380	e5870
4	1490	4340	6870	802	1220	4490	1280	3950	5310	621	1810	e2230
5	910	4310	4120	813	938	4380	1130	3290	4950	592	1570	e1400
6	799	4150	4240	759	794	4330	985	4130	4810	611	1120	e1500
7	716	3840	4660	751	741	4310	841	3660	4680	822	632	e1400
8	610	3730	4730	689	753	4830	929	3170	3990	1890	1440	e1490
9	602	3320	4590	668	773	6370	791	3100	2970	2060	1110	e1520
10	569	1920	4460	654	801	5000	746	3330	2770	1910	728	e1170
11	567	1280	4440	961	781	3240	1070	3030	2910	9930	606	e975
12	570	1030	4390	1270	736	2340	1440	8500	3040	14100	578	e708
13	4550	1020	5770	934	730	3260	1010	13600	2310	9810	556	616
14	6440	1640	5920	788	715	2480	773	14400	1670	7130	589	598
15	2030	2150	4790	735	717	1890	714	14100	1620	6410	836	659
16	993	2130	4660	694	707	1700	702	13700	2710	6380	754	884
17	1150	2750	4330	1140	826	1730	809	11600	1820	5620	649	666
18	5060	1800	3360	1100	877	1810	762	11000	1250	5210	572	622
19	11300	1560	3100	835	779	1220	636	11300	1410	5010	526	566
20	19400	1960	3050	915	1140	1160	690	11500	1170	4850	560	543
21	15500	1820	3020	1030	1010	1190	1160	11100	942	4710	1110	532
22	10100	1530	2580	1140	4190	1180	1160	10500	828	4640	968	567
23	9530	1280	2140	1980	5590	1160	971	9610	707	4580	687	573
24	9480	943	1530	e1350	3670	1070	751	8700	770	4520	588	544
25	8530	865	1030	1280	3870	980	740	8060	723	4500	558	523
26	6880	1050	1100	1190	4470	1100	4150	9060	655	4510	542	523
27	5530	1240	1110	978	4370	1890	3540	10400	635	4500	511	509
28	4960	1200	989	1040	4080	1510	1070	9370	619	4450	500	528
29	4760	1040	944	1110	---	1020	2880	8430	625	4380	517	497
30	4710	964	871	1470	---	1070	6020	8820	1170	3870	526	497
31	4640	---	800	1730	---	923	---	7710	---	3480	772	---
TOTAL	144990	68612	101119	31111	49678	86243	41198	251750	75044	133979	30785	44510
MEAN	4677	2287	3262	1004	1774	2782	1373	8121	2501	4322	993	1484
MAX	19400	4650	6870	1980	5590	7070	6020	14400	6430	14100	3360	8670
MIN	567	865	800	654	707	923	636	2970	619	592	500	497
AC-FT	287600	136100	200600	61710	98540	171100	81720	499300	148800	265700	61060	88290

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1994, BY WATER YEAR (WY)

MEAN	1664	1856	1953	1677	2110	2489	2478	4687	3675	1683	1000	1106
MAX	10220	14350	14010	15370	11750	9859	10010	29980	17720	9145	5963	7521
(WY)	1982	1982	1992	1992	1992	1992	1990	1990	1989	1989	1982	1962
MIN	268	255	263	285	310	316	373	432	316	330	228	259
(WY)	1964	1964	1964	1959	1964	1959	1959	1961	1960	1964	1959	1959

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1958 - 1994

ANNUAL TOTAL	1402307		1059019		2198	
ANNUAL MEAN	3842		2901		7319	
HIGHEST ANNUAL MEAN					383	1982
LOWEST ANNUAL MEAN					79200	1959
HIGHEST DAILY MEAN	19400	Feb 26	19400	Oct 20	142	May 4 1990
LOWEST DAILY MEAN	509	Sep 6	497	Sep 29	162	Jun 19 1959
ANNUAL SEVEN-DAY MINIMUM	554	Sep 6	517	Sep 24	87000	Jun 13 1959
INSTANTANEOUS PEAK FLOW			20200	Oct 20	34.79	May 4 1990
INSTANTANEOUS PEAK STAGE			26.65	Oct 20		May 4 1990
ANNUAL RUNOFF (AC-FT)	2781000		2101000		1592000	
10 PERCENT EXCEEDS	8040		6630		6070	
50 PERCENT EXCEEDS	3370		1410		700	
90 PERCENT EXCEEDS	634		618		350	

e Estimated

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1967 to current year. Pesticide analyses: October 1970 to July 1981. Sediment analyses: April 1972 to April 1975.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1967 to September 1992, April 1993 to current year.
pH: January 1977 to September 1992, April 1993 to current year.

WATER TEMPERATURE: October 1967 to September 1992, April 1993 to current year.

DISSOLVED OXYGEN: January 1977 to September 1992, April 1993 to current year.

INSTRUMENTATION.--A four-parameter water-quality monitor continuously records specific conductance, pH, water temperature, and dissolved oxygen at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument and pump, plugged intake, and pump failures. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance with the exception of the 1993 water year. Regression equations developed for this station may be obtained from the Geological Survey District office upon request. National water-quality assessment program data are included in this report.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,130 microsiemens Dec. 17, 1977; minimum, 112 microsiemens Oct. 20, 1984.

pH: Maximum, 8.8 units Jan. 23, 1980; minimum, 6.7 units Mar. 25, 1991 and Oct. 12, 1993.

WATER TEMPERATURES: Maximum, 35.0°C Aug. 20, 25, 28, 31, 1972; minimum, 1.0°C Jan. 29, 1968.

DISSOLVED OXYGEN (1977-90): Maximum, 12.8 mg/L Mar. 19, 1990; minimum, 0.0 mg/L on many days during spring and summer of 1977-81.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 815 microsiemens Apr. 17; minimum, 173 microsiemens Sept. 1.

pH: Maximum, 8.5 units Nov. 1 and 2; minimum, 6.7 units Oct. 12.

WATER TEMPERATURE: Maximum, 31.0°C on many days; 7.5°C Jan. 23.

DISSOLVED OXYGEN: Maximum, 12.7 mg/L Oct. 24; minimum, 2.9 mg/L Apr. 22.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	
OCT 26...	1018	7150	379	7.8	19.0	8.2	89	130	23	42	5.3	26	
NOV 22...	1108	1520	507	7.7	13.5	8.9	85	160	45	53	5.8	39	
DEC 27...	1425	1110	585	7.7	12.5	9.3	88	180	38	60	6.6	43	
JAN 13...	1443	902	655	7.7	13.5	9.4	91	190	47	63	6.8	53	
FEB 03...	1333	1550	532	7.8	10.5	10.5	94	160	37	53	6.2	42	
24...	1123	3550	490	7.7	12.5	10.1	95	160	36	55	5.7	32	
MAR 17...	1225	1610	607	7.5	17.5	9.7	103	180	43	60	6.3	47	
APR 21...	1410	973	582	7.1	23.0	5.3	62	150	54	51	6.0	56	
MAY 21...	0920	11100	430	7.8	22.0	7.5	86	160	28	51	6.8	28	
JUN 23...	1433	665	673	7.3	30.0	6.4	86	170	51	57	6.8	66	
AUG 16...	1055	728	624	7.2	28.5	6.2	80	150	45	51	6.5	66	
SEP 13...	1348	622	609	7.5	28.0	7.3	94	150	40	50	5.5	59	
DATE		SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CAC03	ALKA-LINITY WAT DIS FIX END FIELD (MG/L AS CAC03	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 26...	1	4.4	0	127	104	100	35	25	0.40	5.8	227	212	
NOV 22...	1	7.1	0	136	111	110	55	35	0.50	6.5	298	289	
DEC 27...	1	6.4	0	170	139	140	67	44	0.50	6.5	343	342	
JAN 13...	2	7.7	0	169	138	130	87	55	0.70	5.7	411	387	
FEB 03...	1	6.7	--	--	--	120	59	41	0.60	5.1	318	307	
24...	1	5.2	0	152	125	130	58	35	0.50	5.1	297	281	
MAR 17...	2	7.0	0	162	132	130	73	47	0.60	3.9	365	347	
APR 21...	2	9.6	0	120	98	96	75	52	0.80	5.2	360	349	
MAY 21...	1	5.0	0	155	127	130	44	32	0.30	4.1	266	251	
JUN 23...	2	11	0	146	120	120	91	63	1.0	6.9	436	415	
AUG 16...	2	9.9	0	133	109	100	70	64	0.90	8.2	396	381	
SEP 13...	2	9.6	0	131	107	110	69	56	0.90	8.1	350	360	

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE		NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 26...		1.08	1.08	0.020	1.10	1.10	0.020	1.5	0.38	0.68	0.70	0.40
NOV 22...		4.18	4.18	0.020	4.20	4.20	0.050	4.8	0.55	0.45	0.50	0.60
DEC 27...		4.90	--	<0.010	4.90	4.90	0.040	5.6	0.66	0.46	0.50	0.70
JAN 13...		4.88	4.88	0.020	4.90	4.90	0.170	5.8	0.73	0.63	0.80	0.90
FEB 03...		3.88	3.88	0.020	3.90	3.90	0.090	4.8	0.81	0.61	0.70	0.90
24...		1.98	1.98	0.020	2.00	2.00	0.100	2.7	0.60	0.60	0.70	0.70
MAR 17...		4.47	4.47	0.030	4.50	4.50	0.060	5.2	0.64	0.64	0.70	0.70
APR 21...		6.77	6.77	0.030	6.80	6.80	0.080	8.3	1.4	0.92	1.0	1.5
MAY 21...		0.720	0.720	0.030	0.750	0.750	0.020	1.2	0.48	0.28	0.30	0.50
JUN 23...		8.38	8.38	0.020	8.40	8.40	0.030	9.8	1.4	0.87	0.90	1.4
AUG 16...		7.97	7.97	0.030	8.00	8.00	0.040	8.9	0.86	0.66	0.70	0.90
SEP 13...		7.48	7.48	0.020	7.50	7.50	0.060	8.4	0.84	0.64	0.70	0.90
DATE		PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 26...		0.230	0.160	0.180	0.55	5.1	1.4	116	2240	99	11	3
NOV 22...		0.740	0.630	0.650	2.0	6.1	0.9	27	111	95	16	13
DEC 27...		0.970	0.850	0.870	2.7	7.7	0.7	25	86	97	14	19
JAN 13...		1.00	0.950	0.960	2.9	6.4	0.9	26	70	99	25	34
FEB 03...		0.760	0.720	0.660	2.0	5.6	0.7	27	113	96	18	15
24...		0.360	0.280	0.270	0.83	5.4	3.0	272	2430	87	30	9
MAR 17...		0.820	0.770	0.750	2.3	5.9	1.2	42	159	97	13	18
APR 21...		1.50	1.40	1.30	4.0	7.4	0.5	110	270	100	32	28
MAY 21...		0.150	0.100	0.100	0.31	4.6	1.3	130	3650	91	16	2
JUN 23...		1.80	1.60	1.00	3.1	6.5	1.7	89	160	99	14	16
AUG 16...		1.50	1.30	1.30	4.0	6.8	1.5	71	140	99	15	6
SEP 13...		1.50	1.40	1.40	4.3	6.0	1.3	48	78	99	9	10
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.	1993	144990	376	217	85000	24	9340	44	17100	130		
NOV.	1993	68612	448	257	47600	31	5800	53	9800	140		
DEC.	1993	101119	430	247	67400	29	7960	50	13800	140		
JAN.	1994	31111	640	360	30300	56	4660	78	6580	160		
FEB.	1994	49678	517	294	39500	39	5250	62	8280	150		
MAR.	1994	86243	510	291	67700	39	9020	61	14200	150		
APR.	1994	41198	603	340	37900	51	5680	73	8170	160		
MAY	1994	251750	429	247	168000	29	19500	50	34200	140		
JUNE	1994	75044	467	267	54200	33	6770	55	11200	140		
JULY	1994	133979	338	196	70800	20	7320	39	14100	120		
AUG.	1994	30785	526	299	24900	41	3420	63	5260	150		
SEPT	1994	44510	423	242	29100	30	3620	50	6020	130		
TOTAL		1059019	**	**	722000	**	88400	**	149000	**		
WTD.AVG.		2901	441	253	**	31	**	52	**	140		

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	710	680	697	384	371	377	651	627	642	721	692	705
2	744	558	715	379	369	374	676	651	667	712	683	695
3	668	358	492	391	374	385	674	367	430	699	672	688
4	563	423	510	394	389	390	427	353	384	719	683	700
5	535	495	520	395	385	391	490	424	450	706	517	659
6	555	504	540	---	---	e360	425	404	413	690	650	670
7	637	554	599	---	---	e350	410	399	404	710	674	690
8	699	637	665	---	---	e376	405	397	401	728	689	708
9	708	681	697	457	382	406	403	387	394	722	696	709
10	730	689	707	501	457	481	394	375	387	712	691	701
11	752	711	730	567	499	529	392	380	386	733	488	659
12	755	690	733	607	563	587	395	370	386	706	649	680
13	746	296	422	599	582	591	416	348	387	690	659	681
14	362	297	320	599	514	556	410	385	396	668	652	662
15	489	362	431	558	506	533	393	371	381	685	651	665
16	570	488	531	523	405	478	411	392	401	724	679	693
17	572	490	536	506	423	469	410	399	404	700	571	623
18	---	---	e330	510	488	497	420	407	413	620	559	593
19	312	235	288	520	474	505	420	410	416	667	608	634
20	300	281	289	512	474	499	424	412	418	733	667	703
21	386	282	325	510	490	501	424	415	418	733	645	670
22	425	386	417	524	489	508	535	424	472	645	594	628
23	419	398	409	576	513	538	603	535	571	595	516	563
24	401	392	398	617	576	596	591	556	574	623	589	616
25	392	383	386	622	587	611	620	581	600	616	575	602
26	386	379	383	610	573	594	654	606	630	643	575	610
27	388	384	385	608	588	599	635	589	611	680	643	664
28	389	383	387	608	572	586	627	585	600	662	631	639
29	390	384	387	599	569	582	621	589	605	643	573	623
30	391	380	385	627	599	616	674	614	643	574	549	558
31	387	373	380	---	---	---	707	656	680	564	498	539
MONTH	755	235	484	627	369	495	707	348	483	733	488	653

e Estimated

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	508	492	500	431	416	426	722	694	706	473	444	455
2	538	503	519	424	414	416	751	722	735	496	431	474
3	532	505	512	414	408	410	722	450	597	459	437	452
4	576	507	538	412	408	410	672	632	657	471	451	457
5	595	576	588	414	411	412	697	581	656	479	434	457
6	607	588	596	422	414	419	703	629	669	471	429	444
7	609	587	598	442	422	432	770	703	738	453	423	434
8	635	590	617	482	442	465	785	765	773	469	453	462
9	634	622	628	518	478	497	770	724	745	465	446	460
10	669	622	633	534	518	524	736	722	729	548	457	504
11	681	652	668	571	534	551	730	448	667	541	502	516
12	655	603	646	573	568	570	613	508	582	514	334	397
13	647	632	637	582	564	574	689	613	655	374	340	351
14	637	622	626	582	562	573	765	689	723	450	374	411
15	630	625	627	593	558	573	787	765	777	453	407	431
16	629	620	625	617	593	607	797	764	777	452	417	438
17	665	622	641	618	604	609	815	759	801	456	450	452
18	670	610	641	630	595	609	759	707	724	461	455	459
19	610	594	603	665	630	643	753	719	732	460	447	454
20	603	453	550	675	661	668	761	721	750	447	444	446
21	597	565	583	670	648	656	721	431	592	444	435	440
22	584	451	498	649	641	644	671	411	584	435	433	434
23	509	477	486	656	640	648	708	415	663	433	431	432
24	516	496	505	693	640	664	708	674	686	433	392	420
25	516	472	498	713	693	704	745	675	732	430	399	414
26	472	443	455	726	486	698	745	425	528	437	398	420
27	443	427	436	695	486	604	498	434	464	415	396	406
28	427	422	425	699	624	657	580	498	545	422	409	416
29	---	---	---	686	623	650	596	482	529	412	384	405
30	---	---	---	736	686	703	518	450	469	416	398	410
31	---	---	---	736	687	699	---	---	---	420	407	413
MONTH	681	422	567	736	408	571	815	411	666	548	334	438

TRINITY RIVER MAIN STEM

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08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	428	420	424	663	549	607	371	359	365	470	173	315
2	430	410	422	767	600	663	384	362	370	296	242	279
3	420	410	414	769	614	647	418	377	394	336	279	299
4	415	405	410	651	628	638	455	410	435	386	336	355
5	408	403	406	667	651	662	479	453	466	438	384	414
6	410	402	407	668	654	663	557	476	505	445	426	435
7	417	406	411	712	640	689	658	557	608	456	435	445
8	454	414	433	704	402	541	656	462	539	462	400	450
9	467	454	462	494	422	463	618	452	511	472	400	439
10	470	460	464	489	429	465	634	551	594	519	472	497
11	474	457	465	429	223	270	699	634	656	572	517	542
12	494	449	468	277	262	268	677	657	668	599	567	577
13	503	489	498	341	256	305	719	673	692	609	586	594
14	551	487	507	356	261	336	728	654	697	627	609	618
15	592	407	545	371	330	352	654	523	589	637	618	627
16	472	417	442	356	324	334	613	549	595	671	572	636
17	537	472	505	331	323	326	643	589	613	587	563	571
18	577	537	559	333	328	331	653	626	643	642	587	617
19	577	470	518	360	324	329	692	653	679	656	636	646
20	604	568	591	330	320	325	755	618	709	660	641	648
21	612	595	603	329	316	325	634	439	575	679	656	667
22	657	598	625	332	271	322	627	526	564	695	679	688
23	696	656	669	332	271	324	641	600	624	713	688	702
24	707	660	672	328	325	326	623	612	615	712	676	686
25	695	671	681	325	319	321	631	618	623	699	687	693
26	710	695	704	324	317	320	671	631	652	780	699	738
27	722	705	714	326	320	323	697	671	686	750	707	719
28	767	716	735	326	321	323	707	654	691	734	687	714
29	750	723	735	343	322	329	677	655	667	720	692	707
30	733	458	643	360	343	349	682	663	671	728	702	716
31	---	---	---	366	355	361	752	406	681	---	---	---
MONTH	767	402	538	769	223	414	755	359	593	780	173	568
YEAR	815	173	539									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.2	7.0	7.1	8.5	8.2	8.3	7.6	7.4	7.5	7.6	7.4	7.5
2	7.3	7.0	7.1	8.5	8.2	8.4	7.6	7.4	7.5	7.6	7.4	7.5
3	7.2	7.0	7.1	8.2	8.2	8.2	7.8	7.4	7.6	7.6	7.5	7.5
4	7.1	7.0	7.0	8.3	8.2	8.2	7.7	7.6	7.7	7.5	7.4	7.4
5	7.3	7.0	7.0	8.4	8.3	8.3	7.8	7.6	7.7	7.6	7.4	7.5
6	7.2	6.9	7.0	---	---	---	7.8	7.8	7.8	7.6	7.3	7.4
7	7.0	6.8	6.9	---	---	---	7.9	7.7	7.8	7.5	7.3	7.4
8	7.0	6.8	6.9	---	---	---	7.8	7.7	7.7	7.4	7.2	7.3
9	7.0	6.8	6.9	8.3	8.2	8.3	7.9	7.7	7.8	7.5	7.2	7.3
10	7.1	6.8	6.9	8.2	8.0	8.1	7.9	7.8	7.9	7.4	7.2	7.3
11	7.0	6.8	6.9	8.1	7.8	8.0	8.0	7.8	7.9	7.4	7.1	7.2
12	6.9	6.7	6.8	8.0	7.8	7.9	8.0	7.9	8.0	7.3	7.2	7.3
13	7.5	6.8	7.2	8.0	7.8	7.9	8.1	7.9	8.0	7.4	7.2	7.3
14	7.6	7.4	7.5	8.0	7.9	7.9	8.1	8.0	8.0	7.3	7.1	7.2
15	7.5	7.2	7.3	8.1	7.8	7.9	8.1	8.0	8.0	7.4	7.2	7.3
16	7.2	7.0	7.1	7.9	7.8	7.8	8.1	8.0	8.1	7.5	7.2	7.4
17	7.1	7.0	7.1	7.9	7.8	7.9	8.1	8.0	8.0	7.5	7.3	7.4
18	7.7	7.1	7.4	7.9	7.8	7.9	8.0	7.9	8.0	7.6	7.4	7.5
19	7.7	7.4	7.5	7.9	7.8	7.9	8.0	7.9	8.0	7.6	7.4	7.4
20	7.5	7.3	7.4	7.9	7.8	7.9	8.0	7.9	8.0	7.6	7.3	7.4
21	7.4	7.3	7.4	7.9	7.8	7.9	8.0	7.9	8.0	7.5	7.3	7.4
22	7.6	7.4	7.5	7.9	7.8	7.9	8.0	7.8	7.9	7.6	7.4	7.5
23	7.7	7.5	7.6	7.9	7.7	7.8	7.9	7.7	7.8	7.8	7.5	7.6
24	7.6	7.5	7.6	7.7	7.6	7.7	7.8	7.6	7.7	7.5	7.4	7.4
25	7.5	7.4	7.5	7.7	7.6	7.6	7.7	7.6	7.6	7.7	7.4	7.5
26	7.7	7.4	7.6	7.8	7.6	7.7	7.8	7.6	7.7	7.7	7.5	7.5
27	7.8	7.5	7.7	7.7	7.6	7.7	7.8	7.6	7.7	7.6	7.5	7.5
28	8.0	7.8	7.9	7.7	7.5	7.6	7.7	7.6	7.6	7.7	7.4	7.5
29	8.1	7.9	8.0	7.6	7.5	7.5	7.7	7.5	7.6	7.6	7.4	7.5
30	8.2	8.0	8.1	7.6	7.4	7.5	7.6	7.5	7.5	7.6	7.6	7.6
31	8.2	8.2	8.2	---	---	---	7.6	7.5	7.5	7.7	7.6	7.6
MONTH	8.2	6.7	7.3	8.5	7.4	7.9	8.1	7.4	7.8	7.8	7.1	7.4

08057410 TRINITY RIVER BELOW DALLAS. TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	7.7	7.6	7.6	7.9	7.8	7.8	7.4	7.1	7.1	7.3	7.3	7.3
2	7.7	7.5	7.6	7.8	7.8	7.8	7.4	7.1	7.3	7.5	7.2	7.3
3	7.7	7.5	7.6	7.8	7.8	7.8	7.7	7.4	7.6	7.5	7.2	7.4
4	7.6	7.4	7.5	7.9	7.8	7.8	7.4	7.4	7.4	7.7	7.5	7.6
5	7.5	7.4	7.4	7.9	7.8	7.8	7.4	7.3	7.4	7.9	7.6	7.8
6	7.5	7.3	7.4	7.8	7.8	7.8	7.4	7.3	7.4	7.8	7.8	7.8
7	7.5	7.3	7.4	7.8	7.7	7.7	7.4	7.3	7.4	7.8	7.7	7.7
8	7.5	7.3	7.3	7.8	7.7	7.7	7.5	7.4	7.4	7.7	7.6	7.7
9	7.5	7.3	7.4	7.8	7.7	7.7	7.6	7.3	7.5	7.7	7.5	7.6
10	7.5	7.4	7.4	7.8	7.7	7.7	7.5	7.4	7.4	7.6	7.4	7.5
11	7.5	7.4	7.4	7.7	7.7	7.7	7.5	7.4	7.4	7.6	7.3	7.4
12	7.6	7.4	7.5	7.7	7.6	7.6	7.5	7.4	7.4	---	---	---
13	7.6	7.4	7.5	7.7	7.6	7.7	7.4	7.3	7.3	---	---	---
14	7.6	7.4	7.5	7.7	7.6	7.6	7.4	7.3	7.3	---	---	---
15	7.5	7.4	7.4	7.6	7.5	7.6	7.8	7.3	7.5	---	---	---
16	7.6	7.4	7.4	7.6	7.5	7.6	8.1	7.8	7.9	---	---	---
17	7.6	7.4	7.5	7.7	7.6	7.6	8.1	7.9	8.0	---	---	---
18	7.6	7.5	7.5	7.7	7.6	7.7	8.1	7.9	8.0	---	---	---
19	7.6	7.4	7.5	7.7	7.6	7.6	8.0	7.5	7.7	---	---	---
20	7.5	7.4	7.5	7.8	7.6	7.7	7.6	7.4	7.5	---	---	---
21	7.5	7.4	7.4	7.8	7.7	7.8	7.6	7.3	7.4	---	---	---
22	7.6	7.4	7.5	7.9	7.7	7.8	7.6	7.4	7.5	---	---	---
23	7.7	7.5	7.6	7.9	6.9	7.4	7.6	7.4	7.5	---	---	---
24	7.8	7.6	7.7	7.1	6.9	7.0	7.6	7.4	7.5	---	---	---
25	7.9	7.7	7.8	7.1	6.9	7.0	7.6	7.4	7.5	---	---	---
26	8.0	7.9	7.9	7.2	6.9	7.0	7.7	7.2	7.3	---	---	---
27	8.0	7.9	7.9	7.2	7.0	7.1	7.5	7.3	7.4	---	---	---
28	7.9	7.9	7.9	7.3	7.1	7.2	7.4	7.2	7.3	---	---	---
29	---	---	---	7.2	7.0	7.1	7.6	7.2	7.4	---	---	---
30	---	---	---	7.3	7.1	7.2	7.6	7.3	7.4	---	---	---
31	---	---	---	7.6	7.2	7.4	---	---	---	---	---	---
MONTH	8.0	7.3	7.5	7.9	6.9	7.5	8.1	7.1	7.5	7.9	7.2	7.6
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	---	---	---	7.8	7.5	7.7	7.8	7.7	7.8	8.0	7.4	7.9
2	---	---	---	7.6	7.4	7.5	7.8	7.7	7.7	8.0	7.7	7.8
3	7.9	7.7	7.8	7.5	7.4	7.5	7.8	7.7	7.7	7.8	7.7	7.7
4	7.8	7.8	7.8	7.7	7.5	7.6	7.8	7.6	7.7	7.8	7.6	7.7
5	7.8	7.7	7.8	7.8	7.5	7.7	7.7	7.5	7.6	7.7	7.6	7.6
6	7.9	7.7	7.9	7.9	7.6	7.7	7.6	7.4	7.5	7.7	7.6	7.7
7	8.1	7.5	7.9	7.8	7.6	7.7	7.5	7.4	7.4	7.8	7.6	7.7
8	8.1	8.0	8.1	7.9	7.6	7.8	7.6	7.4	7.5	7.7	7.6	7.7
9	8.1	8.0	8.1	7.9	7.7	7.7	7.7	7.4	7.5	7.6	7.6	7.6
10	8.1	8.0	8.1	7.8	7.7	7.7	7.4	7.3	7.3	7.7	7.6	7.6
11	8.1	7.9	8.0	7.8	7.6	7.8	7.4	7.3	7.4	7.7	7.5	7.6
12	7.9	7.6	7.7	7.7	7.5	7.7	7.4	7.3	7.3	7.6	7.4	7.5
13	7.8	7.7	7.7	7.6	7.5	7.5	7.4	7.3	7.3	7.6	7.4	7.5
14	7.8	7.6	7.7	7.8	7.5	7.6	7.6	7.3	7.4	7.8	7.6	7.7
15	7.6	7.4	7.6	7.7	7.5	7.6	7.5	7.3	7.4	7.7	7.5	7.6
16	7.6	7.5	7.6	7.6	7.5	7.5	7.6	7.3	7.4	7.8	7.4	7.6
17	7.6	7.4	7.5	7.6	7.5	7.6	7.4	7.2	7.3	7.5	7.3	7.4
18	7.7	7.5	7.6	7.6	7.6	7.6	7.4	7.2	7.3	7.6	7.3	7.5
19	7.7	7.4	7.5	7.7	7.5	7.6	7.4	7.2	7.3	7.6	7.4	7.5
20	7.6	7.5	7.6	7.7	7.5	7.6	7.6	7.2	7.3	7.5	7.3	7.4
21	7.7	7.5	7.6	7.7	7.6	7.6	7.5	7.4	7.4	7.5	7.4	7.4
22	7.7	7.5	7.6	7.7	7.6	7.6	7.5	7.4	7.4	7.4	7.2	7.3
23	7.6	7.4	7.5	7.7	7.6	7.6	7.5	7.4	7.4	7.4	7.2	7.3
24	7.7	7.4	7.5	7.7	7.6	7.7	7.5	7.3	7.4	7.4	7.2	7.3
25	7.5	7.3	7.4	7.7	7.7	7.7	7.5	7.3	7.4	7.4	7.2	7.3
26	7.6	7.5	7.6	7.8	7.8	7.8	7.5	7.3	7.4	7.3	7.2	7.2
27	7.5	7.4	7.5	7.8	7.8	7.8	7.6	7.4	7.5	7.3	7.2	7.3
28	7.6	7.4	7.5	7.9	7.8	7.9	8.0	7.4	7.6	7.3	7.1	7.2
29	7.5	7.2	7.4	7.8	7.7	7.8	7.5	7.4	7.5	7.3	7.1	7.2
30	7.8	7.4	7.6	7.8	7.7	7.8	7.5	7.4	7.5	7.3	7.1	7.2
31	---	---	---	7.8	7.7	7.7	7.6	7.2	7.4	---	---	---
MONTH	8.1	7.2	7.7	7.9	7.4	7.7	8.0	7.2	7.5	8.0	7.1	7.5
YEAR	8.5	6.7	7.6									

TRINITY RIVER MAIN STEM

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08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	26.5	25.5	26.0	15.5	15.0	15.0	16.0	14.5	15.0	13.0	12.0	12.5
2	27.0	25.5	26.5	15.5	15.5	15.5	17.5	16.0	16.5	13.0	12.0	12.5
3	26.0	23.0	24.5	16.0	15.5	15.5	17.0	15.5	16.0	13.0	11.0	12.0
4	25.0	23.5	24.0	16.5	16.0	16.0	15.5	14.5	15.0	12.0	11.0	11.5
5	26.0	24.5	25.0	16.5	15.5	16.0	14.5	13.0	14.0	12.0	11.0	11.5
6	26.0	25.0	25.5	---	---	---	13.0	12.5	12.5	13.0	12.0	12.5
7	26.0	25.5	26.0	---	---	---	12.5	12.0	12.0	13.0	11.0	12.0
8	26.5	25.5	26.0	---	---	---	12.5	12.0	12.0	12.0	10.0	11.0
9	26.5	24.0	25.5	14.5	14.0	14.0	13.5	12.5	13.0	13.0	10.0	11.5
10	24.0	22.5	23.0	16.0	14.5	15.0	13.5	13.0	13.5	14.0	12.0	12.5
11	23.5	22.5	23.0	17.0	15.5	16.0	13.0	12.5	13.0	14.0	13.0	13.5
12	23.5	23.0	23.0	19.0	17.0	17.5	12.5	12.5	12.5	13.0	12.0	12.5
13	23.5	20.5	21.5	19.5	18.5	19.0	13.0	12.5	12.5	14.0	12.0	13.0
14	21.0	20.5	20.5	19.5	18.0	19.0	12.5	11.5	12.0	14.0	13.0	13.5
15	22.0	21.0	21.5	18.0	17.0	17.5	11.5	11.0	11.5	14.0	13.0	13.0
16	24.0	22.0	22.5	17.0	14.5	16.0	11.5	11.0	11.0	13.0	12.0	12.5
17	24.0	23.0	23.5	15.5	14.0	15.0	11.5	11.0	11.5	13.0	10.0	11.5
18	---	---	---	16.0	15.0	15.5	11.5	11.5	11.5	10.0	9.5	10.0
19	22.5	21.5	22.0	16.0	15.0	15.5	11.5	11.0	11.0	11.0	9.5	10.0
20	21.5	20.5	21.0	15.0	14.0	14.5	12.0	11.0	11.0	11.0	11.0	11.0
21	20.5	19.5	20.0	14.5	14.0	14.5	11.0	11.0	11.0	11.0	10.0	10.5
22	20.0	19.0	19.5	15.0	13.5	14.0	11.0	10.0	11.0	11.0	10.0	10.5
23	20.0	19.0	19.5	16.0	14.0	15.0	11.0	10.0	10.5	11.0	7.5	9.5
24	19.5	19.0	19.0	16.0	15.5	16.0	10.0	10.0	10.0	13.0	11.0	11.5
25	19.5	18.5	19.0	15.5	11.5	13.5	11.0	10.0	10.5	14.0	13.0	13.5
26	19.5	19.0	19.5	12.0	10.0	11.0	12.0	10.0	11.0	16.0	13.0	14.5
27	19.5	19.0	19.0	11.5	10.0	11.0	12.0	11.0	11.5	16.0	14.0	15.0
28	19.0	18.5	18.5	13.0	11.0	12.0	12.0	11.0	12.0	14.0	12.0	12.5
29	18.5	18.0	18.5	13.5	12.0	13.0	11.0	10.0	10.5	12.0	11.0	12.0
30	18.0	16.0	16.5	14.5	13.0	14.0	12.0	10.0	11.0	11.0	10.0	10.5
31	16.0	15.5	15.5	---	---	---	12.0	11.0	11.5	10.0	9.5	10.0
MONTH	27.0	15.5	22.0	19.5	10.0	15.0	17.5	10.0	12.0	16.0	7.5	12.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	10.0	8.5	9.5	10.0	10.0	10.0	19.0	17.0	18.0	18.0	16.5	17.5
2	10.0	9.0	9.5	10.0	9.5	10.0	19.0	18.0	18.5	18.0	14.0	17.0
3	10.0	9.0	9.5	11.0	10.0	10.0	19.0	17.0	18.0	17.0	16.0	16.5
4	12.0	10.0	11.0	11.0	10.0	10.5	19.0	18.0	18.5	19.0	17.0	17.5
5	13.0	12.0	12.5	12.0	11.0	11.5	20.0	18.0	19.0	20.0	18.5	19.0
6	14.0	12.0	13.0	13.0	12.0	12.0	18.0	16.0	17.0	20.5	19.5	20.0
7	15.0	13.0	14.0	13.0	12.0	12.5	18.0	16.0	17.0	20.5	20.0	20.0
8	16.0	15.0	15.5	14.0	12.0	13.0	19.0	17.0	18.0	20.5	19.5	20.0
9	16.0	12.0	14.0	13.0	11.0	12.0	20.0	19.0	19.5	20.0	20.0	20.0
10	12.0	10.0	10.5	12.0	10.0	11.0	22.0	20.0	20.5	21.0	20.0	20.5
11	12.0	10.0	10.5	12.0	11.0	11.5	21.0	20.0	21.0	22.0	20.5	21.0
12	12.0	11.0	11.5	12.0	12.0	12.0	20.0	18.0	19.0	22.0	21.5	22.0
13	12.0	10.0	11.5	13.0	12.0	12.5	22.0	19.0	20.5	22.0	21.5	22.0
14	12.0	11.0	11.5	14.0	12.0	13.0	22.5	21.0	21.5	22.5	21.0	21.5
15	14.0	12.0	12.5	16.0	14.0	14.5	23.0	22.0	22.5	23.0	22.0	22.5
16	14.0	13.0	13.5	17.0	15.0	16.0	22.5	21.0	22.0	23.5	22.5	23.0
17	15.0	13.0	14.0	18.0	16.0	16.5	22.5	21.0	22.0	23.5	22.5	23.0
18	15.0	14.0	15.0	19.0	17.0	17.5	23.0	21.0	22.0	23.5	22.5	23.0
19	16.0	15.0	15.5	20.0	18.0	19.0	24.0	22.0	23.0	23.5	22.5	23.0
20	16.0	15.0	15.5	20.0	19.0	19.5	24.0	22.5	23.5	23.0	22.0	22.5
21	16.0	15.0	15.5	20.0	19.0	19.5	24.0	21.5	22.5	23.0	21.5	22.5
22	16.0	13.0	14.0	19.0	18.0	18.5	24.5	22.5	23.5	23.0	22.0	22.5
23	13.0	12.0	12.5	20.0	19.0	19.5	24.5	22.5	24.0	23.0	22.0	22.5
24	13.0	11.0	12.0	20.0	20.0	20.0	24.5	24.0	24.0	23.0	22.5	22.5
25	12.0	11.0	11.0	20.0	18.0	19.0	24.5	23.0	24.0	23.0	22.5	23.0
26	11.0	10.0	10.0	19.0	19.0	19.0	23.5	22.0	22.5	23.0	23.0	23.0
27	10.0	9.5	9.5	19.0	17.0	18.0	24.0	23.0	23.0	23.0	22.5	23.0
28	10.0	9.5	9.5	17.0	16.0	16.5	24.0	22.5	23.0	23.5	22.5	23.0
29	---	---	---	18.0	16.0	17.0	23.0	19.0	20.5	23.0	22.5	23.0
30	---	---	---	18.0	17.0	17.5	20.5	17.5	18.5	23.5	22.5	23.0
31	---	---	---	18.0	16.0	17.0	---	---	---	24.0	23.5	23.5
MONTH	16.0	8.5	12.5	20.0	9.5	15.0	24.5	16.0	21.0	24.0	14.0	21.5

TRINITY RIVER MAIN STEM

08057410 TRINITY RIVER BELOW DALLAS, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	24.0	23.5	24.0	30.0	28.5	29.5	27.5	26.0	26.5	28.5	26.0	26.5
2	24.0	23.5	23.5	30.0	29.0	29.5	27.5	26.5	27.0	26.0	26.0	26.0
3	24.0	23.5	23.5	30.5	29.0	29.5	28.0	26.5	27.5	27.0	26.0	26.5
4	24.0	23.5	23.5	30.5	29.5	30.0	29.0	27.5	28.0	28.0	26.5	27.5
5	24.0	23.5	23.5	30.0	29.0	29.5	29.0	28.0	28.5	28.5	27.0	28.0
6	24.5	23.5	24.0	30.0	29.0	29.5	29.5	28.0	29.0	29.0	27.5	28.5
7	25.0	24.0	24.5	29.5	28.0	29.0	29.5	28.5	29.0	29.0	27.5	28.0
8	26.0	24.5	25.0	29.5	26.5	28.0	28.5	26.5	28.0	28.0	27.0	27.5
9	26.5	25.5	26.0	28.5	28.0	28.0	29.0	27.5	28.5	27.5	26.5	27.0
10	26.5	25.5	26.0	28.0	27.0	27.5	30.0	28.0	29.0	28.0	26.5	27.0
11	26.0	25.0	25.5	27.5	25.0	25.5	30.5	28.5	29.5	28.0	27.0	27.5
12	26.0	24.5	25.0	26.0	25.0	25.5	31.0	29.0	30.0	28.5	27.5	28.0
13	27.0	25.5	26.0	27.0	26.0	26.5	31.0	29.0	30.0	29.0	27.5	28.5
14	27.5	26.0	26.5	27.0	26.0	26.5	31.0	29.5	30.0	29.0	28.0	28.5
15	27.5	25.5	26.5	26.5	25.5	26.0	30.5	28.5	29.5	29.0	28.0	28.5
16	27.0	25.5	26.5	27.0	26.5	26.5	29.5	28.5	29.0	28.5	28.0	28.5
17	28.5	26.5	27.5	27.0	26.5	27.0	30.0	28.5	29.5	28.0	26.5	27.5
18	29.0	27.5	28.0	27.5	26.5	27.0	31.0	29.0	30.0	27.5	26.0	26.5
19	29.0	27.5	28.0	27.0	26.5	27.0	31.0	29.5	30.5	27.5	25.5	26.5
20	30.0	28.5	29.0	27.0	26.5	26.5	30.5	29.0	29.5	27.5	26.0	27.0
21	29.5	28.0	29.0	27.0	26.5	27.0	29.5	28.0	28.5	27.5	26.0	26.5
22	30.0	28.5	29.0	27.5	26.5	27.0	29.5	28.0	29.0	27.0	24.0	25.5
23	30.5	28.5	29.5	28.0	27.0	27.5	30.0	28.5	29.5	24.5	23.0	23.5
24	30.5	28.5	29.5	27.5	27.0	27.5	30.5	29.0	29.5	24.0	22.5	23.5
25	31.0	29.0	30.0	27.5	27.0	27.0	31.0	29.0	30.0	24.0	22.5	23.0
26	30.5	29.0	30.0	27.0	26.5	27.0	31.0	29.5	30.0	25.0	23.0	24.0
27	30.5	29.0	30.0	27.0	26.5	26.5	31.0	29.5	30.0	26.0	24.0	25.0
28	30.0	29.0	29.5	27.5	26.5	27.0	31.0	29.0	30.0	27.0	25.0	26.0
29	30.0	29.0	29.5	27.5	26.5	27.0	30.5	29.0	30.0	27.5	25.5	26.5
30	30.0	27.0	29.0	27.0	26.0	26.5	31.0	29.0	30.0	27.0	25.5	26.5
31	---	---	---	27.0	25.5	26.0	30.5	28.0	29.5	---	---	---
MONTH	31.0	23.5	27.0	30.5	25.0	27.5	31.0	26.0	29.0	29.0	22.5	26.5
YEAR	31.0	7.5	20.0									

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.0	5.4	6.9	11.5	11.2	11.4	5.7	5.3	5.5	---	---	---
2	8.6	5.3	7.0	11.4	10.7	11.0	5.3	4.7	5.0	---	---	---
3	7.1	5.1	6.2	---	---	---	8.7	3.6	7.1	---	---	---
4	6.5	5.5	6.0	11.0	10.4	10.6	7.9	7.0	7.3	---	---	---
5	5.7	4.4	5.3	11.0	10.6	10.9	9.2	7.0	8.1	---	---	---
6	6.6	4.6	5.7	---	---	---	9.7	8.8	9.2	---	---	---
7	6.9	5.0	6.2	---	---	---	10.8	9.3	10.3	---	---	---
8	7.1	5.7	6.4	---	---	---	10.8	9.8	10.4	---	---	---
9	7.1	4.2	5.8	10.9	10.2	10.7	---	---	---	---	---	---
10	6.6	3.4	5.4	10.2	9.5	9.8	---	---	---	---	---	---
11	7.6	4.4	6.2	9.6	8.5	9.0	---	---	---	---	---	---
12	7.6	5.0	6.5	8.6	7.8	8.1	---	---	---	---	---	---
13	8.4	6.5	7.7	7.8	7.3	7.6	---	---	---	---	---	---
14	7.5	6.7	7.3	7.4	6.0	6.8	---	---	---	---	---	---
15	7.8	7.0	7.3	6.9	6.5	6.7	---	---	---	---	---	---
16	8.0	7.5	7.8	6.6	6.3	6.5	---	---	---	---	---	---
17	8.0	6.8	7.5	6.9	5.8	6.5	---	---	---	---	---	---
18	8.5	7.4	8.1	6.7	6.5	6.6	---	---	---	---	---	---
19	9.8	7.5	8.7	7.1	6.4	6.7	---	---	---	---	---	---
20	9.5	8.8	9.2	7.3	7.1	7.2	---	---	---	---	---	---
21	10.2	9.4	9.9	7.5	7.2	7.4	---	---	---	---	---	---
22	11.8	10.2	11.0	7.5	7.2	7.4	---	---	---	---	---	---
23	12.5	11.8	12.3	7.4	6.6	7.0	---	---	---	---	---	---
24	12.7	12.4	12.6	6.6	6.3	6.5	---	---	---	10.2	9.4	9.7
25	12.6	12.2	12.4	6.9	6.3	6.6	---	---	---	9.9	8.7	9.3
26	12.4	10.3	11.6	7.3	6.7	7.0	---	---	---	9.9	8.8	9.3
27	10.5	10.3	10.4	7.1	6.4	6.9	---	---	---	9.0	8.6	8.8
28	10.6	10.4	10.5	6.4	5.6	5.9	---	---	---	9.8	6.6	9.4
29	10.5	10.4	10.5	6.1	5.4	5.8	---	---	---	10.2	9.0	10.0
30	11.1	10.4	10.8	6.0	5.6	5.9	---	---	---	10.2	10.0	10.2
31	11.5	11.0	11.3	---	---	---	---	---	---	11.3	9.5	10.6
MONTH	12.7	3.4	8.4	11.5	5.4	7.8	10.8	3.6	7.9	11.3	6.6	9.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	11.4	10.3	11.3	11.7	11.0	11.4	9.2	8.6	8.8	7.6	7.3	7.4
2	11.4	11.4	11.4	11.5	10.9	11.2	9.0	8.4	8.7	8.4	7.5	7.8
3	11.5	11.4	11.4	11.8	11.3	11.5	8.8	6.2	7.1	8.2	7.9	8.1
4	11.5	10.5	10.8	11.6	11.2	11.5	7.1	6.5	6.8	8.3	7.9	8.2
5	10.6	10.5	10.5	11.3	10.9	11.1	7.2	5.9	6.8	8.8	8.3	8.5
6	10.6	10.2	10.5	11.1	10.7	10.9	7.5	6.6	7.1	8.9	8.7	8.8
7	10.7	9.9	10.3	10.7	10.2	10.4	7.7	7.2	7.5	8.9	8.7	8.8
8	10.1	9.5	9.9	10.4	10.0	10.3	7.8	7.4	7.6	8.9	8.7	8.8
9	10.0	9.4	9.6	10.7	9.8	10.2	7.7	6.9	7.2	8.9	8.4	8.7
10	10.7	10.0	10.3	10.9	10.2	10.6	7.1	6.0	6.5	8.6	7.7	8.1
11	10.8	10.3	10.6	---	---	---	6.1	5.0	5.7	7.9	7.2	7.6
12	10.9	10.3	10.7	---	---	---	6.3	5.0	5.9	7.6	5.9	6.9
13	11.0	10.6	10.8	---	---	---	6.0	5.6	5.8	5.9	5.4	5.6
14	11.0	10.6	10.9	---	---	---	7.4	5.5	6.1	6.2	5.6	5.9
15	11.0	10.5	10.8	---	---	---	7.8	6.8	7.3	6.2	5.9	6.1
16	10.8	10.3	10.6	---	---	---	8.4	7.2	7.8	6.2	5.9	6.0
17	10.7	10.1	10.5	---	---	---	8.6	7.6	8.1	6.5	6.2	6.3
18	11.0	9.6	10.3	---	---	---	9.0	7.7	8.3	7.1	6.5	6.8
19	10.4	9.6	9.9	---	---	---	9.0	7.7	8.4	7.0	6.8	6.9
20	9.6	6.7	8.3	---	---	---	8.7	6.4	7.9	7.1	5.4	6.3
21	8.4	7.8	8.2	---	---	---	6.4	4.4	5.2	7.3	7.0	7.1
22	9.6	6.1	8.3	---	---	---	6.0	2.9	5.1	7.4	7.2	7.3
23	9.5	8.7	9.1	---	---	---	5.4	3.0	4.7	7.4	7.2	7.3
24	10.2	9.1	9.8	9.2	8.4	8.7	6.0	3.6	5.2	7.7	7.4	7.5
25	11.1	9.9	10.5	9.0	8.2	8.6	6.4	5.4	5.8	7.7	7.5	7.6
26	11.7	11.0	11.4	8.8	5.5	8.1	6.1	4.4	5.3	7.7	6.9	7.3
27	11.7	11.5	11.7	7.5	5.2	6.8	5.7	5.1	5.6	7.3	6.8	7.0
28	11.8	11.5	11.8	8.2	7.4	7.8	6.4	5.5	6.0	7.5	7.2	7.4
29	---	---	---	8.4	7.7	8.0	7.1	6.1	6.7	7.7	7.3	7.5
30	---	---	---	8.8	8.0	8.5	7.6	7.1	7.4	7.8	7.4	7.6
31	---	---	---	9.8	8.4	9.1	---	---	---	8.2	7.6	7.8
MONTH	11.8	6.1	10.4	11.8	5.2	9.7	9.2	2.9	6.7	8.9	5.4	7.4
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.5	7.9	8.1	5.9	4.9	5.5	7.2	5.2	6.9	5.9	4.0	5.0
2	8.5	8.2	8.3	8.3	5.7	6.5	---	---	---	5.3	4.1	4.5
3	8.2	7.9	8.0	---	---	---	---	---	---	5.0	4.7	4.8
4	8.0	7.5	7.7	---	---	---	---	---	---	5.8	4.7	5.2
5	7.5	6.7	7.0	---	---	---	7.1	6.6	6.8	6.6	5.8	

08057445 PRAIRIE CREEK AT U.S. HIGHWAY 175, DALLAS, TX

LOCATION.--Lat 32°42'17", long 96°40'11", Dallas County, Hydrologic Unit 12030105, on left bank at downstream side of the downstream access road bridge on U.S. Highway 175, 3.4 mi upstream from mouth, and 9.0 mi southeast of Dallas City Hall.

DRAINAGE AREA.--9.03 mi².

PERIOD OF RECORD.--October 1975 to September 1980, April 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 390.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several observations of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 18	0400	1,190	19.36	May 12	0200	1,620	21.12
Oct. 19	1045	921	17.95	July 11	0630	3,910	26.57

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.7	4.3	1.9	.91	105	1.3	3.4	3.5	3.7	.06	46
2	.85	4.8	4.2	1.9	.91	12	4.7	109	3.0	2.4	.06	104
3	7.2	8.5	87	2.4	.91	4.3	53	47	2.8	.79	.06	9.3
4	e.42	4.2	22	2.3	.91	3.1	2.5	7.6	4.6	.33	.06	1.4
5	e.06	2.7	5.5	2.2	.97	3.1	21	3.9	3.1	.18	.14	.74
6	e.02	2.0	3.3	1.9	1.1	3.0	6.0	3.0	2.3	.15	.10	.49
7	e.05	1.9	2.6	1.8	1.1	2.6	1.8	2.7	2.2	.13	.14	.36
8	.05	2.1	2.6	1.8	1.3	68	1.6	2.5	2.0	6.2	.68	13
9	6.8	2.2	2.6	1.8	2.1	38	2.0	45	2.0	1.5	e1.4	5.8
10	.51	2.8	2.5	2.0	3.8	7.2	2.5	14	31	2.3	e.58	.91
11	.05	4.1	2.2	10	6.6	3.6	125	20	23	720	e.27	.52
12	.00	6.2	3.8	5.6	3.1	3.5	16	321	12	6.0	e.15	.33
13	131	7.8	100	2.9	1.9	3.2	3.9	123	3.9	2.6	e.11	1.8
14	1.9	89	6.5	2.3	1.4	4.6	3.2	21	2.5	14	e.08	.71
15	.28	8.8	3.9	2.0	1.2	2.6	3.0	8.7	88	7.0	.73	.32
16	.11	78	3.1	2.1	1.2	2.1	2.3	5.6	12	2.3	.25	.14
17	6.6	13	2.7	12	1.2	1.9	1.5	5.0	2.5	1.3	.12	.03
18	245	5.2	2.6	4.1	1.4	2.1	1.4	4.7	1.5	.49	.09	.00
19	287	4.3	2.2	2.7	1.5	2.3	2.3	3.7	1.0	.31	.06	.00
20	160	4.0	2.2	2.4	137	1.9	2.6	3.9	.78	.27	1.2	.00
21	6.8	3.5	2.4	2.6	8.4	1.7	3.8	4.4	.59	.20	8.0	.00
22	2.7	3.2	4.3	2.6	236	1.5	5.8	4.6	.59	.15	3.0	.02
23	1.8	3.4	6.2	4.9	12	7.8	6.6	3.4	.53	.15	2.1	e.03
24	1.4	3.4	3.3	3.1	4.9	4.8	2.3	2.7	.52	.12	1.3	e.08
25	1.0	4.8	2.4	3.0	3.3	2.2	4.2	5.2	.44	.11	.55	e.06
26	1.0	18	2.1	2.1	2.6	5.3	14	78	.36	.11	.25	e.04
27	1.0	12	2.1	2.0	2.3	15	3.0	11	.36	.09	.15	e.04
28	1.5	6.4	2.1	3.4	6.5	2.3	1.8	4.6	.39	.07	.12	e.05
29	1.7	5.5	2.0	1.6	---	1.5	158	138	.53	.07	.10	e.06
30	9.2	4.5	2.0	1.1	---	1.3	10	13	8.6	.06	.07	e.06
31	3.6	---	1.9	.91	---	1.3	---	4.7	---	.06	3.0	---
TOTAL	879.60	319.0	296.6	93.41	446.51	318.8	467.1	1024.3	216.59	773.14	24.98	186.29
MEAN	28.4	10.6	9.57	3.01	15.9	10.3	15.6	33.0	7.22	24.9	.81	6.21
MAX	287	89	100	12	236	105	158	321	88	720	8.0	104
MIN	.00	1.9	1.9	.91	.91	1.3	1.3	2.5	.36	.06	.06	.00
AC-FT	1740	633	588	185	886	632	926	2030	430	1530	50	370

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1994b, BY WATER YEAR (WY)

MEAN	10.8	6.26	10.1	6.36	11.8	10.7	13.1	17.8	8.38	3.68	1.21	3.04
MAX	45.4	16.1	37.2	19.8	34.0	26.6	42.1	72.4	35.5	24.9	5.51	8.30
(WY)	1985	1991	1992	1990	1993	1977	1990	1989	1989	1994	1979	1980
MIN	.000	.33	.42	.12	.34	1.33	.66	.64	.32	.000	.000	.005
(WY)	1976	1990	1978	1976	1976	1986	1978	1977	1978	1980	1980	1984

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1976 - 1994b

ANNUAL TOTAL	4504.43	5046.32	8.80
ANNUAL MEAN	12.3	13.8	15.6
HIGHEST ANNUAL MEAN			1.61
LOWEST ANNUAL MEAN			1989
HIGHEST DAILY MEAN	460	720	1150
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.04	.01	.00
INSTANTANEOUS PEAK FLOW			5660
INSTANTANEOUS PEAK STAGE			29.21
ANNUAL RUNOFF (AC-FT)	8930	10010	6380
10 PERCENT EXCEEDS	20	14	10
50 PERCENT EXCEEDS	2.9	2.4	.87
90 PERCENT EXCEEDS	.08	.11	.01

e Estimated

b Break in record.

08058900 EAST FORK TRINITY RIVER AT MCKINNEY, TX

LOCATION.--Lat 33°14'38", long 96°36'31", Collin County, Hydrologic Unit 12030106, at downstream side of highway embankment near left end of main channel bridge on State Highways 5 and 121, 750 ft downstream from Honey Creek, 1.2 mi upstream from Southern Pacific Railway Co. bridge, 1.7 mi upstream from Clemons Creek, 3.3 mi north of McKinney, 26.1 mi upstream from Lavon Dam, and 86.5 mi upstream from mouth.

DRAINAGE AREA.--164 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is 528.74 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow from 89.1 mi² above this station is affected at times by discharge from the flood-detention pools of 49 floodwater-retarding structures with a combined detention capacity of 26,000 acre-ft. Several observations of water temperature were made during the year. Rain gage at station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1913, about 28 ft in April 1942 (discharge not determined), from information by State Department of Highways and Public Transportation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.46	53	16	39	40	290	31	93	44	6.1	21	167
2	.48	52	16	40	38	292	30	84	36	5.9	21	392
3	1.7	52	858	39	38	171	31	450	32	4.4	18	489
4	2.1	56	2040	36	39	132	32	174	28	3.0	15	167
5	.35	63	720	36	39	110	30	105	25	2.2	14	86
6	.04	60	369	42	41	108	29	71	22	1.3	12	56
7	.01	53	298	38	40	103	26	53	22	.84	34	43
8	.00	45	263	29	39	153	25	44	19	16	57	73
9	.00	39	224	27	41	853	24	40	17	20	30	73
10	.00	34	194	26	40	333	25	46	17	20	24	38
11	.00	36	142	30	36	210	26	65	31	1140	19	31
12	.00	40	119	46	36	163	27	2010	31	572	15	27
13	23	45	308	39	37	143	23	2060	23	319	13	26
14	14	68	207	36	34	129	21	1380	19	288	11	25
15	5.1	65	139	33	33	110	19	589	20	2560	10	24
16	2.8	129	114	31	32	92	17	407	91	491	9.8	24
17	1.8	229	101	44	31	78	17	288	38	324	8.6	22
18	33	85	91	48	31	74	16	210	28	216	7.6	20
19	1280	49	86	37	31	67	15	155	24	151	6.7	18
20	2370	27	78	38	36	61	15	116	40	108	9.7	16
21	910	17	67	37	42	52	14	89	28	66	14	13
22	713	14	64	37	843	46	13	66	22	48	11	12
23	447	14	63	56	510	45	16	57	19	38	7.8	12
24	213	13	58	65	268	44	17	52	16	32	6.6	12
25	87	13	56	72	181	41	17	47	13	29	5.7	11
26	51	16	52	73	124	40	26	51	11	27	5.0	11
27	51	17	49	68	98	40	17	50	9.3	25	4.3	9.9
28	52	20	45	56	85	36	15	41	7.7	23	3.8	9.0
29	52	20	43	50	---	34	21	72	6.8	22	3.3	7.9
30	50	18	41	46	---	32	394	132	6.2	22	2.9	6.4
31	53	---	41	44	---	31	---	59	---	23	54	---
TOTAL	6413.84	1442	6962	1338	2883	4113	1029	9156	746.0	6603.74	474.8	1921.2
MEAN	207	48.1	225	43.2	103	133	34.3	295	24.9	213	15.3	64.0
MAX	2370	229	2040	73	843	853	394	2060	91	2560	57	489
MIN	.00	13	16	26	31	31	13	40	6.2	.84	2.9	6.4
AC-FT	12720	2860	13810	2650	5720	8160	2040	18160	1480	13100	942	3810

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1994, BY WATER YEAR (WY)

	MEAN	90.8	61.4	130	68.4	166	198	133	276	155	27.4	3.76	7.84
MAX	1022	570	1160	369	562	598	804	1704	737	213	19.0	64.0	64.0
(WY)	1982	1982	1992	1992	1986	1977	1990	1982	1989	1994	1990	1994	1994
MIN	.000	.000	.000	.000	1.37	2.30	4.08	6.08	1.28	.000	.000	.000	.000
(WY)	1978	1978	1978	1978	1976	1976	1980	1988	1984	1984	1980	1980	1977

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1976 - 1994

ANNUAL TOTAL	49416.41	43082.58	110
ANNUAL MEAN	135	118	373
HIGHEST ANNUAL MEAN			4.65
LOWEST ANNUAL MEAN			1982
HIGHEST DAILY MEAN	2930	2560	26800
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.01	.00
INSTANTANEOUS PEAK FLOW		5000	61800
INSTANTANEOUS PEAK STAGE		19.00	22.17
ANNUAL RUNOFF (AC-FT)	98020	85450	79430
10 PERCENT EXCEEDS	307	243	211
50 PERCENT EXCEEDS	48	38	13
90 PERCENT EXCEEDS	.00	7.9	.00

TRINITY RIVER BASIN
08058900 EAST FORK TRINITY RIVER AT MCKINNEY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD---Chemical and biochemical analyses: October 1980 to September 1982, October 1985 to July 1987, April 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	
OCT 21...	1522	804	227	8.0	17.5	8.4	88	99	16	38	1.1	5.9	
NOV 19...	0905	49	408	7.8	12.0	8.7	82	190	25	74	2.0	11	
DEC 22...	0914	64	516	7.7	7.0	9.6	80	240	0	91	2.4	14	
JAN 13...	0913	39	540	8.0	8.5	11.0	95	240	14	93	2.6	16	
FEB 04...	0827	38	571	7.9	7.0	11.0	92	260	23	100	2.9	18	
23...	1532	434	390	7.9	11.5	10.0	93	180	16	69	2.0	12	
MAR 17...	1704	78	533	7.8	17.5	9.8	105	250	29	95	2.6	15	
APR 21...	0900	14	630	7.6	18.5	6.4	69	290	22	110	3.6	26	
MAY 19...	1433	158	412	7.8	21.5	7.7	88	190	27	73	2.1	11	
JUN 15...	1049	20	500	7.7	24.0	6.0	72	230	9	86	2.7	18	
JUL 12...	1110	567	247	7.6	25.5	6.7	83	110	4	42	1.3	6.7	
AUG 11...	1150	19	423	7.6	24.5	5.3	64	180	1	69	2.1	16	
SEP 21...	1053	13	511	7.8	19.5	7.0	77	230	9	88	2.9	21	
DATE		SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CAC03)	ALKA-LINITY WAT DIS FIX END FIELD (MG/L AS CAC03)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 21...	0.3	2.7	0	102	83	83	16	3.3	0.30	9.6	145	133	
NOV 19...	0.3	3.4	0	205	168	170	29	4.9	0.30	11	239	240	
DEC 22...	0.4	2.1	0	292	239	240	42	6.9	0.30	9.5	327	317	
JAN 13...	0.4	1.9	0	279	229	230	49	7.7	0.40	4.9	333	317	
FEB 04...	0.5	1.8	--	--	--	240	53	8.8	0.40	5.4	352	338	
23...	0.4	2.1	0	200	164	160	33	6.0	0.40	6.4	245	234	
MAR 17...	0.4	2.2	0	267	219	220	47	7.6	0.40	6.4	331	313	
APR 21...	0.7	2.7	0	326	267	260	63	11	0.40	8.5	387	387	
MAY 19...	0.3	2.9	0	200	164	160	31	5.4	0.30	9.1	249	239	
JUN 15...	0.5	2.5	0	264	216	210	40	6.8	0.40	10	326	299	
JUL 12...	0.3	3.2	0	130	106	100	14	3.4	0.30	10	158	146	
AUG 11...	0.5	2.3	0	220	181	180	31	6.9	0.40	10	264	249	
SEP 21...	0.6	2.8	0	272	223	220	39	8.5	0.40	10	325	308	

TRINITY RIVER BASIN

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08058900 EAST FORK TRINITY RIVER AT MCKINNEY, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 21...	1.24	1.24	0.060	1.30	1.30	0.010	1.5	0.19	0.29	0.30	0.20
NOV 19...	0.880	0.880	0.010	0.890	0.890	0.010	1.2	0.29	0.29	0.30	0.30
DEC 22...	1.10	--	<0.010	1.10	1.10	0.030	1.4	0.27	0.17	0.20	0.30
JAN 13...	0.880	0.880	0.010	0.890	0.890	0.020	1.1	0.18	--	<0.20	0.20
FEB 04...	0.580	0.580	0.030	0.610	0.610	0.040	0.91	0.26	--	<0.20	0.30
23...	0.880	0.880	0.120	1.00	1.00	0.070	1.6	0.53	0.33	0.40	0.60
MAR 17...	1.16	1.16	0.040	1.20	1.20	0.030	1.5	0.27	0.27	0.30	0.30
APR 21...	0.230	0.230	0.010	0.240	0.240	0.100	0.64	0.30	0.20	0.30	0.40
MAY 19...	1.27	1.27	0.030	1.30	1.30	0.010	1.7	0.39	0.29	0.30	0.40
JUN 15...	0.520	--	<0.010	0.520	0.520	0.040	0.92	0.36	0.26	0.30	0.40
JUL 12...	0.230	--	<0.010	0.230	0.230	0.020	1.0	0.78	0.38	0.40	0.80
AUG 11...	0.620	0.620	0.010	0.630	0.630	0.050	1.1	0.45	0.35	0.40	0.50
SEP 21...	0.290	--	<0.010	0.290	0.290	0.040	0.59	0.26	0.26	0.30	0.30
DATE	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 21...	0.050	0.050	0.050	0.15	66	>5.0	399	850	92	56	4
NOV 19...	0.030	0.020	0.020	0.06	5.8	0.7	32	28	95	19	23
DEC 22...	0.020	<0.010	0.010	0.03	6.3	0.3	38	7.1	77	13	71
JAN 13...	0.020	0.020	<0.010	--	3.5	0.3	54	6.9	69	8	53
FEB 04...	0.010	<0.010	<0.010	--	2.8	0.5	24	2.5	91	10	74
23...	0.120	0.040	0.020	0.06	5.8	>5.0	306	359	91	72	15
MAR 17...	0.030	0.010	<0.010	--	3.9	0.7	63	13	93	11	29
APR 21...	0.060	0.020	0.010	0.03	3.0	2.1	82	4.9	97	8	85
MAY 19...	0.040	<0.010	<0.010	--	4.7	1.1	107	46	95	8	15
JUN 15...	0.070	<0.010	0.020	0.06	3.6	0.9	74	2.6	72	11	50
JUL 12...	0.190	0.040	<0.010	--	6.3	5.1	498	762	82	49	3
AUG 11...	0.040	0.020	0.020	0.06	5.5	1.5	136	3.0	86	7	22
SEP 21...	0.040	<0.010	<0.010	--	4.2	0.5	27	0.32	86	17	78

08059400 SISTER GROVE CREEK NEAR BLUE RIDGE, TX

LOCATION.--Lat 33°17'40", long 96°28'58", Collin County, Hydrologic Unit 12030106, on left bank at upstream side of highway embankment of bridge on Farm Road 545, 3.5 mi upstream from Hatler Branch, 4.8 mi west of Blue Ridge, 7.4 mi upstream from Stiff Creek, 14.7 mi upstream from mouth, and 24.7 mi upstream from Lavon Dam.

DRAINAGE AREA.--83.1 mi².

PERIOD OF RECORD.--July 1975 to current year.

Water-quality records.--Chemical and biochemical analyses: November 1985 to June 1987.

GAGE.--Water-stage recorder. Datum of gage is 526.29 ft above National Geodetic Vertical Datum of 1929. Prior to June 29, 1988, at datum 10.00 ft higher at same site.

REMARKS.--Records good. Flow is affected at times by discharge from the flood-detention pools of 34 floodwater-retarding structures with a combined detention capacity of 12,710 acre-ft. These structures control runoff from 47.4 mi². Several observations of water temperature were made during the year. Satellite telemeter and rain gage at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 30.7 ft, present datum, probably occurred in July 1913, from information by State Department of Highways and Public Transportation. The probable date is from published records for discontinued station 08059500, located 9.7 mi downstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.14	17	24	25	17	188	22	e70	38	4.7	6.3	6.9
2	.61	18	26	24	17	193	21	e60	31	3.8	4.6	122
3	.83	20	482	24	17	136	24	e350	27	2.8	3.8	208
4	.51	21	906	22	17	110	24	e100	24	1.8	3.1	80
5	.22	19	477	21	17	109	22	e80	22	1.3	2.9	46
6	.20	17	309	22	17	90	22	e50	20	.84	2.9	33
7	1.0	15	221	21	16	82	20	e30	18	.57	20	27
8	1.0	15	174	19	17	110	20	e25	16	.65	55	24
9	.51	14	115	19	17	420	20	e20	14	4.2	18	27
10	.19	13	82	20	16	215	20	e20	11	8.9	12	30
11	.08	14	59	22	15	173	23	23	8.5	29	8.7	25
12	83	16	51	30	16	147	26	430	6.6	37	6.6	22
13	185	19	181	25	15	124	21	631	5.2	19	5.0	20
14	185	26	125	22	14	107	19	612	4.2	34	3.7	18
15	171	35	82	20	15	92	18	329	13	445	2.8	15
16	176	23	70	19	14	78	17	236	33	191	2.4	15
17	194	55	65	26	14	67	16	179	22	117	2.3	13
18	253	38	57	25	14	57	16	131	20	65	1.9	9.5
19	767	32	52	20	14	46	16	101	21	41	1.6	7.8
20	751	27	50	20	19	40	16	79	18	30	1.3	13
21	434	23	44	20	19	35	16	59	16	24	1.3	13
22	333	21	41	20	358	31	16	44	14	22	1.7	12
23	265	20	38	28	206	31	16	35	12	19	1.4	12
24	191	20	35	29	129	30	16	31	10	16	1.0	12
25	122	20	33	32	96	28	16	29	8.7	13	.85	11
26	60	23	31	33	71	27	17	42	7.7	12	.70	9.5
27	33	24	30	30	60	28	15	36	7.6	10	.61	8.5
28	27	26	28	22	58	25	14	32	5.4	8.6	.55	4.3
29	23	28	26	20	---	23	e18	107	5.3	7.7	.50	1.4
30	19	26	25	19	---	22	e280	125	4.9	8.1	.45	.99
31	18	---	25	18	---	21	---	56	---	8.9	.65	---
TOTAL	4295.29	685	3964	717	1315	2885	827	4152	464.1	1186.86	174.61	846.89
MEAN	139	22.8	128	23.1	47.0	93.1	27.6	134	15.5	38.3	5.63	28.2
MAX	767	55	906	33	358	420	280	631	38	445	55	208
MIN	.08	13	24	18	14	21	14	20	4.2	.57	.45	.99
AC-FT	8520	1360	7860	1420	2610	5720	1640	8240	921	2350	346	1680

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1994, BY WATER YEAR (WY)

	45.5	37.6	67.7	45.7	97.4	114	86.2	126	80.8	13.0	3.37	4.21
MEAN	45.5	37.6	67.7	45.7	97.4	114	86.2	126	80.8	13.0	3.37	4.21
MAX	451	294	493	178	266	340	477	714	348	54.4	24.7	28.2
(WY)	1982	1982	1992	1992	1989	1990	1990	1982	1989	1982	1992	1994
MIN	.000	.000	.000	1.55	1.81	2.92	3.46	6.99	1.22	.000	.000	.000
(WY)	1978	1978	1978	1976	1976	1976	1980	1988	1980	1978	1978	1978

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1976 - 1994

ANNUAL TOTAL	30119.52	21512.75	59.9
ANNUAL MEAN	82.5	58.9	169
HIGHEST ANNUAL MEAN			4.22
LOWEST ANNUAL MEAN			8560
HIGHEST DAILY MEAN	937	906	May 13 1982
LOWEST DAILY MEAN	.00	.08	Oct 11 1975
ANNUAL SEVEN-DAY MINIMUM	.00	.46	Oct 5 1975
INSTANTANEOUS PEAK FLOW		1410	Dec 4 1982
INSTANTANEOUS PEAK STAGE		24.06	Dec 4 1982
ANNUAL RUNOFF (AC-FT)	59740	42670	32.50
10 PERCENT EXCEEDS	206	172	137
50 PERCENT EXCEEDS	31	22	10
90 PERCENT EXCEEDS	.20	2.9	.00

e Estimated

08060500 LAVON LAKE NEAR LAVON, TX

LOCATION.--Lat 33°01'54", long 96°28'56", Collin County, Hydrologic Unit 12030106, in right abutment of spillway in dam on East Fork Trinity River, 3,850 ft upstream from St. Louis Southwestern Railway Lines bridge, 4,000 ft upstream from bridge on State Highway 78, 2.9 mi west of Lavon, and 55.9 mi upstream from mouth.

DRAINAGE AREA.--770 mi².

PERIOD OF RECORD.--September 1953 to current year. Prior to October 1970, published as Lavon Reservoir.
Water-quality records.--Chemical analyses: October 1969 to September 1974, October 1975 to September 1982.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Jan. 20, 1954, non-recording gage in the approach channel at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 18,860 ft long, including a 568-foot gated spillway with twelve 40.0- by 28.0-foot tainter gates. The original dam was 9,499 ft long, but conservation capacity was increased to present size in December 1975. Deliberate impoundment began Sept. 14, 1953, and the dam was completed in October 1953. Low-flow outlets consist of five 36-inch-diameter controlled sluice gates. Capacity Table No. 9, now in use, is based on Design Memo, 1970 Conditions. Lake was designed for flood control and water conservation. Water for municipal supply can be released down to elevation 453.0 ft. Flow is affected at times by discharge from the flood-detention pools of 149 floodwater-retarding structures with a combined detention capacity of 69,170 acre-ft. These structures control runoff from 242 mi² in the East Fork Trinity River, Pilot Grove, and Sister Grove Creek drainage basins. Satellite telemeter at station. Figures herein represent total contents. Data regarding dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	514.0	-
Design flood.....	509.0	921,200
Top of tainter gates.....	503.5	748,200
Top of conservation pool.....	492.0	456,500
Crest of spillway (sill of tainter gates).....	475.5	178,300
Lowest gated outlet (invert).....	453.0	12,700

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 791,000 acre-ft May 3, 1990 (elevation, 504.93 ft); minimum since lake first filled in 1957, 80,150 acre-ft Apr. 17, 1976 (elevation, 465.96 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 551,100 acre-ft May 16 (elevation, 496.15 ft); minimum daily, 351,800 acre-ft Oct. 12 (elevation, 486.69 ft).

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

486.0	339,200	492.0	456,500	498.0	597,000
487.0	357,500	494.0	500,600	500.0	649,400
488.0	376,200	496.0	547,400	502.0	704,700
490.0	415,200				

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	357700	428100	426100	457000	455500	472100	454200	476900	510500	450800	459100	441700
2	358200	428300	431800	457400	455000	474300	455200	480900	505200	449900	458500	454800
3	357500	427900	443400	457200	454200	473400	454400	486200	501100	448700	457600	461700
4	356900	428300	454600	456300	455000	471600	453300	489800	497400	447800	456300	464000
5	356400	427100	463800	455200	455000	469500	454800	487800	493200	446400	455900	464000
6	355400	426500	465100	457200	454800	468400	453500	484600	488900	445300	454600	463200
7	354700	426300	463800	455700	454800	466600	452700	481800	484200	443800	455000	461700
8	354100	425900	461900	455000	455700	470300	452300	477600	479800	444300	454800	460600
9	353800	425700	461000	454800	455200	477300	452100	475600	475100	445900	454400	460000
10	352700	425500	460400	455000	454600	481500	452500	473800	471600	446400	453800	459300
11	351900	424700	459100	455700	453500	481500	454400	473800	468800	455500	453100	458000
12	351800	425300	458900	455700	454200	480000	453500	502700	466400	460200	452300	457400
13	353200	425300	460600	455700	453800	478200	453100	521300	464000	462500	451200	457000
14	352700	426300	461200	455700	453300	476200	452900	537900	462100	466000	450800	456300
15	352500	426300	461000	455000	453300	474300	453100	548900	462300	464000	449700	455700
16	352500	427100	460600	456500	453100	471600	452300	551100	461500	499500	448900	455000
17	352300	427500	460400	455900	452900	468600	451800	550800	460600	502000	447800	454200
18	356400	427300	459700	455200	452500	467300	451200	549100	460200	499900	446800	452900
19	380400	427700	459100	454800	452900	464300	451000	547000	460400	496800	445700	452100
20	409200	427300	458500	455200	453100	462500	450600	544100	459700	492700	447400	451200
21	416200	426900	457800	455000	454000	459500	450100	540500	459100	489100	446800	450100
22	416400	426500	458200	455000	463800	458000	449900	536900	458500	484900	445900	449300
23	416400	426500	458000	455000	469700	457600	449300	532400	457600	479800	444900	448500
24	416400	427100	458000	455200	469900	458200	448700	527700	456700	474900	444000	447400
25	416600	427300	457800	455700	471000	457400	448700	523200	455200	471000	443000	446400
26	416600	426500	457400	456100	468600	457800	449100	521600	454600	467900	442000	445700
27	416600	426100	458000	456500	467100	457400	448900	519500	452900	464500	440900	444900
28	416600	426300	458000	456300	467500	456300	449100	514800	452500	462500	439900	444300
29	416600	426300	457600	456300	---	456100	454600	521100	451600	461200	438800	443600
30	416600	426100	457200	456300	---	455700	471200	517600	451600	460800	437600	442800
31	416600	---	456500	455900	---	455000	---	515300	---	460000	439700	---
MAX	416600	428300	465100	457400	471000	481500	471200	551100	510500	502000	459100	464000
MIN	351800	424700	426100	454800	452500	455000	448700	473800	451600	443800	437600	441700
(+)	490.07	490.54	492.00	491.97	492.51	491.93	492.68	494.64	491.77	491.69	491.20	491.35
(#)	+57400	+4500	+30400	-600	+11600	-12500	+16200	+44100	-63700	+8400	-20300	+3100
CAL YR 1993	MAX 558700	MIN 351800	(#)	+12100								
WTR YR 1994	MAX 551100	MIN 351800	(#)	+83600								

(+) Elevation, in feet, at end of month.

(#) Change in contents, in acre-feet.

TRINITY RIVER BASIN

08061540 ROWLETT CREEK NEAR SACHSE, TX

LOCATION.--Lat 32°57'35", long 96°36'51", Dallas County, Hydrologic Unit 12030106, on right bank at downstream side of railroad embankment of Gulf, Colorado, and Santa Fe Railway Co., 100 ft downstream from Spring Creek, 150 ft upstream from State Highway 78, and 1.5 mi southwest of Sachse. Prior to Aug. 25, 1993, at site on left bank 150 ft downstream.

DRAINAGE AREA.--120 mi².

PERIOD OF RECORD.--March 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 450.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair, except those for estimated daily discharges, which are poor. There are no known diversions above station. The North Texas Municipal Water District returns sewage effluent into a tributary above this station. Several observations of water temperature were made during the year. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1942, 35.4 ft in 1942, from information by State Department of Highways and Public Transportation.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges above base of 4,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 12	Unknown	Unknown	Unknown	July 11	0200	4,940	20.75
May 13	Unknown	Unknown	Unknown				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	82	84	51	28	e1170	50	135	69	63	48	1140
2	34	101	e325	50	27	132	54	e386	67	52	34	1040
3	106	107	e1300	55	27	109	82	e346	61	49	33	226
4	37	81	216	52	26	106	56	128	59	45	30	113
5	15	77	141	49	29	101	56	102	58	44	32	99
6	12	60	122	49	29	95	56	88	106	45	33	83
7	12	53	108	49	28	90	50	81	63	44	648	73
8	22	53	98	45	31	e385	48	74	56	286	191	101
9	61	49	91	49	51	e301	49	97	72	182	84	79
10	18	64	85	53	36	120	44	88	64	140	69	70
11	17	70	71	133	32	107	e148	101	112	2930	67	71
12	18	74	68	61	28	100	84	e1710	104	191	62	71
13	e700	72	e233	47	24	103	55	e1630	74	485	56	75
14	117	e265	102	48	19	93	47	308	75	300	56	70
15	103	102	87	44	20	88	45	401	158	1020	75	91
16	108	e239	81	48	20	84	41	151	110	334	61	85
17	124	132	76	141	19	82	39	125	83	136	49	73
18	e291	103	71	53	18	77	45	110	72	119	41	70
19	e1420	94	68	45	19	75	46	102	73	107	38	73
20	e332	86	69	44	54	69	48	92	76	96	76	67
21	162	86	62	46	23	68	46	88	66	88	132	67
22	130	84	63	52	e457	66	51	84	64	114	55	67
23	114	83	63	76	101	69	49	80	66	81	49	65
24	105	82	58	64	68	66	41	78	61	74	40	70
25	101	99	56	65	56	64	77	87	68	68	33	60
26	96	139	54	52	49	63	e172	111	66	64	32	70
27	90	113	53	50	45	77	61	77	61	59	29	66
28	90	105	55	44	97	63	55	70	50	50	31	73
29	84	95	52	40	---	58	e1760	537	56	47	28	58
30	96	86	51	37	---	53	e699	104	95	82	35	50
31	81	---	50	36	---	51	---	76	---	70	432	---
TOTAL	4724	2936	4113	1728	1461	4185	4154	7647	2265	7465	2679	4416
MEAN	152	97.9	133	55.7	52.2	135	138	247	75.5	241	86.4	147
MAX	1420	265	1300	141	457	1170	1760	1710	158	2930	648	1140
MIN	12	49	50	36	18	51	39	70	50	44	28	50
AC-FT	9370	5820	8160	3430	2900	8300	8240	15170	4490	14810	5310	8760

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1994, BY WATER YEAR (WY)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	111	82.7	141	88.2	144	161	153	229	140	47.4	30.8	51.7														
MAX	610	291	898	343	425	431	573	1039	566	241	86.4	180														
(WY)	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
MIN	4.88	7.63	7.52	6.72	7.83	11.9	23.8	18.8	4.60	1.91	1.78	3.75														
(WY)	1979	1976	1978	1976	1976	1971	1972	1972	1971	1972	1972	1969														

SUMMARY STATISTICS

	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1969 - 1994
ANNUAL TOTAL	50789.6	47773	
ANNUAL MEAN	139	131	115
HIGHEST ANNUAL MEAN			265
LOWEST ANNUAL MEAN			22.2
HIGHEST DAILY MEAN	3550	2930	14900
LOWEST DAILY MEAN	9.6	12	.00
ANNUAL SEVEN-DAY MINIMUM	11	20	.00
INSTANTANEOUS PEAK FLOW		unknown	31900
INSTANTANEOUS PEAK STAGE		unknown	29.62
ANNUAL RUNOFF (AC-FT)	100700	94760	83270
10 PERCENT EXCEEDS	247	186	179
50 PERCENT EXCEEDS	83	70	40
90 PERCENT EXCEEDS	18	34	7.3

e Estimated

08061750 EAST FORK TRINITY RIVER NEAR FORNEY, TX

LOCATION.--Lat 32°46'27", long 96°30'12", Kaufman County, Hydrologic Unit 12030106, on right bank 25 ft downstream from bridge on Interstate Highway 20, 0.2 mi downstream from Duck Creek, 1.9 mi downstream from Lake Ray Hubbard Dam, 2.5 mi upstream from Texas and Pacific Railroad Co. bridge, 2.6 mi northwest of Forney, and 30.8 mi upstream from mouth.

DRAINAGE AREA.--1,118 mi², of which 1,071 mi² is above Lake Ray Hubbard.

PERIOD OF RECORD.--January 1973 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 374.86 ft above National Geodetic Vertical Datum of 1929 (from State Department of Highways and Public Transportation bridge plans). Prior to Aug. 26, 1975, recording gage at 3-foot higher datum located at site 126 ft upstream and 868 ft to left. From Aug. 26, 1975, to May 12, 1977, recording gage at 3-foot higher datum located at site 105 ft downstream. From May 13, 1977, to Sept. 30, 1984, recording gage at 3-foot higher datum at current site.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow is regulated by Lake Ray Hubbard (station 08061550, discontinued) 1.9 mi upstream. Low flow is sustained by sewage effluent discharge from the city of Garland into Duck Creek, which enters the East Fork Trinity River 0.2 mi upstream from this station. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	45	47	52	46	2030	44	e2650	e1880	94	47	1020
2	44	49	100	52	48	2290	43	2380	e1870	50	45	533
3	e138	116	1200	73	49	2150	123	e3080	e1800	45	45	763
4	e138	68	470	61	48	2130	56	e4010	e1790	36	45	184
5	51	55	176	51	45	2110	79	e3070	e1780	37	49	99
6	42	46	144	49	43	2110	119	e2160	e1770	38	48	82
7	40	49	110	67	44	2100	52	e1980	e1770	37	87	78
8	39	54	92	47	44	2630	44	e1930	e1770	110	506	94
9	64	47	75	45	63	4650	50	e2200	e1770	294	72	633
10	47	48	74	47	60	1170	59	e2200	e1800	399	55	887
11	36	53	74	143	57	835	152	e2220	e1300	2700	51	592
12	40	58	69	115	49	2100	404	e3770	e1150	2420	44	78
13	e330	75	582	59	49	2100	85	e5770	e1060	1960	47	65
14	e754	441	180	50	44	2090	67	e6300	1200	1400	50	63
15	e110	243	103	50	39	2070	58	e4890	751	e1520	53	64
16	64	397	85	51	40	2050	43	e2530	1250	e1760	53	65
17	251	553	69	187	41	2050	39	e2030	1330	e1910	48	53
18	1040	136	61	81	40	1920	41	e2100	401	e1870	44	54
19	2100	96	63	59	37	913	48	e1940	74	e1850	45	55
20	2070	63	68	56	346	862	46	e1850	65	e1840	54	55
21	886	71	56	57	149	887	46	e1820	62	e1820	136	50
22	388	65	57	52	1170	1080	44	e1820	54	e1810	46	52
23	170	63	64	76	431	72	76	e1820	56	e1800	45	55
24	127	59	56	67	e216	55	51	e1810	73	e1800	48	53
25	114	e86	50	69	e171	56	45	e1810	58	e1790	52	53
26	67	e132	44	66	e264	51	321	e1930	51	1500	52	51
27	58	e184	44	68	e228	362	76	e2050	49	213	48	50
28	53	e137	56	71	e308	345	63	e1900	48	59	47	44
29	63	e110	54	58	---	51	e742	e2080	44	48	48	45
30	88	62	52	57	---	48	e2230	e3090	80	46	45	46
31	55	---	51	53	---	42	---	e2310	---	47	74	---
TOTAL	9509	3661	4426	2089	4169	43409	5346	81500	27156	31303	2129	6016
MEAN	307	122	143	67.4	149	1400	178	2629	905	1010	68.7	201
MAX	2100	553	1200	187	1170	4650	2230	6300	1880	2700	506	1020
MIN	36	45	44	45	37	42	39	1810	44	36	44	44
AC-FT	18860	7260	8780	4140	8270	86100	10600	161700	53860	62090	4220	11930

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1994, BY WATER YEAR (WY)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	394	506	563	416	736	899	943	1565	1126	444	146	187									
MAX	3975	2804	3276	2421	2652	2510	2864	8008	5436	2207	1246	1583									
(WY)	1974	1982	1992	1992	1975	1992	1985	1990	1989	1982	1989	1974									
MIN	15.8	26.4	22.3	24.7	33.2	34.5	35.7	42.5	28.2	19.7	23.1	22.6									
(WY)	1978	1977	1978	1981	1981	1980	1978	1988	1978	1978	1980	1977									

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1974 - 1994

ANNUAL TOTAL	289862	220713	
ANNUAL MEAN	794	605	
HIGHEST ANNUAL MEAN			660
LOWEST ANNUAL MEAN			1798
HIGHEST DAILY MEAN	11300	Feb 25	6300
LOWEST DAILY MEAN	36	Oct 11	36
ANNUAL SEVEN-DAY MINIMUM	44	Oct 6	41
INSTANTANEOUS PEAK FLOW			9380
INSTANTANEOUS PEAK STAGE			15.41
ANNUAL RUNOFF (AC-FT)	574900	437800	477800
10 PERCENT EXCEEDS	2460	2050	2140
50 PERCENT EXCEEDS	81	72	55
90 PERCENT EXCEEDS	48	45	25

e Estimated

08061980 EAST FORK TRINITY RIVER AT SEAGOVILLE, TX

LOCATION.--Lat 32°39'53", long 96°31'26", Dallas County, Hydrologic Unit 12030106, on right bank at downstream side of bridge on Malloy Bridge Road, 1.3 mi north of intersection of U. S. Highway 175 and Malloy Bridge Road in Seagoville, and 3.5 mi downstream from South Mesquite Creek.

PERIOD OF RECORD.-- Chemical and biochemical analyses: April 1987 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1987 to current year.

pH: March 1987 to current year.

WATER TEMPERATURE: March 1987 to current year.

DISSOLVED OXYGEN: March 1987 to current year.

INSTRUMENTATION.--Since March 1987, a four-parameter water-quality monitor continuously records specific conductance, pH, water temperature, and dissolved oxygen at this station.

REMARKS.--Interruptions in the record were due to malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 820 microsiemens Aug. 15, 1987; minimum, 129 microsiemens May 17, 1989.

pH: Maximum, 9.4 units Oct. 30, 1989; minimum, 6.7 units Mar. 7, 1988.

WATER TEMPERATURE: Maximum, 32.5°C July 29-31, 1993; minimum, 3.5°C Jan. 8, 1988, Feb. 5, 1989.

DISSOLVED OXYGEN: Maximum, 15.5 mg/L Feb. 9, 1992; minimum, 0.0 mg/L Nov. 23, 1988, Aug. 10, 12, 1991.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 769 microsiemens Mar. 25; minimum, 140 microsiemens Oct. 13.

pH: Maximum, 8.4 units Sept. 3; minimum, 7.2 units Aug. 2.

WATER TEMPERATURE: Maximum, 31.5°C June 26, 27, Sept. 6; minimum, 6.5°C Nov. 27, Jan. 18 and 19.

DISSOLVED OXYGEN: Maximum, 11.9 mg/L Feb. 2, 11, 27; minimum, 3.0 mg/L Sept. 1.

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	644	611	625	553	533	545	633	582	614	726	687	706
2	638	610	624	544	522	533	671	627	643	710	676	699
3	611	311	495	549	513	534	686	458	668	677	641	657
4	447	359	401	628	549	589	458	345	396	643	587	613
5	491	399	451	606	591	600	440	322	377	645	594	620
6	558	484	513	660	599	631	---	---	e480	653	594	628
7	613	558	585	656	635	645	---	---	e540	704	653	683
8	633	603	614	641	626	634	---	---	e580	702	663	682
9	626	282	497	626	603	612	---	---	e620	696	655	674
10	601	515	577	701	596	623	---	---	e630	685	652	667
11	598	538	575	701	673	687	---	---	e660	652	503	604
12	563	534	548	738	675	689	---	---	e680	568	403	483
13	561	140	292	738	674	710	---	---	e470	540	469	514
14	368	187	278	714	359	569	---	---	e340	611	539	579
15	499	368	433	506	328	416	---	---	e460	654	611	634
16	560	499	534	514	236	421	---	---	e540	684	643	658
17	583	502	554	358	243	301	---	---	e600	643	533	592
18	583	162	273	437	311	385	---	---	e610	566	383	443
19	267	177	216	541	416	480	---	---	e620	543	476	519
20	208	180	193	581	541	567	---	---	e650	597	533	566
21	302	208	252	618	579	605	---	---	e650	624	593	607
22	358	302	330	619	609	614	---	---	e660	652	599	633
23	411	358	385	629	593	611	709	669	697	645	611	626
24	436	409	419	661	624	647	702	682	691	627	578	602
25	444	429	438	682	657	673	714	685	704	588	563	576
26	500	441	468	688	590	661	694	670	681	619	584	611
27	532	498	511	590	498	526	670	642	654	646	614	632
28	555	514	541	525	466	484	650	638	645	668	639	656
29	559	546	553	560	525	545	682	642	662	675	656	666
30	594	552	577	583	555	568	694	666	680	679	661	670
31	577	553	569	---	---	---	704	679	691	670	644	659
MONTH	644	140	462	738	236	570	714	322	600	726	383	618

e Estimated

TRINITY RIVER BASIN

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08061980 EAST FORK TRINITY RIVER AT SEAGOVILLE, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	660	643	651	686	291	546	764	723	746	360	311	342
2	675	641	657	305	292	297	758	721	742	362	269	342
3	701	671	686	312	305	309	752	420	577	285	246	269
4	711	694	703	317	311	314	666	541	597	315	285	302
5	712	690	702	318	313	315	617	454	563	331	315	326
6	712	689	702	317	313	315	630	413	566	360	323	329
7	694	676	686	316	311	313	605	564	579	326	321	324
8	681	665	675	319	289	312	690	591	641	335	311	322
9	685	664	672	289	272	281	721	673	690	317	303	308
10	689	661	676	336	280	301	717	702	709	330	311	320
11	701	649	681	495	336	423	717	192	627	348	317	328
12	659	636	646	343	316	320	381	192	311	323	233	264
13	657	636	649	323	317	320	417	364	392	290	261	275
14	665	654	659	324	319	321	519	417	469	294	284	289
15	677	632	654	326	320	322	599	519	574	324	292	311
16	680	640	658	323	310	315	645	598	628	316	307	310
17	706	676	689	311	306	308	658	625	636	333	308	315
18	725	692	708	328	307	312	658	635	643	345	323	335
19	728	705	717	346	328	340	665	634	647	336	317	325
20	720	256	445	341	332	337	696	652	672	317	312	314
21	452	349	399	336	306	326	732	670	702	315	310	313
22	456	227	353	406	305	332	745	707	723	313	306	310
23	541	426	494	518	406	493	742	706	730	---	---	e310
24	591	541	567	700	518	621	706	615	675	---	---	e310
25	621	591	604	769	700	734	652	530	626	---	---	e320
26	632	621	625	766	733	757	559	307	397	---	---	e320
27	661	632	644	743	487	643	505	331	428	---	---	e310
28	685	661	674	514	351	409	585	505	549	---	---	e310
29	---	---	---	533	378	450	636	260	438	---	---	e260
30	---	---	---	655	533	598	329	304	319	---	---	e250
31	---	---	---	753	642	683	---	---	---	---	---	e280
MONTH	728	227	631	769	272	409	764	192	587	362	233	308

e Estimated

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	e300	---	---	e570	564	530	548	647	191	335
2	---	---	e310	---	---	e560	591	564	575	380	160	298
3	---	---	e310	---	---	e480	639	591	608	353	144	236
4	305	299	302	---	---	e460	663	636	647	450	298	372
5	310	300	304	---	---	e450	682	652	664	515	450	488
6	312	306	309	---	---	e410	668	651	660	555	513	541
7	309	297	303	---	---	e380	677	612	651	560	535	546
8	320	309	316	---	---	e350	615	227	419	603	545	571
9	319	315	317	---	---	e380	453	335	393	589	315	434
10	367	313	319	---	---	e310	533	453	497	449	285	317
11	367	309	328	---	---	e370	605	528	561	318	287	298
12	327	302	312	---	---	e320	637	605	619	451	318	386
13	317	308	312	288	270	281	637	617	627	569	451	511
14	328	312	318	298	285	293	662	625	642	594	568	577
15	390	305	344	292	246	266	658	599	639	646	594	620
16	346	296	313	279	264	270	607	586	599	678	643	659
17	327	301	313	269	265	267	615	591	599	650	641	646
18	404	327	369	266	258	261	668	607	637	641	631	637
19	519	402	441	260	253	257	668	655	661	656	631	641
20	593	519	563	259	251	255	686	652	665	640	604	620
21	595	557	583	257	249	252	660	531	604	610	597	602
22	598	571	586	252	235	245	732	574	658	630	597	605
23	613	558	585	246	238	241	590	566	577	644	612	632
24	672	576	636	238	230	233	599	520	559	650	616	632
25	715	635	670	256	228	235	646	599	624	673	634	652
26	661	630	650	361	256	295	671	639	652	663	638	647
27	670	642	656	400	361	385	662	638	650	638	626	630
28	679	646	653	402	387	395	660	634	645	643	622	632
29	659	633	643	424	398	409	653	636	643	657	642	646
30	676	589	653	462	420	434	672	631	649	679	653	660
31	---	---	---	530	462	493	655	632	640	---	---	---
MONTH	715	296	434	530	228	349	732	227	607	679	144	536
YEAR	769	140	508									

e Estimated

TRINITY RIVER BASIN

08061980 EAST FORK TRINITY RIVER AT SEAGOVILLE, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	8.0	7.8	7.9	7.4	7.3	7.4	7.7	7.6	7.6	7.9	7.8	7.9
2	8.0	7.8	7.9	7.4	7.3	7.4	7.9	7.5	7.7	7.8	7.8	7.8
3	8.2	7.8	7.9	7.5	7.4	7.4	7.9	7.7	7.8	7.9	7.7	7.8
4	7.9	7.7	7.8	7.7	7.4	7.6	7.9	7.7	7.8	8.0	7.8	7.9
5	7.8	7.7	7.7	7.7	7.7	7.7	7.8	7.7	7.7	7.8	7.7	7.8
6	7.7	7.7	7.7	7.8	7.7	7.7	7.9	7.7	7.8	7.8	7.6	7.7
7	7.8	7.7	7.8	7.8	7.7	7.7	8.0	7.9	8.0	7.8	7.6	7.7
8	7.9	7.7	7.8	7.7	7.6	7.6	8.1	8.0	8.1	8.0	7.7	7.8
9	8.2	7.8	7.9	7.6	7.6	7.6	8.1	8.0	8.1	7.9	7.8	7.9
10	8.0	7.9	7.9	7.6	7.5	7.6	8.1	8.1	8.1	7.8	7.7	7.7
11	8.0	7.9	7.9	7.6	7.5	7.5	8.1	8.1	8.1	8.0	7.7	7.7
12	8.0	7.8	7.9	7.5	7.4	7.5	8.1	8.0	8.1	7.9	7.8	7.9
13	---	---	---	7.5	7.4	7.5	8.1	7.9	8.0	8.0	7.9	7.9
14	---	---	---	7.7	7.4	7.5	8.0	7.9	8.0	7.9	7.8	7.8
15	---	---	---	7.5	7.4	7.5	8.0	7.9	7.9	7.9	7.7	7.8
16	8.1	8.0	8.1	7.9	7.4	7.5	8.1	8.0	8.0	7.9	7.7	7.8
17	8.1	8.0	8.0	7.9	7.5	7.6	8.0	8.0	8.0	8.2	7.9	8.0
18	8.0	7.4	7.5	7.6	7.5	7.6	8.1	8.0	8.0	8.1	8.0	8.0
19	---	---	---	7.8	7.5	7.7	8.0	7.9	8.0	8.1	7.9	8.0
20	7.4	7.4	7.4	7.8	7.7	7.8	8.0	7.9	8.0	8.1	7.8	7.9
21	7.5	7.4	7.4	7.8	7.7	7.8	8.0	7.9	8.0	8.0	8.0	8.0
22	7.5	7.5	7.5	7.8	7.7	7.8	8.0	7.8	7.9	8.0	8.0	8.0
23	7.6	7.5	7.5	7.8	7.7	7.7	8.0	7.9	8.0	8.1	8.0	8.0
24	7.5	7.5	7.5	7.7	7.7	7.7	8.0	7.9	8.0	8.0	7.9	8.0
25	7.5	7.5	7.5	7.8	7.7	7.8	8.0	7.9	8.0	7.9	7.9	7.9
26	7.5	7.4	7.5	7.9	7.8	7.8	8.0	7.9	8.0	7.9	7.9	7.9
27	7.4	7.4	7.4	7.8	7.7	7.8	8.0	7.9	8.0	7.9	7.9	7.9
28	7.5	7.4	7.5	7.8	7.7	7.7	8.0	7.9	7.9	8.0	7.9	7.9
29	7.5	7.4	7.4	7.8	7.7	7.7	8.0	7.9	8.0	7.9	7.9	7.9
30	7.6	7.4	7.5	7.8	7.7	7.7	8.1	7.9	8.0	7.9	7.8	7.9
31	7.5	7.3	7.4	---	---	---	8.0	7.9	7.9	7.9	7.7	7.8
MONTH	8.2	7.3	7.7	7.9	7.3	7.6	8.1	7.5	8.0	8.2	7.6	7.9

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	7.8	7.7	7.8	---	---	---	7.7	7.6	7.6	---	---	---
2	7.8	7.7	7.7	---	---	---	7.7	7.6	7.7	---	---	---
3	7.7	7.6	7.7	---	---	---	7.8	7.6	7.7	---	---	---
4	7.7	7.5	7.7	---	---	---	7.6	7.5	7.6	---	---	---
5	7.8	7.6	7.7	---	---	---	7.7	7.5	7.6	---	---	---
6	7.7	7.6	7.6	---	---	---	7.7	7.6	7.6	---	---	---
7	7.7	7.5	7.6	---	---	---	7.7	7.6	7.7	8.0	7.9	8.0
8	8.1	7.5	7.7	---	---	---	7.7	7.5	7.6	8.0	7.8	8.0
9	8.1	7.5	7.6	---	---	---	7.6	7.5	7.6	8.0	7.9	7.9
10	7.7	7.6	7.7	---	---	---	7.6	7.4	7.5	8.0	7.9	7.9
11	7.7	7.6	7.7	---	---	---	7.7	7.4	7.5	7.9	7.9	7.9
12	7.7	7.6	7.6	---	---	---	7.8	7.5	7.6	---	---	---
13	7.7	7.6	7.6	---	---	---	7.6	7.5	7.6	---	---	---
14	7.6	7.5	7.6	---	---	---	7.6	7.5	7.6	---	---	---
15	7.6	7.5	7.5	---	---	---	7.6	7.5	7.5	---	---	---
16	---	---	---	---	---	---	7.6	7.5	7.6	---	---	---
17	---	---	---	---	---	---	7.7	7.5	7.6	---	---	---
18	---	---	---	---	---	---	7.7	7.5	7.6	---	---	---
19	---	---	---	---	---	---	7.7	7.6	7.7	---	---	---
20	---	---	---	---	---	---	7.9	7.6	7.7	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	8.0	7.7	7.9
25	---	---	---	8.0	7.9	8.0	---	---	---	7.8	7.6	7.7
26	---	---	---	8.0	7.9	8.0	---	---	---	7.8	7.6	7.7
27	---	---	---	8.0	7.9	8.0	---	---	---	---	---	---
28	---	---	---	8.0	7.9	7.9	---	---	---	---	---	---
29	---	---	---	7.9	7.7	7.8	---	---	---	---	---	---
30	---	---	---	7.7	7.7	7.7	---	---	---	---	---	---
31	---	---	---	7.8	7.7	7.7	---	---	---	---	---	---
MONTH	8.1	7.5	7.7	8.0	7.7	7.9	7.9	7.4	7.6	8.0	7.6	7.9

TRINITY RIVER BASIN

435

08061980 EAST FORK TRINITY RIVER AT SEAGOVILLE, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	---	7.4	7.3	7.4	8.0	7.6	7.8
2	---	---	---	---	---	---	7.4	7.2	7.3	8.3	7.8	7.9
3	---	---	---	---	---	---	---	---	---	8.4	7.6	7.9
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	7.9	7.7	7.8	---	---	---	---	---	---
14	---	---	---	7.8	7.7	7.8	---	---	---	---	---	---
15	---	---	---	7.9	7.7	7.8	---	---	---	---	---	---
16	---	---	---	7.8	7.7	7.8	---	---	---	---	---	---
17	7.7	7.6	7.7	7.9	7.7	7.8	---	---	---	---	---	---
18	7.7	7.6	7.7	8.0	7.8	7.9	---	---	---	---	---	---
19	7.6	7.6	7.6	7.9	7.8	7.9	---	---	---	---	---	---
20	7.6	7.5	7.5	7.9	7.7	7.8	---	---	---	---	---	---
21	7.5	7.4	7.5	7.8	7.6	7.7	---	---	---	---	---	---
22	7.6	7.5	7.5	7.8	7.7	7.7	---	---	---	---	---	---
23	7.8	7.5	7.6	7.8	7.6	7.7	---	---	---	---	---	---
24	7.6	7.5	7.6	7.8	7.6	7.7	---	---	---	---	---	---
25	7.6	7.5	7.5	7.8	7.5	7.7	---	---	---	---	---	---
26	7.7	7.5	7.6	7.9	7.6	7.8	---	---	---	---	---	---
27	7.6	7.5	7.5	7.7	7.5	7.7	---	---	---	---	---	---
28	7.7	7.4	7.6	7.8	7.6	7.7	---	---	---	---	---	---
29	7.7	7.3	7.5	7.7	7.5	7.6	---	---	---	---	---	---
30	7.7	7.3	7.5	7.6	7.4	7.5	---	---	---	---	---	---
31	---	---	---	7.5	7.3	7.4	7.6	7.5	7.5	---	---	---
MONTH	7.8	7.3	7.6	8.0	7.3	7.7	7.6	7.2	7.4	8.4	7.6	7.9
YEAR	8.4	7.2	7.7									

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	25.5	23.5	24.5	13.0	10.5	11.5	15.5	13.0	14.0	12.5	11.0	11.5
2	26.0	24.0	25.0	14.0	12.5	13.0	16.0	15.0	15.5	12.5	11.5	12.0
3	25.5	23.5	24.0	14.5	13.0	13.5	16.5	15.5	16.0	12.5	11.0	11.5
4	24.0	22.5	23.5	---	---	---	17.0	15.5	16.0	11.5	10.0	10.5
5	25.0	22.5	23.5	17.5	15.5	16.5	16.0	15.0	15.5	11.0	9.5	10.0
6	25.5	23.5	24.5	15.5	14.0	14.5	15.5	13.0	14.0	13.0	11.0	12.0
7	25.5	23.5	24.5	14.0	12.0	12.5	13.0	12.5	12.5	12.5	10.0	11.0
8	25.5	24.0	25.0	13.5	12.0	12.5	12.5	12.0	12.0	10.0	8.5	9.0
9	25.5	22.0	23.5	15.0	13.5	14.0	12.5	12.0	12.0	11.0	8.5	9.0
10	22.0	20.5	21.0	16.5	15.0	15.5	13.5	12.5	13.0	12.5	11.0	11.5
11	21.0	20.0	20.0	17.0	15.5	16.0	13.5	13.0	13.5	13.0	12.0	12.5
12	21.0	20.0	20.0	19.0	17.0	17.5	13.5	12.5	13.0	13.0	12.0	12.5
13	21.0	20.0	20.5	20.5	19.0	19.5	13.0	12.5	12.5	13.5	12.5	12.5
14	20.5	19.5	20.0	20.5	18.0	19.5	13.0	12.5	13.0	13.5	11.5	12.5
15	21.5	20.0	20.5	19.0	17.0	18.0	13.0	12.0	12.0	13.0	11.5	12.0
16	23.5	21.0	22.0	17.5	11.5	15.5	12.0	11.5	11.5	12.0	11.0	11.5
17	23.5	22.5	23.0	13.0	11.5	12.5	11.5	11.0	11.5	12.0	8.5	10.5
18	23.5	21.0	22.0	15.0	13.0	13.5	11.5	11.5	11.5	10.0	6.5	7.5
19	22.5	20.5	21.5	15.5	14.5	15.0	12.0	11.5	11.5	8.0	6.5	7.0
20	20.5	18.0	19.5	14.5	13.5	14.0	12.0	11.5	11.5	9.0	8.0	8.0
21	18.0	17.0	17.5	13.5	12.0	13.0	12.0	11.5	12.0	---	---	---
22	17.5	16.5	17.0	14.0	12.0	13.0	11.5	10.5	11.0	---	---	---
23	17.5	16.0	16.5	15.0	13.0	14.0	10.5	9.0	9.5	---	---	---
24	17.5	15.5	16.5	15.0	14.0	14.5	10.5	9.0	9.5	13.0	11.0	12.5
25	18.0	16.5	17.0	14.0	10.0	11.5	11.0	9.0	10.0	16.0	11.0	14.0
26	18.5	17.0	18.0	10.5	7.0	8.0	11.5	9.5	10.5	17.5	16.0	17.0
27	18.5	17.0	17.5	8.5	6.5	7.0	12.0	10.5	11.5	17.5	13.5	16.5
28	17.0	16.0	16.5	10.0	7.5	8.5	13.0	11.0	12.5	13.5	12.0	12.5
29	17.0	15.0	16.5	12.0	10.0	10.5	11.5	10.5	11.0	12.0	10.5	11.5
30	15.0	12.5	13.0	13.5	10.5	11.5	11.0	9.5	10.0	12.0	10.0	10.5
31	12.5	11.0	11.5	---	---	---	11.5	8.5	10.0	11.5	9.5	10.5
MONTH	26.0	11.0	20.0	20.5	6.5	13.5	17.0	8.5	12.5	17.5	6.5	11.5

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	10.5	9.0	9.5	10.0	9.0	10.0	18.5	15.5	17.0	18.5	17.0	17.5
2	10.5	8.5	9.5	10.5	8.0	9.5	19.0	16.5	18.0	18.5	15.5	18.0
3	11.5	9.5	10.5	11.0	8.5	10.0	19.0	16.5	18.0	17.5	15.0	16.0
4	14.0	11.0	12.5	11.5	9.5	10.5	20.0	17.0	18.5	19.5	17.5	18.5
5	14.5	13.0	14.0	12.0	10.0	11.0	20.0	18.5	19.5	20.0	18.5	19.0
6	---	---	---	12.5	10.0	11.5	18.5	15.5	17.0	20.0	19.0	19.5
7	---	---	---	12.0	10.5	11.5	17.5	15.0	16.0	20.0	19.0	19.5
8	---	---	---	11.5	10.5	11.0	18.5	16.0	17.0	19.5	18.5	19.0
9	16.5	11.5	14.0	11.0	9.0	9.5	19.0	17.5	18.5	19.5	19.0	19.0
10	11.5	8.5	9.5	12.0	8.5	10.0	21.5	18.5	20.0	20.0	19.0	19.5
11	9.5	7.0	8.5	13.5	11.0	12.0	21.0	18.0	20.5	21.0	19.5	20.0
12	11.5	9.0	10.0	12.0	10.0	10.5	18.5	18.0	18.5	22.0	20.5	21.0
13	12.0	10.0	10.5	12.5	10.0	11.0	20.0	18.0	19.0	22.0	21.0	21.5
14	11.5	10.0	10.5	14.0	11.0	12.5	21.5	19.5	20.0	21.0	20.0	20.5
15	13.5	10.5	11.5	14.0	12.0	13.0	22.5	21.0	21.5	22.0	21.0	21.5
16	---	---	---	14.5	11.5	13.0	22.0	20.0	21.0	22.5	21.5	22.0
17	15.0	12.5	13.5	15.0	12.5	13.5	21.5	19.0	20.5	22.5	21.5	22.0
18	16.0	14.0	15.0	15.0	12.5	13.5	22.0	19.0	20.5	22.5	21.0	21.5
19	17.0	15.5	16.0	15.0	13.0	14.5	23.0	20.0	21.5	23.0	21.0	22.0
20	17.0	15.0	16.0	15.0	13.0	14.0	23.0	21.0	22.5	22.5	21.0	22.0
21	15.5	15.0	15.5	14.5	13.5	14.0	24.0	21.5	22.5	22.5	20.5	21.5
22	15.5	13.5	14.0	16.0	12.5	14.0	24.0	22.5	23.5	23.0	21.0	22.0
23	13.5	12.0	12.5	19.0	16.0	17.0	25.0	22.5	23.5	23.0	21.0	22.0
24	12.0	10.0	11.0	20.0	19.0	19.5	24.0	23.0	23.5	22.5	20.5	21.5
25	11.0	10.0	10.5	19.5	17.5	18.5	24.0	22.5	23.0	22.0	20.5	21.0
26	10.5	9.0	9.5	19.0	18.0	18.5	23.0	21.0	22.0	22.0	21.5	22.0
27	9.5	8.5	9.0	19.0	17.0	17.5	24.5	23.0	23.5	24.0	22.0	23.0
28	10.0	9.0	9.5	17.0	14.0	15.0	24.5	22.5	23.0	24.0	23.0	23.5
29	---	---	---	16.5	14.0	15.0	22.5	18.0	20.0	24.0	22.5	23.5
30	---	---	---	17.0	15.0	16.0	19.5	17.5	18.0	25.0	22.5	23.5
31	---	---	---	17.0	14.5	16.0	---	---	---	26.0	24.5	25.0
MONTH	17.0	7.0	12.0	20.0	8.0	13.5	25.0	15.0	20.5	26.0	15.0	21.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	26.5	25.0	25.5	---	---	---	29.0	26.5	27.5	---	---	---
2	26.0	24.5	25.5	---	---	---	29.0	26.5	28.0	---	---	---
3	---	---	---	---	---	---	29.0	27.0	28.0	28.5	27.0	28.0
4	26.0	24.5	25.0	---	---	---	30.0	26.5	28.5	28.5	27.0	28.0
5	26.0	24.5	25.0	---	---	---	29.5	27.5	28.5	29.5	28.0	28.5
6	26.0	24.0	25.0	---	---	---	30.0	27.5	29.0	31.5	28.0	30.0
7	26.5	25.0	26.0	---	---	---	29.5	26.5	28.0	31.0	29.5	30.0
8	26.0	24.0	25.0	---	---	---	26.5	24.5	25.5	29.5	28.0	29.0
9	26.0	24.0	25.0	---	---	---	28.0	25.5	26.5	28.0	26.0	27.0
10	26.5	25.0	26.0	---	---	---	29.5	26.5	28.0	28.0	27.0	27.5
11	26.5	24.5	25.5	---	---	---	30.0	27.0	28.5	28.0	27.0	27.5
12	26.5	25.5	26.0	---	---	---	30.0	27.5	29.0	28.0	26.5	27.5
13	26.5	25.0	26.0	28.5	27.0	28.0	30.5	27.5	29.0	28.5	26.5	27.5
14	26.5	25.0	25.5	28.5	27.5	28.0	30.5	27.5	29.0	28.0	26.5	27.5
15	26.0	25.0	25.5	28.5	27.0	27.5	30.0	25.5	28.5	28.0	27.0	27.5
16	27.0	25.0	26.0	29.0	27.5	28.0	---	---	---	28.0	26.0	27.0
17	27.0	25.0	26.0	29.0	27.5	28.5	---	---	---	27.5	26.0	27.0
18	28.0	26.5	27.5	29.5	27.5	28.5	---	---	---	27.0	21.0	24.5
19	29.0	26.5	27.5	29.0	27.5	28.5	29.5	27.0	28.5	25.5	23.5	24.5
20	30.0	27.0	28.5	29.0	27.5	28.5	29.0	27.0	28.0	26.0	23.5	24.5
21	29.5	27.0	28.5	29.0	27.5	28.5	28.5	26.5	27.5	26.5	24.0	25.0
22	30.0	27.5	28.5	29.5	28.0	28.5	---	---	---	26.0	23.5	25.0
23	30.5	28.0	29.0	30.0	28.0	29.0	---	---	---	24.5	23.0	23.5
24	30.5	27.5	29.0	29.5	28.0	29.0	---	---	---	24.5	22.5	23.5
25	31.0	28.0	29.5	29.5	28.0	28.5	---	---	---	24.5	21.5	23.5
26	31.5	28.5	30.0	29.0	27.5	28.5	---	---	---	27.0	23.5	25.0
27	31.5	29.0	30.0	29.0	28.0	28.5	---	---	---	27.0	24.5	25.5
28	31.0	28.5	30.0	29.0	27.5	28.0	---	---	---	26.5	23.0	24.5
29	30.5	28.5	29.5	29.0	27.5	28.5	---	---	---	25.5	23.5	24.5
30	30.5	28.5	29.5	28.5	27.0	27.5	---	---	---	25.5	23.5	24.5
31	---	---	---	28.5	26.0	27.0	---	---	---	---	---	---
MONTH	31.5	24.0	27.0	30.0	26.0	28.0	30.5	24.5	28.0	31.5	21.0	26.5
YEAR	31.5	6.5	19.0									

TRINITY RIVER BASIN

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08061980 EAST FORK TRINITY RIVER AT SEAGOVILLE, TX--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	7.2	6.1	6.6	7.5	6.9	7.3	---	---	---	---	---	---
2	7.3	6.0	6.6	7.2	6.6	6.8	---	---	---	---	---	---
3	6.7	5.8	6.2	7.4	6.5	6.9	---	---	---	---	---	---
4	6.3	5.8	6.0	6.5	5.7	6.2	---	---	---	---	---	---
5	6.5	6.1	6.2	6.1	5.7	6.0	---	---	---	---	---	---
6	6.3	5.7	6.1	6.3	5.7	6.1	---	---	---	---	---	---
7	6.1	5.4	5.8	7.0	6.1	6.7	---	---	---	9.5	7.3	8.3
8	6.5	5.4	5.9	7.2	6.7	6.9	---	---	---	11.5	7.9	9.6
9	6.4	5.6	6.0	6.8	6.5	6.6	---	---	---	11.3	9.4	10.3
10	7.1	6.2	6.6	6.7	6.2	6.4	---	---	---	9.9	8.3	8.9
11	7.2	6.7	6.9	6.3	5.9	6.1	---	---	---	10.0	7.4	8.2
12	7.3	6.4	6.8	6.1	4.6	5.3	---	---	---	8.4	7.6	8.1
13	7.1	6.4	6.8	4.6	4.0	4.2	---	---	---	9.2	8.1	8.6
14	6.7	6.4	6.5	7.1	3.5	4.6	---	---	---	8.8	7.9	8.3
15	7.0	6.7	6.9	4.7	3.7	4.1	---	---	---	9.4	7.7	8.5
16	6.7	6.3	6.5	7.0	4.7	5.5	---	---	---	9.1	8.2	8.6
17	6.5	5.8	6.2	7.6	7.0	7.3	---	---	---	10.6	8.6	9.5
18	7.1	5.8	6.3	7.4	7.1	7.2	---	---	---	10.9	9.5	10.3
19	7.0	6.1	6.5	7.1	6.5	6.8	---	---	---	11.4	10.4	10.8
20	6.9	5.4	6.1	6.9	6.5	6.7	---	---	---	11.1	10.0	10.4
21	6.7	5.4	5.8	7.2	6.5	6.9	---	---	---	10.5	10.0	10.3
22	7.4	6.7	7.1	7.3	6.8	7.1	---	---	---	10.5	9.9	10.2
23	7.6	7.4	7.6	6.9	6.3	6.8	---	---	---	10.4	9.7	10.0
24	7.7	7.4	7.6	6.3	5.9	6.1	---	---	---	9.9	9.3	9.5
25	7.5	7.0	7.3	---	---	---	---	---	---	9.4	8.8	9.1
26	7.1	6.6	6.9	---	---	---	---	---	---	8.8	8.1	8.4
27	6.7	6.2	6.5	---	---	---	---	---	---	8.4	7.7	8.1
28	6.7	6.1	6.5	---	---	---	---	---	---	9.6	8.3	9.0
29	6.5	6.0	6.2	---	---	---	---	---	---	10.5	9.5	9.9
30	7.2	6.2	6.9	8.5	7.4	7.9	---	---	---	10.7	9.9	10.2
31	7.5	7.0	7.2	---	---	---	---	---	---	10.9	9.7	10.3
MONTH	7.7	5.4	6.6	8.5	3.5	6.3	---	---	---	11.5	7.3	9.3
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	11.4	10.2	10.7	11.2	10.3	10.6	6.9	6.5	6.7	---	---	---
2	11.9	10.6	11.1	11.4	10.4	10.9	6.8	6.0	6.2	---	---	---
3	11.5	10.3	10.9	11.6	10.8	11.1	6.7	5.7	6.0	---	---	---
4	11.0	9.6	10.3	11.6	10.7	11.1	6.1	5.6	5.9	---	---	---
5	10.9	9.0	9.8	11.5	10.6	10.9	6.6	5.5	5.8	---	---	---
6	10.7	8.8	9.7	11.4	10.5	10.8	6.8	5.8	6.2	---	---	---
7	10.6	8.5	9.4	11.4	10.4	10.8	8.0	5.3	6.7	9.2	8.8	9.0
8	9.6	8.3	8.9	10.8	10.0	10.5	---	---	---	9.3	8.7	9.1
9	9.2	8.0	8.6	10.4	9.9	10.1	---	---	---	9.1	7.5	8.2
10	10.8	9.2	9.9	---	---	---	---	---	---	8.3	7.2	7.5
11	11.9	10.3	11.2	---	---	---	---	---	---	9.1	8.1	8.6
12	11.5	10.4	10.9	---	---	---	---	---	---	8.9	6.6	7.2
13	11.6	10.0	10.7	---	---	---	---	---	---	7.0	6.2	6.6
14	11.4	9.7	10.5	---	---	---	---	---	---	7.7	6.8	7.2
15	11.3	9.7	10.4	---	---	---	---	---	---	7.5	6.6	7.1
16	10.4	9.3	9.8	---	---	---	---	---	---	8.3	7.1	7.7
17	10.2	8.5	9.3	---	---	---	---	---	---	8.3	7.6	7.9
18	9.4	8.0	8.7	---	---	---	---	---	---	8.5	7.4	7.9
19	8.3	7.3	7.6	---	---	---	---	---	---	8.1	7.2	7.8
20	8.3	7.0	7.6	---	---	---	---	---	---	8.3	7.4	7.8
21	7.7	7.5	7.6	---	---	---	5.8	5.3	5.5	9.0	7.7	8.1
22	8.9	7.4	8.2	---	---	---	6.0	5.0	5.4	9.2	7.7	8.3
23	8.5	7.3	7.7	---	---	---	5.5	4.7	5.0	8.5	7.6	8.1
24	10.7	8.5	9.9	---	---	---	5.4	4.5	4.9	8.5	7.5	7.9
25	11.0	10.5	10.7	---	---	---	6.8	4.6	5.0	8.1	7.5	7.8
26	11.8	11.0	11.4	---	---	---	7.0	5.2	5.9	---	---	---
27	11.9	11.5	11.7	---	---	---	5.8	5.2	5.5	---	---	---
28	11.8	11.2	11.6	---	---	---	5.9	5.7	5.8	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	7.9	7.0	7.1	---	---	---	---	---	---
31	---	---	---	7.4	6.9	7.2	---	---	---	---	---	---
MONTH	11.9	7.0	9.8	11.6	6.9	10.1	8.0	4.5	5.8	9.3	6.2	7.9

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX

LOCATION.--Lat 32°38'19", long 96°29'06", Kaufman County, Hydrologic Unit 12030106, on right bank 15 ft downstream from downstream eastbound bridge on U.S. Highway 175, 0.7 mi downstream from Mustang Creek, 1.8 mi northwest of Crandall, 4.0 mi upstream from Buffalo Creek, and 11.0 mi upstream from mouth.

DRAINAGE AREA.--1,256 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1949 to current year.

REVISED RECORDS.--WSP 1922: Drainage area. WDR TX-75-1: 1974.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 338.69 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 21, 1983, at datum 5.00 ft higher.

REMARKS.--Records fair. Flow largely regulated by Lavon Lake (station 08060500) since September 1953, and by Lake Ray Hubbard (station 08061550, discontinued) since Mar. 22, 1970. The city of Forney discharges sewage effluent into a tributary below Lake Ray Hubbard and above this station. The North Texas Municipal Water District discharges sewage effluent into tributaries above this station from their Mesquite and Changler's Landing sewage treatment plants. Flow is also affected at times by discharge from the flood-detention pools of 20 floodwater-retarding structures with a combined detention capacity of 11,760 acre-ft. These structures control runoff from a 39.2 mi² area above this station. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--4 years (water years 1950-53) prior to regulation by Lavon Lake, 652 ft³/s (472,400 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1950-53).--Maximum discharge, 16,400 ft³/s May 2, 1953 (gage height, 19.87 ft); no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	90	102	e102	99	1910	99	2720	1920	122	82	670
2	55	87	95	e101	94	2410	99	2450	1860	100	74	487
3	148	110	695	e99	97	2400	250	3150	1840	90	68	887
4	148	104	1920	e112	96	2230	154	4080	1830	83	66	186
5	80	93	265	e109	95	2180	128	3140	1820	75	69	106
6	63	80	e145	100	95	2150	201	2230	1810	77	76	88
7	58	72	e137	98	92	2140	125	2050	1810	78	73	79
8	55	73	e134	92	92	2180	101	2000	1810	96	293	76
9	76	72	e135	90	92	e4420	95	2260	1810	168	134	242
10	89	68	131	89	112	4120	102	2660	1800	428	83	510
11	56	69	129	166	125	900	201	2280	1340	4000	73	530
12	51	72	126	243	115	1670	1210	3830	1190	4610	69	153
13	340	79	1110	126	106	2020	398	5830	1090	2520	65	84
14	774	255	691	108	100	2060	186	6360	1050	1490	63	74
15	139	265	237	97	97	2050	137	4950	623	1560	69	69
16	80	311	175	92	95	2020	119	2590	811	1800	74	69
17	70	543	148	192	93	2000	105	2090	1190	1950	69	67
18	808	189	131	194	93	1990	98	2160	497	1910	65	63
19	1610	e125	124	116	91	1350	97	2000	160	1890	65	65
20	4460	e112	117	103	869	1060	99	1910	117	1880	64	64
21	e4900	e111	119	108	614	1090	99	1870	111	1860	107	70
22	e1420	110	108	117	2610	1630	98	1870	106	1850	101	65
23	e574	110	116	124	e1750	340	102	1870	218	1840	61	64
24	e326	100	109	139	1060	128	112	1860	173	1840	62	67
25	e217	96	101	150	846	118	98	1850	130	1830	66	68
26	e164	142	96	146	1080	120	754	1980	108	1760	65	69
27	e128	194	93	132	1120	273	251	2100	95	449	63	71
28	105	147	92	132	1130	481	134	1950	92	286	62	68
29	107	125	e96	118	---	175	812	2120	90	277	62	65
30	115	112	e100	109	---	104	2300	3130	96	152	63	63
31	102	---	e103	102	---	103	---	2350	---	83	63	---
TOTAL	17373	4116	7880	3806	12958	47822	8764	83690	27597	37154	2469	5239
MEAN	560	137	254	123	463	1543	292	2700	920	1199	79.6	175
MAX	4900	543	1920	243	2610	4420	2300	6360	1920	4610	293	887
MIN	51	68	92	89	91	103	95	1850	90	75	61	63
AC-FT	34460	8160	15630	7550	25700	94850	17380	166000	54740	73690	4900	10390

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1994#, BY WATER YEAR (WY)

	369	438	630	487	722	825	966	1737	1059	440	163	210
MEAN	369	438	630	487	722	825	966	1737	1059	440	163	210
MAX	4116	3032	4401	3083	3043	2714	3425	9586	5718	2026	1459	1560
(WY)	1974	1975	1972	1972	1975	1992	1985	1957	1989	1982	1989	1974
MIN	1.58	3.78	3.57	7.77	23.1	10.6	7.47	42.1	17.8	3.84	.000	.000
(WY)	1957	1956	1955	1957	1957	1956	1956	1959	1954	1956	1956	1954

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1954 - 1994#
ANNUAL TOTAL	317504	258868	670
ANNUAL MEAN	870	709	1875
HIGHEST ANNUAL MEAN			1875
LOWEST ANNUAL MEAN			38.4
HIGHEST DAILY MEAN	12600	Feb 26	48800
LOWEST DAILY MEAN	49	Aug 29	.00
ANNUAL SEVEN-DAY MINIMUM	54	Aug 24	.00
INSTANTANEOUS PEAK FLOW		unknown	59900
INSTANTANEOUS PEAK STAGE		unknown	27.17
ANNUAL RUNOFF (AC-FT)	629800	513500	485500
10 PERCENT EXCEEDS	2520	2070	2010
50 PERCENT EXCEEDS	135	126	86
90 PERCENT EXCEEDS	65	69	17

e Estimated

Period of regulated streamflow.

TRINITY RIVER BASIN

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: January to April 1964, May 1966 to September 1981, June 1986 to current year. Pesticide analyses: March 1977 to July 1981. Sediment analyses: April to September 1964.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1967 to September 1981, May 1986 to current year.

pH: March to September 1977, May 1986 to current year.

WATER TEMPERATURE: October 1967 to September 1981, May 1986 to current year.

DISSOLVED OXYGEN: March to September 1977, May 1986 to current year.

INSTRUMENTATION.--From March to November 1977, a four-parameter water-quality monitor continuously recorded specific conductance, pH, water temperature, and dissolved oxygen at this station. Since May 1986, a four-parameter water-quality monitor continuously records specific conductance, pH, water temperature, and dissolved oxygen at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the U.S. Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,010 microsiemens Nov. 23, 1968; minimum, 100 microsiemens May 17, 1989.

pH: Maximum, 9.5 units Oct. 30, 1989; minimum, 6.7 units on several days during 1988 and 1991.

WATER TEMPERATURE: Maximum, 34.0°C June 26, July 1, Aug. 16, 17, 1980; minimum, 1.0°C Jan. 3, 1979.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L Mar. 14, 1993; minimum, 0.0 mg/L on many days during 1977 and 1991.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 770 microsiemens Aug. 21; minimum, 126 microsiemens May 3.

pH: Maximum, 8.3 units Oct. 3, June 6-10; minimum, 7.2 units Oct. 16, Apr. 26, Sep. 1.

WATER TEMPERATURE: Maximum, 31.5°C June 26, 27; minimum, 6.0°C Nov. 27, Jan. 19.

DISSOLVED OXYGEN: Maximum, 13.1 mg/L Jan. 5; minimum, 3.7 mg/L Sept. 1.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	
NOV 04...	1647	104	559	7.6	17.0	7.8	81	--	150	21	54	3.5	
JAN 21...	0910	108	604	7.7	7.5	11.4	94	1.7	160	62	58	3.7	
FEB 04...	1200	96	687	7.9	11.0	10.2	94	--	190	50	68	4.3	
MAR 22...	1628	1630	309	8.0	15.0	11.4	113	2.4	120	14	42	2.5	
MAY 21...	1312	1870	308	7.7	21.0	8.0	90	--	120	13	45	2.7	
MAY 24...	1231	1860	326	7.6	21.5	8.3	94	1.1	130	20	46	2.7	
JUN 17...	0937	1160	313	7.8	26.5	8.6	107	2.2	120	14	42	2.6	
JUL 13...	1020	2520	280	7.6	26.5	6.2	77	1.3	110	6	39	2.3	
DATE		SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CAC03)	ALKA-LINITY WAT DIS FIX END FIELD (MG/L AS CAC03)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
NOV 04...	51	2	8.4	--	--	--	130	56	49	0.80	11	--	
JAN 21...	51	2	9.9	--	--	--	98	63	52	0.90	8.8	--	
FEB 04...	68	2	9.9	--	--	--	140	75	67	1.1	7.1	434	
MAR 22...	15	0.6	3.9	--	--	--	100	28	13	0.30	3.3	--	
MAY 21...	15	0.6	4.7	0	135	110	110	27	13	0.30	2.3	188	
MAY 24...	15	0.6	3.8	--	--	--	110	27	12	0.30	2.7	--	
JUN 17...	17	0.7	4.7	--	--	--	100	27	14	0.40	3.4	--	
JUL 13...	13	0.5	4.5	--	--	--	100	22	11	0.30	4.8	--	

TRINITY RIVER BASIN

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08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
NOV 04...	342	5.09	5.09	0.310	5.40	5.40	1.60	--	--	0.70	2.3	--
JAN 21...	344	6.63	6.63	0.070	6.70	6.70	0.190	--	--	0.81	1.0	--
FEB 04...	445	7.05	7.05	0.050	7.10	7.10	0.130	8.5	1.3	1.6	1.7	1.4
MAR 22...	171	0.500	0.500	0.040	0.540	0.540	0.100	--	--	0.30	0.40	--
MAY 21...	179	0.570	0.570	0.030	0.600	0.600	0.020	1.1	0.48	0.28	0.30	0.50
MAY 24...	177	0.690	0.690	0.030	0.720	0.720	0.040	--	--	0.36	0.40	--
JUN 17...	175	0.570	--	<0.010	0.570	0.570	0.050	--	--	0.45	0.50	--
JUL 13...	160	0.400	--	<0.010	0.400	0.400	0.030	--	--	0.27	0.30	--
DATE	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDEED TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDEED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	
NOV 04...	--	1.70	1.70	5.2	--	--	--	--	--	--	--	
JAN 21...	--	2.40	2.50	7.7	--	--	--	--	--	--	--	
FEB 04...	2.40	2.20	2.20	6.7	7.6	1.2	25	6.5	97	19	33	
MAR 22...	--	0.060	0.050	0.15	--	--	--	--	--	--	--	
MAY 21...	0.120	0.080	0.080	0.25	4.2	1.1	93	470	89	4	1	
MAY 24...	--	0.060	0.070	0.21	--	--	--	--	--	--	--	
JUN 17...	--	0.170	0.150	0.46	--	--	--	--	--	--	--	
JUL 13...	--	0.130	0.120	0.37	--	--	--	--	--	--	--	
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. 1993	17373	315	177	8290	17	781	28	1330	110			
NOV. 1993	4116	508	284	3150	41	459	51	571	140			
DEC. 1993	7880	478	267	5680	38	799	48	1020	140			
JAN. 1994	3806	777	414	4260	270	2760	160	1640	-262			
FEB. 1994	12958	539	301	10500	47	1650	56	1950	150			
MAR. 1994	47822	331	186	24000	17	2220	30	3830	120			
APR. 1994	8764	447	250	5910	34	799	44	1050	130			
MAY 1994	83690	247	139	31400	12	2620	22	4900	90			
JUNE 1994	27597	322	181	13500	16	1190	29	2130	120			
JULY 1994	37154	294	165	16600	13	1320	26	2560	110			
AUG. 1994	2469	583	325	2170	55	366	62	413	150			
SEPT 1994	5239	401	224	3170	28	401	39	550	120			
TOTAL	258868	**	**	129000	**	15400	**	21900	**			
WTD.AVG.	709	328	184	**	22	**	31	**	100			

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	e635	585	552	563	602	561	576	678	657	669
2	739	657	694	554	538	546	620	602	613	693	661	681
3	713	506	644	574	554	571	648	272	510	675	629	654
4	589	365	441	607	548	579	348	270	308	629	594	611
5	592	379	462	619	537	581	433	348	386	605	568	578
6	597	552	575	554	544	549	510	433	470	619	572	596
7	577	519	549	609	554	593	554	510	538	663	595	629
8	723	577	656	618	600	609	589	540	574	689	663	678
9	718	329	640	617	601	610	630	583	612	689	647	661
10	591	324	507	602	592	598	638	606	620	687	647	671
11	598	586	593	618	593	606	665	637	650	657	403	613
12	597	544	566	624	612	619	692	661	677	548	374	480
13	544	155	353	667	624	648	680	327	485	497	377	452
14	392	192	323	668	241	562	420	317	356	570	494	529
15	518	321	409	531	359	420	490	420	453	628	570	596
16	588	500	537	440	255	393	551	490	534	657	628	646
17	568	509	541	416	236	319	601	548	583	675	499	614
18	592	173	335	419	337	384	630	578	599	555	358	431
19	358	177	272	498	419	469	628	601	612	524	403	479
20	195	169	180	554	498	530	659	628	641	588	508	539
21	---	---	e240	590	549	567	652	630	644	639	588	613
22	---	---	e280	602	588	597	649	622	636	652	617	630
23	370	273	320	605	582	599	699	647	669	664	634	653
24	416	370	395	636	579	609	700	675	688	637	607	628
25	433	416	427	649	636	642	695	675	682	607	575	593
26	460	431	441	675	644	662	701	672	688	626	574	602
27	492	460	480	647	516	573	672	644	658	643	621	629
28	534	489	510	525	470	496	644	629	633	671	640	656
29	545	529	537	542	476	518	634	624	629	687	669	678
30	608	544	583	562	537	552	660	634	652	690	672	682
31	592	574	584	---	---	---	666	654	661	688	678	683
MONTH	739	155	474	675	236	552	701	270	582	693	358	608

e Estimated

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	681	663	669	---	---	e546	738	674	718	337	295	321
2	674	660	666	---	---	e297	743	724	734	348	224	295
3	695	670	684	---	---	e309	740	411	567	267	126	159
4	722	695	709	---	---	e314	658	548	630	211	173	194
5	724	709	716	---	---	e315	593	546	556	225	211	222
6	726	718	723	---	---	e315	613	397	530	222	214	218
7	726	708	713	---	---	e313	624	567	591	215	209	212
8	708	694	698	---	---	e312	629	575	591	213	194	204
9	695	679	685	---	---	e281	686	629	667	212	179	184
10	701	686	693	---	---	e301	713	680	701	220	180	195
11	716	684	703	---	---	e423	710	275	692	192	172	180
12	715	663	678	---	---	e320	358	199	288	---	---	e190
13	667	653	657	---	---	e320	418	325	370	---	---	e200
14	685	667	675	---	---	e321	484	418	458	---	---	e210
15	686	675	679	---	---	e322	594	484	548	---	---	e220
16	677	658	666	324	315	320	655	594	624	---	---	e220
17	694	673	684	318	312	315	665	651	657	---	---	e230
18	712	694	705	322	317	320	679	656	666	---	---	e240
19	731	711	722	350	322	344	667	653	660	---	---	e260
20	---	---	e445	347	339	343	679	658	665	---	---	e280
21	---	---	e399	343	314	336	691	675	681	---	---	e300
22	---	---	e353	329	311	315	723	685	709	---	---	e310
23	---	---	e494	448	329	407	736	711	724	---	---	e320
24	---	---	e567	612	448	523	734	694	712	---	---	e320
25	---	---	e604	708	612	672	694	614	644	334	322	327
26	---	---	e625	743	660	727	614	307	446	331	299	320
27	---	---	e644	749	512	652	441	305	369	330	294	310
28	---	---	e674	603	356	424	545	441	508	307	302	305
29	---	---	---	457	375	417	589	264	457	306	228	285
30	---	---	---	586	457	513	365	295	317	295	229	269
31	---	---	---	674	586	630	---	---	---	302	295	300
MONTH	731	653	640	749	311	396	743	199	583	348	126	252

e Estimated

TRINITY RIVER BASIN

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08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	302	299	300	599	532	570	594	481	549	656	206	416
2	308	301	305	583	528	561	626	594	613	383	213	296
3	307	303	305	528	449	477	617	598	608	383	160	249
4	304	298	301	468	453	464	625	595	607	394	281	343
5	307	300	303	461	426	446	640	625	635	510	394	460
6	309	305	307	427	385	406	666	640	656	557	510	527
7	305	294	300	388	366	377	658	623	647	568	555	562
8	317	302	312	366	345	352	652	247	500	576	558	568
9	318	313	316	498	276	376	409	262	357	616	338	493
10	332	310	312	427	259	307	517	406	455	493	295	346
11	349	308	328	384	319	356	554	517	539	316	296	306
12	324	299	310	344	292	320	609	554	588	395	316	348
13	313	301	308	292	265	277	626	609	619	510	395	455
14	318	308	314	292	276	284	629	614	623	585	510	556
15	373	313	340	294	246	265	662	627	645	611	585	598
16	338	295	315	276	265	270	670	609	640	657	611	637
17	326	299	314	272	267	270	625	614	622	680	656	666
18	387	321	354	271	266	269	634	615	623	663	655	658
19	422	387	401	270	267	268	681	634	667	658	650	655
20	531	422	474	274	269	271	755	675	694	673	651	662
21	571	531	556	275	272	273	770	609	718	651	622	634
22	571	545	556	273	265	269	762	620	710	634	623	628
23	579	346	522	271	265	267	736	601	659	670	626	649
24	539	340	428	267	262	264	609	593	603	680	660	670
25	617	539	594	268	260	264	631	555	592	691	660	680
26	617	574	593	282	260	266	662	631	651	713	681	698
27	616	598	609	346	282	328	684	662	671	690	668	680
28	640	605	625	345	326	333	679	658	668	674	644	657
29	639	588	617	346	327	334	674	657	665	652	643	646
30	595	585	589	362	340	350	667	653	661	---	---	e660
31	---	---	---	481	359	406	677	653	666	---	---	---
MONTH	640	294	407	599	246	340	770	247	618	713	160	547
YEAR	770	126	498									

e Estimated

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.0	7.9	8.0	---	---	---	7.9	7.8	7.8	7.7	7.5	7.6
2	8.0	7.7	7.9	---	---	---	7.8	7.7	7.7	7.6	7.5	7.6
3	8.3	8.0	8.1	---	---	---	7.7	7.7	7.7	7.7	7.5	7.6
4	8.0	7.8	7.9	---	---	---	7.8	7.7	7.7	7.9	7.5	7.7
5	7.9	7.8	7.9	---	---	---	7.8	7.7	7.8	8.1	7.7	7.9
6	7.8	7.7	7.8	7.9	7.9	7.9	7.8	7.7	7.7	8.0	7.8	7.9
7	7.8	7.6	7.7	7.9	7.9	7.9	7.7	7.7	7.7	7.9	7.7	7.8
8	7.7	7.6	7.7	7.9	7.8	7.9	7.7	7.5	7.6	7.9	7.8	7.8
9	---	---	---	7.9	7.8	7.8	7.5	7.4	7.5	8.1	7.8	8.0
10	---	---	---	7.8	7.7	7.8	7.5	7.4	7.5	8.0	7.8	7.9
11	---	---	---	7.8	7.7	7.8	7.5	7.5	7.5	7.8	7.7	7.7
12	7.8	7.3	7.6	7.7	7.6	7.7	7.5	7.4	7.4	7.8	7.7	7.7
13	8.0	7.3	7.7	7.6	7.4	7.5	---	---	---	7.9	7.7	7.9
14	7.9	7.7	7.7	7.6	7.3	7.4	---	---	---	8.0	7.9	7.9
15	7.7	7.3	7.6	7.6	7.4	7.5	---	---	---	7.9	7.9	7.9
16	7.6	7.2	7.4	7.9	7.4	7.5	---	---	---	7.9	7.9	7.9
17	7.8	7.4	7.7	8.1	7.7	7.8	---	---	---	8.0	7.9	7.9
18	8.0	7.6	7.9	7.8	7.7	7.7	---	---	---	8.0	7.9	7.9
19	8.0	7.8	7.9	7.8	7.7	7.8	---	---	---	8.0	7.9	8.0
20	8.0	7.9	7.9	7.8	7.8	7.8	---	---	---	8.0	7.9	8.0
21	8.0	7.8	7.9	7.9	7.8	7.8	---	---	---	8.0	7.9	8.0
22	---	---	---	8.0	7.9	7.9	7.8	7.7	7.7	8.0	7.9	7.9
23	7.9	7.9	7.9	7.9	7.8	7.9	7.8	7.7	7.7	7.9	7.9	7.9
24	7.9	7.9	7.9	7.8	7.8	7.8	7.7	7.6	7.7	7.9	7.9	7.9
25	7.9	7.9	7.9	7.8	7.8	7.8	7.7	7.6	7.7	7.9	7.8	7.9
26	7.9	7.9	7.9	8.0	7.8	7.9	7.7	7.6	7.7	7.8	7.8	7.8
27	7.9	7.9	7.9	8.0	7.9	7.9	7.7	7.6	7.7	7.9	7.8	7.8
28	---	---	---	8.0	7.9	7.9	7.7	7.6	7.6	7.9	7.8	7.9
29	---	---	---	7.9	7.9	7.9	7.7	7.6	7.7	7.9	7.8	7.8
30	---	---	---	7.9	7.9	7.9	7.8	7.6	7.7	7.8	7.8	7.8
31	---	---	---	---	---	---	7.8	7.7	7.7	7.8	7.7	7.8
MONTH	8.3	7.2	7.8	8.1	7.3	7.8	7.9	7.4	7.7	8.1	7.5	7.8

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	7.8	7.7	7.7	7.9	7.7	7.8	7.6	7.4	7.5	7.9	7.7	7.8
2	7.7	7.7	7.7	7.9	7.8	7.8	7.5	7.4	7.5	8.0	7.7	7.9
3	7.8	7.6	7.7	8.0	7.8	7.9	7.5	7.3	7.4	7.9	7.6	7.7
4	7.8	7.7	7.8	8.0	7.9	8.0	7.4	7.3	7.3	8.0	7.6	7.8
5	7.8	7.7	7.7	---	---	---	7.5	7.3	7.4	7.9	7.6	7.8
6	7.8	7.7	7.7	---	---	---	7.4	7.3	7.4	8.1	7.8	7.9
7	7.7	7.6	7.7	---	---	---	7.5	7.3	7.4	8.0	7.8	7.9
8	7.7	7.6	7.6	---	---	---	7.8	7.4	7.6	8.0	7.8	7.9
9	7.6	7.6	7.6	---	---	---	7.7	7.6	7.7	8.0	7.7	7.9
10	7.7	7.6	7.7	---	---	---	7.7	7.6	7.6	8.0	7.6	7.8
11	7.7	7.6	7.7	---	---	---	7.6	7.5	7.6	8.0	7.8	7.9
12	7.7	7.6	7.7	---	---	---	7.7	7.5	7.6	8.0	7.6	7.8
13	7.7	7.6	7.7	---	---	---	7.6	7.5	7.6	7.7	7.5	7.6
14	7.7	7.6	7.7	---	---	---	7.7	7.6	7.6	7.7	7.6	7.7
15	7.9	7.6	7.7	---	---	---	7.6	7.6	7.6	7.9	7.6	7.7
16	7.9	7.8	7.9	8.0	7.6	7.8	7.6	7.5	7.6	---	---	---
17	7.9	7.8	7.8	8.0	7.7	7.8	7.7	7.5	7.6	---	---	---
18	7.9	7.8	7.8	8.2	7.7	7.9	7.8	7.6	7.7	---	---	---
19	7.8	7.7	7.8	8.1	7.7	7.9	7.8	7.6	7.7	---	---	---
20	7.9	7.6	7.7	8.0	7.8	7.9	7.7	7.5	7.6	---	---	---
21	7.7	7.6	7.6	---	---	---	7.6	7.4	7.5	---	---	---
22	7.8	7.6	7.7	---	---	---	7.4	7.3	7.4	---	---	---
23	7.7	7.6	7.6	---	---	---	7.5	7.4	7.4	---	---	---
24	7.9	7.7	7.8	---	---	---	7.4	7.3	7.3	---	---	---
25	7.9	7.8	7.9	---	---	---	7.4	7.3	7.4	---	---	---
26	8.0	7.9	8.0	7.6	7.5	7.5	7.7	7.2	7.5	---	---	---
27	8.0	8.0	8.0	7.6	7.4	7.5	7.5	7.3	7.4	---	---	---
28	8.0	7.9	8.0	7.8	7.4	7.6	7.4	7.4	7.4	---	---	---
29	---	---	---	7.7	7.6	7.7	7.9	7.4	7.5	---	---	---
30	---	---	---	7.6	7.6	7.6	7.9	7.6	7.8	---	---	---
31	---	---	---	7.6	7.5	7.6	---	---	---	---	---	---
MONTH	8.0	7.6	7.7	8.2	7.4	7.8	7.9	7.2	7.5	8.1	7.5	7.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	---	---	---	---	7.9	7.2	7.6
2	---	---	---	---	---	---	---	---	---	7.9	7.4	7.7
3	---	---	---	---	---	---	7.8	7.6	7.7	7.9	7.3	7.6
4	---	---	---	---	---	---	7.9	7.6	7.7	7.6	7.5	7.6
5	8.2	8.1	8.2	---	---	---	7.8	7.7	7.7	7.7	7.6	7.6
6	8.3	8.1	8.2	---	---	---	7.8	7.6	7.7	7.7	7.6	7.6
7	8.3	8.2	8.2	---	---	---	7.7	7.5	7.6	7.6	7.6	7.6
8	8.3	8.1	8.2	---	---	---	7.7	7.4	7.5	7.7	7.6	7.6
9	8.3	8.1	8.2	---	---	---	7.6	7.5	7.6	7.6	7.5	7.5
10	8.3	8.1	8.2	---	---	---	7.8	7.5	7.6	7.5	7.4	7.5
11	8.2	8.0	8.1	---	---	---	7.7	7.5	7.6	7.6	7.5	7.5
12	8.1	8.0	8.0	---	---	---	7.6	7.5	7.6	7.7	7.5	7.6
13	8.1	7.9	8.0	---	---	---	7.7	7.5	7.6	7.7	7.6	7.6
14	8.0	7.9	7.9	---	---	---	7.9	7.6	7.7	7.7	7.5	7.6
15	7.9	7.6	7.8	---	---	---	7.7	7.4	7.5	7.7	7.6	7.7
16	7.7	7.6	7.6	---	---	---	7.7	7.5	7.6	7.7	7.7	7.7
17	7.8	7.5	7.7	---	---	---	7.7	7.6	7.6	7.8	7.7	7.7
18	7.7	7.6	7.7	---	---	---	7.6	7.5	7.5	7.7	7.7	7.7
19	7.8	7.6	7.7	---	---	---	7.7	7.5	7.6	7.8	7.7	7.7
20	7.8	7.6	7.7	---	---	---	7.5	7.4	7.5	7.7	7.6	7.7
21	7.8	7.6	7.7	---	---	---	7.4	7.4	7.4	7.7	7.6	7.6
22	7.9	7.6	7.7	---	---	---	7.4	7.3	7.4	7.7	7.6	7.6
23	8.0	7.7	7.8	---	---	---	7.6	7.3	7.4	7.6	7.5	7.5
24	7.8	7.7	7.7	---	---	---	7.7	7.5	7.6	7.6	7.5	7.5
25	7.8	7.6	7.7	---	---	---	7.6	7.5	7.6	7.6	7.5	7.5
26	8.0	7.6	7.8	---	---	---	7.6	7.5	7.6	7.5	7.4	7.4
27	7.9	7.7	7.8	---	---	---	7.6	7.5	7.6	7.4	7.3	7.3
28	7.9	7.7	7.8	---	---	---	7.7	7.5	7.6	7.4	7.3	7.4
29	---	---	---	---	---	---	7.6	7.5	7.6	7.5	7.4	7.5
30	---	---	---	---	---	---	7.6	7.5	7.5	---	---	---
31	---	---	---	---	---	---	7.7	7.6	7.6	---	---	---
MONTH	8.3	7.5	7.9	---	---	---	7.9	7.3	7.6	7.9	7.2	7.6
YEAR	8.3	7.2	7.7									

TRINITY RIVER BASIN

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08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	12.0	10.0	11.0	14.5	11.5	13.0	12.0	9.5	10.5
2	---	---	---	12.5	11.0	12.0	16.0	14.5	15.0	12.0	10.5	11.5
3	---	---	---	---	---	---	17.0	15.5	16.5	11.5	10.0	11.0
4	---	---	---	16.5	13.0	15.0	16.5	14.0	15.5	11.0	9.5	10.5
5	---	---	---	16.5	15.5	16.0	14.0	13.0	13.5	10.5	9.0	9.5
6	---	---	---	15.5	13.0	14.0	13.5	12.5	13.0	11.5	10.0	11.0
7	---	---	---	13.0	11.0	12.5	13.0	12.0	12.5	11.5	10.0	10.5
8	25.0	23.5	24.5	12.5	11.0	11.5	13.5	12.0	13.0	10.0	8.5	9.0
9	25.0	22.0	24.0	13.5	11.5	12.5	16.0	13.5	15.0	9.5	7.5	8.5
10	22.0	20.5	21.0	15.0	13.5	14.0	16.5	15.5	16.0	11.5	9.0	10.0
11	20.5	19.5	20.0	15.5	14.5	15.0	15.5	14.5	15.0	13.0	11.5	12.0
12	20.5	19.0	20.0	17.5	15.5	16.5	14.5	14.0	14.0	12.5	11.5	12.0
13	20.5	20.0	20.5	19.5	17.5	18.5	14.0	12.5	13.5	12.5	11.5	12.0
14	20.5	19.5	20.0	20.0	17.5	19.0	12.5	11.0	12.0	12.5	11.5	12.0
15	21.0	20.0	20.5	18.0	16.5	17.5	11.0	10.5	10.5	12.0	11.0	11.5
16	22.5	20.5	21.5	16.5	11.5	15.0	10.5	9.5	10.0	11.0	10.5	11.0
17	23.5	22.5	23.0	12.5	11.0	12.0	12.0	10.5	11.5	11.0	9.0	10.0
18	23.0	21.0	22.0	14.0	12.5	13.0	12.0	11.0	11.5	9.0	6.5	8.0
19	23.0	20.5	22.0	14.5	13.5	14.0	12.0	11.0	11.5	7.5	6.0	6.5
20	---	---	---	14.0	13.0	13.5	12.5	11.5	12.0	8.0	7.0	7.5
21	---	---	---	13.0	12.0	12.5	12.0	11.0	11.0	8.5	7.5	8.0
22	---	---	---	12.5	11.0	12.0	11.0	10.0	10.5	9.5	8.0	8.5
23	18.5	16.5	17.0	14.0	12.0	13.0	10.0	8.5	9.5	11.0	9.0	10.0
24	17.5	16.0	17.0	14.0	13.0	14.0	9.0	8.0	8.5	12.5	10.0	11.5
25	18.5	16.5	17.5	13.0	9.0	11.5	10.0	8.0	9.0	14.5	12.5	14.0
26	19.0	17.0	18.0	9.5	6.5	8.5	10.5	8.5	9.5	17.0	14.5	16.0
27	18.0	16.0	17.5	7.5	6.0	7.0	12.0	9.5	11.0	16.5	14.5	16.0
28	17.0	15.5	16.5	9.0	6.5	8.0	12.0	11.5	12.0	14.5	11.5	12.5
29	16.5	13.5	15.5	10.5	8.5	9.5	11.5	10.0	10.5	11.5	10.5	11.0
30	13.5	11.0	12.5	12.0	9.5	10.5	10.5	9.0	9.5	10.5	9.5	10.0
31	12.5	10.5	11.5	---	---	---	10.0	8.5	9.5	10.5	9.5	10.0
MONTH	25.0	10.5	19.0	20.0	6.0	13.0	17.0	8.0	12.0	17.0	6.0	10.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	10.0	8.5	9.0	---	---	---	18.0	15.0	16.5	18.0	16.0	17.0
2	9.5	7.5	9.0	---	---	---	18.0	16.5	17.0	18.0	15.5	17.0
3	10.5	8.5	9.5	---	---	---	18.0	16.5	17.5	16.5	14.5	15.5
4	13.0	10.0	11.5	---	---	---	18.5	16.5	17.5	18.5	16.5	17.5
5	14.0	12.5	13.5	---	---	---	19.0	18.0	18.5	19.5	18.0	18.5
6	14.5	12.5	13.5	---	---	---	18.0	16.0	16.5	20.0	19.0	19.5
7	14.5	13.5	14.0	---	---	---	17.0	15.0	16.0	20.0	19.0	19.5
8	17.5	14.5	16.0	---	---	---	18.0	15.5	16.5	19.0	18.5	18.5
9	17.5	12.0	15.0	---	---	---	19.5	17.5	18.5	19.0	18.5	19.0
10	12.0	8.0	9.5	---	---	---	21.5	19.0	20.0	19.5	19.0	19.0
11	9.0	7.5	8.0	---	---	---	21.5	20.5	21.5	20.5	19.5	20.0
12	10.0	7.5	9.0	---	---	---	20.5	18.0	18.5	21.5	20.5	21.0
13	11.0	9.0	10.0	---	---	---	20.0	18.0	19.0	22.0	21.0	21.5
14	11.0	9.0	10.5	---	---	---	21.0	19.0	20.0	21.0	20.0	20.5
15	12.5	10.0	11.5	---	---	---	21.5	20.5	21.0	22.0	20.5	21.5
16	14.0	11.5	12.5	14.5	12.0	13.5	21.5	20.0	21.0	22.0	21.5	21.5
17	15.0	12.5	13.5	15.0	12.5	14.0	22.0	19.5	21.0	22.0	21.5	22.0
18	15.5	13.5	14.5	15.0	13.0	14.0	22.0	19.5	21.0	22.0	21.0	21.5
19	16.5	15.5	16.0	15.5	14.0	14.5	22.5	20.5	21.5	23.0	21.0	22.0
20	---	---	---	15.5	14.0	14.5	23.0	21.5	22.0	22.5	21.0	22.0
21	---	---	---	15.0	13.5	14.5	23.5	21.5	22.5	22.0	20.5	21.5
22	---	---	---	16.0	13.0	14.0	24.0	22.5	23.0	22.5	21.0	21.5
23	---	---	---	18.5	16.0	17.0	25.0	22.5	23.5	22.5	21.0	22.0
24	---	---	---	19.5	18.0	19.0	24.5	23.5	23.5	22.5	21.0	22.0
25	---	---	---	19.0	18.0	18.5	24.0	23.0	23.0	22.5	21.5	22.0
26	---	---	---	18.5	18.0	18.5	23.5	20.5	22.0	22.5	22.0	22.5
27	---	---	---	18.5	16.5	17.5	24.0	22.5	23.0	23.5	22.5	23.0
28	---	---	---	16.5	14.5	15.0	24.0	22.5	23.0	23.5	22.5	23.0
29	---	---	---	16.0	13.5	14.5	22.5	18.0	20.5	23.5	22.5	23.0
30	---	---	---	17.0	15.0	15.5	19.0	17.0	18.0	24.0	22.0	23.0
31	---	---	---	17.0	14.5	15.5	---	---	---	25.0	23.5	24.0
MONTH	17.5	7.5	12.0	19.5	12.0	15.5	25.0	15.0	20.0	25.0	14.5	20.5

08062000 EAST FORK TRINITY RIVER NEAR CRANDALL, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	25.5	24.0	24.5	30.0	28.5	29.5	29.0	26.5	27.5	29.0	25.5	27.0
2	25.0	23.5	24.5	30.5	28.5	29.5	29.0	27.0	28.0	26.5	25.5	26.0
3	25.0	24.0	24.5	31.0	28.5	29.5	29.5	27.0	28.0	26.0	25.0	25.5
4	25.5	24.0	24.5	31.0	29.0	30.0	30.0	27.5	28.5	28.0	25.5	26.5
5	25.5	24.5	25.0	31.0	29.0	30.0	30.0	28.0	29.0	28.5	26.5	27.5
6	25.5	24.0	24.5	30.5	29.0	29.5	30.5	28.0	29.0	29.0	27.5	28.0
7	26.0	25.0	25.5	30.5	28.0	29.5	29.5	27.5	28.5	28.5	28.0	28.5
8	26.0	24.0	24.5	31.0	28.5	29.5	27.5	25.0	26.0	28.0	27.0	27.5
9	25.5	24.0	24.5	30.0	27.5	28.5	28.0	25.0	26.5	27.0	25.0	26.0
10	26.0	25.0	25.5	27.5	24.5	25.5	29.0	27.0	28.0	27.5	25.5	26.5
11	26.5	25.5	25.5	25.5	23.0	24.0	30.0	27.5	29.0	27.5	26.5	27.0
12	26.0	25.0	25.5	27.0	24.5	25.5	30.5	28.5	29.5	28.0	26.0	27.0
13	26.0	25.0	25.5	28.0	26.5	27.5	31.0	28.5	29.5	28.0	26.5	27.5
14	26.0	25.0	25.5	28.0	27.5	27.5	31.0	28.5	30.0	28.5	26.5	27.5
15	25.5	24.5	25.0	28.0	26.5	27.0	30.0	29.0	29.5	29.0	27.0	28.0
16	26.0	24.5	25.0	28.5	27.0	27.5	29.5	28.0	28.5	28.5	27.0	27.5
17	26.5	25.0	26.0	28.5	27.5	28.0	30.0	28.0	28.5	27.5	26.0	27.0
18	27.5	26.5	27.0	28.5	27.5	28.0	30.5	28.0	29.5	26.5	24.5	25.5
19	28.5	26.5	27.5	28.5	27.5	28.0	31.0	29.0	30.0	25.5	23.5	24.5
20	29.5	27.0	28.0	28.5	27.0	28.0	30.5	29.0	29.5	25.5	23.5	24.5
21	30.0	27.5	28.5	28.5	27.5	28.0	29.0	27.5	28.5	25.0	23.5	24.0
22	30.0	28.0	28.5	28.5	27.5	28.0	28.5	27.0	28.0	24.5	22.5	23.5
23	30.5	26.0	28.5	29.0	27.5	28.5	29.5	27.5	28.5	22.5	20.5	21.0
24	30.5	26.0	28.0	29.0	27.5	28.5	30.5	28.0	29.0	21.5	19.5	21.0
25	31.0	28.5	29.5	29.0	27.5	28.0	30.5	28.5	29.5	21.0	19.0	20.5
26	31.5	28.5	30.0	28.5	27.5	28.0	31.0	28.5	29.5	22.5	20.0	21.0
27	31.5	29.0	30.0	29.0	27.5	28.0	30.5	29.0	30.0	23.5	21.0	22.5
28	30.5	28.5	29.5	29.0	26.5	27.5	30.5	28.5	29.5	25.0	22.5	23.5
29	30.5	28.5	29.5	29.0	27.0	28.0	30.5	28.5	29.5	25.5	23.0	24.5
30	31.0	28.5	29.5	28.0	27.0	27.0	30.5	28.5	29.5	---	---	---
31	---	---	---	28.0	26.0	27.0	30.5	28.5	29.5	---	---	---
MONTH	31.5	23.5	26.5	31.0	23.0	28.0	31.0	25.0	29.0	29.0	19.0	25.5
YEAR	31.5	6.0	20.0									

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	5.6	4.7	5.1	9.8	9.5	9.7	9.0	7.6	8.3	10.7	8.9	10.0
2	5.6	4.5	5.1	9.5	8.8	9.3	7.6	6.3	6.7	10.4	8.3	9.4
3	5.9	4.0	4.8	9.4	8.8	9.2	6.7	5.2	6.2	10.1	8.2	9.3
4	4.5	4.1	4.3	8.8	8.3	8.6	7.3	6.4	6.8	12.1	8.5	10.1
5	4.6	4.2	4.3	8.4	6.9	7.7	7.8	7.3	7.6	13.1	10.3	11.6
6	4.9	4.1	4.5	8.2	7.5	7.8	7.8	7.5	7.7	11.1	8.7	9.9
7	5.3	4.0	4.3	8.4	7.8	8.1	7.5	6.9	7.0	9.8	8.0	9.1
8	4.3	4.0	4.1	8.3	8.0	8.1	7.2	5.2	6.1	10.0	8.6	9.3
9	4.6	4.1	4.3	8.2	7.9	8.0	6.2	4.9	5.8	12.1	9.7	10.8
10	5.0	4.2	4.6	7.9	7.4	7.6	6.5	4.9	5.7	11.1	9.3	9.9
11	5.3	4.9	5.1	7.6	7.1	7.4	6.5	5.6	6.0	9.3	7.9	8.6
12	5.3	5.0	5.1	7.1	6.0	6.6	6.9	6.2	6.5	8.8	7.7	8.0
13	5.3	4.1	4.8	6.0	5.0	5.5	8.8	6.5	7.6	9.1	7.9	8.4
14	5.0	4.5	4.8	6.9	4.7	5.3	8.8	8.1	8.5	9.6	8.4	8.9
15	5.3	5.0	5.1	5.7	4.7	5.2	9.2	8.7	9.0	9.2	8.2	8.7
16	5.2	4.7	5.0	7.9	5.4	6.4	9.1	8.9	9.0	9.2	8.8	9.0
17	4.8	4.5	4.6	7.7	7.0	7.4	8.9	8.1	8.5	10.2	8.8	9.3
18	4.9	4.0	4.4	8.1	7.4	7.8	8.3	8.0	8.1	10.7	9.5	10.2
19	5.1	4.2	4.6	7.8	7.3	7.5	8.5	8.0	8.2	11.9	10.6	11.1
20	5.2	4.0	4.5	7.7	7.2	7.4	8.2	7.8	7.9	11.5	10.6	11.0
21	5.4	4.0	4.4	7.8	7.3	7.5	8.2	7.8	8.0	11.0	10.5	10.7
22	8.4	5.4	7.3	8.1	7.5	7.7	8.6	7.8	8.1	11.0	10.4	10.7
23	8.7	8.4	8.6	7.9	7.3	7.6	9.2	8.3	8.8	10.5	10.1	10.3
24	8.6	8.5	8.5	7.3	6.6	6.8	9.1	8.5	8.8	10.2	9.5	9.8
25	8.5	8.3	8.4	8.1	6.6	7.2	9.1	8.7	8.8	9.5	9.0	9.3
26	8.4	8.2	8.3	10.2	7.8	8.8	9.0	8.3	8.7	9.0	8.2	8.8
27	8.4	8.0	8.2	10.6	8.8	9.6	8.9	8.2	8.6	8.7	8.0	8.2
28	8.6	8.0	8.3	9.4	9.0	9.2	9.3	7.9	8.6	9.7	8.1	8.9
29	8.3	7.9	8.1	9.4	8.5	9.0	9.7	8.2	8.9	10.1	9.2	9.7
30	9.0	8.3	8.7	9.8	8.4	9.0	10.1	8.4	9.3	10.7	9.9	10.2
31	9.9	9.0	9.6	---	---	---	10.7	9.1	9.9	10.5	9.9	10.2
MONTH	9.9	4.0	5.9	10.6	4.7	7.8	10.7	4.9	7.9	13.1	7.7	9.7

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	11.1	10.1	10.6	11.8	10.6	11.1	8.4	7.8	8.1	8.0	7.4	7.7
2	11.3	10.6	10.9	11.6	10.8	11.2	8.2	7.2	7.7	8.2	7.7	7.9
3	11.3	10.5	10.8	11.9	11.0	11.4	7.6	4.4	6.6	8.3	7.3	7.8
4	10.9	10.1	10.6	11.9	11.1	11.5	7.5	6.6	7.0	7.3	7.0	7.1
5	10.6	9.7	10.1	---	---	---	7.4	6.2	6.7	7.7	6.9	7.3
6	10.5	9.5	10.0	---	---	---	7.6	6.7	7.2	8.1	7.6	7.8
7	10.0	9.3	9.7	---	---	---	9.2	7.3	8.2	7.9	7.7	7.8
8	9.8	9.0	9.4	---	---	---	8.9	7.8	8.4	8.2	7.7	7.9
9	9.0	8.3	8.7	---	---	---	8.0	6.2	6.8	8.1	7.1	7.5
10	11.9	9.0	10.3	---	---	---	6.5	5.8	6.1	7.2	6.7	6.9
11	12.4	10.9	11.7	---	---	---	6.4	4.9	5.3	7.5	7.0	7.2
12	11.8	11.2	11.5	---	---	---	6.7	5.9	6.3	7.3	5.3	6.1
13	11.8	11.0	11.3	---	---	---	6.8	6.5	6.7	5.5	5.0	5.3
14	11.8	11.0	11.4	---	---	---	6.7	6.2	6.5	5.8	5.2	5.5
15	11.4	10.8	11.1	---	---	---	6.2	5.5	6.0	5.5	5.1	5.4
16	11.2	10.1	10.6	10.4	8.5	9.6	6.0	5.3	5.6	6.0	5.3	5.7
17	11.1	9.5	10.3	10.6	7.0	9.4	6.6	5.1	5.7	6.1	5.7	5.9
18	10.2	9.1	9.7	10.8	8.1	9.7	7.7	5.4	6.4	6.1	5.5	5.8
19	9.3	8.1	8.7	10.0	7.4	9.1	7.4	5.7	6.5	6.0	5.6	5.8
20	8.6	7.5	7.9	9.7	7.8	9.1	---	---	---	6.0	5.6	5.8
21	8.3	8.0	8.1	9.6	7.7	9.1	---	---	---	---	---	---
22	9.4	7.9	8.7	9.9	7.9	9.1	---	---	---	---	---	---
23	9.0	7.8	8.2	8.9	6.5	7.6	---	---	---	---	---	---
24	11.0	9.0	10.2	6.5	5.1	5.7	---	---	---	---	---	---
25	11.2	10.9	11.1	7.0	4.7	6.2	---	---	---	---	---	---
26	12.1	11.2	11.8	6.7	6.1	6.4	---	---	---	8.0	7.1	7.5
27	12.3	12.0	12.1	6.9	6.3	6.6	5.7	5.4	5.5	7.7	7.0	7.3
28	12.2	11.8	12.1	9.4	6.8	8.4	6.0	5.4	5.7	7.7	7.3	7.5
29	---	---	---	9.2	8.6	9.0	7.4	5.7	6.5	7.6	6.6	7.2
30	---	---	---	8.6	8.2	8.4	7.4	7.1	7.3	6.6	6.0	6.3
31	---	---	---	8.7	8.0	8.3	---	---	---	7.2	6.4	6.8
MONTH	12.4	7.5	10.3	11.9	4.7	8.8	9.2	4.4	6.6	8.3	5.0	6.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	7.1	6.6	6.8	8.8	6.8	7.7	5.4	4.7	5.1	6.0	3.7	5.2
2	6.8	6.5	6.6	8.1	6.1	7.0	6.1	4.5	5.1	6.4	5.9	6.2
3	7.9	6.5	7.4	8.2	5.6	6.8	6.0	4.9	5.4	6.7	5.9	6.3
4	7.9	7.4	7.6	8.2	5.2	6.6	6.5	5.2	5.7	6.3	5.7	6.1
5	7.8	7.2	7.5	7.6	4.5	6.0	6.0	5.1	5.6	5.7	5.3	5.4
6	7.6	7.1	7.4	7.8	5.3	6.4	5.8	4.9	5.3	5.9	5.3	5.5
7	7.7	7.0	7.3	7.0	5.3	6.0	5.4	4.8	5.1	5.9	5.1	5.4
8	7.6	7.1	7.3	6.8	5.0	5.7	5.4	4.6	5.0	6.3	5.3	5.8
9	7.7	7.2	7.4	6.3	4.5	5.2	5.3	4.5	4.9	6.5	5.8	6.1
10	7.6	7.1	7.3	6.0	5.1	5.6	5.6	4.5	5.0	---	---	---
11	7.3	6.7	6.9	6.6	5.5	6.2	5.1	4.1	4.6	---	---	---
12	7.2	6.9	7.0	6.1	5.2	5.6	5.5	4.6	4.9	---	---	---
13	7.4	7.1	7.3	7.1	6.1	6.5	5.9	4.8	5.3	---	---	---
14	7.5	7.2	7.3	7.1	6.6	6.8	6.9	5.1	5.8	---	---	---
15	7.3	6.3	7.0	7.1	6.3	6.7	---	---	---	---	---	---
16	7.0	6.1	6.4	7.4	6.6	7.1	---	---	---	---	---	---
17	7.6	7.0	7.4	7.7	6.7	7.1	---	---	---	6.2	5.0	5.6
18	7.4	6.8	7.2	7.5	6.5	7.0	---	---	---	6.6	5.4	6.0
19	8.3	6.6	7.6	7.1	6.3	6.7	---	---	---	7.2	6.1	6.6
20	8.3	7.1	7.6	6.8	6.2	6.5	---	---	---	6.6	5.4	6.0
21	8.3	6.9	7.5	6.7	6.1	6.4	---	---	---	5.4	4.5	5.0
22	8.5	6.9	7.6	6.9	6.0	6.4	---	---	---	5.3	4.7	4.9
23	9.9	7.8	8.6	6.7	6.0	6.3	---	---	---	5.9	4.7	5.4
24	8.3	6.6	7.1	6.7	5.8	6.2	---	---	---	6.9	5.5	6.2
25	6.7	5.9	6.3	6.3	5.8	6.0	---	---	---	6.9	6.5	6.7
26	8.2	5.7	6.6	6.3	5.7	6.0	---	---	---	6.6	5.9	6.2
27	8.6	6.9	7.6	6.0	5.5	5.7	---	---	---	6.1	5.6	5.9
28	8.3	7.0	7.6	6.4	5.5	5.8	---	---	---	6.5	5.6	6.1
29	9.1	6.9	7.8	6.6	5.5	6.0	---	---	---	6.5	5.8	6.2
30	9.2	7.0	7.9	6.0	5.4	5.6	---	---	---	---	---	---
31	---	---	---	6.1	5.1	5.5	---	---	---	---	---	---
MONTH	9.9	5.7	7.3	8.8	4.5	6.3	6.9	4.1	5.2	7.2	3.7	5.9
YEAR	13.1	3.7	7.5									

08062500 TRINITY RIVER NEAR ROSSER, TX

LOCATION.--Lat 32°25'35", long 96°27'46", Ellis County, Hydrologic Unit 12030105, on right bank at downstream side of right pier of bridge on State Highway 34, 2.5 mi south of Rosser, 8.5 mi downstream from East Fork Trinity River, and at mile 451.4.

DRAINAGE AREA.--8,147 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1924 to September 1925, October 1938 to current year. Monthly discharge only for some periods, are published in WSP 1312.

REVISED RECORDS.--WDR TX-77-1: 1942(M), drainage area. WDR TX-89-1: 1988. WDR TX-92-1: 1991.

GAGE.--Water-stage recorder. Datum of gage is 302.65 ft above National Geodetic Vertical Datum of 1929. July 25, 1924, to Sept. 30, 1925, nonrecording gage at abandoned lock and dam No. 7, 1.7 mi upstream from present site at datum 6.94 ft higher.

REMARKS.--No estimated daily discharges. Records fair. At times, flow is affected by storage in 15 upstream reservoirs having a combined capacity of 3,572,000 acre-ft, of which 1,138,000 acre-ft is for flood control. A levee system constructed in 1916, extends several miles upstream and downstream from the station. The cities of Fort Worth, Dallas, and several smaller cities divert considerable water for their municipal use, of which about 60 percent is returned as sewage effluent that sustains low flows at this site. Flow may also be affected at times by discharge from the flood-detention pools of 38 floodwater-retarding structures with a combined detention capacity of 22,600 acre-ft. These structures control runoff from 76.7 mi² above this station. Satellite telemeter and rain gage at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1908 reached a stage of about 33 ft (present site and datum), from information by U.S. Army Corps of Engineers (discharge believed to have been about the same as that of Apr. 22, 1942).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	762	5190	1250	1160	2110	7460	1390	9990	10000	1770	3690	3440
2	744	5190	1150	1110	1910	10300	1310	7150	8660	1480	3560	8560
3	1380	5150	2630	1100	2000	9610	1790	12000	8230	967	3120	8950
4	2180	4970	8820	1160	1950	7660	2290	11300	7940	817	2320	5700
5	1740	4810	7120	1190	1530	7080	1660	8240	7440	734	2000	2450
6	1150	4720	5000	1160	1270	6900	1810	6660	7080	716	1750	1920
7	1060	4470	5060	1060	1090	6800	1490	6580	6950	767	1200	1820
8	887	4220	5280	1060	1070	6940	1320	5760	6640	1330	1230	1730
9	811	4120	5220	995	1070	12900	1360	5340	5520	2740	1920	2000
10	840	3170	5030	939	1150	13500	1220	6610	4750	2310	1240	1960
11	749	2040	4910	1030	1210	8020	1220	6150	4450	7610	960	1840
12	751	1510	4880	1910	1180	5090	3240	12400	4440	16000	847	1390
13	2430	1330	6160	1750	1100	5370	2380	18500	4000	15400	811	987
14	7410	1590	7700	1270	1040	5790	1580	19300	3310	12800	781	885
15	5390	2860	6370	1130	1020	5050	1260	18700	2570	9490	886	852
16	1980	2820	5370	1050	1010	4300	1130	16500	3900	8810	1170	1080
17	1500	4830	5210	1270	1010	4090	1100	15400	3720	8540	999	1090
18	4580	3410	4530	1910	1220	4340	1200	14600	2590	7820	888	907
19	9540	2310	3790	1510	1190	3490	1050	13700	1960	7390	772	850
20	18400	2290	3620	1190	2500	2790	1020	13200	1720	7140	728	790
21	19800	2420	3580	1430	4020	2690	1460	13100	1450	6930	1150	756
22	16800	2140	3490	1530	7510	3080	1560	12800	1240	6790	1420	763
23	13000	1860	2940	2140	13300	2460	1490	12400	1090	6700	1170	790
24	10800	1510	2580	2140	8290	1800	1240	11700	1930	6610	894	789
25	10100	1180	1860	1760	5610	1630	992	11000	1320	6530	800	743
26	9060	1310	1530	1970	5920	1550	5600	10700	1090	6510	768	729
27	7310	1690	1640	1620	6220	2580	7510	11600	906	5610	739	723
28	6110	1780	1570	1550	5910	2880	3010	12100	850	5080	717	713
29	5540	1560	1420	1550	---	2110	3110	11500	832	5030	693	721
30	5380	1380	1350	1770	---	1610	9880	12000	877	4790	710	684
31	5270	---	1240	2130	---	1610	---	11800	---	4060	712	---
TOTAL	173454	87830	122300	44544	84410	161480	66672	358780	117455	179271	40645	56612
MEAN	5595	2928	3945	1437	3015	5209	2222	11570	3915	5783	1311	1887
MAX	19800	5190	8820	2140	13300	13500	9880	19300	10000	16000	3690	8950
MIN	744	1180	1150	939	1010	1550	992	5340	832	716	693	684
AC-FT	344000	174200	242600	88350	167400	320300	132200	711600	233000	355600	80620	112300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1994b, BY WATER YEAR (WY)

	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
MEAN	1788	2167	2548	2070	3182	3473	4274	6602	5315	2068	1091	1174
MAX	11140	16860	22340	17140	14680	20120	38610	40400	24600	10650	6912	8322
(WY)	1982	1982	1992	1992	1992	1945	1942	1990	1941	1989	1982	1962
MIN	32.8	49.5	50.4	61.0	72.7	54.6	213	614	154	62.6	37.1	89.1
(WY)	1925	1925	1925	1925	1925	1925	1956	1964	1925	1925	1925	1925

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1925 - 1994b

ANNUAL TOTAL	1940138	1493453	2978	1992
ANNUAL MEAN	5315	4092	9702	1956
HIGHEST ANNUAL MEAN			280	1942
LOWEST ANNUAL MEAN			133000	1924
HIGHEST DAILY MEAN	24900	Feb 27	19800	Oct 21
LOWEST DAILY MEAN	713	Sep 7	684	Sep 30
ANNUAL SEVEN-DAY MINIMUM	764	Sep 7	729	Sep 24
INSTANTANEOUS PEAK FLOW			21100	Oct 20
INSTANTANEOUS PEAK STAGE			25.85	Oct 20
ANNUAL RUNOFF (AC-FT)	3848000	2962000	2157000	41.55
10 PERCENT EXCEEDS	11600	9990	8270	
50 PERCENT EXCEEDS	4280	2140	847	
90 PERCENT EXCEEDS	856	851	199	

b Break in record.

TRINITY RIVER MAIN STEM

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08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1954 to current year. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: January 1968 to July 1981. Sediment analyses: October 1963 to September 1964, April 1972 to April 1975.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1954 to current year.

pH: March 1977 to current year.

WATER TEMPERATURE: October 1954 to current year.

DISSOLVED OXYGEN: March 1977 to current year.

INSTRUMENTATION.--Since March 1977, a four-parameter water-quality monitor records water temperature, DO, pH, and specific conductance continuously at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the U.S. Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 2,990 microsiemens Oct. 13, 1956; minimum, 122 microsiemens Sept. 30, 1981.

pH: Maximum, 9.9 units July 12, 1982; minimum, 6.8 units Oct. 3, 19, 20, Nov. 19, 1980.

WATER TEMPERATURE: Maximum, 36.0°C July 1, 1955; minimum, 1.0°C on many days during winter months.

DISSOLVED OXYGEN: Maximum, 13.1 mg/L Dec. 6, 1992; minimum, 0.0 mg/L on several days during 1979-81.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 778 microsiemens Apr. 19; minimum, 208 microsiemens Oct. 19.

pH: Maximum, 8.3 units Feb. 3, 16, 17, Apr. 17; minimum, 7.2 units on several days.

WATER TEMPERATURE: Maximum, 31.5°C Aug. 14; minimum, 9.0°C Jan. 19, 20, Feb. 2.

DISSOLVED OXYGEN: Maximum, 12.0 mg/L Feb. 14; minimum, 3.6 mg/L Sept. 1.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	
NOV 02...	1330	5210	368	7.9	15.0	9.4	93	0.6	120	20	41	4.9	
FEB 05...	1515	1430	560	8.1	12.0	10.9	102	--	160	41	56	5.9	
16...	1420	961	669	8.1	13.0	11.6	110	2.4	180	57	64	6.1	
APR 12...	1430	3940	534	7.7	20.0	7.0	77	2.1	140	37	50	4.5	
MAY 21...	1645	13000	421	7.8	23.0	7.5	88	--	160	29	52	6.4	
31...	1400	11400	396	7.8	24.5	7.0	85	1.2	150	28	52	4.7	
JUN 27...	1230	906	636	7.8	30.5	6.2	84	2.2	170	55	58	5.8	
JUL 13...	0930	15100	271	7.8	26.5	4.7	59	2.0	98	19	35	2.6	
DATE		SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CAC03	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
NOV 02...	27	1		5.0	--	--	--	100	37	27	0.40	5.8	--
FEB 05...	45	2		7.3	--	--	--	120	63	43	0.60	4.9	336
16...	62	2		8.6	--	--	--	130	83	60	0.90	4.5	--
APR 12...	41	1		7.0	--	--	--	110	62	37	0.70	5.4	--
MAY 21...	28	1		5.0	0	155	127	120	38	30	0.30	4.2	258
31...	22	0.8		4.1	--	--	--	120	40	20	0.30	5.0	--
JUN 27...	61	2		9.4	--	--	--	110	78	62	1.0	8.1	--
JUL 13...	13	0.6		4.6	--	--	--	79	31	11	0.30	6.0	--

TRINITY RIVER MAIN STEM

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
NOV 02...	218	1.60	--	<0.010	1.60	1.60	0.050	--	--	0.45	0.50	--
FEB 05...	326	4.77	4.77	0.030	4.80	4.80	0.050	5.7	0.85	0.55	0.60	0.90
FEB 16...	401	7.06	7.06	0.040	7.10	7.10	0.040	--	--	0.86	0.90	--
APR 12...	299	5.51	5.51	0.090	5.60	5.60	0.140	--	--	0.66	0.80	--
MAY 21...	244	0.810	0.810	0.030	0.840	0.840	0.020	1.3	0.48	0.28	0.30	0.50
MAY 31...	226	0.980	0.980	0.020	1.00	1.00	0.060	--	--	0.74	0.80	--
JUN 27...	389	7.64	7.64	0.060	7.70	7.70	0.090	--	--	0.81	0.90	--
JUL 13...	155	0.710	0.710	0.030	0.740	0.740	0.070	--	--	0.33	0.40	--
DATE	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	
NOV 02...	--	0.260	0.270	0.83	--	--	--	--	--	--	--	
FEB 05...	1.00	0.850	0.870	2.7	5.9	--	32	124	99	29	12	
FEB 16...	--	1.30	1.20	3.7	--	--	--	--	--	--	--	
APR 12...	--	0.810	0.860	2.6	--	--	--	--	--	--	--	
MAY 21...	0.140	0.090	0.110	0.34	4.8	1.7	333	11200	88	17	2	
MAY 31...	--	0.140	0.120	0.37	--	--	--	--	--	--	--	
JUN 27...	--	1.20	1.10	3.4	--	--	--	--	--	--	--	
JUL 13...	--	0.110	0.100	0.31	--	--	--	--	--	--	--	
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. 1993	173454	361	202	94800	21	9720	38	17900	130			
NOV. 1993	87830	452	252	59700	31	7250	49	11700	140			
DEC. 1993	122300	444	248	81800	29	9710	48	16000	140			
JAN. 1994	44544	643	353	42500	57	6910	75	9000	160			
FEB. 1994	84410	485	269	61400	35	8080	54	12300	150			
MAR. 1994	161480	439	245	107000	29	12600	48	20800	140			
APR. 1994	66672	542	299	53900	43	7790	61	11000	150			
MAY 1994	358780	400	224	217000	24	23300	43	41400	140			
JUNE 1994	117455	437	244	77400	29	9050	47	15000	140			
JULY 1994	179271	342	192	93000	19	9110	36	17400	120			
AUG. 1994	40645	530	293	32200	41	4550	60	6560	150			
SEPT 1994	56612	462	257	39200	33	5110	51	7830	140			
TOTAL	1493453	**	**	960000	**	113000	**	187000	**			
WTD. AVG.	4092	427	238	**	28	**	46	**	140			

TRINITY RIVER MAIN STEM

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08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	607	598	604	386	376	380	600	586	591	638	604	622
2	614	597	605	384	374	379	622	600	613	654	632	640
3	654	602	626	388	382	385	654	522	632	660	646	652
4	647	413	515	398	386	393	522	366	401	658	644	649
5	605	431	510	400	394	397	434	366	396	652	638	643
6	526	498	513	402	392	398	478	434	453	658	640	648
7	527	509	517	392	388	390	434	416	423	668	650	660
8	545	514	528	394	388	390	422	416	419	688	658	669
9	579	540	555	396	388	392	422	414	418	704	688	694
10	626	579	606	442	396	415	422	414	417	714	704	709
11	636	621	627	494	442	473	420	404	413	722	694	705
12	652	636	647	524	494	510	416	408	413	724	648	685
13	665	390	623	572	524	550	438	350	412	658	532	620
14	407	294	333	598	572	587	410	352	396	660	632	647
15	348	293	319	604	496	556	412	402	405	662	646	653
16	419	348	382	540	464	511	420	396	405	672	662	666
17	492	419	461	464	388	421	426	416	420	690	668	677
18	533	216	440	482	414	440	436	422	431	692	614	661
19	362	208	289	496	482	488	446	436	440	632	568	600
20	268	240	249	522	496	508	446	436	441	632	586	613
21	286	260	278	522	488	506	446	438	441	676	630	646
22	358	286	313	528	510	520	446	440	443	714	676	699
23	398	358	385	530	518	524	514	446	476	676	630	650
24	402	396	398	556	528	543	580	514	547	632	536	577
25	402	388	395	592	554	573	582	562	569	632	588	609
26	388	374	380	626	592	607	584	570	579	632	610	618
27	378	372	375	628	600	619	600	580	590	614	586	601
28	384	376	381	608	596	603	614	584	602	652	600	630
29	386	380	382	602	590	598	596	580	590	676	650	665
30	386	382	384	594	584	588	592	578	586	650	638	645
31	388	380	384	---	---	---	604	588	597	652	576	603
MONTH	665	208	452	628	374	488	654	350	483	724	532	647

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	594	578	585	414	380	405	664	633	645	400	362	375
2	580	536	547	426	390	411	666	637	654	390	322	376
3	562	538	548	400	392	395	681	651	665	354	260	309
4	576	542	561	404	400	402	690	474	591	372	316	354
5	572	552	562	410	402	406	604	572	591	414	372	393
6	628	572	599	412	406	410	602	590	597	424	412	418
7	652	628	639	416	408	412	593	520	560	430	410	418
8	658	642	649	418	402	409	615	558	589	420	406	412
9	664	644	653	406	330	362	670	615	640	424	418	422
10	678	652	666	392	350	382	681	666	673	438	414	423
11	678	670	674	462	392	426	679	642	664	474	422	448
12	698	668	673	486	436	458	647	414	560	470	284	363
13	714	696	705	448	436	441	532	420	468	352	312	336
14	696	686	690	464	442	453	580	532	560	360	332	343
15	692	682	686	454	440	448	644	580	610	410	360	382
16	688	668	677	450	432	439	700	644	668	450	410	436
17	676	670	673	464	450	457	746	700	729	---	---	e438
18	690	670	676	490	464	478	748	738	742	---	---	e438
19	716	678	695	480	406	458	778	742	761	---	---	e437
20	718	460	662	514	480	504	752	684	713	---	---	e436
21	468	364	418	526	512	519	726	558	668	---	---	e436
22	510	304	415	518	457	492	750	642	727	440	430	436
23	418	304	367	583	465	518	694	542	617	430	424	428
24	458	382	417	626	583	613	684	578	634	424	416	422
25	488	436	464	638	625	631	722	566	665	420	418	419
26	488	428	457	659	635	645	698	326	506	432	416	425
27	428	418	423	664	622	649	528	370	445	416	384	398
28	422	406	416	626	502	569	470	430	453	404	384	397
29	---	---	---	613	564	594	496	434	478	414	386	405
30	---	---	---	608	585	598	470	322	363	386	354	369
31	---	---	---	633	585	611	---	---	---	392	384	390
MONTH	718	304	578	664	330	484	778	322	608	474	260	403

e Estimated

TRINITY RIVER MAIN STEM

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	402	392	398	707	624	684	387	377	381	709	303	617
2	410	402	406	642	524	606	393	381	386	372	302	332
3	414	408	411	629	581	608	411	329	395	319	290	308
4	408	402	403	639	615	629	449	410	424	353	307	324
5	406	398	401	629	621	624	467	449	459	387	353	366
6	402	396	399	634	621	629	493	467	480	442	387	416
7	402	396	399	657	631	646	523	493	510	463	442	457
8	406	398	403	667	645	651	583	523	541	649	462	523
9	428	406	418	677	490	586	632	507	596	569	550	560
10	432	422	428	515	446	472	507	481	490	556	514	543
11	456	426	439	---	---	e390	532	481	501	537	452	510
12	458	438	447	---	---	e310	600	532	571	516	469	502
13	456	440	447	---	---	e270	653	600	629	534	515	524
14	470	456	465	---	---	e290	672	653	661	549	522	536
15	466	446	458	---	---	e300	686	671	680	562	540	550
16	---	---	e435	---	---	e310	699	683	692	621	556	599
17	496	408	425	---	---	e320	687	582	634	628	614	621
18	480	428	448	---	---	e330	640	580	611	662	625	649
19	541	480	512	332	327	330	639	627	632	645	583	598
20	558	514	547	331	327	329	673	639	658	615	586	600
21	584	507	539	330	324	328	710	668	682	640	615	633
22	612	584	601	335	324	330	710	513	630	654	639	649
23	617	605	611	334	328	331	609	524	588	665	644	652
24	606	375	490	331	327	329	614	549	565	678	663	668
25	593	518	558	330	324	327	632	606	620	682	675	679
26	622	593	615	326	321	324	630	611	616	688	673	685
27	644	622	634	343	321	333	626	611	618	686	660	672
28	667	644	655	346	340	342	643	625	630	702	685	691
29	675	656	668	344	337	341	670	643	657	705	693	700
30	696	675	681	363	341	352	711	670	698	707	695	701
31	---	---	---	380	362	370	720	690	707	---	---	---
MONTH	696	375	491	707	321	420	720	329	579	709	290	562
YEAR	778	208	515									

e Estimated

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.5	7.4	7.5	7.8	7.8	7.8	7.8	7.7	7.8	8.1	7.9	8.0
2	7.5	7.4	7.5	7.9	7.8	7.8	7.9	7.8	7.8	8.1	7.9	8.0
3	7.5	7.3	7.4	7.8	7.8	7.8	7.8	7.5	7.7	8.1	7.9	8.0
4	7.3	7.2	7.2	7.8	7.7	7.8	7.7	7.5	7.6	8.1	7.9	8.0
5	7.4	7.2	7.3	7.8	7.8	7.8	7.7	7.6	7.6	8.2	7.9	8.0
6	7.5	7.4	7.4	7.9	7.8	7.8	7.8	7.7	7.8	8.2	7.9	8.0
7	7.5	7.4	7.5	7.9	7.8	7.8	7.9	7.8	7.8	8.2	8.0	8.1
8	7.5	7.4	7.4	7.9	7.8	7.9	7.9	7.9	7.9	8.2	8.0	8.0
9	7.5	7.3	7.4	7.9	7.8	7.9	7.9	7.8	7.9	8.2	7.9	8.0
10	7.5	7.4	7.5	7.9	7.8	7.8	7.9	7.8	7.9	8.1	7.9	8.0
11	7.5	7.4	7.5	7.8	7.7	7.8	7.9	7.9	7.9	8.2	7.9	8.0
12	7.5	7.4	7.5	7.8	7.7	7.8	8.0	7.9	7.9	7.9	7.8	7.8
13	7.5	7.3	7.5	7.8	7.7	7.8	8.0	7.8	7.9	7.9	7.6	7.8
14	7.6	7.4	7.5	7.8	7.6	7.7	7.9	7.8	7.9	8.0	7.8	7.9
15	7.6	7.5	7.5	7.7	7.5	7.6	7.9	7.9	7.9	8.2	7.9	8.0
16	7.5	7.5	7.5	7.7	7.5	7.6	8.0	7.9	8.0	8.0	7.9	8.0
17	7.5	7.5	7.5	7.8	7.6	7.7	8.0	7.9	8.0	8.1	7.8	7.9
18	7.7	7.4	7.6	7.7	7.6	7.7	8.0	7.9	8.0	7.9	7.8	7.8
19	7.8	7.5	7.7	7.8	7.7	7.8	8.0	7.9	8.0	8.0	7.8	7.9
20	7.8	7.7	7.8	7.8	7.8	7.8	8.0	8.0	8.0	8.0	7.9	8.0
21	7.7	7.6	7.6	7.9	7.8	7.9	8.1	8.0	8.1	7.9	7.8	7.9
22	7.6	7.5	7.6	8.0	7.9	7.9	8.1	8.0	8.1	7.9	7.8	7.9
23	7.6	7.5	7.6	8.0	7.8	7.9	8.1	8.0	8.1	7.8	7.7	7.8
24	7.7	7.6	7.6	8.1	7.9	8.0	8.1	8.0	8.0	8.0	7.7	7.9
25	7.7	7.6	7.7	8.0	8.0	8.0	8.1	7.9	8.0	7.9	7.8	7.8
26	7.7	7.6	7.7	8.0	7.9	8.0	8.0	7.9	7.9	7.8	7.7	7.7
27	7.7	7.7	7.7	8.0	7.9	8.0	8.0	7.9	7.9	7.9	7.7	7.8
28	7.7	7.7	7.7	8.0	7.7	7.9	7.9	7.9	7.9	7.9	7.8	7.9
29	7.8	7.7	7.8	7.9	7.8	7.8	8.0	7.9	7.9	8.0	7.9	7.9
30	7.8	7.8	7.8	7.8	7.6	7.7	8.0	7.9	8.0	8.0	7.9	8.0
31	7.8	7.8	7.8	---	---	---	8.1	7.9	8.0	8.0	7.8	7.9
MONTH	7.8	7.2	7.6	8.1	7.5	7.8	8.1	7.5	7.9	8.2	7.6	7.9

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	7.9	7.8	7.9	8.0	8.0	8.0	8.1	7.8	7.9	7.8	7.7	7.7
2	8.0	7.9	8.0	8.0	7.9	8.0	8.2	7.9	8.1	7.8	7.7	7.8
3	8.3	7.9	8.0	8.0	7.9	7.9	8.1	7.8	8.0	7.8	7.7	7.8
4	8.1	7.9	8.0	7.9	7.8	7.9	7.8	7.6	7.7	7.8	7.7	7.8
5	8.1	7.9	8.0	7.9	7.8	7.9	7.8	7.7	7.7	7.8	7.7	7.8
6	8.2	7.9	8.0	7.9	7.9	7.9	7.9	7.8	7.8	7.8	7.8	7.8
7	8.1	7.9	8.0	7.9	7.8	7.9	7.9	7.8	7.8	7.9	7.8	7.8
8	8.1	7.8	7.9	7.9	7.8	7.9	8.1	7.8	7.9	7.9	7.8	7.9
9	7.9	7.8	7.9	7.9	7.8	7.9	7.9	7.6	7.8	7.9	7.9	7.9
10	7.9	7.8	7.9	7.9	7.8	7.9	8.1	7.8	7.9	7.9	7.8	7.8
11	7.9	7.7	7.8	7.9	7.8	7.9	8.0	7.8	7.9	7.8	7.8	7.8
12	7.9	7.8	7.8	8.0	7.9	7.9	7.8	7.5	7.7	7.8	7.6	7.7
13	8.1	7.8	7.9	8.1	7.9	8.0	7.7	7.6	7.7	7.6	7.6	7.6
14	8.2	7.8	8.0	8.0	7.9	7.9	7.9	7.7	7.8	7.6	7.6	7.6
15	8.2	7.9	8.0	7.9	7.8	7.9	8.1	7.8	7.9	7.6	7.6	7.6
16	8.3	7.8	8.0	7.9	7.8	7.8	8.2	7.9	8.1	7.6	7.5	7.6
17	8.3	7.9	8.0	7.9	7.8	7.8	8.3	8.0	8.1	---	---	---
18	8.1	7.8	7.9	7.8	7.8	7.8	8.2	7.9	8.1	---	---	---
19	7.9	7.8	7.8	7.9	7.8	7.8	8.2	8.0	8.1	---	---	---
20	7.9	7.6	7.8	7.8	7.8	7.8	8.2	8.0	8.2	---	---	---
21	7.7	7.6	7.6	7.8	7.8	7.8	8.0	7.8	7.9	---	---	---
22	7.7	7.6	7.6	7.9	7.8	7.9	7.9	7.6	7.8	7.8	7.7	7.8
23	7.7	7.6	7.7	7.9	7.8	7.9	7.8	7.6	7.7	7.7	7.7	7.7
24	7.7	7.6	7.7	7.9	7.8	7.8	8.1	7.7	7.8	7.7	7.7	7.7
25	7.8	7.7	7.8	7.9	7.8	7.9	8.0	7.8	7.9	7.7	7.7	7.7
26	7.9	7.8	7.9	7.9	7.8	7.9	7.9	7.6	7.7	7.7	7.7	7.7
27	8.0	7.9	8.0	7.8	7.7	7.8	7.6	7.5	7.5	7.7	7.6	7.6
28	8.0	7.9	7.9	7.7	7.5	7.6	7.7	7.6	7.7	7.6	7.6	7.6
29	---	---	---	7.9	7.7	7.8	7.8	7.6	7.7	7.7	7.6	7.6
30	---	---	---	8.0	7.8	7.9	7.8	7.6	7.7	7.6	7.6	7.6
31	---	---	---	7.9	7.8	7.8	---	---	---	7.7	7.6	7.7
MONTH	8.3	7.6	7.9	8.1	7.5	7.9	8.3	7.5	7.9	7.9	7.5	7.7
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	7.8	7.7	7.8	---	---	---	7.9	7.8	7.9	---	---	---
2	7.8	7.8	7.8	---	---	---	7.9	7.9	7.9	---	---	---
3	7.8	7.8	7.8	---	---	---	8.1	7.6	7.9	---	---	---
4	7.8	7.8	7.8	---	---	---	7.9	7.8	7.8	---	---	---
5	7.8	7.8	7.8	---	---	---	7.8	7.7	7.8	7.4	7.2	7.3
6	7.8	7.8	7.8	---	---	---	7.9	7.6	7.7	7.6	7.4	7.4
7	7.8	7.8	7.8	---	---	---	7.9	7.6	7.8	7.4	7.3	7.3
8	7.8	7.8	7.8	---	---	---	8.0	7.7	7.8	7.7	7.3	7.4
9	7.8	7.8	7.8	---	---	---	7.7	7.5	7.6	7.6	7.4	7.4
10	7.8	7.8	7.8	---	---	---	7.9	7.4	7.7	7.5	7.2	7.3
11	7.8	7.7	7.8	---	---	---	8.0	7.6	7.8	7.5	7.3	7.3
12	7.8	7.7	7.7	---	---	---	7.9	7.5	7.7	7.7	7.4	7.5
13	7.8	7.7	7.7	---	---	---	7.9	7.7	7.9	7.6	7.4	7.6
14	7.8	7.7	7.8	---	---	---	7.9	7.8	7.8	7.7	7.4	7.6
15	7.8	7.8	7.8	---	---	---	7.9	7.5	7.7	7.6	7.6	7.6
16	---	---	---	---	---	---	7.8	7.4	7.6	7.8	7.5	7.7
17	---	---	---	---	---	---	7.5	7.4	7.5	7.7	7.6	7.7
18	---	---	---	---	---	---	7.8	7.4	7.5	7.7	7.6	7.6
19	---	---	---	---	---	---	7.9	7.5	7.6	7.8	7.6	7.7
20	---	---	---	---	---	---	7.9	7.5	7.6	7.8	7.7	7.8
21	---	---	---	---	---	---	7.8	7.6	7.7	7.8	7.7	7.8
22	---	---	---	---	---	---	7.9	7.5	7.6	7.7	7.7	7.7
23	---	---	---	---	---	---	7.9	7.5	7.7	7.8	7.7	7.8
24	---	---	---	---	---	---	8.1	7.7	7.8	7.8	7.7	7.8
25	---	---	---	---	---	---	8.1	7.7	7.9	7.8	7.7	7.8
26	---	---	---	---	---	---	8.1	7.8	8.0	7.8	7.7	7.7
27	---	---	---	---	---	---	8.1	7.8	8.1	7.7	7.2	7.5
28	---	---	---	---	---	---	8.0	7.6	7.9	7.4	7.2	7.3
29	---	---	---	7.8	7.5	7.6	7.9	7.6	7.8	7.4	7.3	7.4
30	---	---	---	7.9	7.6	7.7	7.8	7.4	7.6	7.4	7.2	7.3
31	---	---	---	7.9	7.7	7.8	7.6	7.2	7.5	---	---	---
MONTH	7.8	7.7	7.8	7.9	7.5	7.7	8.1	7.2	7.7	7.8	7.2	7.5
YEAR	8.3	7.2	7.8									

TRINITY RIVER MAIN STEM

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	25.5	24.5	25.0	15.0	14.5	15.0	14.5	13.0	14.0	11.5	10.5	11.5
2	26.0	24.5	25.5	15.5	15.0	15.0	16.0	14.5	15.5	12.0	11.0	11.5
3	25.5	24.5	25.0	16.0	15.5	15.5	17.5	16.0	16.5	11.5	11.0	11.0
4	24.5	23.5	24.0	17.0	16.0	16.5	17.0	15.5	16.0	11.0	11.0	11.0
5	24.5	24.0	24.0	17.0	16.0	16.5	15.5	14.5	14.5	11.5	10.5	11.0
6	25.0	24.5	24.5	16.0	15.0	15.5	14.5	13.5	14.0	13.0	11.5	12.0
7	25.0	25.0	25.0	15.0	14.0	14.5	13.5	12.5	13.0	11.5	10.0	10.5
8	25.5	25.0	25.0	14.0	13.5	14.0	13.0	12.5	13.0	10.5	10.0	10.0
9	25.5	24.0	25.0	14.5	14.0	14.0	14.0	13.0	13.5	10.5	10.0	10.5
10	24.0	22.0	23.0	15.0	14.5	14.5	14.5	14.0	14.0	12.0	10.5	11.5
11	22.0	22.0	22.0	15.5	14.5	15.0	14.0	13.5	14.0	13.0	12.0	12.5
12	22.0	21.5	22.0	17.5	15.5	16.5	13.5	13.0	13.0	13.5	12.5	13.0
13	22.5	21.5	22.0	19.5	17.5	18.5	13.5	13.0	13.5	13.5	13.0	13.0
14	21.5	21.0	21.0	19.5	19.0	19.0	13.5	12.5	13.0	13.0	12.0	13.0
15	21.0	20.5	21.0	19.0	18.0	18.5	12.5	12.0	12.0	12.5	11.5	12.0
16	22.5	21.0	21.5	18.0	14.5	16.5	12.0	11.5	11.5	12.5	11.5	12.0
17	23.0	22.5	22.5	14.5	14.0	14.5	12.0	11.5	12.0	12.0	11.0	11.5
18	24.0	21.5	23.0	15.5	14.0	14.5	12.0	11.5	12.0	11.5	10.0	10.5
19	22.5	21.5	22.0	15.5	14.5	15.0	12.0	11.5	12.0	10.0	9.0	9.5
20	22.0	20.5	20.5	15.0	14.0	14.5	12.0	12.0	12.0	9.5	9.0	9.5
21	20.5	19.5	20.0	14.5	13.5	14.0	12.0	11.5	11.5	10.0	9.5	9.5
22	19.5	19.0	19.0	14.0	13.5	14.0	11.5	11.0	11.5	11.0	10.0	10.5
23	19.5	18.5	19.0	14.5	13.5	14.0	11.0	10.5	10.5	11.5	10.5	11.0
24	19.5	19.0	19.0	15.0	13.0	14.5	10.5	10.0	10.5	11.5	9.5	10.5
25	19.5	19.0	19.0	13.0	11.0	12.0	10.5	10.0	10.5	14.0	11.5	13.0
26	19.5	18.5	19.0	11.5	10.5	11.0	11.0	10.0	10.5	15.5	14.0	15.0
27	19.5	19.0	19.0	11.0	10.0	10.5	12.5	11.0	12.0	15.5	13.5	14.5
28	19.0	18.0	18.5	11.0	9.5	10.5	12.5	11.0	12.0	13.5	13.0	13.0
29	18.5	17.5	18.0	11.5	10.5	11.0	11.0	11.0	11.0	13.0	11.5	12.5
30	17.5	16.0	16.5	13.0	11.5	12.5	11.0	10.5	10.5	11.5	11.0	11.5
31	16.0	15.0	15.5	---	---	---	10.5	10.0	10.5	11.5	10.0	10.5
MONTH	26.0	15.0	21.5	19.5	9.5	14.5	17.5	10.0	12.5	15.5	9.0	11.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	10.0	9.5	9.5	10.5	10.5	10.5	17.5	16.5	17.0	19.0	17.5	18.0
2	9.5	9.0	9.5	11.0	10.5	10.5	18.0	17.0	17.5	17.5	16.0	17.5
3	10.0	9.5	9.5	11.5	10.5	11.0	19.0	16.5	17.5	16.5	15.0	15.5
4	11.5	10.0	11.0	12.5	11.5	12.0	19.0	17.5	18.5	18.5	16.5	17.5
5	12.0	11.5	11.5	13.5	12.5	13.0	19.0	17.5	18.5	20.0	18.5	19.0
6	13.5	11.5	12.5	14.0	13.0	13.5	17.5	16.5	17.0	21.0	19.5	20.0
7	14.5	13.0	13.5	14.5	14.0	14.0	17.5	16.5	17.0	21.0	20.5	20.5
8	16.5	14.5	15.5	14.0	13.0	14.0	18.0	16.5	17.5	20.5	20.0	20.0
9	16.5	11.0	13.5	13.0	10.5	11.5	19.5	18.0	18.5	20.5	20.0	20.0
10	11.0	10.0	10.5	11.5	10.0	11.0	21.0	19.5	20.5	20.0	20.0	20.0
11	11.0	10.0	10.5	12.5	11.5	12.0	21.5	20.0	21.0	22.0	20.0	21.0
12	10.5	10.0	10.5	12.5	12.0	12.5	20.0	19.5	20.0	22.5	21.5	22.0
13	11.0	9.5	10.5	13.0	12.0	12.5	20.5	18.5	19.5	22.5	22.0	22.5
14	11.5	10.5	11.0	14.5	13.0	13.5	21.0	20.0	20.5	22.0	21.5	21.5
15	12.5	11.5	12.0	15.5	14.0	14.5	21.5	20.5	21.0	23.5	22.0	22.5
16	13.0	12.0	12.5	15.5	14.5	15.0	20.5	19.5	20.0	25.0	23.5	24.0
17	14.5	12.5	13.5	16.5	15.0	16.0	21.5	19.5	20.5	---	---	---
18	15.0	14.0	14.5	17.5	16.5	17.0	22.0	20.5	21.5	---	---	---
19	16.0	15.0	15.5	19.0	17.0	18.0	23.5	21.5	22.0	---	---	---
20	16.5	16.0	16.0	20.0	18.0	19.0	24.5	21.5	22.5	---	---	---
21	16.0	15.5	16.0	19.5	18.0	18.5	23.5	21.0	22.5	---	---	---
22	16.0	14.5	15.0	18.5	16.5	17.5	24.0	23.0	23.5	23.5	22.5	23.0
23	14.5	13.0	13.5	20.0	17.0	18.5	24.0	22.5	23.5	23.5	22.5	23.0
24	13.0	12.0	12.5	20.0	19.0	20.0	24.0	23.5	23.5	24.0	23.0	23.5
25	13.0	12.0	12.5	19.5	18.0	19.0	24.5	23.0	23.5	24.0	23.0	23.5
26	12.5	11.0	11.5	19.5	19.0	19.5	23.5	22.0	22.5	23.5	23.0	23.5
27	11.0	10.0	10.5	19.0	17.5	18.0	24.0	23.0	23.5	23.5	23.0	23.5
28	10.5	10.0	10.5	17.5	16.5	17.0	24.0	22.5	23.0	24.0	23.0	23.5
29	---	---	---	17.0	15.5	16.5	22.5	20.5	21.5	24.0	23.5	23.5
30	---	---	---	16.5	16.0	16.5	20.5	18.5	19.0	24.5	23.0	23.5
31	---	---	---	17.0	16.0	16.5	---	---	---	25.0	24.0	24.5
MONTH	16.5	9.0	12.5	20.0	10.0	15.0	24.5	16.5	20.5	25.0	15.0	21.5

TRINITY RIVER MAIN STEM

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08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	25.0	24.0	24.5	30.5	29.5	30.0	27.5	26.5	27.0	29.5	27.0	28.5
2	25.0	24.5	25.0	30.5	29.0	29.5	28.0	27.0	27.5	27.5	26.0	26.5
3	25.0	24.5	24.5	30.5	29.5	30.0	28.5	27.0	28.0	26.5	26.0	26.0
4	25.5	24.5	25.0	31.0	30.0	30.5	29.0	27.5	28.5	27.5	26.0	27.0
5	25.5	24.5	25.0	31.0	30.0	30.5	29.0	28.0	28.5	28.0	27.0	27.5
6	26.0	25.0	25.5	30.5	30.0	30.0	29.5	28.5	29.0	29.0	28.0	28.5
7	26.5	25.0	25.5	30.0	29.0	29.5	29.5	28.5	29.0	28.5	28.0	28.5
8	27.0	25.5	26.0	30.5	29.5	30.0	29.0	27.5	28.0	28.5	27.5	28.0
9	27.0	26.0	26.5	30.5	28.5	29.0	29.0	28.0	28.5	28.0	27.5	27.5
10	27.0	26.5	26.5	28.5	28.0	28.0	29.5	28.0	28.5	27.5	26.5	27.0
11	27.0	26.0	26.5	28.5	25.0	26.5	30.0	29.0	29.5	27.5	26.5	27.0
12	27.0	25.5	26.0	---	---	---	30.5	29.5	30.0	28.0	27.0	27.5
13	27.5	26.0	26.5	---	---	---	31.0	29.5	30.5	28.5	28.0	28.0
14	27.5	26.5	27.0	---	---	---	31.5	30.0	30.5	28.5	28.0	28.0
15	27.5	26.0	26.5	---	---	---	31.0	30.0	30.5	29.0	28.0	28.5
16	---	---	---	---	---	---	30.0	30.0	30.0	29.0	28.0	28.5
17	---	---	---	---	---	---	30.0	29.5	29.5	28.5	27.5	28.0
18	29.0	27.0	28.0	---	---	---	30.5	29.0	29.5	27.5	26.5	27.0
19	29.5	28.0	28.5	28.5	27.5	28.0	31.0	30.0	30.5	27.0	26.0	26.5
20	30.0	28.5	29.5	28.5	27.5	28.0	30.0	29.0	29.5	27.0	25.5	26.0
21	30.0	29.0	29.5	28.0	27.5	28.0	30.0	29.0	29.0	26.5	25.5	26.0
22	30.5	30.0	30.0	28.5	27.5	28.0	29.5	28.0	29.0	26.0	23.5	25.0
23	30.5	30.0	30.0	28.5	27.5	28.0	29.5	29.0	29.0	23.5	22.5	23.0
24	30.0	26.5	28.5	29.0	28.0	28.5	30.0	29.0	29.5	23.5	22.5	23.0
25	30.5	29.5	30.0	28.5	28.0	28.0	30.5	29.5	30.0	23.0	22.0	22.5
26	30.5	30.5	30.5	28.0	27.5	27.5	31.0	29.5	30.0	23.5	22.0	22.5
27	31.0	30.0	30.5	28.0	27.0	27.5	31.0	29.5	30.5	24.0	22.5	23.5
28	30.5	30.0	30.0	27.5	26.5	27.0	31.0	29.5	30.0	25.0	23.5	24.5
29	30.5	29.5	30.0	28.0	27.0	27.5	31.0	29.5	30.0	26.0	24.5	25.0
30	30.5	29.5	30.0	27.5	26.5	27.0	31.0	29.5	30.5	26.0	25.0	25.5
31	---	---	---	27.0	26.0	26.5	30.5	29.5	30.0	---	---	---
MONTH	31.0	24.0	27.5	31.0	25.0	28.5	31.5	26.5	29.5	29.5	22.0	26.5
YEAR	31.5	9.0	20.0									

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.6	7.0	7.3	9.7	9.5	9.6	9.5	9.3	9.4	10.5	10.3	10.4
2	7.7	7.0	7.3	9.6	9.4	9.5	9.4	8.9	9.1	10.4	10.1	10.3
3	7.4	6.7	7.1	9.6	9.4	9.5	8.9	6.2	8.4	10.6	10.1	10.4
4	6.7	5.1	5.9	9.4	9.0	9.2	6.9	5.9	6.6	10.7	10.2	10.5
5	6.4	5.8	6.2	9.2	9.0	9.1	7.7	6.7	7.3	11.0	10.5	10.7
6	6.7	6.4	6.5	9.6	9.2	9.4	9.4	7.7	8.6	10.7	10.2	10.5
7	6.9	6.6	6.7	9.8	9.6	9.7	9.9	9.4	9.7	11.1	10.4	10.7
8	7.0	6.6	6.8	---	---	---	10.0	9.9	9.9	11.1	10.6	10.9
9	7.3	6.9	7.1	9.9	9.8	9.8	9.9	9.6	9.8	11.1	10.6	10.9
10	7.6	7.2	7.4	9.8	9.5	9.7	9.7	9.6	9.6	10.7	10.4	10.6
11	7.8	7.4	7.6	9.5	9.1	9.3	9.9	9.6	9.8	10.4	10.2	10.3
12	8.0	7.5	7.7	9.1	8.6	8.8	10.0	9.9	9.9	10.2	9.1	9.6
13	7.9	5.5	7.3	8.7	8.2	8.4	9.9	8.7	9.5	9.5	8.2	9.0
14	5.8	4.9	5.4	8.3	8.0	8.1	9.6	8.9	9.3	10.0	9.4	9.7
15	6.3	5.5	5.9	8.0	6.8	7.3	10.0	9.6	9.8	10.5	9.9	10.2
16	6.8	6.3	6.6	8.4	7.3	8.1	10.3	10.0	10.2	10.2	9.7	10.0
17	7.0	6.8	6.9	8.4	7.6	8.1	10.3	10.2	10.3	10.3	9.8	10.1
18	7.0	5.6	6.4	8.9	8.1	8.7	10.3	10.3	10.3	10.2	9.8	10.1
19	6.0	5.0	5.5	9.2	8.7	8.9	10.3	10.1	10.2	11.0	10.1	10.7
20	6.4	5.8	6.2	9.3	9.1	9.2	10.2	10.1	10.1	11.0	10.9	10.9
21	5.8	5.4	5.6	9.8	9.3	9.6	10.4	10.2	10.3	10.9	10.6	10.8
22	6.3	5.5	5.9	9.9	9.7	9.8	10.5	10.3	10.4	10.6	10.2	10.4
23	7.5	6.2	6.9	9.9	9.7	9.8	10.5	10.4	10.5	10.3	10.0	10.2
24	7.9	7.5	7.7	9.7	9.4	9.6	10.5	10.4	10.4	10.7	10.0	10.3
25	7.9	7.8	7.8	10.1	9.7	9.9	10.6	10.3	10.4	10.0	9.4	9.7
26	7.9	7.7	7.8	10.2	10.1	10.2	10.5	10.3	10.4	9.4	8.9	9.2
27	8.3	7.9	8.1	10.5	10.1	10.3	10.3	10.0	10.1	9.5	9.0	9.2
28	8.5	8.3	8.4	10.3	9.6	10.0	10.3	10.0	10.1	9.8	9.5	9.6
29	8.7	8.5	8.5	9.7	9.1	9.4	10.5	10.3	10.4	10.3	9.7	10.0
30	9.1	8.7	8.9	9.5	8.9	9.2	10.6	10.5	10.6	10.6	10.3	10.5
31	9.5	9.1	9.3	---	---	---	10.7	10.5	10.6	10.9	10.4	10.7
MONTH	9.5	4.9	7.1	10.5	6.8	9.2	10.7	5.9	9.7	11.1	8.2	10.2

TRINITY RIVER MAIN STEM

08062500 TRINITY RIVER NEAR ROSSER, TX--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	11.1	10.8	11.0	10.9	10.4	10.7	9.7	9.2	9.5	7.6	7.1	7.4
2	11.5	11.1	11.3	10.4	10.1	10.2	9.9	9.2	9.5	8.3	7.6	7.8
3	11.5	11.2	11.3	10.5	10.2	10.4	9.8	8.7	9.2	8.4	7.9	8.1
4	11.2	10.9	11.1	10.5	10.2	10.3	8.7	5.7	7.2	7.9	7.6	7.7
5	11.1	10.8	10.9	10.3	10.1	10.2	8.2	7.2	7.6	8.1	7.6	7.7
6	10.9	10.6	10.8	10.2	10.0	10.1	8.9	8.1	8.5	8.3	8.1	8.2
7	10.6	10.1	10.4	10.1	9.8	10.0	9.0	8.5	8.8	8.3	8.1	8.2
8	10.4	9.8	10.0	10.0	9.9	9.9	9.6	8.9	9.2	8.3	8.1	8.2
9	10.5	9.8	10.2	10.1	9.9	9.9	9.2	8.7	8.9	8.3	8.2	8.2
10	10.8	10.4	10.6	10.1	9.9	10.0	9.3	8.5	8.8	8.2	7.6	7.9
11	11.2	10.5	10.9	10.1	9.9	10.0	8.6	8.2	8.4	7.8	7.5	7.6
12	11.5	11.0	11.2	9.9	9.6	9.8	8.4	6.1	7.1	7.6	5.5	6.6
13	11.6	11.0	11.3	9.9	9.8	9.9	7.6	6.4	6.9	5.8	5.4	5.6
14	12.0	11.2	11.5	9.9	9.7	9.8	7.9	7.5	7.7	5.7	5.4	5.5
15	11.7	11.0	11.3	9.7	9.3	9.5	8.3	7.7	8.0	5.6	5.3	5.5
16	11.7	11.0	11.3	9.4	9.3	9.4	8.8	8.1	8.5	---	---	---
17	11.6	10.6	11.0	9.4	9.0	9.1	9.1	8.4	8.7	---	---	---
18	10.9	10.0	10.5	9.1	8.9	9.0	9.3	8.4	8.8	---	---	---
19	10.0	9.6	9.8	9.1	8.6	8.8	---	---	---	---	---	---
20	9.6	7.5	8.9	8.9	8.3	8.6	---	---	---	---	---	---
21	8.1	7.1	7.7	9.1	8.5	8.8	8.3	7.7	8.0	---	---	---
22	8.5	8.1	8.3	9.2	8.8	9.0	7.7	6.6	7.5	7.8	7.5	7.6
23	8.2	8.0	8.1	9.2	8.7	8.9	7.3	6.5	6.9	7.7	7.4	7.6
24	9.1	8.1	8.8	8.8	8.5	8.6	7.8	7.0	7.3	7.6	7.4	7.5
25	9.8	9.1	9.5	9.2	8.5	8.8	7.7	7.1	7.5	7.6	7.3	7.5
26	10.6	9.7	10.2	8.8	8.4	8.5	7.8	5.0	6.4	7.5	6.9	7.4
27	10.9	10.6	10.8	8.5	7.8	8.2	5.2	4.1	4.6	7.0	6.4	6.6
28	11.0	10.9	10.9	8.1	6.1	7.3	6.8	5.2	6.1	6.8	6.6	6.7
29	---	---	---	9.1	8.1	8.8	7.3	6.5	6.9	7.0	6.8	7.0
30	---	---	---	9.7	9.0	9.3	7.1	6.4	6.7	7.0	6.7	6.8
31	---	---	---	9.6	9.1	9.4	---	---	---	7.2	6.9	7.0
MONTH	12.0	7.1	10.3	10.9	6.1	9.4	9.9	4.1	7.8	8.4	5.3	7.3
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	7.3	7.2	7.2	---	---	---	7.1	6.8	7.0	8.3	3.6	6.9
2	7.5	7.3	7.4	---	---	---	6.9	6.7	6.8	5.6	4.9	5.3
3	7.5	7.3	7.4	---	---	---	6.8	4.8	6.6	6.1	5.4	5.8
4	7.5	7.3	7.4	---	---	---	6.4	6.2	6.3	6.4	6.1	6.2
5	7.5	7.4	7.4	---	---	---	6.2	6.0	6.1	7.0	6.4	6.7
6	7.5	7.4	7.4	---	---	---	6.9	5.9	6.2	7.5	6.9	7.1
7	7.5	7.4	7.4	---	---	---	6.7	5.8	6.2	7.7	7.4	7.6
8	7.4	7.3	7.3	---	---	---	6.0	5.8	5.9	---	---	---
9	7.3	7.1	7.2	---	---	---	5.8	5.1	5.4	---	---	---
10	7.2	7.0	7.1	---	---	---	5.5	5.1	5.4	---	---	---
11	7.2	6.9	7.0	---	---	---	5.9	5.3	5.7	---	---	---
12	7.1	6.7	7.0	---	---	---	5.8	5.5	5.7	---	---	---
13	7.1	6.6	6.9	---	---	---	6.6	5.4	6.2	---	---	---
14	7.2	6.8	7.0	---	---	---	6.7	6.5	6.6	---	---	---
15	7.3	6.7	7.1	---	---	---	6.5	6.4	6.5	---	---	---
16	6.9	5.9	6.4	---	---	---	---	---	---	---	---	---
17	6.9	5.7	6.3	---	---	---	---	---	---	---	---	---
18	7.0	6.7	6.8	---	---	---	---	---	---	---	---	---
19	7.0	6.6	6.7	---	---	---	---	---	---	---	---	---
20	6.7	6.1	6.4	---	---	---	---	---	---	---	---	---
21	6.6	6.0	6.2	---	---	---	---	---	---	---	---	---
22	6.9	6.6	6.8	---	---	---	---	---	---	---	---	---
23	8.1	6.6	7.1	6.6	6.4	6.5	---	---	---	---	---	---
24	---	---	---	6.5	6.2	6.4	7.5	6.1	7.0	---	---	---
25	---	---	---	7.4	6.2	6.9	7.6	7.2	7.4	---	---	---
26	---	---	---	7.3	7.1	7.2	7.8	7.4	7.6	---	---	---
27	---	---	---	7.2	6.8	7.0	8.5	7.2	7.7	---	---	---
28	---	---	---	7.0	6.5	6.7	8.4	7.5	7.9	---	---	---
29	---	---	---	6.5	6.2	6.4	7.8	7.3	7.6	---	---	---
30	---	---	---	6.7	6.2	6.5	8.7	7.5	8.1	---	---	---
31	---	---	---	7.3	6.0	6.7	8.6	8.0	8.2	---	---	---
MONTH	8.1	5.7	7.0	7.4	6.0	6.7	8.7	4.8	6.7	8.3	3.6	6.5
YEAR	12.0	3.6	8.5									

08062700 TRINITY RIVER AT TRINIDAD, TX
(National stream-quality accounting network)

LOCATION.--Lat 32°08'05", long 96°06'20", Henderson County, Hydrologic Unit 12030105, on left bank at pumping station of Texas Power and Light Co., near southwest boundary of Trinidad, 0.5 mi downstream from St. Louis Southwestern Railway Lines bridge, 0.9 mi downstream from bridge on State Highway 31, 8 mi upstream from Cedar Creek, and at mile 391.2.

DRAINAGE AREA.--8,538 mi², not including 1,007 mi² upstream from Cedar Creek Reservoir.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year. Records of gage height collected in this vicinity for period October 1913 to September 1915 are contained in reports of U.S. Army Corps of Engineers, and records collected since October 1915 are contained in reports of the National Weather Service.

REVISED RECORDS.-- WDR TX-89-1: 1988. WDR TX-90-1: 1989.

GAGE.--Water-stage recorder. Datum of gage is 239.21 ft above National Geodetic Vertical Datum of 1929. Prior to May 3, 1967, at site 0.9 mi upstream at datum 1.28 ft higher.

REMARKS.--No estimated daily discharges. Records fair. There are many diversions above station for municipal supply for the cities of Fort Worth, Dallas, and several smaller towns. Low flows are maintained by sewage effluent from the Dallas-Fort Worth metroplex. There are 62 floodwater-retarding structures with a combined detention capacity of 38,690 acre-ft in the drainage basin above this station. These structures control runoff from 126 mi² above this station. For regulation by upstream reservoirs, see Trinity River near Rosser (station 08062500). Satellite telemeter and rain gage at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stages since at least 1908, 49.8 ft Apr. 25, 1942 and 48.3 ft date unknown, 1908 (present site and datum), from records of the National Weather Service.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	864	5790	1440	1320	2160	10500	1500	9630	13600	966	4260	758
2	777	5550	1310	1250	2130	11700	1310	10400	12400	1610	3860	4200
3	775	5500	2420	1190	1970	12100	1230	13200	10600	1430	3680	8250
4	1280	5420	3440	1180	2040	12000	1650	14300	9210	1020	3160	8870
5	1950	5180	7800	1210	1980	11000	2030	14900	8370	898	2330	6230
6	1550	4910	7800	1230	1590	8890	1540	15200	7710	841	1950	2700
7	1060	4760	6670	1220	1330	7700	1560	13400	7320	818	1670	1890
8	966	4490	6320	1140	1190	7510	1340	10200	7140	856	1170	1770
9	852	4250	6320	1130	1170	10700	1190	7950	6780	1370	1200	1700
10	786	4090	5360	1070	1170	13200	1210	7570	5800	2580	1760	1950
11	781	3090	5110	1050	1220	15100	1190	8180	5110	2720	1200	1930
12	727	2030	5000	1140	1300	16300	3790	8540	4680	7930	938	1780
13	763	1520	5820	1860	2160	13800	6500	11800	4610	10900	842	1330
14	2900	1360	6760	1790	1290	9980	5530	14800	4090	11900	809	963
15	6520	1700	7840	1350	1160	7310	3610	17700	3430	12500	779	868
16	5040	3290	7980	1200	1130	5610	1560	20500	3270	12700	848	849
17	1890	6170	6700	1140	1120	4600	1100	22500	4290	11700	1060	999
18	1380	7060	5970	1310	1120	4200	1060	22200	3840	10100	955	1030
19	4870	5690	4670	1870	1270	4270	1130	21200	2600	8740	863	888
20	13200	4480	3930	1540	4050	3370	1060	19600	1960	7900	780	841
21	27000	4270	3740	1270	11700	2990	1100	17500	1700	7500	755	792
22	36900	3460	3830	1440	14400	3340	1590	16000	1380	7250	1060	767
23	34100	2230	3810	1550	19800	2940	1540	15000	1200	7110	1310	766
24	28200	1880	3080	2190	23100	2240	1450	14300	1160	7010	1110	788
25	23200	1560	2640	2200	22000	2000	1230	13800	1830	6900	878	792
26	19900	2180	1950	1890	18800	1530	1260	13300	1350	6840	803	763
27	17000	1600	1630	2020	14900	5310	7680	12800	1100	6730	772	747
28	14200	1760	1690	2070	11400	7380	7630	12400	959	5960	765	745
29	11200	1830	1620	2370	---	5140	4120	12500	913	5420	734	737
30	8050	1620	1490	1610	---	2660	6130	13300	901	5330	716	746
31	6450	---	1420	1800	---	1880	---	13600	---	5010	724	---
TOTAL	275131	108720	135560	46600	168650	227250	74820	438270	139303	180539	43741	57439
MEAN	8875	3624	4373	1503	6023	7331	2494	14140	4643	5824	1411	1915
MAX	36900	7060	7980	2370	23100	16300	7680	22500	13600	12700	4260	8870
MIN	727	1360	1310	1050	1120	1530	1060	7570	901	818	716	737
AC-FT	545700	215600	268900	92430	334500	450800	148400	869300	276300	358100	86760	113900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994, BY WATER YEAR (WY)

MEAN	2587	3602	4219	3256	4952	5680	5321	9478	6765	2650	1384	1209
MAX	11390	20160	24320	20490	20550	20920	16570	47120	26790	11800	6886	3347
(WY)	1974	1975	1992	1992	1992	1992	1990	1990	1989	1982	1982	1974
MIN	417	403	460	415	424	542	798	693	526	394	394	448
(WY)	1976	1967	1967	1967	1967	1967	1978	1971	1972	1972	1967	1972

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1965 - 1994
ANNUAL TOTAL	2278374	1896023	
ANNUAL MEAN	6242	5195	4254
HIGHEST ANNUAL MEAN			11400
LOWEST ANNUAL MEAN			854
HIGHEST DAILY MEAN	36900	Oct 22	94100
LOWEST DAILY MEAN	678	Sep 8	312
ANNUAL SEVEN-DAY MINIMUM	724	Sep 7	326
INSTANTANEOUS PEAK FLOW			94500
INSTANTANEOUS PEAK STAGE			48.11
ANNUAL RUNOFF (AC-FT)	4519000	3761000	3082000
10 PERCENT EXCEEDS	13800	13300	11400
50 PERCENT EXCEEDS	4800	2370	1230
90 PERCENT EXCEEDS	845	864	490

TRINITY RIVER MAIN STEM

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: May 1966 to current year. Pesticide analyses: November 1977 to June 1982. Sediment analyses: November 1977 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: September 1967 to September 1981, May 1986 to current year.

PH: September 1967 to October 1969, May 1986 to current year.

WATER TEMPERATURE: September 1967 to September 1981, May 1986 to current year.

DISSOLVED OXYGEN: September 1967 to October 1969, May 1986 to current year.

INSTRUMENTATION.--From April 1967 to October 1969, a four-parameter water-quality monitor continuously recorded specific conductance, pH, water temperature, and dissolved oxygen. Since May 1986, a four-parameter water-quality monitor continuously records specific conductance, pH, water temperature, and dissolved oxygen at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the U.S. Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,000 micromsiemens Dec. 28, 1977; minimum daily, 170 micromsiemens May 4, 1990.

pH: Maximum, 8.8 units July 28, 1988; minimum, 5.7 units Aug. 13, 1988.

WATER TEMPERATURE: Maximum daily, 34.0°C July 17, 1979, July 9, 13, 1980; minimum daily, 2.5°C Dec. 24, 1989.

DISSOLVED OXYGEN: Maximum, 15.6 mg/L Sept. 15, 1988; minimum, 0.0 mg/L May 3, 1987.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 725 microsiemens Apr. 22; minimum, 231 microsiemens Feb. 24.

pH: Maximum, 8.4 units Feb. 16, Mar. 25, Aug. 9; minimum, 7.4 units Dec. 1, Apr. 27-29.

WATER TEMPERATURE: Maximum, 32.5°C July 5; minimum, 8.5°C on several days.

DISSOLVED OXYGEN: Maximum, 14.8 mg/L Feb. 13; minimum, 2.9 mg/L Sep. 2.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	
NOV 03...	1015	5500	371	8.0	14.0	87	9.3	94	0.6	580	640	
FEB 17...	0950	1050	664	8.3	11.0	2.1	11.8	107	2.3	K8	26	
APR 13...	0945	6550	406	7.7	18.0	8.0	9.0	95	3.7	580	840	
JUN 01...	0945	13100	350	7.8	25.0	40	7.2	88	2.0	110	81	
28...	0945	940	566	7.8	29.5	180	6.3	83	1.5	97	300	
DATE		HARD-NESS TOTAL (MG/L AS CaCO3)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)
NOV 03...	130	27	43	4.8	26	1	5.0	0	122	99	37	
FEB 17...	190	59	67	6.1	64	2	8.5	0	164	130	84	
APR 13...	120	34	40	4.7	35	1	6.4	0	105	85	48	
JUN 01...	130	21	44	4.2	19	0.7	4.3	0	130	110	35	
28...	170	48	58	5.0	50	2	7.8	0	144	120	68	
DATE		CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
NOV 03...	28	0.40	5.5	228	219	1.80	--	<0.010	1.80	1.80	0.060	
FEB 17...	63	0.90	3.7	419	414	7.26	7.26	0.040	7.30	7.30	0.030	
APR 13...	33	0.50	3.1	256	240	3.47	3.47	0.030	3.50	3.50	0.100	
JUN 01...	19	0.30	4.4	212	199	0.870	0.870	0.010	0.880	0.880	0.090	
28...	49	0.80	9.1	361	346	5.64	5.64	0.060	5.70	5.70	0.080	

TRINITY RIVER MAIN STEM

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08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE		NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
NOV	03...	2.2	0.34	0.40	0.260	0.240	0.260	0.80	202	3000	99	30
FEB	17...	8.4	1.1	1.1	1.30	1.20	1.10	3.4	126	357	71	<10
APR	13...	4.2	0.60	0.70	0.440	0.420	0.420	1.3	488	8630	69	40
JUN	01...	1.9	0.91	1.0	0.270	0.130	0.100	0.31	173	6120	96	<10
	28...	6.6	0.82	0.90	0.730	0.700	0.650	2.0	184	467	100	10
DATE		BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
NOV	03...	40	<3	21	9	1	<10	2	<1	<1.0	280	<6
FEB	17...	44	<3	7	13	3	<10	5	<1	<1.0	530	<6
APR	13...	44	<3	30	9	3	<10	4	<1	<1.0	330	<6
JUN	01...	46	<3	3	<4	1	<10	2	<1	<1.0	350	<6
	28...	58	<3	7	11	3	<10	5	<1	<1.0	470	7
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.	1993	275131	416	234	174000	26	19400	45	33400	140		
NOV.	1993	108720	451	253	74300	30	8840	49	14500	140		
DEC.	1993	135560	429	241	88200	28	10200	47	17100	140		
JAN.	1994	46600	625	348	43800	52	6540	72	9050	160		
FEB.	1994	168650	382	215	97700	24	11000	41	18800	130		
MAR.	1994	227250	383	215	132000	23	14100	41	25100	130		
APR.	1994	74820	475	266	53700	34	6870	53	10700	140		
MAY	1994	438270	356	200	237000	20	24000	38	44600	120		
JUNE	1994	139303	428	240	90400	27	10300	46	17500	140		
JULY	1994	180539	370	208	101000	22	10800	40	19300	130		
AUG.	1994	43741	504	282	33300	37	4360	56	6650	150		
SEPT	1994	57439	443	248	38500	31	4760	49	7570	140		
TOTAL		1896023	**	**	1164000	**	131000	**	224000	**		
WTD.AVG.		5195	405	227	**	26	**	44	**	130		

TRINITY RIVER MAIN STEM

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	e600	418	416	417	---	---	e580	583	572	580
2	---	---	e600	418	417	418	---	---	e590	594	580	586
3	---	---	e600	---	---	e400	---	---	e600	615	581	602
4	613	604	610	---	---	e390	---	---	e620	635	581	622
5	662	610	638	---	---	e390	---	---	e450	646	615	640
6	651	432	505	---	---	e390	---	---	e420	656	636	647
7	611	436	541	---	---	e390	---	---	e440	647	637	644
8	538	476	506	---	---	e380	---	---	e410	648	637	639
9	569	528	543	---	---	e380	---	---	e400	---	---	e650
10	---	---	e560	---	---	e390	408	407	407	---	---	e670
11	---	---	e580	---	---	e440	407	407	407	---	---	e690
12	---	---	e600	---	---	e480	407	397	405	---	---	e670
13	---	---	e600	---	---	e530	397	337	366	---	---	e680
14	664	335	586	---	---	e550	416	337	399	682	641	667
15	608	318	384	---	---	e590	406	346	363	652	550	612
16	335	310	320	---	---	e540	356	346	349	652	632	638
17	360	335	348	---	---	e500	366	346	362	653	643	653
18	386	359	373	---	---	e410	405	356	381	654	653	654
19	417	386	404	---	---	e440	415	405	411	676	654	666
20	433	415	421	---	---	e480	435	415	427	686	625	664
21	422	414	418	---	---	e500	434	424	428	636	595	623
22	415	407	410	---	---	e490	434	385	433	626	585	602
23	407	404	405	---	---	e500	443	375	416	658	626	639
24	404	402	403	---	---	e510	453	443	444	700	648	683
25	404	403	404	---	---	e540	522	441	488	648	610	632
26	406	404	405	---	---	e560	560	515	540	610	549	567
27	407	405	406	---	---	e590	570	550	561	608	579	597
28	408	406	407	---	---	e610	571	560	566	608	428	562
29	412	408	410	---	---	e590	582	571	578	587	428	463
30	416	412	414	---	---	e580	602	582	596	636	587	610
31	417	416	417	---	---	---	593	578	587	656	635	648
MONTH	664	310	478	418	416	479	602	337	465	700	428	629

e Estimated

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	635	625	634	353	311	334	615	607	611	419	311	340
2	635	575	587	325	314	323	632	607	613	361	333	352
3	585	564	576	380	325	369	659	632	649	333	272	284
4	564	525	536	361	356	359	694	659	679	286	253	267
5	534	524	532	359	355	357	704	674	687	302	259	286
6	544	534	540	405	359	397	706	528	626	313	302	308
7	553	542	552	419	396	413	636	557	616	371	313	348
8	581	542	560	419	364	410	641	633	637	379	367	375
9	610	581	599	364	331	343	641	619	632	400	368	378
10	630	610	620	---	---	e340	637	577	607	378	370	373
11	629	619	626	---	---	e330	661	633	648	392	372	381
12	638	619	629	338	320	326	645	341	395	406	373	386
13	647	431	501	398	338	366	407	313	384	406	268	317
14	656	441	622	398	376	380	366	272	312	282	264	273
15	684	637	661	456	384	448	319	289	296	292	274	280
16	684	664	670	463	448	455	536	301	453	311	292	301
17	---	---	e690	466	440	453	570	536	551	343	311	326
18	---	---	e690	462	446	456	621	570	596	361	343	352
19	---	---	e680	485	460	471	677	621	645	384	361	368
20	---	---	e640	496	455	484	695	677	690	423	384	401
21	---	---	e500	484	407	451	695	672	682	430	423	427
22	---	---	e420	511	412	431	725	606	705	429	422	425
23	---	---	e340	523	503	515	646	537	584	422	416	419
24	265	231	240	503	471	481	689	646	668	416	408	413
25	284	265	276	532	338	454	690	534	601	412	407	408
26	310	284	296	620	465	596	637	552	592	437	405	428
27	345	310	337	618	245	355	627	328	407	415	404	407
28	354	330	350	465	299	350	465	323	406	415	379	393
29	---	---	---	584	441	480	414	345	391	385	359	377
30	---	---	---	561	420	508	419	321	359	365	354	361
31	---	---	---	610	413	516	---	---	---	354	329	338
MONTH	684	231	532	620	245	418	725	272	557	437	253	358

e Estimated

TRINITY RIVER MAIN STEM

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08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	390	338	362	---	---	e700	396	381	389	---	---	e690
2	402	390	397	711	681	691	407	396	404	682	348	637
3	409	402	405	724	691	714	416	375	391	364	301	330
4	415	408	412	691	571	622	389	379	385	306	284	298
5	414	406	408	---	---	e630	409	384	396	317	292	306
6	407	401	404	---	---	e640	440	409	417	352	317	338
7	407	401	404	---	---	e640	454	440	449	383	352	363
8	408	402	406	---	---	e650	478	454	468	439	383	411
9	414	404	408	699	644	658	503	476	486	457	439	453
10	437	414	421	695	664	679	563	503	524	473	453	465
11	443	437	441	664	449	524	615	563	592	489	473	481
12	454	441	444	464	236	369	609	531	565	488	438	454
13	463	454	458	289	236	270	---	---	e580	452	433	441
14	462	444	453	309	289	299	---	---	e610	---	---	e480
15	467	448	457	343	309	324	---	---	e640	---	---	e490
16	467	450	460	353	343	349	---	---	e660	---	---	e510
17	505	393	449	379	353	367	---	---	e600	---	---	e570
18	499	416	451	372	354	360	---	---	e630	---	---	e600
19	438	410	423	360	353	357	---	---	e610	---	---	e620
20	478	438	456	358	355	357	---	---	e630	---	---	e630
21	536	478	508	357	355	356	---	---	e650	---	---	e620
22	565	524	553	355	353	354	---	---	e670	---	---	e630
23	564	522	543	354	349	352	---	---	e640	---	---	e640
24	614	543	588	355	350	352	---	---	e610	---	---	e650
25	622	601	611	355	351	353	---	---	e580	---	---	e650
26	601	406	491	351	349	350	---	---	e610	---	---	e660
27	575	450	529	350	346	347	---	---	e610	---	---	e670
28	610	572	586	362	343	350	---	---	e620	---	---	e690
29	---	---	e640	368	362	364	---	---	e640	---	---	e690
30	---	---	e670	370	363	366	---	---	e660	---	---	e700
31	---	---	---	381	367	371	---	---	e690	---	---	---
MONTH	622	338	475	724	236	455	615	375	561	682	284	539
YEAR	725	231	495									

e Estimated

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	7.7	7.4	7.6	8.1	8.0	8.1
2	---	---	---	---	---	---	7.9	7.5	7.7	8.1	8.0	8.1
3	---	---	---	---	---	---	8.0	7.9	7.9	8.1	8.0	8.1
4	---	---	---	7.8	7.8	7.8	8.0	7.9	8.0	8.2	8.0	8.1
5	7.9	7.9	7.9	7.8	7.8	7.8	7.9	7.8	7.9	8.2	8.1	8.1
6	7.9	7.8	7.9	7.8	7.8	7.8	7.9	7.9	7.9	8.2	8.1	8.1
7	---	---	---	7.9	7.8	7.8	8.0	7.9	7.9	8.2	8.0	8.1
8	---	---	---	7.9	7.9	7.9	7.9	7.8	7.9	8.3	7.9	8.2
9	---	---	---	7.9	7.9	7.9	8.1	7.8	8.0	---	---	---
10	---	---	---	7.9	7.9	7.9	8.1	8.0	8.1	---	---	---
11	---	---	---	7.9	7.8	7.9	8.0	8.0	8.0	---	---	---
12	---	---	---	7.8	7.8	7.8	8.0	8.0	8.0	---	---	---
13	---	---	---	7.8	7.8	7.8	8.0	8.0	8.0	---	---	---
14	---	---	---	7.8	7.8	7.8	8.0	7.8	7.9	7.9	7.6	7.7
15	7.9	7.8	7.8	7.8	7.8	7.8	7.9	7.8	7.9	7.8	7.6	7.8
16	7.9	7.8	7.8	7.9	7.7	7.8	7.9	7.9	7.9	7.9	7.8	7.9
17	7.9	7.7	7.8	7.7	7.6	7.7	8.0	7.9	7.9	8.0	7.8	7.9
18	---	---	---	7.7	7.6	7.7	8.0	7.9	7.9	8.0	7.9	8.0
19	---	---	---	7.7	7.6	7.6	7.9	7.9	7.9	8.0	7.9	7.9
20	---	---	---	7.8	7.7	7.7	7.9	7.9	7.9	7.9	7.8	7.8
21	---	---	---	7.8	7.7	7.8	7.9	7.9	7.9	7.8	7.7	7.7
22	---	---	---	7.8	7.8	7.8	7.9	7.8	7.9	7.8	7.7	7.8
23	---	---	---	7.9	7.8	7.9	7.9	7.8	7.8	7.8	7.8	7.8
24	---	---	---	7.9	7.9	7.9	7.9	7.8	7.8	7.8	7.7	7.8
25	---	---	---	7.9	7.9	7.9	7.9	7.7	7.8	8.0	7.7	7.7
26	---	---	---	7.9	7.9	7.9	7.7	7.7	7.7	7.9	7.8	7.9
27	---	---	---	7.9	7.9	7.9	7.9	7.7	7.8	7.9	7.9	7.9
28	---	---	---	7.9	7.9	7.9	8.0	7.9	7.9	7.9	7.9	7.9
29	---	---	---	7.9	7.8	7.9	8.1	8.0	8.0	7.9	7.9	7.9
30	---	---	---	7.8	7.7	7.8	8.1	8.0	8.1	---	---	---
31	---	---	---	---	---	---	8.1	8.0	8.1	8.0	7.9	8.0
MONTH	7.9	7.7	7.8	7.9	7.6	7.8	8.1	7.4	7.9	8.3	7.6	7.9

TRINITY RIVER MAIN STEM

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08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	25.5	24.5	25.0	15.0	14.5	14.5	12.0	11.0	11.5	11.0	9.5	10.0
2	26.0	24.5	25.5	14.5	14.0	14.0	13.0	12.0	12.5	11.0	9.5	10.0
3	25.0	24.5	24.5	14.5	14.0	14.5	14.0	12.5	13.0	10.5	9.5	10.0
4	25.0	23.5	24.5	16.0	14.5	15.0	16.0	13.0	15.0	10.5	9.5	10.0
5	25.0	24.0	24.5	16.0	15.5	16.0	16.0	14.5	15.0	10.5	9.5	10.0
6	25.0	24.5	24.5	15.5	15.0	15.0	14.5	13.0	14.0	12.0	10.5	11.0
7	25.5	24.0	25.0	15.0	14.0	14.5	13.0	12.5	13.0	11.5	10.0	10.5
8	25.5	24.0	25.0	14.0	13.0	13.5	13.0	12.0	12.5	10.0	9.0	9.5
9	25.0	23.5	24.5	13.5	13.0	13.0	13.0	12.5	12.5	9.5	9.0	9.5
10	23.5	22.0	23.0	14.0	13.5	13.5	13.5	13.0	13.0	---	---	---
11	22.0	21.5	21.5	14.5	14.0	14.0	13.5	13.0	13.5	---	---	---
12	22.0	21.0	21.5	15.5	14.5	15.0	13.5	13.0	13.0	---	---	---
13	22.0	21.5	21.5	17.0	15.5	16.0	13.0	12.5	12.5	---	---	---
14	21.5	21.0	21.5	18.0	17.0	17.5	12.5	12.0	12.5	12.0	11.0	11.5
15	21.5	20.5	21.0	17.5	17.0	17.5	12.5	11.5	12.0	12.0	11.0	11.5
16	21.0	20.5	21.0	17.5	16.0	17.5	11.5	11.0	11.0	11.5	11.0	11.5
17	22.5	21.0	21.5	16.0	14.0	15.0	11.0	11.0	11.0	11.0	10.0	11.0
18	22.5	22.0	22.5	14.5	13.5	14.0	11.0	11.0	11.0	10.0	9.5	10.0
19	22.0	21.0	21.5	14.5	14.0	14.0	11.0	10.0	11.0	9.5	9.0	9.5
20	21.0	20.5	21.0	14.0	13.5	13.5	11.5	11.0	11.0	9.5	9.0	9.0
21	21.0	20.5	20.5	13.5	13.0	13.5	11.0	10.5	11.0	9.0	8.5	9.0
22	20.5	19.0	19.5	13.5	13.0	13.5	11.0	10.0	10.5	9.0	8.5	8.5
23	19.0	18.5	18.5	14.0	13.0	13.5	10.0	9.5	10.0	10.0	8.5	9.0
24	18.5	17.5	18.0	14.0	13.0	13.5	9.5	9.0	9.5	11.0	10.0	10.5
25	19.0	18.0	18.0	13.0	11.5	12.5	9.5	8.5	9.0	12.5	11.0	12.0
26	19.0	18.5	18.5	11.5	10.5	11.0	9.5	9.0	9.0	13.0	11.5	12.0
27	19.0	18.0	18.0	10.5	9.5	10.0	10.5	9.5	10.0	13.5	13.0	13.5
28	18.0	17.5	18.0	10.5	9.0	9.5	10.5	10.0	10.5	13.5	11.0	12.5
29	18.0	17.5	18.0	10.5	9.5	10.0	10.5	10.0	10.0	11.5	10.5	11.0
30	17.5	15.5	16.5	11.0	9.5	10.0	10.0	9.5	10.0	11.5	11.0	11.0
31	15.5	15.0	15.0	---	---	---	10.0	9.0	9.5	11.5	10.5	11.0
MONTH	26.0	15.0	21.5	18.0	9.0	14.0	16.0	8.5	11.5	13.5	8.5	10.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	10.5	9.5	10.0	10.5	10.0	10.5	18.0	16.0	16.5	20.5	18.5	19.0
2	10.0	8.5	9.0	10.5	10.0	10.5	18.0	16.5	17.5	19.0	17.5	18.5
3	9.5	8.5	9.0	10.5	10.0	10.5	---	---	---	18.0	17.5	18.0
4	10.0	9.0	9.5	11.5	10.5	11.0	19.0	17.0	18.0	17.5	17.0	17.0
5	11.0	10.0	10.5	12.5	11.5	12.0	19.0	18.0	18.5	19.0	17.5	18.0
6	12.0	11.0	11.5	13.5	12.5	13.0	18.5	17.0	17.5	20.0	19.0	19.5
7	12.5	11.5	12.0	14.0	13.5	13.5	18.0	16.5	17.5	21.0	20.0	20.5
8	15.0	12.5	13.5	---	---	---	18.5	17.0	17.5	21.0	20.5	21.0
9	14.5	12.0	13.5	13.5	12.5	12.5	19.5	18.0	18.5	21.0	20.0	20.5
10	12.0	10.0	10.5	---	---	---	20.5	18.5	19.5	20.5	20.0	20.0
11	10.5	9.5	10.0	---	---	---	21.0	20.0	20.5	20.5	20.0	20.5
12	10.5	9.5	10.0	12.0	11.0	11.5	20.5	17.5	18.5	22.0	20.5	21.0
13	10.0	8.5	9.5	12.5	12.0	12.0	19.0	18.0	18.5	22.0	21.5	22.0
14	10.5	9.0	9.5	---	---	---	19.5	18.0	18.5	22.0	21.5	22.0
15	11.0	9.5	10.0	---	---	---	19.5	19.0	19.0	23.0	21.5	22.5
16	12.0	10.0	11.0	15.5	14.5	15.0	21.5	18.5	20.0	23.5	23.0	23.0
17	---	---	---	16.5	13.0	15.5	22.0	20.0	21.0	24.0	23.0	23.5
18	---	---	---	17.0	15.5	16.5	23.0	20.5	21.5	24.5	23.5	24.0
19	---	---	---	18.5	17.0	17.5	23.5	21.5	22.5	24.5	23.5	24.0
20	---	---	---	19.0	18.0	18.5	23.5	22.5	23.0	24.0	23.0	23.5
21	---	---	---	20.0	18.0	19.0	24.0	22.5	23.5	24.0	23.0	23.5
22	---	---	---	19.0	17.0	18.0	24.5	23.5	24.0	24.0	23.0	23.5
23	---	---	---	19.0	18.5	18.5	24.5	23.0	23.5	23.5	23.0	23.5
24	12.0	11.0	11.5	18.5	18.0	18.0	25.0	24.0	24.5	24.0	23.0	23.5
25	12.5	11.0	11.5	19.0	17.5	18.0	24.5	24.0	24.0	24.0	23.5	24.0
26	12.0	10.5	11.0	19.5	18.5	19.0	25.0	23.5	24.5	24.0	23.5	23.5
27	11.0	10.5	11.0	19.0	16.0	17.0	25.0	21.5	23.0	23.5	23.0	23.5
28	10.5	10.5	10.5	16.5	15.5	16.0	23.5	23.0	23.5	24.0	23.5	23.5
29	---	---	---	17.0	15.5	16.0	23.5	23.0	23.0	24.0	23.5	23.5
30	---	---	---	17.0	16.0	16.5	23.0	20.5	21.5	24.5	23.5	24.0
31	---	---	---	17.0	15.0	16.0	---	---	---	25.0	24.0	24.5
MONTH	15.0	8.5	10.5	20.0	10.0	15.0	25.0	16.0	20.5	25.0	17.0	22.0

TRINITY RIVER MAIN STEM

08062700 TRINITY RIVER AT TRINIDAD, TX--Continued
(National stream-quality accounting network)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	25.5	24.5	25.0	31.5	26.5	29.0	27.5	26.5	27.0	---	---	---
2	26.0	25.0	25.5	31.0	29.5	30.5	28.0	27.0	27.5	29.0	24.5	28.5
3	26.0	25.5	25.5	31.0	30.0	30.5	28.5	27.5	28.0	27.5	26.5	26.5
4	25.5	25.0	25.5	31.5	29.5	30.5	29.0	28.0	28.5	27.0	26.0	26.5
5	26.0	25.0	25.5	32.5	28.5	30.0	29.0	28.0	28.5	27.5	26.5	27.0
6	26.5	25.5	26.0	---	---	---	29.5	28.5	29.0	28.5	27.5	28.0
7	26.5	25.5	26.0	---	---	---	29.5	28.5	29.0	28.5	28.0	28.0
8	27.0	26.0	26.5	---	---	---	29.5	28.0	28.5	28.5	27.5	28.0
9	27.0	26.5	27.0	30.5	30.0	30.5	29.5	28.0	28.5	27.5	27.0	27.5
10	27.0	26.5	27.0	30.5	29.5	29.5	29.5	28.5	29.0	27.5	27.0	27.0
11	27.5	26.5	27.0	29.5	28.0	28.5	30.0	28.5	29.0	28.0	27.0	27.5
12	27.0	26.5	26.5	28.0	25.5	26.5	30.0	26.5	29.0	28.0	27.0	27.5
13	27.0	26.5	26.5	26.5	25.5	26.0	---	---	---	28.5	27.5	28.0
14	27.5	26.5	27.0	27.5	26.5	27.0	---	---	---	29.0	25.0	27.5
15	27.5	27.0	27.0	27.5	27.0	27.5	---	---	---	30.0	24.0	26.5
16	27.0	26.5	27.0	28.0	27.5	27.5	---	---	---	30.0	22.5	25.5
17	27.5	26.0	26.5	28.5	27.5	28.0	---	---	---	28.5	22.5	26.5
18	28.5	27.0	27.5	29.0	28.0	28.5	---	---	---	28.0	26.5	27.0
19	29.5	27.5	28.5	29.0	28.0	28.5	---	---	---	---	---	---
20	30.0	28.5	29.0	29.0	28.0	28.5	---	---	---	---	---	---
21	30.0	29.0	29.5	29.0	28.0	28.5	---	---	---	---	---	---
22	31.0	29.5	30.0	29.0	28.0	28.5	---	---	---	---	---	---
23	31.5	29.5	30.5	29.0	28.0	28.5	---	---	---	---	---	---
24	31.5	29.5	30.5	29.0	28.5	29.0	---	---	---	---	---	---
25	31.0	30.0	30.5	29.0	28.5	29.0	---	---	---	---	---	---
26	30.5	29.5	30.0	29.0	28.0	28.5	---	---	---	---	---	---
27	31.5	29.5	30.5	28.5	27.5	28.0	---	---	---	---	---	---
28	31.0	29.5	30.0	28.0	27.5	27.5	---	---	---	---	---	---
29	30.5	29.5	30.0	28.0	27.0	27.5	---	---	---	---	---	---
30	31.0	28.0	30.0	27.5	27.0	27.5	---	---	---	---	---	---
31	---	---	---	27.5	26.5	27.0	---	---	---	---	---	---
MONTH	31.5	24.5	28.0	32.5	25.5	28.5	30.0	26.5	28.5	30.0	22.5	27.5
YEAR	32.5	8.5	19.5									

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.8	6.6	6.8	9.3	9.0	9.2	9.2	5.5	6.3	11.1	6.6	10.1
2	8.9	7.4	7.8	9.5	9.2	9.4	9.2	5.3	7.2	9.9	9.0	9.5
3	9.0	8.0	8.7	9.4	9.1	9.2	10.6	8.1	10.0	10.3	9.4	9.8
4	9.0	7.6	7.7	9.1	8.8	9.0	10.1	8.4	9.2	10.4	9.4	9.9
5	7.6	7.0	7.3	9.0	8.8	8.9	8.4	6.3	7.0	11.1	9.5	10.1
6	7.0	6.2	6.6	9.1	8.7	8.9	8.9	7.6	8.0	11.1	9.7	10.5
7	7.4	6.6	7.0	9.3	8.7	9.1	9.5	8.9	9.3	11.5	10.3	10.9
8	7.1	6.8	7.0	9.6	9.0	9.4	10.7	9.5	10.1	10.9	10.1	10.6
9	7.3	6.9	7.1	9.8	9.5	9.7	10.7	10.2	10.5	---	---	---
10	9.3	7.3	8.3	9.9	9.5	9.7	10.3	10.0	10.2	---	---	---
11	9.3	7.4	8.1	9.7	8.7	9.4	10.2	9.7	10.1	---	---	---
12	9.2	7.7	8.7	9.4	8.6	9.1	10.2	9.6	9.8	---	---	---
13	8.8	7.8	8.1	8.9	7.8	8.3	10.7	9.7	10.4	---	---	---
14	7.9	5.9	7.4	8.2	7.4	7.8	10.7	9.3	10.3	10.7	9.6	10.1
15	5.9	4.9	5.1	8.6	7.6	8.2	10.5	9.1	9.9	10.0	8.7	9.1
16	6.1	5.1	5.7	8.6	7.8	8.2	11.0	10.5	10.7	9.7	8.5	9.0
17	6.6	6.1	6.4	8.6	8.2	8.5	11.2	10.6	10.9	10.4	8.5	9.4
18	---	---	---	8.7	8.3	8.5	11.2	10.9	11.0	11.4	10.4	11.0
19	---	---	---	9.3	8.3	8.8	11.0	10.3	10.7	11.5	10.9	11.3
20	---	---	---	9.6	9.0	9.2	10.7	10.1	10.5	11.2	9.9	10.8
21	7.8	7.3	7.5	9.8	9.0	9.4	10.6	10.3	10.5	10.8	9.5	10.0
22	7.5	6.6	7.0	9.6	8.5	9.2	11.3	10.3	10.6	11.4	10.2	10.9
23	6.6	6.1	6.3	9.2	8.4	8.9	11.2	10.7	10.9	11.4	10.6	10.9
24	6.3	6.0	6.1	9.6	8.5	9.2	11.4	10.6	11.0	11.1	9.1	10.0
25	6.7	6.3	6.5	9.5	9.0	9.2	11.6	10.5	11.2	10.0	8.5	9.4
26	7.0	6.7	6.8	11.3	9.3	10.5	11.1	10.2	10.8	10.4	9.6	10.1
27	7.2	6.7	6.9	11.2	10.1	10.7	10.7	10.2	10.5	9.9	9.4	9.7
28	7.6	7.2	7.3	11.3	10.8	11.0	10.6	10.1	10.4	11.0	9.1	10.0
29	8.1	7.6	7.8	11.3	10.5	11.0	10.5	10.1	10.3	11.4	10.5	11.0
30	8.6	7.8	8.3	10.9	9.2	10.6	10.6	10.1	10.3	11.2	10.1	10.7
31	9.0	8.6	8.8	---	---	---	10.7	10.2	10.4	11.6	10.5	11.1
MONTH	9.3	4.9	7.3	11.3	7.4	9.3	11.6	5.3	10.0	11.6	6.6	10.2

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	11.9	11.3	11.6	10.5	10.2	10.4	10.3	9.2	9.7	6.6	5.7	6.1
2	12.3	11.6	12.0	10.5	10.3	10.4	10.4	9.3	9.7	7.2	6.6	6.8
3	12.6	12.0	12.2	10.3	10.0	10.0	10.8	9.5	10.0	8.0	7.2	7.8
4	12.8	12.1	12.5	10.5	10.0	10.2	10.4	9.6	9.9	7.9	7.7	7.8
5	12.9	12.0	12.5	10.5	9.8	10.1	9.8	8.9	9.1	7.7	6.0	7.5
6	12.8	11.9	12.2	10.1	9.6	9.7	8.9	7.4	8.1	7.5	7.2	7.3
7	12.1	11.1	11.5	10.0	9.6	9.9	9.0	7.8	8.5	7.6	7.2	7.3
8	11.7	9.8	10.5	10.2	9.8	9.9	10.0	8.7	9.2	8.0	7.6	7.8
9	10.8	9.8	10.3	10.3	10.0	10.2	9.9	8.8	9.3	8.1	8.0	8.0
10	11.2	10.0	10.5	---	---	---	10.0	8.2	9.0	8.2	8.0	8.1
11	12.4	10.2	11.4	---	---	---	9.3	8.2	8.8	8.1	7.8	8.0
12	13.8	11.3	12.5	9.9	9.7	9.8	9.0	8.1	8.5	7.9	7.7	7.8
13	14.8	12.3	13.9	9.8	9.7	9.7	8.9	8.3	8.7	7.7	6.3	6.7
14	13.8	11.9	12.5	10.2	9.8	10.1	8.5	7.5	8.2	6.6	6.3	6.5
15	13.2	11.5	12.4	10.2	9.5	9.7	8.8	8.0	8.4	6.6	6.1	6.4
16	12.9	11.9	12.3	9.5	9.2	9.4	8.8	7.5	8.0	6.1	5.8	6.0
17	---	---	---	9.2	9.0	9.1	9.1	7.8	8.3	5.9	5.7	5.8
18	---	---	---	9.1	8.7	9.0	10.4	8.4	9.2	6.1	5.7	5.9
19	---	---	---	8.8	8.6	8.7	11.2	8.9	9.8	6.5	5.9	6.2
20	---	---	---	8.7	8.4	8.6	10.8	8.8	9.6	6.4	6.1	6.2
21	---	---	---	8.9	7.3	8.4	10.0	8.3	9.1	6.5	6.0	6.2
22	---	---	---	9.4	8.7	9.0	9.8	6.4	8.8	6.8	6.3	6.5
23	---	---	---	8.8	8.5	8.7	8.2	6.4	7.2	6.8	6.4	6.6
24	9.3	8.7	9.2	8.6	8.1	8.5	8.9	7.5	8.1	6.7	6.4	6.5
25	9.0	8.5	8.8	9.7	7.6	8.7	8.0	6.6	7.1	7.0	6.5	6.7
26	9.6	8.9	9.2	8.8	7.6	8.5	8.6	6.1	7.1	7.1	6.7	6.9
27	10.2	9.4	9.7	9.4	8.0	9.0	7.9	4.1	5.3	7.3	6.8	7.0
28	10.4	10.0	10.2	9.6	8.8	9.3	4.1	3.9	4.1	7.2	6.3	6.7
29	---	---	---	9.1	7.3	8.7	6.3	4.1	5.1	6.9	6.4	6.6
30	---	---	---	9.3	7.1	8.1	6.4	6.2	6.3	7.3	6.9	7.1
31	---	---	---	9.3	9.0	9.2	---	---	---	7.3	6.7	7.0
MONTH	14.8	8.5	11.3	10.5	7.1	9.3	11.2	3.9	8.3	8.2	5.7	6.9
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	7.1	6.2	7.0	---	---	---	6.7	6.5	6.7	---	---	---
2	7.1	6.9	7.0	---	---	---	6.8	6.6	6.7	7.3	2.9	5.7
3	7.0	6.7	6.8	---	---	---	6.8	6.0	6.7	4.6	3.2	4.1
4	7.0	6.8	6.9	---	---	---	6.9	6.8	6.9	5.1	4.6	4.9
5	6.9	6.8	6.9	---	---	---	7.0	6.8	6.9	5.3	5.1	5.2
6	6.9	6.8	6.9	---	---	---	7.2	7.0	7.1	5.8	5.2	5.5
7	6.9	6.8	6.8	---	---	---	7.2	7.0	7.1	6.3	5.8	6.1
8	7.0	6.8	6.9	---	---	---	7.0	5.9	6.5	6.5	6.1	6.3
9	6.9	6.6	6.7	---	---	---	7.0	6.0	6.6	6.8	6.5	6.6
10	6.7	6.4	6.6	---	---	---	7.0	6.4	6.8	6.9	6.6	6.8
11	6.5	6.2	6.3	---	---	---	6.4	5.8	6.1	6.8	6.6	6.7
12	6.5	6.3	6.4	---	---	---	7.4	5.6	5.9	6.8	6.4	6.6
13	6.6	6.4	6.5	4.6	4.1	4.5	---	---	---	7.2	6.7	7.0
14	6.4	6.0	6.2	4.8	4.6	4.7	---	---	---	---	---	---
15	6.6	6.3	6.5	5.1	4.8	4.9	---	---	---	---	---	---
16	6.6	5.7	6.3	5.5	5.1	5.3	---	---	---	---	---	---
17	---	---	---	6.3	5.5	5.9	---	---	---	---	---	---
18	5.3	4.5	4.7	6.6	6.3	6.4	---	---	---	---	---	---
19	5.6	5.0	5.4	6.8	6.6	6.7	---	---	---	---	---	---
20	5.6	5.3	5.4	6.9	6.7	6.8	---	---	---	---	---	---
21	5.4	5.2	5.3	6.8	6.6	6.7	---	---	---	---	---	---
22	5.5	5.2	5.3	6.8	6.6	6.7	---	---	---	---	---	---
23	5.4	4.3	4.9	6.7	6.4	6.6	---	---	---	---	---	---
24	6.2	4.7	5.5	6.5	6.4	6.4	---	---	---	---	---	---
25	7.3	6.2	6.7	6.4	6.2	6.3	---	---	---	---	---	---
26	---	---	---	6.3	6.2	6.3	---	---	---	---	---	---
27	---	---	---	6.4	6.3	6.4	---	---	---	---	---	---
28	---	---	---	6.5	6.4	6.5	---	---	---	---	---	---
29	---	---	---	6.6	6.5	6.6	---	---	---	---	---	---
30	---	---	---	6.7	6.5	6.6	---	---	---	---	---	---
31	---	---	---	6.7	6.6	6.6	---	---	---	---	---	---
MONTH	7.3	4.3	6.2	6.9	4.1	6.2	7.4	5.6	6.7	7.3	2.9	6.0
YEAR	14.8	2.9	8.3									

08063010 CEDAR CREEK RESERVOIR NEAR TRINIDAD, TX

LOCATION.--Lat 32°14'35", long 96°08'26", Henderson County, Hydrologic Unit 12030107, inside pumphouse on lower level, 1,000 ft north of spillway, 5.5 mi upstream from Joe B. Hogsett Dam on Cedar Creek, and 8.0 mi northwest of Trinidad.

DRAINAGE AREA.--1,007 mi².

PERIOD OF RECORD.--January 1965 to current year.

Water-quality records.--Chemical and biochemical analyses: October 1969 to September 1985.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 15, 1972, at unfinished pumphouse at same site and datum. May 16, 1972, to Sept. 8, 1975, at site 0.25 mi north and upstream from pumphouse at same datum.

REMARKS.--The reservoir is formed by a rolled earthfill dam 17,539 ft long. The spillway is located on the right bank 5.5 mi upstream from the dam and discharges into the Trinity River through a cut channel 2 mi long. Deliberate impoundment began July 2, 1965, and the dam was completed in February 1966. The spillway is 474 ft long and has eight 40- by 24-foot radial gates and two automatically operated 40- by 8.5-foot hinged gates. Low-flow releases may be made downstream through a 5.0-foot-diameter conduit through the dam. The dam is the property of Tarrant County Water Control and Improvement District No. 1 and was built for municipal and industrial supply and for recreational purposes. The area and capacity tables were based on a survey during the period 1940-58. Water is diverted from the reservoir for municipal and industrial uses by lakeside developments and by the cities of Arlington, Fort Worth, Mansfield, Kemp, Trinidad, and Mabank. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	340.0	-
Top of radial gates.....	325.0	785,100
Top of automatic gates.....	322.5	696,400
Top of conservation pool.....	322.0	679,200
Crest of spillway (automatic gates).....	314.0	441,000
Crest of spillway (radial gates).....	302.0	197,800
Lowest gated outlet (invert).....	263.5	430

COOPERATION.--Records of diversions provided by the Tarrant County Water Control and Improvement District No. 1. The area and capacity tables were provided by Freese and Nichols, Consulting Engineers, for Tarrant County Water Control and Improvement District No. 1.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 722,000 acre-ft June 4, 1973 (elevation, 323.24 ft); minimum since first appreciable storage in 1966, 332,900 acre-ft Mar. 19, 1967 (elevation, 309.42 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 714,200 acre-ft Feb. 22 at 2000 hours (elevation, 323.02 ft); minimum contents, 615,100 acre-ft Oct. 12 (elevation, 320.04 ft).

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

309.0	323,800	322.0	679,200
315.0	467,300	323.0	713,500
320.0	613,800	324.0	748,800

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	618000	678200	679600	675900	677900	691200	677200	677600	678200	671900	656300	639900
2	621900	680300	680300	677200	677900	688800	679600	683700	678600	670900	655300	639900
3	620300	680300	678900	675200	676600	688800	677200	686400	678200	670300	654700	638900
4	619900	680900	680600	675200	678200	687100	675900	687500	676600	669600	651300	637700
5	619300	682300	683700	672600	677900	684700	678200	687100	677900	667900	653000	637300
6	618700	680300	685100	677200	678200	685400	675900	682000	677600	666600	652700	637300
7	617000	678900	682300	673900	678200	685400	674900	680900	677200	665900	652000	637300
8	616400	680300	679200	672300	678200	689900	674600	678600	675900	662300	651000	637300
9	619300	679900	679200	671600	680900	693300	675600	678600	675200	665000	650700	637000
10	618000	679600	678900	672900	679900	696400	675200	679200	675200	663600	650300	635700
11	616700	677200	678600	674900	678900	695000	688100	678600	677600	669900	649700	635400
12	615800	678200	677900	674200	681600	690500	688100	685700	674900	670900	649000	634800
13	621600	677200	680300	674900	678200	687100	683300	690500	673900	669600	648400	633800
14	623500	678600	683700	675200	677600	684700	680900	697400	673300	671600	648000	633100
15	624100	679200	683000	673600	678600	686400	678200	698400	675600	670600	648000	633100
16	624500	682000	680300	677200	678600	678900	678200	696400	675600	670300	646700	632200
17	625400	684400	678900	675600	678600	679600	678200	691600	676200	669900	645700	630600
18	628600	686800	677900	674900	677600	679900	677900	685400	677600	668900	644700	630300
19	645400	688500	677900	674900	679200	679200	677900	679900	676900	668300	643500	630300
20	701200	683700	678200	675200	693300	680300	678600	678200	677200	666300	642800	629900
21	700200	680300	676900	675200	689900	679200	679900	677900	678600	666300	644100	629000
22	695700	678200	678600	675200	713500	677600	679900	677900	677600	665900	644700	628300
23	695300	678200	677900	675600	710800	678200	679600	677600	675200	665000	643500	628300
24	694000	682000	677200	676600	707400	679200	678900	676900	677200	664000	643100	627000
25	690200	682300	677200	676900	706000	678200	679200	676900	675900	663000	641800	624800
26	687800	678200	676900	678900	696400	680600	679600	676900	675200	664300	641200	624800
27	684000	677900	677200	680300	690900	684700	677200	678900	673600	661000	640600	624800
28	680300	678900	678200	679200	688500	679900	678600	679900	672900	660000	639900	624500
29	684000	679600	676600	678900	---	679900	678600	680900	672900	658300	638600	623800
30	679900	679200	676200	679200	---	677900	679200	681600	672600	658000	638300	622200
31	679200	---	675200	678200	---	677900	---	680300	---	657000	638000	---
MAX	701200	688500	685100	680300	713500	696400	688100	698400	678600	671900	656300	639900
MIN	615800	677200	675200	671600	676600	677600	674600	676900	672600	657000	638000	622200
(+)	322.00	322.00	321.88	321.97	322.27	321.96	322.00	322.03	321.80	321.33	320.75	320.26
(#)	+59600	0	-4000	+3000	+10300	-10600	+1300	+1100	-7700	-15600	-19000	-15800
CAL YR 1993	MAX 701200	MIN 615800	(0) -5400									
WTR YR 1994	MAX 713500	MIN 615800	(0) +2600									

(+) Elevation, in feet, at end of month.

(#) Change in contents, in acre-feet.

08063050 NAVARRO MILLS LAKE NEAR DAWSON, TX

LOCATION.--Lat 31°57'27", long 96°41'21", Navarro County, Hydrologic Unit 12030108, in left abutment of spillway of Navarro Mills Dam on Richland Creek, 1.7 mi upstream from bridge on State Highway 31, 3.0 mi upstream from St. Louis Southwestern Railway Lines bridge, 4.2 mi upstream from Post Oak Creek, 4.6 mi north of Dawson, and 63.9 mi upstream from mouth.

DRAINAGE AREA.--320 mi².

PERIOD OF RECORD.--August 1962 to current year. Prior to October 1970, published as Navarro Mills Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 8, 1962, nonrecording gage in low-water channel at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 7,570 ft long, including a 240-foot off-channel gated spillway with six 40.0- by 29.0-foot tainter gates. From Aug. 27, 1962, to Mar. 14, 1963, lake was operated as a detention basin only. Deliberate impoundment began Mar. 15, 1963, and dam was completed in September 1963. Low-flow outlet works consist of two 36-inch-diameter gate-controlled conduits. Lake was built for flood control and water conservation. Capacity table prior to September 1976 is based on survey made in February 1956 by U.S. Army Corps of Engineers. Capacity table after Aug. 31, 1976, is based on a sedimentation survey made in September 1972. Flow is affected at times by discharge from the flood-detention pools of 51 floodwater-retarding structures with a combined detention capacity of 26,160 acre-ft. These structures control runoff from 86.9 mi² in the Richland Creek drainage basin. An unknown amount of water is diverted for municipal and industrial uses. Satellite telemeter at station. Figures given herein represent total contents. Data regarding dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	457.0	-
Design flood.....	451.9	329,500
Top of gates (top of flood-control storage pool).....	443.0	206,200
Top of conservation pool.....	424.5	56,960
Crest of spillway.....	414.0	18,840
Lowest gated outlet (invert).....	400.0	1,150

COOPERATION.--Records of elevations and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 183,300 acre-ft May 18, 1968 (elevation, 440.36 ft); minimum since since initial filling in May 1965, 32,490 acre-ft Dec. 28, 1978 (elevation, 418.89 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 90,030 acre-ft Oct. 29 (elevation, 430.10 ft); minimum daily, 45,860 acre-ft Oct. 11, 12 (elevation, 422.19 ft).

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

420.0	36,660	429.0	82,620	436.0	136,300
423.0	49,590	432.0	103,800	438.0	154,300
426.0	64,810	434.0	119,500	439.0	163,700

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46220	83540	58440	57320	57170	80750	59050	62610	58130	58230	53720	52540
2	46040	81590	58230	57370	57170	80430	59160	63840	57570	58030	53570	52830
3	46530	79420	58130	57220	57170	79420	59210	67120	57170	57830	53470	52780
4	46440	77230	57570	57060	57220	77970	58800	66670	57010	57670	53270	52680
5	46400	75390	57420	57270	57270	76310	58490	64760	56960	57370	53270	52640
6	46350	72650	57320	57010	57270	74730	57570	63200	56910	57270	53130	52490
7	46260	70390	57370	57010	57370	73180	57270	61980	56860	57060	52880	52490
8	46170	68290	57370	56960	57470	71770	57220	60820	56760	56860	52780	52390
9	46040	66290	57470	56960	57720	73060	57370	60510	56660	56710	52680	52290
10	45900	64600	57370	57060	57670	73830	57470	60710	56610	56560	52640	52200
11	45860	63250	57320	57170	57620	73590	57830	64600	56660	56460	52490	52100
12	45860	62130	58180	57220	57830	72240	57930	65250	56760	56410	52390	52050
13	47300	61080	57520	57370	57830	70960	57880	69810	56660	56210	52250	51950
14	47300	59880	57420	57270	57770	69530	57880	74670	56560	56210	52150	51900
15	47300	58850	57370	57270	57520	68180	57880	75760	57270	56160	52000	51810
16	47300	61240	57320	57220	57420	66670	57830	76430	57320	55950	51950	51810
17	48130	61610	57420	57370	57470	65300	57770	75880	57320	55800	51760	51610
18	52000	59980	57420	57370	57370	63790	57770	74610	57320	55750	51660	51420
19	56860	58540	57420	57370	57420	62350	57770	73060	57170	55550	51520	51370
20	81070	57980	57370	57370	58290	61030	57880	70900	57170	55400	51270	51180
21	84070	57930	57370	57570	59160	59570	58030	68630	57110	55250	51320	51080
22	85530	57880	57620	57570	71830	58440	58080	66340	57010	55150	51180	51030
23	86600	57930	57620	57670	75940	57770	57980	64060	58590	55050	51080	50840
24	87550	57980	57620	57880	77410	57620	57830	61820	60560	54850	51130	50700
25	88300	58180	57570	58030	78220	57470	57830	59670	60710	54760	50980	50550
26	88920	58230	57520	57980	78720	57570	57830	58390	60350	54610	50840	50450
27	89410	58290	57570	57830	79160	58700	57770	59780	59830	54410	50700	50360
28	89750	58290	57520	57420	79730	58800	57670	59830	59420	54210	50600	50260
29	90030	58340	57420	57220	---	58900	61820	58950	58950	54110	50450	50170
30	88510	58390	57420	56960	---	58900	62560	59730	58540	53960	50360	50070
31	86000	---	57370	57170	---	59000	---	58900	---	53860	50890	---
MAX	90030	83540	58440	58030	79730	80750	62560	76430	60710	58230	53720	52830
MIN	45860	57880	57320	56960	57170	57470	57220	58390	56560	53860	50360	50070
(+)	429.51	424.78	424.58	424.54	428.55	424.90	425.58	424.89	424.81	423.88	423.27	429.10
(@)	+39650	-27610	-1020	-200	+22560	-20730	+3560	-3660	-360	-4680	-5970	-8200
CAL YR 1993	MAX 90030	MIN 45860	(0)		-5400							
WTR YR 1994	MAX 90030	MIN 45860	(0)		+37200							

(+) Elevation, in feet, at end of month.

(@) Change in contents, in acre-feet.

08063100 RICHLAND CREEK NEAR DAWSON, TX

LOCATION.--Lat 31°56'18", long 96°40'52", Navarro County, Hydrologic Unit 12030108, at downstream side of bridge on State Highway 31, 1.3 mi upstream from St. Louis Southwestern Railway Lines bridge, 1.7 mi downstream from Navarro Mills Dam, 2.5 mi upstream from Post Oak Creek, and 3.6 mi northeast of Dawson.

DRAINAGE AREA.--333 mi².

PERIOD OF RECORD.--October 1960 to current year.

Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 367.52 ft above National Geodetic Vertical Datum of 1929. Nov. 21, 1960, to Sept. 30, 1982, water-stage recorder at same site and at 3.00 ft higher datum. Prior to Nov. 21, 1960, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since Mar. 15, 1963, flow has been regulated by Navarro Mills Lake (station 08063050), 1.7 mi upstream. Flow may be slightly affected at times by discharge from the flood-detention pool of one floodwater-retarding structure with a conservation capacity of 297 acre-ft. This structure controls runoff from a 1.28 mi² area below Navarro Mills Lake and above this station. Several observations of water temperature were made during the year. Satellite telemeter at station.

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1961-63).--Maximum discharge, 25,500 ft³/s July 3, 1961 (gage height, 25.50 ft), from rating curve extended above 14,000 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1895, about 31 ft June 19, 1929, from information by local residents. Floods in 1946 and 1957 reached a stage of about 26 ft, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	1020	e170	43	e1.6	11	5.5	32	545	138	.27	5.1
2	.16	1020	e170	42	e1.5	242	4.9	125	398	34	.25	28
3	.42	1010	e170	43	1.5	709	4.7	364	274	34	.33	2.0
4	.46	1010	e170	43	1.5	788	228	530	135	33	.21	.21
5	.27	1010	e79	43	1.3	903	448	1070	31	33	.45	.21
6	.25	1010	42	43	1.1	905	448	959	19	33	.47	.21
7	.25	1020	42	25	1.3	908	212	697	3.9	33	1.2	.21
8	.23	1010	42	4.6	1.4	915	20	696	2.7	18	.46	.21
9	.25	1000	42	3.8	1.3	625	20	694	2.3	.60	.19	.21
10	.24	884	42	3.4	1.7	10	20	702	1.9	.33	.19	.21
11	.25	687	42	e3.6	1.6	334	20	704	1.9	.30	.19	.21
12	.54	692	42	e3.5	1.6	905	20	712	2.3	.30	.19	.22
13	18	690	43	e3.5	1.3	900	20	521	2.0	.64	.19	.25
14	2.6	693	43	e3.5	.85	897	20	56	1.7	.38	.19	.25
15	.69	531	43	e3.5	157	895	20	15	6.0	.33	.19	.25
16	.53	431	43	e3.5	85	895	19	26	5.5	.33	.19	.25
17	5.6	596	43	e3.5	31	894	19	420	2.8	.33	.19	.25
18	116	992	42	e3.6	31	891	19	841	2.1	.70	.19	.25
19	86	878	43	e3.7	31	890	19	888	1.7	.39	.19	.25
20	777	e469	42	e3.3	56	891	18	1090	1.1	.32	.19	.25
21	36	e340	42	e3.4	42	821	21	1170	.76	.41	.21	.25
22	22	e340	43	e3.4	534	693	29	1150	.68	.30	.21	.25
23	20	e269	43	e3.4	84	554	44	1130	10	.39	.21	.25
24	8.7	e170	43	e3.8	20	213	44	1110	42	.28	.21	.25
25	4.2	e170	42	e3.6	9.6	138	44	1090	5.1	.74	.21	.25
26	3.0	e170	42	e40	6.3	84	40	896	89	1.2	.21	.25
27	2.5	e170	43	e85	4.8	113	30	554	264	.50	.21	.25
28	10	e170	42	e85	4.2	66	30	428	215	.25	.24	.25
29	4.1	e170	42	e85	---	20	61	603	178	.25	.25	.28
30	502	e170	42	e85	---	7.1	38	603	185	.25	.25	.28
31	1030	---	42	e20	---	5.9	---	600	---	.28	.25	---
TOTAL	2652.40	18792	1861	746.6	1199.6	17123.0	1986.1	20476	2429.44	365.80	8.38	41.56
MEAN	85.6	626	60.0	24.1	42.8	552	66.2	661	81.0	11.8	.27	1.39
MAX	1030	1020	170	85	534	915	448	1170	545	138	1.2	28
MIN	.16	170	42	3.3	1.1	5.9	4.7	15	.68	.25	.19	.21
AC-FT	5260	37270	3690	1480	2380	33960	3940	40610	4820	726	17	82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1994#, BY WATER YEAR (WY)

	MEAN	47.6	140	141	143	178	192	194	286	371	117	14.8	24.2
MAX	400	1366	1050	1054	1090	971	992	980	1356	773	310	269	
(WY)	1974	1968	1975	1992	1992	1970	1992	1980	1975	1968	1991	1974	
MIN	.000	.000	.000	.058	.066	.22	.023	.019	.000	.000	.068	.068	
(WY)	1964	1964	1964	1964	1964	1971	1964	1964	1964	1970	1981	1968	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1964 - 1994#

ANNUAL TOTAL	75442.41	67681.88	154	1968
ANNUAL MEAN	207	185	561	1964
HIGHEST ANNUAL MEAN			.20	Jun 12 1990
LOWEST ANNUAL MEAN			.00	Oct 1 1963
HIGHEST DAILY MEAN	1620	1170	.00	Oct 1 1963
LOWEST DAILY MEAN	.03	.16	.00	Oct 1 1963
ANNUAL SEVEN-DAY MINIMUM	.04	.19	.00	Nov 24 1974
INSTANTANEOUS PEAK FLOW			3850	Nov 24 1974
INSTANTANEOUS PEAK STAGE			22.85	
ANNUAL RUNOFF (AC-FT)	149600	134200	111300	
10 PERCENT EXCEEDS	815	856	630	
50 PERCENT EXCEEDS	36	20	2.1	
90 PERCENT EXCEEDS	.16	.25	.02	

e Estimated

Period of regulated streamflow.

08063700 BARDWELL LAKE NEAR ENNIS, TX

LOCATION.--Lat 32°15'00", long 96°38'49", Ellis County, Hydrologic Unit 12030109, in intake structure of Bardwell Dam on Waxahachie Creek, 5 mi south of Ennis, and 5.6 mi upstream from mouth.

DRAINAGE AREA.--178 mi².

PERIOD OF RECORD.--November 1965 to current year. Prior to October 1970, published as Bardwell Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to Apr. 25, 1966, nonrecording gage on intake structure at same datum.

REMARKS.--The lake is formed by a rolled earthfill dam 15,400 ft long, including a 350-foot uncontrolled off-channel concrete-gravity spillway with ogee weir section. Deliberate impoundment began Nov. 20, 1965, and dam was completed Mar. 27, 1966. Controlled low-flow outlet works consists of a 10.0-foot-diameter concrete conduit with two 5.0- by 10.0-foot sluice gates. Lake was built for flood control and water conservation. Capacity table beginning October 1976 is based on a survey completed in 1972. Runoff from 81.4 mi² above Bardwell Lake is modified by Lake Waxahachie, with a capacity of 13,500 acre-ft at spillway elevation. The city of Waxahachie diverts water from Lake Waxahachie and returns an unknown amount of effluent to Waxahachie Creek. Inflow is affected at times by discharge from flood-detention pools of 23 floodwater-retarding structures with a combined detention capacity of 15,370 acre-ft. These structures control runoff from 52.4 mi² in the Chambers Creek watershed. Satellite telemeter at station. Figures given herein represent total contents. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	460.0	-
Design flood.....	455.9	-
Crest of spillway (top of flood-control pool).....	439.0	137,600
Top of conservation pool.....	421.0	52,300
Lowest gated outlet (invert).....	391.0	690

COOPERATION.--Records of elevation and contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 112,100 acre-ft May 22, 1990 (elevation, 434.54 ft); minimum since initial filling, 39,720 acre-ft Nov. 10, 1978 (elevation, 417.21 ft).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 69,110 acre-ft May 16 (elevation, 425.39 ft); minimum daily, 47,640 acre-ft Oct. 11 (elevation, 419.67 ft).

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

419.0	45,390	423.0	59,680	426.0	71,630
420.0	48,780	424.0	63,550	427.0	75,900
421.0	52,290	425.0	67,530	428.0	80,300
422.0	55,920				

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47990	58580	52900	52790	52790	65800	52500	55330	52290	51970	51300	49890
2	47990	57450	52970	52930	52750	65640	52680	56030	52330	51900	51190	50310
3	48120	56110	53180	52900	52750	64730	52540	57640	52400	51830	51160	50420
4	48120	54850	53260	52900	52860	63510	52540	57380	52400	51760	51020	50350
5	48050	53760	53360	52790	52930	62180	52900	56410	52430	51650	51020	50350
6	47990	52900	53180	53110	52970	60790	52680	56220	52470	51470	50910	50350
7	47990	52400	53040	52930	53040	59720	52650	56550	52400	51400	50840	50280
8	47880	52470	52860	52900	53110	58960	52680	56670	52430	51400	50770	50420
9	47850	52470	52790	52900	53400	59030	52830	56890	52470	51330	50700	50380
10	47710	52500	52680	53110	53400	59030	52900	56890	52470	51330	50630	50310
11	47640	52430	52500	53180	53470	59030	53260	58500	52720	51760	50590	50280
12	47850	52540	52830	53080	53760	62180	53180	62490	52680	52220	50490	50210
13	48330	52610	53110	52930	53760	61250	53180	65160	52610	52720	50420	50140
14	48330	52860	53150	52790	53650	60210	53150	67040	52610	52720	50450	50140
15	48330	52930	53040	52540	53540	58810	53010	68330	53360	52720	50310	50070
16	48360	54230	52970	52750	53400	57710	52720	69110	53260	52680	50210	50100
17	48670	54490	52900	52400	53260	56410	52580	69030	53110	52610	50140	49930
18	49160	53830	52790	52400	53110	55630	52580	68130	52930	52540	50030	49790
19	54200	53290	52650	52290	53040	54710	52610	67160	52790	52430	49930	49720
20	62100	53290	52580	52500	55000	53830	52970	65640	52400	52330	49890	49650
21	62330	52830	52540	52540	55810	53290	52930	63820	52400	52250	50070	49580
22	62450	52610	52750	52650	61130	52930	52750	62100	52330	52180	49960	49470
23	62490	52680	52830	52750	62570	52860	52540	60170	52400	52150	49890	49330
24	62570	52830	52930	52900	63310	52720	52470	58500	52400	52040	49860	49230
25	62570	52900	52970	53080	64100	52500	52430	57080	52330	51940	49790	49200
26	62650	52900	52970	53150	64330	52930	53690	56180	52180	51900	49680	49090
27	62570	52930	53110	53110	64610	53470	53910	55220	52110	51760	49610	49060
28	62450	52930	53080	52900	65080	53400	53910	54310	52150	51650	49540	49020
29	62800	52970	52830	52750	---	53180	54820	53400	52010	51510	49440	48950
30	61560	52900	52680	52830	---	52750	55440	52610	52010	51470	49330	48920
31	60060	---	52680	52750	---	52580	---	52290	---	51330	49650	---
MAX	62800	58580	53360	53180	65080	65800	55440	69110	53360	52720	51300	50420
MIN	47640	52400	52500	52290	52750	52500	52430	52290	52010	51330	49330	48920
(+)	423.10	421.17	421.11	421.13	424.64	421.08	421.87	421.00	420.92	420.73	420.25	420.04
(@)	+11940	-7100	-220	+70	+12330	-12500	+2860	-3150	-280	-680	-1680	-730
CAL YR 1993	MAX 64290	MIN 47640	(@)	-1160								
WTR YR 1994	MAX 69110	MIN 47640	(@)	+800								

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

TRINITY RIVER BASIN

08063800 WAXAHACHIE CREEK NEAR BARDWELL, TX

LOCATION.--Lat 32°14'36", long 96°38'24", Ellis County, Hydrologic Unit 12030109, on left bank at downstream side of highway embankment near left end of bridge on county road, 0.8 mi downstream from Bardwell Dam, 3.6 mi southeast of Bardwell, 3.8 mi downstream from bridge on State Highway 34, and 4.1 mi upstream from mouth.

DRAINAGE AREA.--178 mi².

PERIOD OF RECORD.--October 1963 to current year.

Water-quality records.--Chemical and biochemical analyses: October 1980 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 370.18 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark).

REMARKS.--Records poor. Since November 1965, flow regulated by Bardwell Lake (station 08063700) 0.8 mi upstream. Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--2 years (water years 1964-65), 32.8 ft³/s (23,720 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1964-65).--Maximum discharge 2,960 ft³/s Feb. 9, 1965 (gage height, 17.55 ft); no flow at times both years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1944, about 23 ft in 1944 and 1945, from information by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.06	659	48	2.2	.54	.77	52	75	5.1	1.0	1.6	e2.8
2	e.05	666	3.0	2.1	.50	205	30	238	5.1	2.9	.09	e5.5
3	e.05	682	3.0	1.6	.48	621	1.3	407	5.0	5.6	.05	e1.8
4	e.05	698	2.7	1.4	.48	774	.57	495	4.5	.23	.05	e.06
5	e.05	589	2.7	1.2	.45	827	.52	667	4.6	3.3	.05	e.06
6	e.05	418	67	1.1	.43	823	.42	290	2.6	2.9	.05	e.06
7	e.05	251	108	1.0	.43	742	.38	.68	.47	.18	.04	e.06
8	e.05	8.1	107	.90	.43	689	.38	.47	.39	.14	1.8	e1.7
9	e.05	6.7	110	.86	.43	451	.37	.53	.35	.14	1.7	e3.3
10	e.05	6.4	110	.84	.47	2.3	.37	.51	.33	.12	.12	e.10
11	e.05	6.1	110	52	.58	317	.41	209	.40	.13	.07	e.06
12	e.50	5.7	44	92	.62	698	.43	407	.33	.12	.06	e.07
13	e1.5	5.7	2.5	93	.51	691	.34	265	.27	.12	.06	e.06
14	e.15	6.5	57	94	41	688	64	2.0	.26	.11	.06	e.05
15	.10	6.6	86	94	64	687	110	1.3	1.1	.10	.06	.04
16	.10	11	85	88	61	682	109	.95	42	.10	.04	.04
17	.87	162	83	31	62	680	80	333	82	.10	.04	.04
18	2.6	425	83	1.1	64	677	.86	695	81	.09	.04	.03
19	34	335	84	.99	63	673	.65	692	79	2.0	.05	.03
20	439	148	83	.82	73	669	.78	840	45	2.3	.06	.03
21	95	70	51	.79	66	510	56	957	.44	.16	.09	.03
22	1.1	38	3.6	.76	149	323	97	946	.35	.09	.05	.04
23	1.0	1.4	2.7	.74	54	238	97	938	.36	.07	.05	.05
24	1.0	1.3	2.5	.85	.88	241	36	860	.38	.07	e.05	.05
25	1.0	1.3	2.2	.84	.74	157	.54	758	.29	2.0	e.05	.05
26	1.0	1.4	2.1	32	.61	54	.44	670	.25	3.0	e.05	.05
27	1.0	1.7	2.1	69	.58	2.9	38	613	.23	.10	e.05	.06
28	1.0	1.6	69	65	.60	112	77	527	.69	.06	e.05	.06
29	1.1	1.5	110	64	---	214	78	522	1.4	.05	e.05	.07
30	353	46	67	24	---	213	76	519	3.6	1.5	e.05	.07
31	662	---	2.7	.72	---	112	---	220	---	4.0	e.05	---
TOTAL	1597.58	5260.0	1593.8	818.81	706.76	13773.97	1008.76	13149.44	367.79	32.78	6.68	16.42
MEAN	51.5	175	51.4	26.4	25.2	444	33.6	424	12.3	1.06	.22	.55
MAX	662	698	110	94	149	827	110	957	82	5.6	1.8	5.5
MIN	.05	1.3	2.1	.72	.43	.77	.34	.47	.23	.05	.04	.03
AC-FT	3170	10430	3160	1620	1400	27320	2000	26080	730	65	13	33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994#, BY WATER YEAR (WY)

	MEAN	23.8	83.1	75.2	97.5	113	148	104	173	206	30.9	4.66	7.58
MAX	299	723	394	892	605	675	590	827	773	773	370	71.8	178
(WY)	1974	1992	1986	1992	1992	1992	1977	1973	1989	1981	1973	1976	1976
MIN	.000	.014	.018	.022	.022	.024	.19	.12	.004	.000	.000	.000	.000
(WY)	1967	1970	1990	1967	1967	1967	1967	1988	1967	1966	1966	1966	1966

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1966 - 1994#

ANNUAL TOTAL	45205.06	38332.79	88.7
ANNUAL MEAN	124	105	318
HIGHEST ANNUAL MEAN			1992
LOWEST ANNUAL MEAN			1967
HIGHEST DAILY MEAN	945	957	1880
LOWEST DAILY MEAN	.02	.03	.00
ANNUAL SEVEN-DAY MINIMUM	.04	.03	.00
INSTANTANEOUS PEAK FLOW		975	1960
INSTANTANEOUS PEAK STAGE		10.69	18.13
ANNUAL RUNOFF (AC-FT)	89660	76030	64220
10 PERCENT EXCEEDS	443	501	301
50 PERCENT EXCEEDS	3.0	1.6	1.3
90 PERCENT EXCEEDS	.07	.05	.00

e Estimated

Period of regulated streamflow.

08064100 Chambers Creek near Rice, Tex.

LOCATION.--Lat 32°11'54", long 96°31'12", Navarro County, Hydrologic Unit 12030109, on downstream side of highway embankment 20 ft to left of left end of bridge on Farm Road 1126, 3.6 mi downstream from Oak Branch, 3.9 mi upstream from Cummins Creek, 4.2 mi upstream from bridge on Interstate Highway 45, 5.0 miles downstream from Waxahachie Creek, and 3.4 mi southwest of Rice.

DRAINAGE AREA.--807 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1983 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 340.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records poor. Flow from 178 mi² above this station is affected by storage in Bardwell Lake on Waxahachie Creek. Flood releases from Bardwell Lake will sustain flows at this site from time to time. In addition, flow is affected at times by discharge from the flood-detention pools of numerous floodwater-retarding structures in the drainage basin above this station. Satellite telemeter and rain gage at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood information for the next downstream station, Chambers Creek near Corsicana, (08064500, discontinued) indicates that the maximum stage since at least 1870 occurred in August 1887, and that other significant floods occurred in December 1913, May 1944, and May 1958. Stages for these floods are unknown, but over the years a levee system has been developed along the main channel to limit cropland flooding.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	809	190	68	67	453	237	420	197	34	5.4	1.7
2	.00	784	111	66	61	847	206	298	114	23	3.1	3.8
3	.03	777	108	64	58	1040	124	2270	90	30	1.6	5.9
4	.00	768	125	60	55	1070	111	1210	84	17	1.3	5.2
5	1.9	712	173	55	53	1110	105	958	73	12	1.2	3.1
6	2.2	434	151	57	51	1070	100	635	61	14	1.3	1.9
7	3.6	374	203	51	47	1000	94	139	52	9.1	1.4	1.5
8	2.0	79	194	46	48	884	88	114	44	7.1	1.2	1.3
9	1.1	61	193	45	48	3950	85	103	36	6.0	1.9	1.2
10	.79	56	192	44	51	3920	83	758	31	5.4	2.8	4.1
11	.52	56	188	79	61	1170	84	842	30	5.2	1.3	5.3
12	.42	54	161	234	177	1280	92	1960	35	5.1	.96	3.3
13	141	55	145	235	172	1150	93	3030	35	4.8	.83	2.2
14	198	65	314	188	136	1100	102	3840	29	4.4	.80	1.7
15	61	101	277	166	194	1020	172	1750	94	4.5	.85	1.4
16	11	656	231	150	185	964	162	927	163	4.7	.91	1.3
17	4.6	2110	212	124	178	917	152	767	157	4.2	.99	1.1
18	1530	995	201	44	175	886	67	1110	143	4.0	1.1	.80
19	1550	666	191	42	172	860	51	1010	136	3.5	1.1	.58
20	14800	418	182	39	2530	840	51	1020	124	4.5	1.1	.44
21	10100	263	174	41	5850	723	92	1200	29	4.6	1.2	.37
22	3440	226	103	58	6470	480	218	1140	18	2.5	1.0	.35
23	1630	146	144	79	7810	362	201	1110	3.2	2.2	.87	.32
24	1130	132	149	90	3390	362	151	1050	3540	2.2	.92	.31
25	961	122	129	129	1220	319	63	920	1210	1.7	1.2	.28
26	847	125	116	144	846	218	56	789	251	2.8	1.1	.25
27	589	139	108	236	596	985	60	771	141	4.1	.92	.22
28	450	141	122	227	458	1180	132	661	104	2.0	.83	.20
29	355	130	193	213	---	577	537	661	75	1.8	.72	.19
30	422	128	178	172	---	440	782	653	46	1.6	.60	.16
31	855	---	79	76	---	343	---	563	---	2.4	.51	---
TOTAL	39087.16	11582	5237	3322	31159	31520	4551	32679	7145.2	230.4	41.01	50.47
MEAN	1261	386	169	107	1113	1017	152	1054	238	7.43	1.32	1.68
MAX	14800	2110	314	236	7810	3950	782	3840	3540	34	5.4	5.9
MIN	.00	54	79	39	47	218	51	103	3.2	1.6	.51	.16
AC-FT	77530	22970	10390	6590	61800	62520	9030	64820	14170	457	81	100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1994, BY WATER YEAR (WY)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	411	296	787	469	880	764	368	889	777	59.0	23.4
MAX	1499	1811	3579	1984	2130	1819	1235	2932	2560	194	142
(WY)	1986	1992	1992	1992	1992	1992	1990	1989	1986	1989	1991
MIN	.000	1.72	1.45	12.0	107	45.3	92.6	7.86	2.21	.081	.000
(WY)	1989	1989	1989	1984	1984	1986	1987	1988	1984	1988	1985

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1984 - 1994

ANNUAL TOTAL	199914.55	166604.24	477
ANNUAL MEAN	548	456	1263
HIGHEST ANNUAL MEAN			96.6
LOWEST ANNUAL MEAN			1992
HIGHEST DAILY MEAN	14800	14800	22700
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.23	.00
INSTANTANEOUS PEAK FLOW		22700	43400
INSTANTANEOUS PEAK STAGE		31.24	32.57
ANNUAL RUNOFF (AC-FT)	396500	330500	345900
10 PERCENT EXCEEDS	1090	1060	1160
50 PERCENT EXCEEDS	194	104	47
90 PERCENT EXCEEDS	.01	1.1	.10

TRINITY RIVER BASIN

08064100 Chambers Creek near Rice, Tex.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: October 1983 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1983 to current year.

WATER TEMPERATURE: October 1983 to current year.

INSTRUMENTATION.--Since January 1994, a two-parameter water-quality monitor records water temperature and specific conductance continuously at this station.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the U.S. Geological Survey District office upon request. National water-quality assessment program data are included in this record.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (1983-90): Maximum daily, 2,510 microsiemens Nov. 21, 1988; minimum daily, 187 microsiemens Dec. 18, 1984.

WATER TEMPERATURE (1983-89): Maximum daily, 38.0°C Aug. 16, 1987; minimum daily, 0.0°C Feb. 7, 1989.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS TOTAL (MG/L AS CaCO3)	HARD- NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)
OCT												
25...	1200	961	216	7.8	16.0	8.0	81	--	89	11	33	1.7
NOV												
23...	1115	136	455	8.0	11.0	9.0	82	2.1	190	39	69	3.3
DEC												
16...	0912	239	485	7.5	9.5	9.7	85	--	180	26	67	3.2
JAN												
19...	1241	42	639	7.9	5.5	11.2	88	--	240	48	90	4.4
FEB												
07...	1000	47	623	8.0	11.5	10.0	92	--	230	44	86	4.1
24...	1630	2280	382	7.8	11.5	10.3	95	--	160	32	58	2.8
MAR												
15...	1230	1020	404	8.0	13.5	10.1	97	--	160	22	60	2.7
APR												
12...	1135	88	636	7.7	20.0	7.4	82	--	230	75	86	4.6
MAY												
03...	1045	2750	351	7.6	15.0	8.7	87	--	120	32	45	2.7
10...	0730	354	490	7.8	21.5	7.4	85	--	180	30	65	3.8
11...	0700	685	444	7.8	21.5	7.2	82	--	170	41	62	3.4
24...	1033	1020	347	7.8	23.0	7.8	92	--	130	13	49	2.5
JUN												
02...	1220	114	617	7.7	27.0	6.2	78	--	240	78	90	4.6
16...	1103	136	374	7.9	26.0	6.0	74	--	120	18	45	2.7
25...	1110	900	243	7.5	27.5	5.3	68	--	87	2	32	1.7
JUL												
13...	1440	4.8	760	7.4	29.0	5.2	68	--	220	57	81	5.4
AUG												
17...	1203	0.99	962	7.3	27.5	3.7	47	--	270	90	97	6.9
SEP												
06...	1033	1.9	1450	7.4	26.0	4.4	55	--	310	160	110	8.8

TRINITY RIVER BASIN

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08064100 Chambers Creek near Rice, Tex.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT 25...	8.3	0.4	2.6	0	96	79	78	18	5.0	0.30	9.1	140
NOV 23...	22	0.7	4.1	0	179	147	150	52	17	0.30	9.1	283
DEC 16...	25	0.8	3.5	0	188	154	150	76	16	0.30	6.4	302
JAN 19...	39	1	2.6	0	237	195	190	93	30	0.40	4.3	399
FEB 07...	39	1	2.2	--	--	--	190	88	30	0.40	2.9	374
24...	18	0.6	2.0	1	149	124	120	47	9.7	0.40	9.3	256
MAR 15...	18	0.6	2.9	0	170	139	140	42	12	0.30	6.1	245
APR 12...	40	1	2.5	0	194	159	160	95	32	0.40	4.4	395
MAY 03...	18	0.7	3.2	0	112	92	90	33	11	0.30	7.5	221
10...	30	1	3.1	0	180	148	140	63	21	0.50	7.7	316
11...	24	0.8	4.1	0	156	128	120	78	14	0.50	9.4	303
24...	17	0.6	3.2	0	146	120	120	29	11	0.30	3.7	205
JUN 02...	37	1	3.7	0	202	166	160	110	26	0.40	9.6	394
16...	27	1	3.8	0	128	105	100	44	19	0.30	10	241
25...	12	0.6	3.9	0	104	86	85	19	7.9	0.30	9.0	166
JUL 13...	71	2	4.8	0	204	167	160	110	71	0.40	10	481
AUG 17...	100	3	4.3	0	220	180	180	150	110	0.40	8.3	611
SEP 06...	170	4	4.5	0	178	146	150	270	200	0.40	6.1	890
DATE	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 25...	127	0.300	0.300	0.020	0.320	0.320	<0.010	0.62	0.30	--	0.20	0.30
NOV 23...	267	0.540	0.540	0.030	0.570	0.570	0.010	0.97	0.39	0.29	0.30	0.40
DEC 16...	292	0.410	--	<0.010	0.410	0.410	0.030	0.71	0.27	0.27	0.30	0.30
JAN 19...	383	0.620	0.620	0.020	0.640	0.640	0.020	0.94	0.28	--	<0.20	0.30
FEB 07...	371	0.480	0.480	0.020	0.500	0.500	0.020	0.70	0.18	0.18	0.20	0.20
24...	236	2.84	2.84	0.360	3.20	3.20	0.060	3.9	0.64	0.44	0.50	0.70
MAR 15...	233	1.22	1.22	0.080	1.30	1.30	0.040	1.7	0.36	0.26	0.30	0.40
APR 12...	363	0.540	0.540	0.010	0.550	0.550	0.050	0.75	0.15	--	<0.20	0.20
MAY 03...	206	6.51	6.51	0.190	6.70	6.70	0.080	7.5	0.72	0.52	0.60	0.80
10...	308	5.68	5.68	0.120	5.80	5.80	0.030	6.4	0.57	0.37	0.40	0.60
11...	287	3.24	3.24	0.060	3.30	3.30	0.040	3.8	0.46	0.46	0.50	0.50
24...	191	0.730	0.730	0.020	0.750	0.750	0.050	1.2	0.35	0.35	0.40	0.40
JUN 02...	385	0.880	0.880	0.020	0.900	0.900	0.040	2.0	1.1	0.36	0.40	1.1
16...	227	2.74	2.74	0.060	2.80	2.80	0.040	3.5	0.66	0.36	0.40	0.70
25...	140	0.590	0.590	0.040	0.630	0.630	0.030	1.1	0.47	0.37	0.40	0.50
JUL 13...	454	--	--	<0.010	--	<0.050	<0.010	0.50	0.50	--	0.30	0.50
AUG 17...	585	--	--	<0.010	--	<0.050	0.030	0.40	0.37	0.17	0.20	0.40
SEP 06...	857	--	--	<0.010	--	<0.050	0.030	0.30	0.27	--	<0.20	0.30

TRINITY RIVER BASIN

08064100 Chambers Creek near Rice, Tex.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 25...	0.060	0.060	0.090	0.28	13	>5.0	419	1020	100	59	3
NOV 23...	0.060	0.030	0.020	0.06	6.5	1.5	61	22	99	16	14
DEC 16...	0.020	<0.010	<0.010	--	5.0	1.3	115	74	99	18	5
JAN 19...	<0.010	0.010	<0.010	--	3.3	0.4	34	2.8	95	4	31
FEB 07...	0.020	<0.010	<0.010	--	3.1	0.4	58	18	99	5	23
FEB 24...	0.120	0.040	0.040	0.12	6.2	>5.6	784	4040	99	110	9
MAR 15...	0.020	<0.010	<0.010	--	3.9	1.6	159	400	97	16	2
APR 12...	0.020	<0.010	<0.010	--	3.4	1.1	88	21	96	7	8
MAY 03...	0.200	0.040	0.040	0.12	5.9	>5.0	1810	13400	98	33	<1
MAY 10...	0.040	<0.010	0.010	0.03	4.8	>5.0	613	586	100	14	<1
MAY 11...	0.040	0.020	0.030	0.09	6.8	>5.0	1010	1780	100	47	<1
MAY 24...	0.020	<0.010	<0.010	--	3.6	1.2	106	292	95	12	<1
JUN 02...	0.030	0.020	0.010	0.03	5.3	2.6	224	136	100	7	1
JUN 16...	0.190	0.070	0.070	0.21	6.0	>5.0	392	189	100	29	<1
JUN 25...	0.130	0.070	0.060	0.18	5.6	>5.0	1030	2500	100	44	<1
JUL 13...	0.060	0.030	<0.010	--	4.9	1.5	58	1.3	95	<3	12
AUG 17...	<0.010	<0.010	<0.010	--	3.8	1.5	125	--	34	<3	150
SEP 06...	0.020	<0.010	<0.010	--	4.1	1.0	39	0.32	91	4	50
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. 1993	39087.16	229	134	14100	9.8	1030	30	3150	86		
NOV. 1993	11582	344	201	6280	17	523	47	1460	130		
DEC. 1993	5237	483	283	4000	27	387	69	975	170		
JAN. 1994	3322	535	314	2810	32	288	78	700	180		
FEB. 1994	31159	356	208	17500	17	1470	48	4070	130		
MAR. 1994	31520	404	236	20100	21	1770	56	4750	150		
APR. 1994	4551	521	305	3750	31	382	76	931	180		
MAY 1994	32679	399	233	20600	21	1810	55	4860	140		
JUNE 1994	7145.2	308	180	3470	15	297	42	812	110		
JULY 1994	230.4	646	380	236	46	28	100	62	210		
AUG. 1994	41.01	971	574	64	85	9.4	170	18	290		
SEPT 1994	50.47	1640	984	134	210	29	340	47	360		
TOTAL	166604.24	**	**	93100	**	8030	**	21800	**		
WTD.AVG.	456	354	207	**	18	**	49	**	130		

TRINITY RIVER BASIN

475

08064100 Chambers Creek near Rice, Tex.--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	e2060	---	---	e255	---	---	450	---	---	594
2	---	---	e2060	---	---	e260	---	---	458	---	---	590
3	---	---	e2060	---	---	e270	---	---	528	---	---	582
4	---	---	e2060	---	---	275	---	---	536	---	---	582
5	---	---	e2060	---	---	277	---	---	530	---	---	580
6	---	---	e2060	---	---	282	---	---	542	---	---	584
7	---	---	e2070	---	---	287	---	---	488	---	---	596
8	---	---	e2070	---	---	360	---	---	411	---	---	596
9	---	---	e2070	---	---	436	---	---	409	---	---	587
10	---	---	e2070	---	---	444	---	---	411	---	---	593
11	---	---	e2070	---	---	455	---	---	410	---	---	604
12	---	---	e2070	---	---	466	---	---	406	---	---	536
13	---	---	e1370	---	---	487	---	---	473	---	---	456
14	---	---	e675	---	---	510	---	---	512	---	---	453
15	---	---	e660	---	---	516	---	---	476	---	---	452
16	---	---	e685	---	---	e470	---	---	470	---	---	446
17	---	---	e625	---	---	360	---	---	459	---	---	436
18	---	---	e220	---	---	359	---	---	445	---	---	532
19	---	---	e260	---	---	341	---	---	438	---	---	635
20	---	---	e230	---	---	339	---	---	433	---	---	637
21	---	---	e215	---	---	360	---	---	431	---	---	633
22	---	---	e195	---	---	376	---	---	e430	---	---	634
23	---	---	e205	---	---	418	---	---	470	---	---	638
24	---	---	e210	---	---	462	---	---	e597	---	---	632
25	---	---	e215	---	---	e468	---	---	e601	---	---	638
26	---	---	e220	---	---	e477	---	---	e603	694	505	566
27	---	---	e220	---	---	489	---	---	605	697	514	543
28	---	---	e225	---	---	502	---	---	606	517	505	510
29	---	---	e230	---	---	505	---	---	514	505	485	496
30	---	---	e225	---	---	505	---	---	500	522	476	483
31	---	---	e235	---	---	---	---	---	588	652	522	629
MONTH	---	---	1030	---	---	400	---	---	491	697	476	564

e Estimated

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	644	630	640	491	464	476	494	491	492	494	383	421
2	632	627	630	537	447	511	503	486	493	418	353	405
3	631	626	629	447	397	425	600	503	578	385	302	332
4	634	627	631	397	377	388	614	600	606	402	368	387
5	636	626	631	378	375	377	630	614	625	378	375	376
6	632	623	628	379	376	377	639	614	630	511	375	403
7	631	618	623	388	377	381	628	609	620	589	511	564
8	638	625	631	385	383	384	641	615	629	613	589	603
9	652	636	641	414	298	347	652	632	643	629	613	621
10	636	617	622	425	347	392	660	644	652	623	419	523
11	618	605	609	452	398	433	662	627	648	524	434	473
12	612	549	587	398	391	394	659	634	646	445	360	420
13	600	549	572	398	391	394	656	635	644	476	388	435
14	692	569	590	402	398	400	883	625	666	441	380	403
15	692	473	490	407	401	405	625	483	489	470	438	454
16	483	479	481	405	401	403	483	463	471	482	454	469
17	480	474	476	401	398	400	463	457	460	485	388	454
18	476	472	475	399	395	397	664	457	541	388	382	386
19	473	465	468	396	392	394	693	664	680	382	370	376
20	469	209	355	393	392	393	699	687	693	374	356	366
21	433	267	347	427	390	401	692	490	671	363	356	358
22	391	256	309	456	417	425	562	486	524	361	349	353
23	359	276	321	459	450	455	613	493	550	357	349	352
24	391	354	372	462	453	458	527	474	501	375	357	363
25	413	391	403	562	447	463	614	502	585	375	349	359
26	425	413	418	507	492	497	662	614	644	370	347	359
27	445	425	434	593	348	425	690	662	676	368	348	354
28	464	445	455	646	433	486	675	453	492	368	355	364
29	---	---	---	460	437	445	454	285	385	368	354	360
30	---	---	---	449	447	448	581	368	432	467	351	364
31	---	---	---	491	446	458	---	---	---	541	379	447
MONTH	692	209	517	646	298	420	883	285	579	629	302	416

08064100 Chambers Creek near Rice, Tex.--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	630	507	565	---	---	495	1180	917	1040	1350	1250	1290
2	667	630	651	---	---	495	---	---	935	1400	1300	1350
3	678	667	672	---	---	475	---	---	935	1540	1400	1470
4	690	675	683	---	---	500	---	---	915	1560	1440	1510
5	684	657	673	---	---	520	---	---	894	1440	1420	1420
6	673	655	666	---	---	550	---	---	880	1480	1440	1450
7	679	653	666	---	---	560	---	---	850	1500	1470	1480
8	680	655	669	---	---	575	---	---	845	1530	1500	1510
9	680	667	671	---	---	610	---	---	860	1560	1530	1550
10	684	678	681	---	---	645	---	---	805	1670	1560	1590
11	689	675	684	---	---	690	---	---	700	2060	1670	1860
12	691	678	685	---	---	720	---	---	755	2150	2060	2120
13	699	666	679	---	---	810	---	---	770	---	---	2020
14	704	684	693	845	819	839	---	---	810	---	---	1860
15	696	372	615	867	844	860	---	---	835	---	---	1790
16	638	394	425	900	866	881	---	---	865	---	---	1760
17	638	364	388	941	891	923	---	---	905	---	---	1760
18	385	367	381	966	884	942	---	---	950	---	---	1770
19	367	361	365	986	952	969	---	---	980	---	---	1780
20	377	358	366	1010	986	996	---	---	1010	---	---	1800
21	501	377	418	---	---	1010	---	---	1040	---	---	1820
22	706	501	620	---	---	1010	---	---	1060	---	---	1840
23	739	706	727	---	---	1020	---	---	1090	---	---	1850
24	739	165	210	---	---	1030	---	---	1150	---	---	1850
25	272	202	247	---	---	1040	---	---	1210	---	---	1850
26	303	272	283	---	---	1070	---	---	1230	---	---	1870
27	330	303	318	---	---	1020	---	---	1150	---	---	1880
28	352	330	341	---	---	1050	---	---	1120	---	---	1890
29	---	---	395	---	---	1090	---	---	1180	---	---	1900
30	---	---	445	---	---	1130	---	---	1230	---	---	1910
31	---	---	---	---	---	1150	---	---	1270	---	---	---
MONTH	739	165	529	1010	819	828	1180	917	976	2150	1250	1730
YEAR	2150	165	707									

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES[illegible]

TRINITY RIVER BASIN

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08064100 Chambers Creek near Rice, Tex.--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994												
DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	15.5	11.5	13.0
28	---	---	---	---	---	---	---	---	---	11.5	8.5	9.5
29	---	---	---	---	---	---	---	---	---	8.5	8.0	8.0
30	---	---	---	---	---	---	---	---	---	8.0	7.5	7.5
31	---	---	---	---	---	---	---	---	---	7.5	6.5	7.0
MONTH	---	---	---	---	---	---	---	---	---	15.5	6.5	9.0
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.0	5.0	6.0	11.0	10.0	10.5	16.0	14.5	15.5	18.0	17.0	17.5
2	5.5	4.5	5.0	11.0	9.0	10.0	16.5	16.0	16.0	18.5	16.0	18.0
3	7.0	5.5	6.0	11.0	9.5	10.0	18.5	15.5	17.0	16.5	14.5	15.0
4	9.0	7.0	8.0	11.0	10.5	11.0	19.0	15.5	17.0	19.0	16.5	17.0
5	11.0	9.0	10.0	12.5	11.0	11.5	19.5	17.0	18.0	19.5	18.5	19.0
6	11.5	10.5	11.0	12.5	12.0	12.0	18.0	14.5	16.5	20.5	19.0	19.5
7	11.5	11.0	11.0	13.0	12.0	12.5	16.5	12.5	14.5	23.5	20.5	22.5
8	14.5	11.5	13.5	14.0	13.0	13.5	18.0	14.0	16.0	22.5	21.5	22.0
9	15.0	12.5	14.0	14.0	9.0	10.5	19.5	16.5	17.5	22.0	21.0	21.5
10	12.5	5.5	9.5	11.0	8.5	9.5	21.0	18.5	20.0	21.5	20.5	21.0
11	5.5	3.5	4.0	12.0	9.5	10.5	22.0	21.0	21.5	22.0	21.0	21.5
12	7.0	3.5	5.5	12.0	11.0	11.5	21.5	18.5	20.0	23.0	22.0	22.0
13	8.0	6.5	7.0	13.0	11.5	12.0	21.5	17.5	19.5	23.0	22.0	22.0
14	8.5	6.0	7.0	13.5	12.0	13.0	22.0	19.5	20.5	22.0	20.5	21.0
15	9.0	7.5	8.0	14.5	13.0	13.5	20.0	19.0	19.5	24.5	21.0	22.5
16	9.5	8.0	9.0	15.0	14.0	14.5	19.5	18.5	19.0	25.0	22.5	23.5
17	10.5	8.5	9.5	14.5	13.5	14.0	19.5	18.0	19.0	25.0	23.0	23.5
18	11.5	9.5	10.5	16.0	13.5	14.5	20.5	18.5	19.5	24.5	23.0	23.5
19	12.5	11.0	11.5	17.0	15.0	16.0	21.0	20.0	20.5	24.5	23.5	24.0
20	15.0	12.0	13.5	16.0	14.5	15.5	22.5	21.0	21.5	24.0	23.0	23.5
21	16.0	15.0	15.5	18.0	15.5	17.0	22.5	21.0	22.0	23.5	23.0	23.0
22	15.0	13.5	14.0	18.0	16.5	17.0	23.0	21.5	22.0	24.0	23.0	23.5
23	14.0	12.5	13.0	18.0	17.0	17.5	22.0	20.5	21.5	23.5	22.5	23.5
24	12.5	11.0	11.5	18.0	17.5	18.0	22.0	21.0	21.5	23.5	22.0	23.0
25	12.5	10.5	11.5	18.0	17.5	17.5	23.0	22.0	22.0	24.0	21.5	23.5
26	12.5	9.5	10.5	18.0	17.5	18.0	23.5	22.5	23.0	24.0	22.5	23.5
27	10.5	9.0	9.5	18.5	16.0	17.0	25.5	23.0	24.0	25.0	24.0	24.5
28	10.0	9.5	10.0	16.5	14.5	15.0	25.5	21.0	22.5	25.0	24.0	24.5
29	---	---	---	15.5	14.0	15.0	21.5	18.5	20.0	25.0	23.5	24.0
30	---	---	---	15.5	14.5	15.0	20.5	17.0	18.5	28.0	23.0	24.5
31	---	---	---	15.0	14.5	15.0	---	---	---	28.0	24.5	25.0
MONTH	16.0	3.5	10.0	18.5	8.5	14.0	25.5	12.5	19.5	28.0	14.5	22.0

[illegible]

TRINITY RIVER BASIN
08064550 RICHLAND-CHAMBERS RESERVOIR NEAR KERENS, TX

LOCATION.--Lat 32°02'25", long 96°12'23", Navarro County, Hydrologic Units 12030108 and 12030109, on upper floor of pumphouse, on left bank of Chambers Creek arm of Richland-Chambers Reservoir, 7.0 mi south of intersection of State Highway 31 and Farm Road 309 in Kerens, and 14.4 mi upstream from dam on Richland Creek.

DRAINAGE AREA.--1,957 mi².

PERIOD OF RECORD.--November 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--The reservoir is formed by a rolled earthfill dam 31,000 ft long. Deliberate impoundment of water began July 14, 1987, and the dam was completed in December 1988. A gated concrete spillway is located near the left end of dam. The spillway is 1,155 ft long and contains twenty-four 40- x 29.4-foot radial gates. The low-flow outlet works consist of two 3- x 5-foot outlets at elevation 266.0 ft, one 1.5- x 2.5-foot outlet, and one 1- x 1-foot outlet at elevation 285.0 ft. Each of the low-flow outlets is controlled by sluice gates. The dam is owned by Tarrant County Water Control and Improvement District No. 1, and was built for municipal and industrial water supply and for recreation. The area and capacity tables were prepared by Freese and Nichols, Consulting Engineers for Tarrant County Water Control and Improvement District No. 1, who provided copies of the tables. Flow from 464 mi² above the dam is controlled by Bardwell and Navarro Mills Lakes. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	330.0	-
Top of gates.....	317.34	1,290,000
Top of conservation pool.....	315.0	1,182,000
Crest of spillway.....	290.0	370,200
Lowest gated outlet.....	266.0	43,240

COOPERATION.--Capacity table was prepared by Freese and Nichols, consulting engineer for Tarrant County Water Control and Improvement District No. 1.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents 1,267,000 acre-ft Dec. 22, 1991 (elevation, 316.85 ft); minimum contents, 233,600 acre-ft Dec. 8, 1988 (elevation, 283.02 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,227,000 acre-ft Feb. 24 at 0700 hrs (elevation, 316.00 ft); minimum contents, 1,077,000 acre-ft Oct. 12 (elevation, 312.59 ft).

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

283.0	233,300	312.0	1,052,000	315.0	1,182,000
293.0	440,300	313.0	1,095,000	316.0	1,227,000
303.0	721,000	314.0	1,138,000	317.0	1,274,000

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1084000	1190000	1183000	1181000	1178000	1205000	1190000	1185000	1184000	1179000	1144000	1117000
2	1081000	1189000	1183000	1179000	1177000	1203000	1187000	1196000	1184000	1178000	1143000	1118000
3	1085000	1188000	1186000	1181000	1177000	1201000	1186000	1205000	1183000	1177000	1142000	1119000
4	1084000	1187000	1184000	1179000	1177000	1199000	1186000	1208000	1181000	1176000	1141000	1117000
5	1083000	1184000	1184000	1181000	1176000	1198000	1183000	1207000	1181000	1175000	1140000	1115000
6	1081000	1185000	1184000	1178000	1176000	1198000	1181000	1205000	1180000	1173000	1140000	1114000
7	1082000	1185000	1184000	1177000	1176000	1196000	1181000	1202000	1182000	1171000	1138000	1113000
8	1081000	1184000	1185000	1176000	1176000	1193000	1181000	1200000	1180000	1170000	1138000	1114000
9	1081000	1185000	1186000	1177000	1175000	1195000	1179000	1205000	1178000	1170000	1137000	1113000
10	1080000	1186000	1184000	1177000	1175000	1197000	1181000	1207000	1179000	1168000	1135000	1112000
11	1079000	1186000	1182000	1178000	1175000	1195000	1184000	1207000	1178000	1168000	1135000	1111000
12	1081000	1186000	1185000	1179000	1175000	1194000	1182000	1206000	1178000	1168000	1134000	1111000
13	1092000	1187000	1183000	1178000	1174000	1194000	1181000	1211000	1176000	1167000	1133000	1110000
14	1092000	1186000	1181000	1179000	1174000	1192000	1182000	1214000	1175000	1166000	1133000	1109000
15	1092000	1184000	1180000	1177000	1175000	1191000	1181000	1212000	1180000	1165000	1130000	1108000
16	1091000	1188000	1180000	1177000	1175000	1188000	1181000	1209000	1182000	1165000	1129000	1106000
17	1092000	1193000	1182000	1177000	1174000	1185000	1181000	1206000	1181000	1164000	1128000	1103000
18	1094000	1195000	1183000	1176000	1176000	1185000	1181000	1205000	1181000	1163000	1127000	1103000
19	1108000	1195000	1183000	1177000	1176000	1186000	1181000	1203000	1181000	1162000	1126000	1101000
20	1158000	1195000	1184000	1175000	1184000	1186000	1182000	1202000	1180000	1162000	1126000	1101000
21	1213000	1195000	1184000	1177000	1193000	1185000	1183000	1204000	1179000	1160000	1125000	1099000
22	1223000	1192000	1185000	1176000	1219000	1184000	1182000	1203000	1178000	1158000	1124000	1098000
23	1215000	1191000	1183000	1176000	1226000	1184000	1183000	1206000	1178000	1156000	1123000	1096000
24	1209000	1189000	1183000	1177000	1222000	1183000	1183000	1204000	1181000	1158000	1122000	1094000
25	1207000	1189000	1181000	1177000	1205000	1183000	1182000	1201000	1185000	1158000	1121000	1092000
26	1203000	1186000	1181000	1178000	1203000	1185000	1180000	1197000	1185000	1154000	1121000	1091000
27	1202000	1186000	1181000	1178000	1200000	1195000	1181000	1193000	1183000	1151000	1119000	1091000
28	1200000	1183000	1181000	1177000	1200000	1200000	1179000	1193000	1181000	1149000	1118000	1090000
29	1195000	1181000	1180000	1177000	---	1197000	1186000	1191000	1180000	1147000	1117000	1088000
30	1191000	1182000	1181000	1177000	---	1192000	1183000	1188000	1180000	1146000	1115000	1087000
31	1191000	---	1181000	1178000	---	1191000	---	1186000	---	1145000	1116000	---
MAX	1223000	1195000	1186000	1181000	1226000	1205000	1190000	1214000	1185000	1179000	1144000	1119000
MIN	1079000	1181000	1180000	1175000	1174000	1183000	1179000	1185000	1175000	1145000	1115000	1087000
(+)	315.19	315.00	314.97	314.91	315.40	315.19	315.03	315.08	314.95	314.16	313.50	312.83
(@)	+105,000	-9000	-1000	-3000	+22000	-9000	-8000	+3000	-6000	-35000	-29000	-29000
CAL YR 1993	MAX	1223000	MIN	1079000	(@)	-4000						
WTR YR 1994	MAX	1226000	MIN	1079000	(@)	+1000						

(+) Elevation, in feet, at end of month.
(@) Change in contents, in acre-feet.

TRINITY RIVER BASIN

08064700 TEHUACANA CREEK NEAR STREETMAN, TX

WATER-QUALITY RECORDS

LOCATION.--Lat 31°50'54", long 96°17'23", Freestone County, Hydrologic Unit 12030201, at downstream side of bridge on U.S. Highway 75, 2.8 mi southeast of Streetman, 3.1 mi downstream from Chicago, Rock Island, and Pacific Railroad Co. bridge, 3.8 mi upstream from Caney Creek, and 25 mi upstream from mouth.

PERIOD OF RECORD.--Chemical analyses: February 1968 to September 1985, October 1990 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CAC03)	
NOV 02...	0755	0.01	685	7.3	10.0	90	7.5	9.1	80	1.7	180	
FEB 07...	1130	0.46	1200	7.7	12.0	--	--	9.8	92	--	310	
MAY 19...	1215	4.7	457	7.2	26.0	--	--	7.2	89	--	130	
JUN 10...	1217	1.3	857	7.8	34.5	55	6.0	7.0	101	3.8	240	
22...	1100	2.8	540	8.4	29.5	56	3.3	6.9	92	--	150	
28...	1345	4.5	368	7.5	30.5	92	14	8.0	107	2.5	98	
DATE		HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS S04)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)
NOV 02...	67	45	17	70	2	5.1	120	110	74	0.30	13	
FEB 07...	120	75	30	140	3	4.8	200	200	160	0.40	15	
MAY 19...	27	34	11	42	2	6.1	100	49	45	0.20	13	
JUN 10...	58	60	21	82	2	8.2	180	110	100	0.30	14	
22...	42	40	13	50	2	8.2	110	66	58	0.30	13	
28...	24	25	8.7	32	1	7.7	74	40	40	0.30	12	
DATE		SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L)	RESIDUE FIXED NON FILTER-ABLE (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)
NOV 02...	--	403	16	4	12	--	--	<0.010	--	<0.050	0.020	--
FEB 07...	762	746	--	--	--	--	--	0.010	--	<0.050	0.010	0.40
MAY 19...	263	264	--	--	--	--	--	0.030	--	<0.050	0.040	0.90
JUN 10...	--	504	17	14	3	--	--	<0.010	--	<0.050	0.030	--
22...	--	317	33	10	23	0.061	--	<0.010	0.061	0.061	0.120	--
28...	--	210	16	10	6	--	--	<0.010	--	<0.050	0.020	--
DATE		NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
NOV 02...	--	0.48	0.50	--	--	0.030	0.030	0.09	--	--	--	--
FEB 07...	0.39	0.29	0.30	0.40	0.070	0.010	0.010	0.03	--	5.4	1.0	
MAY 19...	0.86	0.66	0.70	0.90	0.120	0.030	0.030	0.09	--	12	0.3	
JUN 10...	--	0.57	0.60	--	--	0.010	<0.010	--	11	--	--	
22...	--	2.9	3.0	--	--	0.060	0.040	0.12	12	--	--	
28...	--	0.68	0.70	--	--	0.090	0.060	0.18	17	--	--	

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

TRINITY RIVER MAIN STEM

08065000 TRINITY RIVER NEAR OAKWOOD, TX

LOCATION.--Lat 31°38'54", long 95°47'21", Anderson County, Hydrologic Unit 12030201, on left bank at downstream side of bridge on U.S. Highways 79 and 84, 1.5 mi upstream from Missouri Pacific Railroad Co. bridge, 6 mi northeast of Oakwood, and at mile 313.4.

DRAINAGE AREA.--12,833 mi².

PERIOD OF RECORD.--October 1923 to September 1924 (monthly discharge only), October 1924 to current year. Records of January 1905 to September 1923, published in WSP 850 and 878, have been found unreliable and should not be used. Gage-height records collected in this vicinity since 1904 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1442: 1934. See also PERIOD OF RECORD. WSP 1922: Drainage area. WDR TX-81-1: 1980 (M,m).

GAGE.--Water-stage recorder. Datum of gage is 175.06 ft above National Geodetic Vertical Datum of 1929. Prior to July 1932, nonrecording gage at site 1.5 mi downstream at datum 1.06 ft lower. July 15, 1932, to Oct. 7, 1934, non-recording gage at present site and datum.

REMARKS.--Records good. Twenty-one major reservoirs with a capacity of 4,200,000 acre-ft, of which 1,362,000 acre-ft is for flood control, partly regulate the flow. Streamflow is affected at times by discharge from the flood-detention pools of 252 floodwater-retarding structures with a combined detention capacity of 183,300 acre-ft. These structures control runoff from 614 mi² in the Richland, Chambers and Tehuacana Creeks drainage basins. The Industrial Generating Co. at Fairfield makes a minor diversion from the river at a site about 34 mi upstream. The diversion to Big Brown Lake is used to maintain the normal pool elevation for that lake. Satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--30 years (water years 1924-53), 5,045 ft³/s (3,655,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1924-53).--Maximum discharge, 153,000 ft³/s Apr. 29, 1942 (gage height, 51.64 ft); minimum observed, 28 ft³/s Aug. 24, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1890 reached a stage of 53 ft (discharge about 180,000 ft³/s) and was the highest since that date, from information in local newspapers. Flood of June 4, 1908, reached a stage of 52.2 ft, present site and datum, from information by the National Weather Service (discharge, about 164,000 ft³/s).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1430	e25000	2320	1860	2150	35600	e7200	5860	16300	1150	5220	946
2	1120	e20000	2000	1770	2320	31500	e6000	8480	15600	1120	4720	1050
3	964	e15000	1920	1670	2530	27500	e4000	10400	15000	1400	4200	2400
4	892	e10000	2210	1580	2420	24100	e3000	12000	13800	1760	3920	6440
5	983	8720	3030	1530	2350	21300	e2800	13500	11900	1520	3600	8000
6	1740	e8400	6060	1510	2370	19000	2820	14500	9980	1210	3020	7480
7	2000	e7700	7870	1520	2190	16800	2940	15300	8700	1060	2470	4940
8	1600	e6800	7670	1530	1860	14400	2450	15900	7790	988	2320	2870
9	1240	e6000	7110	1510	1620	12600	1900	16100	7370	937	1980	2230
10	1100	5490	6930	1440	1520	12600	1640	15000	7120	1050	1520	2050
11	969	5330	6530	1410	1560	13600	1590	12300	7010	1970	1870	2100
12	924	4880	6070	1390	1600	14600	2030	10800	6410	2600	1850	2220
13	946	3940	5880	1380	1650	15500	4040	10800	5720	5170	1440	2150
14	1030	3220	6210	1610	2020	16300	6360	12500	5200	8460	1190	1900
15	2060	2810	7110	2150	2190	16700	6500	13900	4900	10000	1070	1460
16	5130	3080	7710	2060	1690	15700	4990	15100	4630	10900	1000	1170
17	6000	4020	8260	1740	1510	12500	3270	16200	4790	11400	976	1070
18	4560	5920	7930	1560	1460	9870	1890	17100	4870	11600	1110	1060
19	4330	7600	7090	1490	1440	7690	1450	18200	4650	11000	1220	1230
20	4600	7560	5930	1800	1670	6060	1410	19600	3820	9860	1110	1170
21	9210	6520	4840	2090	4240	5550	1420	20800	2980	8630	1090	1060
22	12400	5730	4350	1850	12800	5170	1540	21900	2660	7820	1030	991
23	14100	5200	4290	1700	17400	4970	2290	22700	1970	7390	1110	943
24	16100	4250	4580	1830	18700	4410	2320	22900	1700	7150	1530	911
25	18900	3490	4550	2080	21000	3960	2050	22500	1570	7000	1580	911
26	23200	3110	4050	2600	26200	3230	2190	21600	2000	6910	1350	921
27	30000	3100	3370	2610	35200	2790	2010	21100	2150	6820	1130	915
28	33600	3220	2560	2490	37800	5240	4970	20200	2000	6740	1010	885
29	e30000	3010	2130	2480	---	8800	7490	19100	1670	6350	954	872
30	e28000	2890	2070	2740	---	9140	6110	18200	1320	5720	920	860
31	e26000	---	1990	2530	---	e8500	---	17200	---	5430	925	---
TOTAL	285128	201990	154620	57510	211460	405680	100670	501740	185580	171115	58435	63205
MEAN	9198	6733	4988	1855	7552	13090	3356	16190	6186	5520	1885	2107
MAX	33600	25000	8260	2740	37800	35600	7490	22900	16300	11600	5220	8000
MIN	892	2810	1920	1380	1440	2790	1410	5860	1320	937	920	860
AC-FT	565600	400600	306700	114100	419400	804700	199700	995200	368100	339400	115900	125400

TRINITY RIVER MAIN STEM

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08065000 TRINITY RIVER NEAR OAKWOOD, TX--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1994#, BY WATER YEAR (WY)

MEAN	2779	4061	5398	4497	5918	6540	6516	11700	8055	2847	1537	1530
MAX	14250	25900	33280	30140	29840	30130	23710	56050	33550	12590	7050	7361
(WY)	1974	1975	1992	1992	1992	1992	1977	1990	1957	1982	1982	1962
MIN	131	165	235	400	553	286	318	812	332	126	101	116
(WY)	1957	1956	1956	1957	1967	1956	1956	1971	1954	1956	1956	1956

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1954 - 1994#	
ANNUAL TOTAL	2855561		2397133		5109	
ANNUAL MEAN	7823		6567		15240	
HIGHEST ANNUAL MEAN					700	
LOWEST ANNUAL MEAN					106000	
HIGHEST DAILY MEAN	33600	Oct 28	37800	Feb 28	85	May 7 1990
LOWEST DAILY MEAN	717	Sep 10	860	Sep 30	93	Oct 14 1956
ANNUAL SEVEN-DAY MINIMUM	771	Sep 8	896	Sep 24	107000	Aug 12 1956
INSTANTANEOUS PEAK FLOW			38200	Feb 28	49.61	May 7 1990
INSTANTANEOUS PEAK STAGE			42.50	Feb 28	3702000	May 7 1990
ANNUAL RUNOFF (AC-FT)	5664000		4755000			
10 PERCENT EXCEEDS	19700		16700			
50 PERCENT EXCEEDS	5880		3820			
90 PERCENT EXCEEDS	990		1110			

e Estimated

Period of regulated streamflow.

TRINITY RIVER BASIN

08065200 UPPER KEECHI CREEK NEAR OAKWOOD, TX

LOCATION.--Lat 31°34'11", long 95°53'17", Leon County, Hydrologic Unit 12030201, at right bank at downstream side of bridge on U.S. Highway 79, 1.9 mi upstream from Missouri Pacific Railroad Co. bridge, 2 mi southwest of Oakwood, 11 mi upstream from Buffalo Creek, and 21 mi upstream from mouth.

DRAINAGE AREA.--150 mi².

PERIOD OF RECORD.--April 1962 to current year.

Water-quality records.--Chemical analyses: June 1962 to April 1964, November 1967 to September 1975.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 240.11 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. No known diversions or regulation above station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1900, about 21 ft in 1932, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 23	0900	3,560	13.63				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	10	19	21	17	203	21	13	35	4.5	3.6	36
2	3.5	10	19	21	17	294	20	23	26	4.1	4.3	14
3	3.0	15	32	21	17	328	19	152	20	3.9	4.4	9.4
4	2.9	20	33	19	17	107	19	166	21	3.8	4.4	6.9
5	2.6	16	25	20	17	64	19	89	25	3.5	4.4	5.4
6	2.7	14	22	22	17	54	19	36	16	3.2	4.4	4.4
7	2.8	12	21	22	17	51	18	25	13	2.9	4.4	4.3
8	2.9	11	20	22	17	48	18	21	11	2.7	18	4.2
9	2.8	10	19	21	17	58	17	21	9.3	2.4	9.9	4.1
10	2.4	11	20	21	22	58	17	80	8.6	2.1	5.1	4.1
11	2.3	11	21	22	34	51	18	106	47	2.1	5.2	4.0
12	2.7	11	20	23	43	41	59	54	159	2.1	3.9	4.0
13	8.7	12	33	25	38	37	181	44	125	2.1	2.8	4.0
14	9.5	15	35	27	30	35	100	200	24	2.7	2.2	3.7
15	9.9	18	32	26	25	33	36	354	23	3.0	2.0	3.2
16	6.4	41	26	24	22	32	28	563	42	2.8	2.0	3.3
17	4.4	50	25	24	21	30	23	334	68	2.4	2.7	3.8
18	3.8	30	26	24	20	29	20	125	31	2.3	3.0	3.6
19	3.8	25	26	24	19	28	18	43	21	2.1	3.0	3.1
20	14	22	24	23	33	28	21	29	23	2.1	3.0	3.0
21	41	19	23	23	87	27	20	22	20	1.8	50	3.3
22	33	18	28	23	629	24	19	19	15	1.6	25	3.6
23	17	18	40	23	2230	23	23	16	12	1.6	16	3.7
24	11	18	33	25	1010	23	84	14	10	1.6	14	3.9
25	8.7	18	30	27	387	23	48	13	8.4	1.6	6.9	4.1
26	7.8	19	26	29	100	23	24	18	7.5	2.0	5.4	4.4
27	7.3	20	24	31	67	28	19	265	7.0	2.4	4.4	4.7
28	6.9	21	23	34	56	43	16	712	5.8	2.6	4.2	5.1
29	6.8	21	23	31	---	31	15	853	5.3	2.7	3.7	5.4
30	7.3	20	22	24	---	26	14	461	4.7	2.6	3.4	5.4
31	9.0	---	21	19	---	23	---	64	---	2.9	15	---
TOTAL	250.8	556	791	741	5026	1903	973	4935	843.6	80.2	240.7	172.1
MEAN	8.09	18.5	25.5	23.9	179	61.4	32.4	159	28.1	2.59	7.76	5.74
MAX	41	50	40	34	2230	328	181	853	159	4.5	50	36
MIN	2.3	10	19	19	17	23	14	13	4.7	1.6	2.0	3.0
AC-FT	497	1100	1570	1470	9970	3770	1930	9790	1670	159	477	341
CFSM	.05	.12	.17	.16	1.20	.41	.22	1.06	.19	.02	.05	.04
IN.	.06	.14	.20	.18	1.25	.47	.24	1.22	.21	.02	.06	.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
37.4	50.3	103	90.9	120	126
371	513	878	403	378	461
1974	1975	1992	1991	1992	1973
.000	.000	.36	4.03	8.28	11.2
1964	1964	1964	1964	1964	1967
125	152	126	125	152	126
574	1413	574	574	1413	574
1966	1965	1966	1966	1965	1966
8.41	1.82	8.41	1.82	.48	.48
1971	1972	1971	1972	1972	1971
75.5	14.5	5.59	16.7	14.5	5.59
128	54.5	246	128	54.5	246
1981	1979	1974	1981	1979	1974
.000	.000	.000	.000	.000	.000
1964	1963	1963	1964	1963	1963

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1963 - 1994

ANNUAL TOTAL	37075.3	16512.4	76.3
ANNUAL MEAN	102	45.2	168
HIGHEST ANNUAL MEAN			4.52
LOWEST ANNUAL MEAN			1965
HIGHEST DAILY MEAN	1900	Jan 5	9530
LOWEST DAILY MEAN	1.0	Sep 18	.00
ANNUAL SEVEN-DAY MINIMUM	1.3	Sep 17	.00
INSTANTANEOUS PEAK FLOW			24000
INSTANTANEOUS PEAK STAGE			15.58
ANNUAL RUNOFF (AC-FT)	73540	32750	55260
ANNUAL RUNOFF (CFSM)	.68	.30	.51
ANNUAL RUNOFF (INCHES)	9.19	4.10	6.91
10 PERCENT EXCEEDS	264	57	131
50 PERCENT EXCEEDS	25	19	11
90 PERCENT EXCEEDS	2.8	2.9	.08

08065350 TRINITY RIVER NEAR CROCKETT, TX
(National stream-quality accounting network)

LOCATION.--Lat 31°20'18", long 95°39'22", Houston-Leon County line, Hydrologic Unit 12030201, on left bank at an abandoned bridge abutment near left end of an abandoned lock and dam, 1,000 ft upstream from State Highway 7, 6.9 mi downstream from Upper Keechi Creek, 11.9 mi west of Crockett, and at mile 265.4.

DRAINAGE AREA.--13,911 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 141.15 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 13, 1983, water-stage recorder at site 1,000 ft downstream at datum 4.56 ft lower.

REMARKS.--No estimated daily discharges. Records good. For statement regarding regulation by upstream reservoirs, see station 08065000. Flow from 44 mi² in the Elkhart Creek basin is affected by storage in Houston County Lake near Crockett (capacity 19,500 acre-ft). There are many diversions above station for irrigation, municipal, and industrial uses. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1900, 56.1 ft Apr. 30 or May 1, 1942, at former site and datum, from information by Texas Department of Highways and Public Transportation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2040	26100	3450	2790	3220	36600	7570	6060	23100	1740	5460	1520
2	1750	24400	3000	2680	3010	37800	5120	6890	21700	1660	5180	1730
3	1510	20500	2800	2580	3160	37400	3830	11400	20400	1630	4710	2070
4	1350	14700	2770	2500	3280	35000	3200	14000	19200	1850	4330	4150
5	1280	11200	3170	2390	3180	30500	3010	15800	17400	2100	4110	7370
6	1460	9890	4490	2370	3130	27100	3020	17500	14500	1900	3820	8480
7	2080	8700	7590	2360	3110	24200	3270	18600	11500	1660	3400	7030
8	2180	7530	8780	2340	2890	21500	3250	19200	9700	1520	3220	4020
9	1880	6930	8400	2340	2680	19100	2770	19900	8770	1460	3300	2340
10	1620	6530	8040	2290	2540	17700	2340	20700	8320	1410	2830	1930
11	1490	6170	7760	2250	2650	17500	2150	19500	8360	1550	2410	1840
12	1410	5930	7120	2230	2790	18200	3480	16000	8120	2370	2630	1850
13	1530	5270	7030	2210	2740	19300	4130	13900	7440	3120	2520	1920
14	1530	4800	6980	2240	2710	20200	5270	17700	6570	6520	2150	1850
15	1620	4050	7570	2620	3010	20900	7290	20000	6120	9740	1900	1650
16	3010	4360	8330	2830	2900	21100	7250	19400	5660	11700	1740	1380
17	5620	5300	9030	2690	2490	19500	5180	20000	5400	12900	1620	1220
18	5560	5850	9390	2480	2310	15400	3330	20900	5370	13700	1570	1130
19	3610	7840	8780	2370	2260	11400	2330	21700	5610	13700	1750	1110
20	2650	8850	7710	2410	2350	8340	1990	22500	5040	12500	1870	1230
21	5860	8290	6290	2760	3310	6760	1950	23200	4030	10600	1940	1180
22	11600	7080	5460	2820	12000	6240	1970	24100	3270	9080	2130	1070
23	14300	6330	5280	2630	24800	5820	2440	25000	2820	8210	1950	984
24	16000	5600	5310	2590	25500	5440	2910	25600	2490	7730	2010	943
25	17700	4660	5380	2750	25800	4900	2690	25800	2230	7420	2390	902
26	19600	4080	4890	3190	27400	4280	2530	25600	2110	7270	2380	888
27	22000	3800	4240	4520	29200	3600	2580	26100	2420	7150	2100	896
28	24200	3860	3610	4610	32900	3560	2660	26700	2500	7030	1840	903
29	25900	3800	3170	3890	---	7400	6130	25800	2320	6890	1650	864
30	26700	3700	2990	3550	---	10400	7640	25300	1970	6310	1550	851
31	26700	---	2910	3570	---	10000	---	24600	---	5720	1490	---
TOTAL	255740	246100	181720	85850	237320	527140	113280	619450	244440	188140	81950	65301
MEAN	8250	8203	5862	2769	8476	17000	3776	19980	8148	6069	2644	2177
MAX	26700	26100	9390	4610	32900	37800	7640	26700	23100	13700	5460	8480
MIN	1280	3700	2770	2210	2260	3560	1950	6060	1970	1410	1490	851
AC-FT	507300	488100	360400	170300	470700	1046000	224700	1229000	484800	373200	162500	129500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994, BY WATER YEAR (WY)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	3173	5297	6958	5796	7978	9392	8468	14010	10260	3736	1885	1785																		
MAX	16840	26110	35440	33620	30490	33670	25960	62100	29570	15030	7188	6932																		
(WY)	1974	1975	1992	1992	1992	1992	1977	1990	1989	1989	1982	1974																		
MIN	548	619	719	719	670	730	931	939	822	485	413	513																		
(WY)	1979	1967	1967	1967	1967	1967	1972	1971	1971	1978	1967	1972																		

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1965 - 1994

ANNUAL TOTAL	3489187	2846431	6552
ANNUAL MEAN	9559	7798	16810
HIGHEST ANNUAL MEAN			1352
LOWEST ANNUAL MEAN			109000
HIGHEST DAILY MEAN	34100	Jun 22	37800
LOWEST DAILY MEAN	977	Sep 11	851
ANNUAL SEVEN-DAY MINIMUM	1060	Sep 7	892
INSTANTANEOUS PEAK FLOW			38000
INSTANTANEOUS PEAK STAGE			34.31
INSTANTANEOUS LOW FLOW			Mar 2
ANNUAL RUNOFF (AC-FT)	6921000	5646000	4747000
10 PERCENT EXCEEDS	22000	21300	18600
50 PERCENT EXCEEDS	6980	4130	2480
90 PERCENT EXCEEDS	1420	1650	710

TRINITY RIVER MAIN STEM

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: February 1964 to current year. Chemical and biochemical analyses: February 1968 to current year. Pesticide analyses: November 1971 to July 1981. Sediment records: November 1972 to September 1977.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1964 to current year.

pH: March 1975 to current year.

WATER TEMPERATURE: February 1964 to September 1971, March 1975 to current year.

DISSOLVED OXYGEN: March 1975 to current year.

SUSPENDED-SEDIMENT DISCHARGE: July 1972 to September 1977.

INSTRUMENTATION.--Beginning March 1975, a four-parameter water-quality monitor continuously records specific conductance, pH, water temperature, and dissolved oxygen at this station.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the U.S. Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 2,370 microsiemens Sept. 22, 1964; minimum, 96 microsiemens March 29, 1989.

pH: Maximum, 9.6 units Aug. 11-12, 1981; minimum, 5.9 units Aug. 12, 1977.

WATER TEMPERATURE: Maximum, 37.0°C July 4, 1970, Sept. 4, 1978; minimum, 1.0°C Jan. 17, 1978, Nov. 24, 1984.

DISSOLVED OXYGEN: Maximum, 19.3 mg/L Feb. 10, 1981; minimum, 0.0 mg/L Apr. 20, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 759 microsiemens Oct. 11; minimum, 170 microsiemens Feb. 23.

pH: Maximum, 8.7 units Jan. 15; minimum 7.1 units Jan. 28, Apr. 1, 12, 13, 30, May 19, 20, 23, 31.

WATER TEMPERATURE: Maximum, 32.0°C July 4, 8-10; minimum, 9.0°C Feb. 3, 11-14.

DISSOLVED OXYGEN: Maximum 14.2 mg/L Feb. 17; minimum, 4.2 mg/L, Apr. 30, July 15.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
FEB										
08...	1445	2480	648	7.9	14.5	11.2	110	--	160	54
11...	1132	2700	504	7.5	8.5	10.0	86	1.6	160	52
APR										
01...	0825	8040	370	7.1	15.0	8.8	88	1.4	130	44
MAY										
22...	0915	23000	365	7.5	24.5	6.2	75	--	140	48
27...	0843	26000	386	7.8	24.0	6.1	73	2.8	140	47
JUL										
20...	1401	12400	358	7.6	29.5	5.2	69	1.2	140	48
AUG										
12...	1035	2580	463	7.6	28.5	6.4	82	1.0	140	47
SEP										
06...	1325	8580	325	7.9	28.5	5.1	65	1.9	110	38

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
FEB										
08...	6.7	46	2	6.3	48	66	48	0.50	7.5	354
11...	7.2	40	1	5.5	100	67	47	0.50	8.6	--
APR										
01...	4.8	27	1	4.9	92	45	27	0.30	4.9	--
MAY										
22...	4.4	20	0.7	5.1	120	32	19	0.30	6.7	214
27...	5.1	23	0.9	5.0	120	36	25	0.30	4.9	--
JUL										
20...	3.7	20	0.7	5.0	100	35	22	0.30	6.1	--
AUG										
12...	4.8	35	1	5.9	110	48	40	0.70	8.0	--
SEP										
06...	3.5	21	0.9	4.4	87	34	19	0.40	6.3	--

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)
FEB 08...	326	3.72	3.72	0.080	3.80	3.80	0.300	4.7	0.60	0.40
11...	305	3.08	3.08	0.020	3.10	3.10	0.030	--	--	0.37
APR 01...	222	1.77	1.77	0.030	1.80	1.80	0.110	--	--	5.3
MAY 22...	213	0.330	0.330	0.030	0.360	0.360	0.030	0.86	0.47	0.37
27...	221	0.470	0.470	0.010	0.480	0.480	0.040	--	--	0.4
JUL 20...	207	1.06	1.06	0.040	1.10	1.10	0.020	--	--	0.38
AUG 12...	268	2.78	2.78	0.020	2.80	2.80	0.030	--	--	0.37
SEP 06...	186	1.47	1.47	0.030	1.50	1.50	0.020	--	--	0.28
DATE	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
FEB 08...	0.70	0.90	0.650	0.530	0.560	1.7	5.0	1.1	37	248
11...	0.40	--	--	0.380	0.400	1.2	--	--	--	--
APR 01...	5.4	--	--	0.200	0.180	0.55	--	--	--	--
MAY 22...	0.40	0.50	0.140	0.080	0.090	0.28	6.3	1.8	188	11700
27...	0.50	--	--	0.090	0.090	0.28	--	--	--	--
JUL 20...	0.40	--	--	0.140	0.140	0.43	--	--	--	--
AUG 12...	0.40	--	--	0.240	0.250	0.77	--	--	--	--
SEP 06...	0.30	--	--	0.200	0.190	0.58	--	--	--	--
DATE	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHROMIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
FEB 08...	99	--	--	--	--	--	--	--	26	--
11...	--	1	57	<0.5	1.0	<5	<3	<10	130	<10
APR 01...	--	--	--	--	--	--	--	--	--	--
MAY 22...	98	--	--	--	--	--	--	--	41	--
27...	--	--	--	--	--	--	--	--	--	--
JUL 20...	--	--	--	--	--	--	--	--	--	--
AUG 12...	--	3	55	<0.5	<1.0	<5	<3	<10	21	20
SEP 06...	--	--	--	--	--	--	--	--	--	--
DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB 08...	--	19	--	--	--	--	--	--	--	--
11...	14	83	<0.1	<10	<10	<1	<1.0	390	<6	38
APR 01...	--	--	--	--	--	--	--	--	--	--
MAY 22...	--	3	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
JUL 20...	--	--	--	--	--	--	--	--	--	--
AUG 12...	5	1	<0.1	<10	<10	<1	<1.0	360	<6	7
SEP 06...	--	--	--	--	--	--	--	--	--	--

TRINITY RIVER MAIN STEM

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

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. 1993	255740	364	208	143000	25	17400	40	27600	120
NOV. 1993	246100	403	230	153000	29	19100	45	29600	130
DEC. 1993	181720	475	269	132000	38	18800	53	26100	140
JAN. 1994	85850	566	317	73500	53	12200	65	15000	150
FEB. 1994	237320	308	177	113000	20	12500	34	21500	110
MAR. 1994	527140	318	183	261000	19	26700	34	49000	110
APR. 1994	113280	426	242	74000	32	9820	47	14500	140
MAY 1994	619450	336	193	323000	21	34500	37	61000	120
JUNE 1994	244440	377	216	142000	25	16600	41	27300	130
JULY 1994	188140	364	208	106000	25	12700	40	20400	120
AUG. 1994	81950	458	259	57300	37	8100	51	11300	140
SEPT 1994	65301	455	258	45400	37	6510	51	9000	140
TOTAL	2846431	**	**	1624000	**	195000	**	312000	**
WTD.AVG.	7798	370	211	**	25	**	41	**	120

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	689	632	665	423	336	373	493	417	449	---	---	550
2	649	566	612	378	341	357	522	491	510	---	---	556
3	712	592	652	364	343	356	598	511	537	---	---	572
4	731	672	705	368	332	352	690	598	635	---	---	592
5	723	666	699	395	344	369	724	567	645	590	535	576
6	710	645	678	425	371	400	672	592	632	572	497	534
7	645	588	614	464	356	411	700	479	615	713	567	637
8	668	587	613	425	386	405	561	393	455	740	564	658
9	702	668	682	410	392	401	420	374	398	735	577	644
10	730	671	700	404	358	384	459	388	408	638	567	597
11	759	708	729	416	360	384	467	391	437	601	513	566
12	717	561	655	372	347	361	477	414	444	628	581	609
13	561	452	505	358	341	351	473	417	446	630	547	596
14	599	520	574	356	317	337	511	420	464	690	498	600
15	571	531	552	388	349	364	549	431	486	661	597	627
16	599	553	571	382	347	369	541	376	447	668	557	619
17	667	523	596	363	329	347	481	390	446	684	567	643
18	615	373	424	410	343	369	464	373	411	684	637	669
19	373	335	350	604	354	491	426	385	407	675	610	647
20	373	345	361	527	409	474	459	401	424	669	574	618
21	435	368	388	533	405	469	525	430	468	618	571	589
22	519	229	344	506	395	447	546	462	501	650	562	603
23	259	217	238	460	382	419	572	450	512	616	545	581
24	273	235	256	484	405	436	---	---	---	584	503	547
25	291	244	269	589	467	535	---	---	458	526	497	511
26	302	263	280	615	511	562	---	---	510	517	458	487
27	323	291	304	674	515	582	---	---	531	458	392	424
28	354	292	319	639	482	556	---	---	536	468	409	440
29	389	312	329	600	479	532	---	---	548	543	456	497
30	408	362	387	625	426	517	---	---	566	592	465	532
31	431	343	386	---	---	---	---	---	547	579	505	536
MONTH	759	217	498	674	317	424	724	373	493	740	392	576

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	625	520	574	272	260	266	375	360	367	442	337	391
2	652	380	508	284	269	275	428	359	391	449	348	416
3	540	419	488	295	279	287	430	392	420	384	311	346
4	560	501	532	298	293	295	393	377	382	332	305	318
5	546	465	506	321	295	303	466	393	447	340	265	303
6	597	469	529	322	314	320	467	459	464	286	266	276
7	532	450	483	322	319	321	477	461	467	290	277	282
8	648	434	452	336	319	323	579	477	532	302	290	297
9	578	337	470	345	332	339	579	520	538	319	302	307
10	501	485	496	340	332	335	522	520	521	333	319	325
11	508	485	497	349	296	328	525	502	517	336	332	334
12	503	482	489	307	294	303	525	197	253	355	332	341
13	492	481	486	294	282	286	426	205	284	347	330	341
14	526	489	503	299	291	295	526	426	487	330	262	299
15	554	514	539	318	299	310	517	314	389	320	263	296
16	565	554	560	336	318	330	384	294	354	293	275	281
17	567	561	563	345	332	335	372	312	338	287	279	283
18	568	436	511	371	345	363	341	305	323	295	280	287
19	562	436	456	370	367	368	340	325	331	311	295	303
20	571	512	548	374	367	371	345	327	335	331	311	321
21	517	462	494	413	374	400	368	345	356	347	331	339
22	507	173	377	423	413	418	507	368	430	364	347	355
23	247	170	194	425	407	412	558	507	522	384	364	374
24	261	214	241	407	390	399	558	492	520	398	384	392
25	238	216	220	407	381	393	596	516	558	404	398	402
26	238	219	224	446	385	401	552	516	532	404	392	400
27	248	230	240	451	443	447	626	552	587	392	370	381
28	263	244	253	443	424	432	615	558	573	370	352	358
29	---	---	---	504	363	446	594	470	554	364	356	360
30	---	---	---	363	252	276	470	337	378	360	339	348
31	---	---	---	370	292	321	---	---	---	341	339	340
MONTH	652	170	444	504	252	345	626	197	438	449	262	335
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	347	338	342	549	507	521	347	338	344	627	582	603
2	342	332	339	507	419	468	349	346	347	587	564	575
3	339	327	331	477	411	428	353	347	351	596	491	562
4	364	339	354	562	477	527	374	352	362	565	489	525
5	373	364	369	611	562	592	387	374	377	655	368	560
6	380	373	377	639	611	626	393	387	389	368	310	329
7	390	380	386	655	639	648	400	393	398	313	297	306
8	389	386	387	668	655	662	401	380	393	329	304	318
9	389	385	387	682	668	677	418	385	394	347	329	335
10	387	381	385	683	669	679	395	386	389	362	347	355
11	388	379	383	680	607	649	425	395	414	379	358	370
12	379	360	369	657	608	639	469	425	450	409	375	389
13	392	367	381	658	643	650	488	459	476	459	409	434
14	391	379	387	675	425	584	499	486	491	472	459	466
15	397	390	395	425	242	309	506	499	505	489	472	480
16	418	394	408	278	259	268	---	---	515	499	488	492
17	418	411	414	295	278	286	---	---	525	505	487	497
18	422	354	400	323	295	312	---	---	535	487	473	479
19	395	354	370	330	323	325	---	---	545	485	476	480
20	407	370	392	345	330	340	---	---	555	502	478	489
21	451	388	430	335	329	330	---	---	565	514	502	508
22	435	401	420	334	329	332	---	---	575	552	514	534
23	401	390	397	334	330	333	---	---	585	588	551	565
24	420	401	411	334	332	333	---	---	595	613	588	595
25	447	420	432	333	331	332	---	---	600	638	613	628
26	480	447	463	332	327	329	600	590	599	672	635	650
27	517	480	499	331	328	330	590	539	554	680	669	674
28	530	476	514	332	328	329	582	560	575	684	667	672
29	553	476	516	331	326	329	603	581	589	708	684	700
30	565	549	561	330	326	328	616	601	605	696	645	663
31	---	---	---	338	328	331	633	616	627	---	---	---
MONTH	565	327	407	683	242	446	633	338	491	708	297	508
YEAR	759	170	451									

TRINITY RIVER MAIN STEM

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	7.7	7.6	7.7	7.5	7.5	7.5	7.8	7.8	7.8	---	---	---
2	7.6	7.6	7.6	7.5	7.4	7.5	7.8	7.7	7.8	---	---	---
3	7.6	7.6	7.6	7.4	7.3	7.4	7.7	7.7	7.7	---	---	---
4	7.6	7.6	7.6	7.4	7.4	7.4	7.7	7.7	7.7	---	---	---
5	7.6	7.6	7.6	7.6	7.4	7.5	7.7	7.7	7.7	7.9	7.8	7.8
6	7.7	7.6	7.6	7.6	7.6	7.6	7.8	7.6	7.7	7.9	7.8	7.9
7	7.7	7.6	7.7	7.6	7.6	7.6	7.8	7.5	7.7	8.1	7.9	8.0
8	7.7	7.7	7.7	7.6	7.6	7.6	7.6	7.5	7.5	8.2	8.0	8.1
9	7.7	7.7	7.7	7.6	7.6	7.6	7.6	7.6	7.6	8.2	8.0	8.1
10	7.7	7.7	7.7	7.6	7.6	7.6	7.7	7.6	7.6	8.3	8.1	8.2
11	7.7	7.7	7.7	7.6	7.6	7.6	7.8	7.7	7.7	8.4	8.1	8.3
12	7.7	7.6	7.6	7.6	7.5	7.6	7.8	7.8	7.8	8.4	8.2	8.3
13	7.6	7.5	7.6	7.5	7.5	7.5	7.8	7.7	7.8	8.5	8.2	8.3
14	7.6	7.6	7.6	7.5	7.3	7.4	7.8	7.7	7.8	8.6	8.3	8.5
15	7.6	7.6	7.6	7.4	7.3	7.4	7.9	7.8	7.8	8.7	8.5	8.6
16	7.7	7.6	7.7	7.4	7.3	7.3	7.9	7.8	7.8	8.6	8.2	8.3
17	7.7	7.5	7.6	7.3	7.2	7.2	7.9	7.7	7.8	8.3	8.1	8.2
18	7.6	7.5	7.5	7.4	7.2	7.3	7.7	7.7	7.7	8.3	8.1	8.2
19	7.6	7.5	7.6	7.7	7.4	7.5	7.8	7.7	7.8	8.2	7.9	8.1
20	7.6	7.6	7.6	7.6	7.6	7.6	7.8	7.8	7.8	7.9	7.8	7.8
21	7.6	7.5	7.6	7.7	7.6	7.6	7.9	7.8	7.8	7.9	7.7	7.8
22	7.8	7.5	7.7	7.7	7.6	7.6	7.9	7.8	7.8	8.0	7.8	8.0
23	7.8	7.7	7.8	7.7	7.6	7.7	7.8	7.8	7.8	8.0	7.9	8.0
24	7.7	7.5	7.6	7.7	7.7	7.7	---	---	---	7.9	7.8	7.8
25	7.5	7.4	7.5	7.8	7.7	7.8	---	---	---	7.8	7.8	7.8
26	7.5	7.4	7.4	7.8	7.8	7.8	---	---	---	7.7	7.7	7.7
27	7.4	7.3	7.4	8.0	7.8	7.8	---	---	---	7.7	7.2	7.4
28	7.4	7.3	7.3	8.0	7.8	7.9	---	---	---	7.3	7.1	7.2
29	7.4	7.3	7.3	7.9	7.8	7.9	---	---	---	7.6	7.3	7.5
30	7.4	7.4	7.4	7.9	7.8	7.8	---	---	---	7.6	7.6	7.6
31	7.5	7.4	7.4	---	---	---	---	---	---	7.7	7.6	7.7
MONTH	7.8	7.3	7.6	8.0	7.2	7.6	7.9	7.5	7.7	8.7	7.1	8.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	7.7	7.7	7.7	7.4	7.4	7.4	7.8	7.1	7.7	7.6	7.4	7.5
2	7.7	7.7	7.7	7.4	7.4	7.4	7.8	7.7	7.8	7.6	7.5	7.6
3	7.8	7.7	7.7	7.4	7.4	7.4	7.6	7.6	7.6	7.6	7.5	7.5
4	7.8	7.8	7.8	7.4	7.3	7.4	7.7	7.7	7.7	7.5	7.5	7.5
5	7.9	7.8	7.8	7.4	7.4	7.4	7.8	7.7	7.7	7.6	7.4	7.6
6	7.9	7.8	7.8	7.5	7.4	7.4	7.9	7.7	7.8	7.8	7.4	7.5
7	7.8	7.7	7.8	7.5	7.4	7.5	7.9	7.8	7.9	7.7	7.3	7.6
8	7.9	7.7	7.8	7.5	7.4	7.5	8.0	7.9	8.0	7.7	7.6	7.7
9	7.8	7.6	7.8	7.5	7.5	7.5	8.0	7.8	7.9	7.7	7.7	7.7
10	7.8	7.7	7.8	7.6	7.5	7.5	7.8	7.8	7.8	7.8	7.7	7.7
11	7.7	7.6	7.6	7.6	7.6	7.6	7.8	7.7	7.8	7.8	7.8	7.8
12	7.7	7.6	7.6	7.6	7.6	7.6	7.7	7.1	7.2	7.8	7.8	7.8
13	7.7	7.6	7.7	7.6	7.5	7.5	7.5	7.1	7.2	7.9	7.8	7.9
14	7.9	7.7	7.8	7.5	7.5	7.5	7.7	7.5	7.6	7.9	7.5	7.7
15	8.1	7.8	8.0	7.5	7.5	7.5	7.7	7.6	7.7	7.6	7.5	7.6
16	8.2	7.9	8.1	7.5	7.5	7.5	7.7	7.6	7.6	7.7	7.6	7.6
17	8.3	8.0	8.1	7.6	7.5	7.5	7.7	7.6	7.7	7.6	7.6	7.6
18	8.2	7.8	8.0	7.6	7.5	7.5	7.7	7.6	7.7	7.6	7.1	7.6
19	8.1	7.8	7.9	7.6	7.6	7.6	7.7	7.6	7.7	7.6	7.1	7.5
20	8.1	7.7	8.0	7.6	7.5	7.6	7.6	7.6	7.6	7.6	7.6	7.6
21	7.7	7.4	7.6	7.5	7.5	7.5	7.7	7.6	7.6	7.6	7.5	7.6
22	7.5	7.3	7.3	7.6	7.5	7.5	7.8	7.7	7.7	7.6	7.5	7.5
23	7.5	7.3	7.4	7.6	7.5	7.6	8.0	7.8	7.9	7.6	7.1	7.5
24	7.5	7.4	7.5	7.6	7.6	7.6	7.9	7.6	7.7	7.6	7.6	7.6
25	7.5	7.4	7.4	7.7	7.6	7.6	8.0	7.7	7.9	7.6	7.6	7.6
26	7.4	7.4	7.4	7.7	7.6	7.7	7.8	7.7	7.8	7.6	7.4	7.5
27	7.4	7.4	7.4	7.7	7.6	7.7	8.0	7.8	7.9	7.6	7.2	7.4
28	7.4	7.4	7.4	7.7	7.7	7.7	7.9	7.7	7.8	7.3	7.2	7.2
29	---	---	---	7.7	7.6	7.7	7.9	7.7	7.8	7.4	7.2	7.4
30	---	---	---	7.7	7.6	7.6	7.7	7.1	7.5	7.4	7.3	7.4
31	---	---	---	7.7	7.6	7.7	---	---	---	7.3	7.1	7.2
MONTH	8.3	7.3	7.7	7.7	7.3	7.5	8.0	7.1	7.7	7.9	7.1	7.6

TRINITY RIVER MAIN STEM

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08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.3	7.2	7.2	7.7	7.7	7.7	7.7	7.7	7.7	7.9	7.8	7.8
2	7.3	7.2	7.3	7.7	7.6	7.7	7.7	7.6	7.7	7.9	7.7	7.8
3	7.4	7.3	7.3	7.7	7.6	7.6	7.7	7.6	7.7	7.8	7.6	7.7
4	7.4	7.4	7.4	7.8	7.7	7.7	7.7	7.6	7.7	7.6	7.5	7.6
5	7.4	7.3	7.3	7.8	7.8	7.8	7.7	7.6	7.7	7.6	7.5	7.5
6	7.4	7.3	7.3	7.8	7.8	7.8	7.7	7.6	7.7	7.9	7.6	7.6
7	7.4	7.3	7.3	7.9	7.8	7.8	7.7	7.6	7.7	7.6	7.6	7.6
8	7.4	7.3	7.4	7.9	7.8	7.8	7.7	7.5	7.6	7.7	7.6	7.6
9	7.4	7.4	7.4	7.9	7.8	7.8	7.6	7.4	7.5	7.7	7.6	7.6
10	7.5	7.4	7.4	7.9	7.8	7.8	7.4	7.4	7.4	7.7	7.7	7.7
11	7.6	7.4	7.5	7.8	7.8	7.8	7.5	7.4	7.5	7.7	7.7	7.7
12	7.5	7.4	7.5	7.8	7.7	7.8	7.6	7.5	7.6	7.8	7.7	7.8
13	7.5	7.4	7.5	7.8	7.7	7.8	7.6	7.6	7.6	7.8	7.8	7.8
14	7.5	7.4	7.4	7.7	7.5	7.6	7.7	7.6	7.7	7.8	7.8	7.8
15	7.5	7.5	7.5	7.6	7.5	7.5	7.6	7.6	7.6	7.9	7.8	7.8
16	7.5	7.5	7.5	7.5	7.4	7.5	---	---	---	7.9	7.8	7.9
17	7.5	7.5	7.5	7.5	7.4	7.4	---	---	---	7.9	7.7	7.8
18	7.5	7.4	7.5	7.4	7.4	7.4	---	---	---	7.8	7.7	7.8
19	7.6	7.5	7.5	7.5	7.4	7.4	---	---	---	7.8	7.7	7.8
20	7.6	7.6	7.6	7.5	7.5	7.5	---	---	---	7.9	7.8	7.9
21	7.6	7.6	7.6	7.4	7.4	7.4	---	---	---	7.9	7.9	7.9
22	7.6	7.5	7.5	7.4	7.4	7.4	---	---	---	8.0	7.9	7.9
23	7.5	7.4	7.5	7.5	7.4	7.5	---	---	---	8.0	7.9	8.0
24	7.6	7.5	7.6	7.5	7.5	7.5	---	---	---	8.0	7.9	8.0
25	7.6	7.6	7.6	7.5	7.5	7.5	---	---	---	8.0	7.9	8.0
26	7.7	7.6	7.6	7.5	7.4	7.5	7.7	7.7	7.7	8.1	7.9	8.0
27	7.7	7.7	7.7	7.4	7.4	7.4	7.8	7.7	7.7	8.0	7.9	8.0
28	7.7	7.7	7.7	7.5	7.4	7.5	7.9	7.7	7.8	8.0	7.9	7.9
29	7.7	7.7	7.7	7.7	7.4	7.6	7.9	7.7	7.8	8.0	7.9	7.9
30	7.7	7.7	7.7	7.7	7.7	7.7	7.9	7.7	7.8	8.0	7.9	7.9
31	---	---	---	7.7	7.6	7.7	7.9	7.8	7.8	---	---	---
MONTH	7.7	7.2	7.5	7.9	7.4	7.6	7.9	7.4	7.7	8.1	7.5	7.8
YEAR	8.7	7.1	7.7									

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	26.0	25.0	25.5	14.0	13.5	13.5	12.0	11.5	12.0	---	---	---
2	26.5	25.0	25.5	13.5	13.0	13.5	13.0	12.0	12.5	---	---	---
3	25.5	25.0	25.5	14.0	13.5	14.0	14.0	13.0	13.5	---	---	---
4	26.0	24.5	25.0	16.0	14.0	15.0	14.5	13.5	14.0	---	---	---
5	26.0	24.5	25.5	16.0	15.5	16.0	14.0	13.5	13.5	10.5	10.5	10.5
6	26.0	25.0	25.5	16.0	15.5	15.5	14.0	13.5	14.0	12.0	10.5	11.5
7	25.5	25.0	25.5	15.5	15.0	15.0	15.0	13.0	14.0	12.0	11.0	11.5
8	26.0	25.0	25.5	15.0	14.5	14.5	15.0	14.5	14.5	11.0	10.0	10.5
9	25.5	24.5	25.0	14.5	14.5	14.5	14.5	14.5	14.5	10.5	9.5	10.0
10	24.5	23.5	24.0	15.0	14.5	14.5	15.0	14.5	14.5	11.0	10.0	10.5
11	24.0	23.0	23.0	15.0	14.5	15.0	14.5	14.0	14.5	12.0	11.0	11.5
12	23.0	22.5	22.5	15.5	15.0	15.5	14.0	13.5	13.5	12.0	11.5	11.5
13	22.5	21.5	22.0	17.0	15.5	16.5	14.0	13.5	14.0	12.5	11.5	12.0
14	22.5	22.0	22.0	17.5	17.0	17.0	13.5	13.5	13.5	12.5	11.5	12.0
15	22.5	21.5	22.0	17.5	16.5	17.0	13.5	12.5	13.0	12.0	11.5	11.5
16	22.5	21.5	22.0	17.0	16.0	17.0	12.5	12.0	12.5	11.5	11.0	11.5
17	23.0	22.0	22.5	16.0	15.5	16.0	12.5	12.5	12.5	12.0	11.0	11.5
18	23.0	22.5	22.5	16.0	15.5	15.5	12.5	12.0	12.5	11.5	10.5	10.5
19	23.5	22.5	23.0	16.5	16.0	16.0	12.0	12.0	12.0	10.5	9.5	10.0
20	23.5	22.5	23.0	16.0	14.0	15.0	12.0	11.5	12.0	10.0	9.5	9.5
21	22.5	22.5	22.5	14.5	13.5	14.0	11.5	11.0	11.0	10.0	9.5	9.5
22	22.5	20.5	21.5	14.0	13.0	13.5	11.0	10.0	10.5	9.5	9.5	9.5
23	20.5	20.0	20.5	14.0	13.0	13.5	10.0	9.5	10.0	10.0	9.5	9.5
24	20.0	19.0	19.5	14.0	13.5	14.0	---	---	---	11.0	10.0	10.0
25	19.0	18.5	18.5	13.5	12.5	13.0	---	---	---	12.5	11.0	11.5
26	19.0	18.0	18.5	12.5	11.5	12.0	---	---	---	13.0	12.0	12.5
27	18.5	18.5	18.5	12.0	11.0	11.5	---	---	---	14.5	13.0	14.0
28	18.5	18.0	18.0	11.5	10.5	11.0	---	---	---	14.0	12.0	13.0
29	18.0	17.0	17.5	11.5	10.5	11.0	---	---	---	12.0	11.5	12.0
30	17.0	16.0	16.5	11.5	10.5	11.0	---	---	---	11.5	11.0	11.5
31	16.0	14.0	14.5	---	---	---	---	---	---	11.0	10.5	11.0
MONTH	26.5	14.0	22.0	17.5	10.5	14.5	15.0	9.5	13.0	14.5	9.5	11.0

TRINITY RIVER MAIN STEM

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	11.0	10.5	10.5	11.5	11.0	11.5	17.0	15.0	16.5	23.0	22.5	22.5
2	10.5	9.5	10.0	11.5	11.0	11.5	17.0	16.0	16.5	22.5	21.5	22.5
3	9.5	9.0	9.5	11.5	11.0	11.5	18.0	17.0	17.5	21.5	19.5	20.5
4	10.5	9.5	10.0	12.0	11.5	12.0	18.5	17.5	18.0	20.0	19.0	19.5
5	11.5	10.5	11.0	13.0	12.0	12.5	19.0	18.0	18.5	19.5	18.5	19.0
6	12.0	11.0	11.5	13.5	13.0	13.5	18.5	17.5	18.0	19.5	19.0	19.5
7	13.0	11.5	12.5	14.5	13.5	14.0	18.0	17.0	17.5	20.5	19.5	20.0
8	15.0	12.5	14.0	15.0	14.5	14.5	18.5	17.0	18.0	21.0	20.5	21.0
9	15.0	12.5	13.5	15.0	13.5	14.5	19.0	18.0	18.5	21.5	21.0	21.5
10	13.0	10.0	11.5	13.5	13.0	13.0	20.5	18.5	19.5	22.0	21.5	21.5
11	10.0	9.0	9.5	13.0	12.5	13.0	21.0	20.0	20.5	22.5	21.5	22.0
12	9.5	9.0	9.5	12.5	12.0	12.0	20.5	18.5	19.5	22.5	22.0	22.5
13	10.0	9.0	9.5	12.5	11.5	12.0	21.0	18.0	19.5	22.5	22.0	22.5
14	10.5	9.0	10.0	13.0	12.5	12.5	21.5	20.5	21.0	22.5	21.5	22.0
15	11.0	10.0	10.5	14.0	13.0	13.5	21.0	20.0	20.5	23.0	22.5	23.0
16	12.0	10.5	11.5	14.5	13.5	14.0	20.5	19.5	20.0	23.5	23.0	23.0
17	12.5	11.0	12.0	15.5	14.5	15.0	20.5	19.5	20.0	24.0	23.0	23.5
18	13.0	11.5	12.5	16.0	15.0	15.5	21.5	19.5	20.5	24.5	24.0	24.0
19	14.0	13.0	13.5	17.0	15.5	16.0	22.0	20.5	21.5	25.0	24.0	24.5
20	14.5	14.0	14.5	18.0	17.0	17.5	23.0	21.0	22.0	25.0	24.5	24.5
21	15.5	14.5	15.0	19.0	18.0	18.5	23.5	22.0	23.0	25.0	24.5	24.5
22	16.5	15.0	16.0	19.5	18.5	19.0	24.0	22.5	23.0	25.0	24.5	24.5
23	16.0	13.5	14.5	19.5	19.0	19.0	25.0	23.0	24.0	25.5	24.5	25.0
24	14.0	13.0	13.5	19.0	19.0	19.0	24.5	23.5	24.0	25.5	25.0	25.0
25	13.5	12.0	12.5	19.5	18.5	19.0	25.0	24.0	24.0	25.5	25.0	25.5
26	12.5	11.5	12.0	19.5	19.0	19.0	25.0	24.0	24.5	25.5	25.0	25.0
27	12.0	11.0	11.5	19.5	18.0	19.0	26.5	25.0	25.5	25.0	24.5	25.0
28	11.5	11.0	11.0	18.0	17.0	17.5	26.0	25.5	25.5	25.0	24.0	24.5
29	---	---	---	18.0	17.0	17.0	25.5	24.5	25.0	25.0	24.5	24.5
30	---	---	---	17.0	16.0	16.0	24.5	22.5	23.0	25.0	24.5	25.0
31	---	---	---	16.5	15.5	16.0	---	---	---	25.5	24.5	25.0
MONTH	16.5	9.0	12.0	19.5	11.0	15.0	26.5	15.0	21.0	25.5	18.5	23.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	26.0	25.0	25.5	31.5	30.0	30.5	28.5	27.5	28.0	30.0	29.0	29.5
2	26.5	25.5	26.0	31.0	30.0	30.5	28.5	27.5	28.0	29.5	28.5	29.0
3	26.5	25.5	26.0	31.5	30.0	30.5	29.0	28.0	28.5	29.0	28.0	28.5
4	27.0	26.0	26.5	32.0	30.0	31.0	29.0	28.0	28.5	29.0	27.5	28.0
5	27.5	26.5	27.0	31.5	30.5	31.0	29.0	28.5	28.5	29.0	28.5	28.5
6	27.5	27.0	27.5	31.5	30.5	31.0	29.5	28.5	29.0	28.5	27.5	28.0
7	28.0	27.0	27.5	31.5	30.5	31.0	30.0	29.0	29.0	28.5	27.5	28.0
8	28.5	27.5	28.0	32.0	30.5	31.5	29.0	28.5	29.0	28.5	28.0	28.0
9	28.5	28.0	28.0	32.0	30.0	31.5	29.0	28.0	28.5	28.0	27.5	28.0
10	28.5	27.5	28.0	32.0	30.0	31.0	29.5	28.0	28.5	28.0	27.5	27.5
11	28.5	27.0	27.5	31.5	30.5	31.0	30.0	28.5	29.5	28.0	27.0	27.5
12	28.0	27.5	28.0	31.5	30.5	31.0	30.0	29.0	29.5	28.5	27.0	27.5
13	28.0	27.5	28.0	31.5	30.5	31.0	30.5	29.0	30.0	28.5	27.5	28.0
14	28.5	27.5	28.0	31.0	28.5	30.0	31.5	29.5	30.5	29.0	27.5	28.0
15	28.5	28.0	28.0	28.5	27.5	28.0	30.5	30.0	30.0	29.0	28.0	28.5
16	28.5	28.0	28.0	28.5	27.5	28.0	---	---	---	29.0	28.0	28.5
17	29.0	28.0	28.5	29.0	28.5	28.5	---	---	---	29.0	27.5	28.5
18	29.0	28.0	28.5	29.5	28.5	29.0	---	---	---	28.5	27.0	28.0
19	29.0	27.5	28.0	29.5	29.0	29.0	---	---	---	28.0	26.5	27.5
20	29.0	28.5	28.5	30.0	29.0	29.5	---	---	---	27.5	26.0	27.0
21	29.0	28.5	28.5	30.0	29.5	30.0	---	---	---	27.0	25.5	26.5
22	30.0	28.5	29.0	30.0	29.5	30.0	---	---	---	26.5	25.0	26.0
23	30.5	29.0	29.5	30.5	29.5	30.0	---	---	---	25.5	24.0	24.5
24	31.0	29.5	30.0	30.5	29.5	30.0	---	---	---	24.5	23.5	24.0
25	31.5	30.0	30.5	30.5	29.5	30.0	---	---	---	24.0	23.0	23.5
26	31.5	30.0	30.5	30.5	29.5	30.0	31.0	30.5	30.5	24.0	22.5	23.5
27	31.5	30.5	31.0	30.0	29.5	29.5	31.5	30.0	30.5	24.5	23.0	23.5
28	31.5	30.5	31.0	29.5	29.0	29.0	31.5	29.5	30.5	25.0	23.5	24.5
29	31.0	30.0	30.5	29.5	28.5	29.0	31.5	30.0	30.5	25.5	24.0	25.0
30	31.0	30.0	30.5	29.0	28.0	28.5	31.5	30.0	30.5	25.5	24.5	25.0
31	---	---	---	28.5	27.5	28.0	30.5	29.5	30.0	---	---	---
MONTH	31.5	25.0	28.5	32.0	27.5	30.0	31.5	27.5	29.5	30.0	22.5	27.0
YEAR	32.0	9.0	20.5									

TRINITY RIVER MAIN STEM

493

08065350 TRINITY RIVER NEAR CROCKETT, TX--Continued
(National stream-quality accounting network)

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	6.8	6.6	6.8	9.4	7.2	7.7	10.6	10.2	10.4	---	---	---
2	6.7	6.6	6.7	7.8	7.6	7.7	10.2	9.8	10.0	---	---	---
3	6.9	6.6	6.7	8.2	7.7	7.8	9.8	9.2	9.6	---	---	---
4	7.5	6.5	6.7	8.7	8.2	8.5	9.2	9.0	9.1	---	---	---
5	6.9	6.5	6.7	9.0	8.7	8.9	9.2	8.9	9.0	12.5	11.7	12.3
6	7.0	6.6	6.8	12.8	9.0	9.1	9.1	8.1	8.6	13.4	10.8	11.9
7	7.0	6.6	6.8	12.8	9.2	10.1	9.2	6.8	8.5	11.2	10.2	10.7
8	6.9	6.7	6.8	9.4	9.2	9.3	8.1	6.8	7.4	11.8	10.1	10.8
9	6.9	6.7	6.8	9.7	9.3	9.5	8.6	8.1	8.3	11.7	10.3	11.0
10	6.9	6.6	6.8	10.1	9.7	9.9	8.8	8.3	8.6	11.8	10.6	11.1
11	7.0	6.7	6.9	10.2	9.9	10.0	8.9	8.4	8.8	12.5	10.5	11.5
12	7.0	6.8	6.9	9.9	9.7	9.8	9.1	8.9	9.0	11.8	10.7	11.1
13	7.0	6.6	6.8	9.7	9.3	9.5	9.1	8.9	9.0	12.4	10.2	11.1
14	7.0	6.7	6.9	9.3	8.3	8.7	9.0	8.8	8.9	13.2	10.3	11.6
15	6.9	6.6	6.7	8.8	8.4	8.6	9.2	8.9	9.0	13.1	11.0	11.9
16	6.9	6.7	6.8	8.5	8.1	8.4	9.4	9.0	9.2	11.4	10.0	10.4
17	6.7	5.4	6.1	8.1	7.9	8.0	9.4	8.4	9.1	10.3	9.3	9.8
18	5.5	5.2	5.4	8.5	7.9	8.2	9.3	8.5	9.0	10.5	9.1	9.7
19	6.6	5.5	5.9	8.5	7.6	8.2	9.5	9.3	9.4	13.5	9.0	10.8
20	7.1	6.6	7.0	7.9	7.6	7.8	9.6	9.4	9.5	12.6	11.9	12.1
21	7.3	6.5	7.1	11.4	7.8	8.4	9.7	9.5	9.6	12.8	11.5	12.2
22	6.5	5.6	5.9	8.8	8.2	8.5	9.7	9.6	9.6	13.5	12.5	13.0
23	6.8	6.0	6.6	9.3	8.8	9.1	9.9	9.6	9.8	13.6	12.7	13.1
24	6.9	6.7	6.8	9.3	9.2	9.3	---	---	---	12.7	12.0	12.4
25	6.7	6.3	6.4	11.4	9.2	10.3	---	---	---	12.4	11.4	12.0
26	6.3	6.2	6.2	11.2	9.5	10.1	---	---	---	11.4	10.7	11.1
27	6.2	5.9	6.0	12.7	9.5	10.2	---	---	---	10.7	8.9	9.7
28	6.1	5.9	6.0	10.5	10.0	10.3	---	---	---	9.7	8.8	9.3
29	6.4	6.0	6.2	10.7	10.3	10.5	---	---	---	10.2	9.7	10.0
30	6.4	6.0	6.2	10.7	10.5	10.6	---	---	---	10.6	9.9	10.2
31	10.2	6.4	7.2	---	---	---	---	---	---	11.0	10.5	10.7
MONTH	10.2	5.2	6.6	12.8	7.2	9.1	10.6	6.8	9.1	13.6	8.8	11.2
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	11.3	10.7	10.9	9.3	8.9	9.2	9.5	9.1	9.3	5.3	4.6	5.1
2	12.4	11.0	11.7	9.2	8.9	9.1	9.4	8.8	9.2	6.6	5.3	5.8
3	12.6	12.0	12.2	9.4	9.0	9.3	8.9	8.8	8.8	6.6	6.1	6.2
4	12.1	11.7	12.0	11.2	9.3	10.3	9.1	8.8	8.9	6.7	6.1	6.4
5	12.0	11.5	11.8	10.5	9.3	9.9	9.5	8.4	8.6	7.6	6.6	7.0
6	12.1	11.2	11.7	9.6	9.3	9.4	9.0	8.3	8.6	9.1	7.4	7.6
7	11.5	10.9	11.3	9.6	9.3	9.4	9.5	8.6	9.0	7.5	7.2	7.4
8	11.2	10.3	10.9	9.6	8.8	9.2	10.0	9.1	9.5	7.3	7.0	7.2
9	11.0	10.2	10.5	9.2	8.7	8.9	9.4	8.6	9.0	7.1	7.0	7.1
10	11.0	10.3	10.7	10.1	9.0	9.6	9.1	8.5	8.7	7.1	7.0	7.0
11	11.9	10.9	11.5	10.5	9.8	10.2	8.6	8.0	8.3	7.2	7.0	7.1
12	12.3	11.8	12.1	10.6	10.3	10.4	8.0	6.1	6.4	7.7	7.2	7.5
13	12.9	11.9	12.3	12.0	10.0	10.4	7.5	6.2	7.0	8.2	7.6	8.0
14	13.5	12.0	12.7	10.3	9.8	10.0	7.3	6.6	6.8	8.1	7.3	7.8
15	13.6	12.2	12.9	9.9	9.4	9.7	7.0	6.5	6.7	7.4	7.0	7.3
16	13.8	12.2	12.9	9.6	9.2	9.4	7.0	6.7	6.9	7.1	6.9	7.0
17	14.2	12.2	13.2	9.7	9.1	9.3	7.3	6.7	7.0	7.0	6.8	6.9
18	13.6	11.6	12.5	9.4	8.9	9.0	7.2	7.0	7.1	6.8	6.3	6.5
19	12.6	11.5	12.0	9.2	8.7	9.0	7.2	7.0	7.1	6.4	6.0	6.3
20	12.0	9.9	11.3	8.7	8.3	8.5	7.7	7.2	7.4	6.1	5.8	5.9
21	10.0	8.9	9.6	8.3	7.8	8.0	7.9	7.1	7.5	6.0	5.8	5.9
22	9.0	7.4	8.3	8.4	7.7	8.2	7.8	7.3	7.5	6.4	5.9	6.1
23	8.2	7.4	8.0	8.3	8.1	8.2	8.4	6.8	7.6	6.5	6.1	6.3
24	8.5	8.0	8.3	8.2	8.0	8.1	7.0	5.6	6.3	6.8	6.2	6.4
25	9.1	8.4	8.8	9.0	8.0	8.4	7.4	6.3	6.8	6.6	6.3	6.4
26	9.0	8.7	8.8	8.4	8.0	8.3	6.7	6.4	6.6	6.4	5.5	6.0
27	9.3	8.7	9.1	8.1	7.9	8.0	7.3	6.1	6.5	5.7	5.5	5.6
28	9.5	9.2	9.4	8.7	8.0	8.3	6.1	5.5	5.8	5.5	5.4	5.5
29	---	---	---	8.9	8.0	8.5	6.2	4.3	5.5	5.9	5.5	5.7
30	---	---	---	9.1	8.0	8.7	4.6	4.2	4.4	5.8	5.5	5.6
31	---	---	---	9.6	9.1	9.3	---	---	---	5.6	5.3	5.5
MONTH	14.2	7.4	11.0	12.0	7.7	9.1	10.0	4.2	7.5	9.1	4.6	6.5

OXYGEN DISSOLVED (MG/L). WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]

08065800 BEDIAS CREEK NEAR MADISONVILLE, TX

LOCATION.--Lat 30°53'03", long 95°46'39", Madison-Walker County line, Hydrologic Unit 12030202, on right bank at downstream side of bridge on U.S. Highways 75 and 190, 0.5 mi upstream from Interstate Highway 45, 1.5 mi downstream from Caney Creek, and 9.5 mi southeast of Madisonville.

DRAINAGE AREA.--321 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 150.00 ft above NGVD of 1929.

REMARKS.--Records fair. No known diversions above station. Flow may be slightly affected at times by discharge from the flood-detention pools of three floodwater-retarding structures with a combined detention capacity of 1,290 acre-ft. These structures control runoff from 2.71 mi² in the upper Caney Creek and Town Branch drainage basins.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1910, 34 ft in May 1922 (discharge unknown), from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 28	0400	3,970	18.00	May 12	0300	4,720	18.41
Feb. 23	1600	6,640	19.26	May 15	1200	4,920	18.51

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.43	3.0	1.5	e25	56	7.1	3.4	8.3	2.2	.78	18
2	.10	.40	3.2	1.0	e18	117	8.4	3.0	8.3	1.9	.78	13
3	.50	1.3	3.5	.78	e17	113	6.3	132	7.2	1.5	.78	3.3
4	.16	1.5	4.5	.56	e15	64	5.6	525	6.6	1.4	1.2	1.6
5	.15	1.5	4.9	.54	e13	40	5.9	760	5.9	1.3	1.2	1.2
6	.12	2.9	8.0	.65	e11	29	30	161	5.2	1.2	1.0	2.2
7	.08	3.5	10	.85	e10	23	207	50	4.5	1.1	.94	1.8
8	.05	3.0	9.7	.85	e8.5	18	83	30	4.1	1.0	1.9	1.5
9	.04	2.8	9.0	.85	13	e70	28	20	3.7	1.0	18	1.1
10	.03	2.5	8.6	.93	15	e110	15	15	5.1	1.0	82	.89
11	.01	2.4	8.5	1.2	28	e85	10	312	9.7	1.0	17	.72
12	.02	2.4	8.4	1.2	39	e65	34	3540	208	1.0	7.1	1.9
13	.14	2.5	77	1.2	61	e55	394	1730	100	1.0	3.4	1.4
14	1.0	7.2	301	1.5	65	e45	160	2100	32	1.0	2.3	1.1
15	2.1	104	190	1.6	41	e35	47	4390	58	1.0	1.6	e2.5
16	2.4	95	66	1.6	28	e30	41	2850	38	1.0	1.1	e2.0
17	2.9	253	45	1.6	20	e25	53	e1200	e30	1.0	.75	e1.6
18	2.9	193	323	1.4	16	23	29	e500	e19	1.0	.52	e1.3
19	2.4	55	419	1.4	13	20	16	e190	e17	1.0	.49	e.96
20	8.6	16	232	1.3	273	18	13	e80	e22	.99	.43	e.82
21	14	7.0	108	1.2	1520	16	16	e45	e34	.85	.81	e.74
22	7.2	4.9	183	1.2	2700	14	19	e33	e45	1.1	2.2	e.66
23	1.2	3.6	573	1.2	4990	13	32	e22	25	1.3	14	e.60
24	.47	2.7	552	1.3	3430	12	23	e17	12	1.1	35	e.56
25	.22	2.2	209	1.4	1540	11	13	e15	6.8	1.0	23	e.54
26	.21	1.7	48	39	e400	10	9.1	e10	5.6	.99	6.9	e.52
27	.27	1.8	21	1340	e80	10	7.3	e7.0	6.5	.92	4.3	.49
28	.27	2.1	10	e700	e30	9.4	5.3	e9.0	4.2	.83	3.0	.51
29	.30	2.8	5.7	e200	---	8.3	4.4	e13	3.1	.78	1.8	e.50
30	.43	3.0	3.3	e60	---	7.4	3.8	e10	2.6	.78	1.1	e.48
31	.44	---	2.3	e30	---	6.9	---	8.3	---	.78	.78	---
TOTAL	48.77	782.13	3449.6	2397.81	15419.5	1159.0	1326.2	18780.7	737.4	34.02	236.16	64.49
MEAN	1.57	26.1	111	77.3	551	37.4	44.2	606	24.6	1.10	7.62	2.15
MAX	14	253	573	1340	4990	117	394	4390	208	2.2	82	18
MIN	.01	.40	2.3	.54	8.5	6.9	3.8	3.0	2.6	.78	.43	.48
AC-FT	97	1550	6840	4760	30580	2300	2630	37250	1460	67	468	128
CFSM	.00	.08	.35	.24	1.72	.12	.14	1.89	.08	.00	.02	.01
IN.	.01	.09	.40	.28	1.79	.13	.15	2.18	.09	.00	.03	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

	209	130	190	318	319	283	275	361	288	23.5	21.0	97.1
MAX	3021	688	879	2015	1580	909	1333	1046	1745	260	216	1551
(WY)	1985	1986	1992	1991	1992	1973	1969	1969	1968	1979	1974	1974
MIN	.000	.025	.22	1.99	5.41	3.13	2.30	5.30	.82	.013	.000	.000
(WY)	1979	1989	1968	1971	1971	1971	1981	1988	1988	1977	1969	1969

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1968 - 1994

ANNUAL TOTAL	122547.51	44435.78	
ANNUAL MEAN	336	122	209
HIGHEST ANNUAL MEAN			423
LOWEST ANNUAL MEAN			35.8
HIGHEST DAILY MEAN	12400	4990	23000
LOWEST DAILY MEAN	.01 Oct 11	.01 Oct 11	.00 Aug 31 1968
ANNUAL SEVEN-DAY MINIMUM	.05 Oct 6	.05 Oct 6	.00 Aug 31 1968
INSTANTANEOUS PEAK FLOW		6640	33800
INSTANTANEOUS PEAK STAGE		19.26 Feb 23	25.07 Sep 14 1974
ANNUAL RUNOFF (AC-FT)	243100	88140	151300
ANNUAL RUNOFF (CFSM)	1.05	.38	.65
ANNUAL RUNOFF (INCHES)	14.20	5.15	8.84
10 PERCENT EXCEEDS	1030	160	429
50 PERCENT EXCEEDS	24	6.3	8.3
90 PERCENT EXCEEDS	.27	.63	.05

e Estimated

TRINITY RIVER BASIN

08065800 BEDIAS CREEK NEAR MADISONVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.--Chemical analyses: July 1962 to April 1964, January 1968 to September 1974. Chemical and biochemical analyses: September 1970 to September 1974, April 1985 to June 1988, April 1993 to current year. Pesticide analyses: April 1985 to April 1988.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1984 to September 1987.

WATER TEMPERATURE: October 1984 to September 1987.

SUSPENDED SEDIMENT DISCHARGE: October 1984 to September 1986.

INSTUMENTATION.--From September 1984 to September 1987, specific conductance and water temperature were recorded continuously at this station. Interruptions in the record were due to malfunctions of the instrument.

REMARKS.--Water-quality data collection reactivated in NAWQA program-Trinity River Basin.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,680 microsiemens Sept. 1, 1987; minimum, 56 microsiemens Nov. 27, 1985.

WATER TEMPERATURE: Maximum, 31.5°C Aug. 9, 10, 1985; minimum, 56 microsiemens Nov. 27, 1985.

SEDIMENT CONCENTRATIONS: Maximum mean, 915 mg/L Oct. 19, 28, 1985; minimum daily mean, 10 mg/L July 25, 1985, Aug. 11, 1986.

SEDIMENT LOADS: Maximum daily, 7,510 tons Nov. 26, 1985; minimum daily, no flow on many days.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	
NOV 17...	1200	281	180	6.7	14.5	7.0	68	32	8	8.7	2.4	15	
DEC 13...	1550	104	166	7.2	14.0	5.2	51	30	0	9.0	1.9	20	
JAN 21...	0808	1.0	630	7.6	7.5	9.0	74	150	87	38	14	62	
FEB 09...	0850	13	353	6.9	16.5	8.4	86	83	51	22	6.9	31	
MAR 18...	0955	24	340	6.9	17.0	7.7	80	76	42	20	6.4	30	
APR 07...	1744	231	175	6.6	15.5	8.5	85	40	7	11	3.1	18	
MAY 11...	1718	231	290	6.7	24.0	5.4	64	63	36	17	4.9	24	
MAY 22...	1215	31	283	6.7	22.0	6.4	--	75	40	20	6.1	24	
JUN 14...	1050	31	222	6.7	26.0	5.4	67	48	26	13	3.8	20	
JUL 18...	1605	1.0	909	6.8	29.0	6.0	78	200	100	50	19	100	
AUG 11...	0924	18	268	6.4	24.0	5.5	65	49	30	13	4.1	23	
SEP 27...	1010	0.49	600	7.1	18.5	5.5	59	160	76	39	14	59	
DATE		SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CAC03	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV 17...	1	7.8	0	29	24	--	23	18	0.20	9.3	134	101	
DEC 13...	2	8.6	0	56	46	--	16	16	0.30	9.9	144	111	
JAN 21...	2	7.8	0	80	66	--	120	78	0.10	17	405	380	
FEB 09...	1	5.7	--	--	--	32	66	38	<0.10	19	241	211	
MAR 18...	1	4.8	0	42	34	--	64	38	<0.10	17	216	203	
APR 07...	1	4.3	0	40	32	0	28	18	<0.10	9.7	131	114	
MAY 11...	1	7.7	0	33	27	--	44	33	<0.10	14	185	165	
MAY 22...	1	5.7	--	--	--	35	45	31	0.10	20	190	174	
JUN 14...	1	6.4	0	27	22	--	38	24	<0.10	13	159	135	
JUL 18...	3	8.7	0	123	101	--	140	130	0.20	12	556	522	
AUG 11...	1	8.0	0	23	19	--	43	30	0.30	6.2	166	146	
SEP 27...	2	7.9	0	96	79	--	100	68	0.20	10	373	346	

TRINITY RIVER BASIN

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08065800 BEDIAS CREEK NEAR MADISONVILLE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
NOV 17...	0.210	0.210	0.020	0.230	0.230	0.060	1.0	0.74	0.54	0.60	0.80
DEC 13...	0.170	0.170	0.030	0.200	0.200	0.040	1.2	0.96	0.76	0.80	1.0
JAN 21...	0.480	0.480	0.020	0.500	0.500	0.040	1.1	0.56	0.46	0.50	0.60
FEB 09...	0.350	0.350	0.030	0.380	0.380	0.050	1.1	0.65	0.65	0.70	0.70
MAR 18...	0.410	0.410	0.030	0.440	0.440	0.060	1.3	0.84	0.84	0.90	0.90
APR 07...	0.340	0.340	0.020	0.360	0.360	0.140	1.5	0.96	0.66	0.80	1.1
MAY 11...	0.660	0.660	0.030	0.690	0.690	0.110	1.8	0.99	0.79	0.90	1.1
MAY 22...	0.320	0.320	0.030	0.350	0.350	0.050	1.2	0.85	0.65	0.70	0.90
JUN 14...	0.480	0.480	0.040	0.520	0.520	0.140	1.5	0.86	0.66	0.80	1.0
JUL 18...	0.059	--	<0.010	0.059	0.059	0.050	0.76	0.65	0.65	0.70	0.70
AUG 11...	1.25	1.25	0.050	1.30	1.30	0.440	2.5	0.76	0.56	1.0	1.2
SEP 27...	0.054	--	<0.010	0.054	0.054	0.030	0.65	0.57	0.47	0.50	0.60
DATE	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 17...	0.280	0.190	0.180	0.55	13	4.0	187	142	99	330	70
DEC 13...	0.280	0.150	0.130	0.40	18	<2.0	358	101	100	470	260
JAN 21...	0.190	0.160	0.150	0.46	9.4	0.5	9	0.02	98	810	250
FEB 09...	0.190	0.120	0.080	0.25	10	1.9	26	0.88	96	430	160
MAR 18...	0.150	0.090	0.060	0.18	12	0.9	22	1.4	100	220	140
APR 07...	0.220	0.120	0.100	0.31	12	1.1	118	74	100	370	94
MAY 11...	0.310	0.150	0.140	0.43	12	>2.5	178	111	86	290	160
MAY 22...	0.230	0.100	0.100	0.31	39	1.2	28	2.4	99	680	150
JUN 14...	0.220	0.120	0.120	0.37	10	1.3	48	4.0	100	290	90
JUL 18...	0.170	0.180	0.090	0.28	--	--	7	0.02	96	86	460
AUG 11...	0.270	0.210	0.210	0.64	9.5	1.0	51	2.5	100	89	120
SEP 27...	0.190	0.120	0.120	0.37	9.4	0.2	9	0.01	98	200	130

TRINITY RIVER BASIN

08066170 KICKAPOO CREEK NEAR ONALASKA, TX

LOCATION.--Lat 30°54'25", long 95°05'18", Polk County, Hydrologic Unit 12030202, on right bank 114 ft upstream from old bridge site, 1.2 mi downstream from Magnolia Creek, 6.2 mi upstream from Rocky Creek, 7.3 mi northeast of Onalaska, and 15.9 mi upstream from mouth.

DRAINAGE AREA.--57.0 mi².

PERIOD OF RECORD.--December 1965 to current year.

Water-quality records.--Chemical analyses: December 1963 to September 1969. Chemical and biochemical analyses: October 1969 to September 1974.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 139.85 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Low flow is sustained by sewage effluent that enters the creek upstream from this station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 20	1600	3,540	14.07	Feb. 22	1700	3,820	14.51

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.55	1.1	1.4	5.8	19	198	1.2	2.0	4.0	1.2	.75	12
2	.55	1.1	1.3	5.4	14	146	1.2	49	6.3	1.2	1.2	34
3	.65	1.7	24	4.7	12	47	1.3	602	5.8	1.1	1.1	9.0
4	.65	2.4	176	4.2	11	28	1.2	47	3.7	1.0	1.1	2.5
5	.65	2.1	15	3.8	10	21	1.9	16	3.3	.99	1.4	1.6
6	.65	1.7	5.9	3.8	9.2	19	6.7	7.7	2.9	.95	1.7	1.3
7	.65	1.3	3.6	3.8	7.6	17	4.1	4.4	2.5	.86	1.6	.99
8	.65	1.4	2.7	3.7	7.3	15	2.9	3.7	2.3	.86	2.5	.80
9	.65	2.6	2.3	3.5	22	525	2.7	3.3	2.1	.86	3.5	.75
10	.65	2.4	2.0	3.3	897	114	2.8	41	247	.84	3.1	.75
11	.65	2.0	1.7	4.0	380	35	15	29	305	.80	1.9	.76
12	1.2	1.7	1.6	4.9	122	19	752	9.9	140	.77	1.5	1.1
13	3.9	1.7	243	4.9	60	13	43	417	104	.75	1.2	.96
14	2.7	14	57	4.4	38	10	16	e454	15	.75	1.1	.98
15	1.6	13	18	3.8	30	8.2	60	e107	6.9	.75	.99	2.0
16	1.2	21	12	3.5	24	6.7	135	e43	4.7	.72	.92	1.2
17	1.1	33	20	6.3	20	5.2	20	e20	3.6	.65	.86	.91
18	.98	8.7	209	7.8	17	4.5	7.1	11	2.9	.65	.80	.76
19	.87	4.7	75	5.3	16	4.0	59	7.8	2.7	.65	.80	.61
20	44	3.1	65	4.5	958	3.6	89	6.6	4.2	.62	.80	.55
21	49	2.5	30	4.0	464	3.6	9.9	5.7	4.8	.55	2.0	.55
22	8.1	2.2	204	3.8	1440	3.0	5.3	5.2	4.0	.55	2.1	.48
23	3.2	2.0	89	3.6	395	2.7	3.3	4.7	2.8	.47	7.7	.47
24	1.9	1.9	32	3.6	96	2.6	2.5	4.1	2.5	.47	3.5	.47
25	1.4	1.7	19	3.9	56	2.5	2.3	3.6	2.1	.47	1.8	.47
26	1.3	1.7	13	381	35	2.2	1.9	3.6	1.8	.47	2.3	.47
27	1.1	1.7	11	667	23	2.7	1.4	3.0	1.6	.51	1.2	.47
28	.98	1.6	9.2	171	19	3.3	1.2	6.0	1.5	.51	.99	.47
29	1.1	1.6	8.8	62	---	2.2	1.2	28	1.3	.51	.80	.47
30	1.3	1.5	7.7	40	---	1.6	2.7	41	1.3	.47	.75	.47
31	.92	---	6.4	27	---	1.3	---	6.2	---	.47	1.8	---
TOTAL	134.80	139.1	1366.6	1458.3	5202.1	1266.9	1253.8	1992.5	892.6	22.42	53.76	78.31
MEAN	4.35	4.64	44.1	47.0	186	40.9	41.8	64.3	29.8	.72	1.73	2.61
MAX	49	33	243	667	1440	525	752	602	305	1.2	7.7	34
MIN	.55	1.1	1.3	3.3	7.3	1.3	1.2	2.0	1.3	.47	.75	.47
AC-FT	267	276	2710	2890	10320	2510	2490	3950	1770	.44	107	155
CFSM	.08	.08	.77	.83	3.26	.72	.73	1.13	.52	.01	.03	.05
IN.	.09	.09	.89	.95	3.40	.83	.82	1.30	.58	.01	.04	.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1994, BY WATER YEAR (WY)

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	15.4	26.9	44.2	72.6	72.7	64.8	59.5	70.1	63.2	12.2	7.85	12.1																
MAX	144	163	151	320	288	236	270	202	365	100	51.4	107																
(WY)	1974	1975	1983	1974	1992	1990	1979	1982	1973	1989	1975	1973																
MIN	.31	.82	1.72	1.49	1.54	.76	1.13	.86	.31	.083	.32	.37																
(WY)	1988	1991	1981	1971	1971	1971	1971	1988	1971	1971	1988	1989																

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1967 - 1994

ANNUAL TOTAL	21982.18	13861.19	43.3
ANNUAL MEAN	60.2	38.0	102
HIGHEST ANNUAL MEAN			4.63
LOWEST ANNUAL MEAN			5730
HIGHEST DAILY MEAN	2270	1440	.02
LOWEST DAILY MEAN	.40	.47	.02
ANNUAL SEVEN-DAY MINIMUM	.48	.47	.02
INSTANTANEOUS PEAK FLOW		3820	24500
INSTANTANEOUS PEAK STAGE		14.51	30.37
ANNUAL RUNOFF (AC-FT)	43600	27490	31360
ANNUAL RUNOFF (CFSM)	1.06	.67	.76
ANNUAL RUNOFF (INCHES)	14.35	9.05	10.32
10 PERCENT EXCEEDS	107	59	60
50 PERCENT EXCEEDS	8.0	3.1	3.5
90 PERCENT EXCEEDS	.70	.65	.48

e Estimated

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX

LOCATION.--Lat 30°38'00", long 95°00'36", Polk-San Jacinto County line, Hydrologic Unit 12030202, at left end of gated spillway at Livingston Dam on Trinity River, 4.4 mi northwest of Goodrich, 7 mi southwest of Livingston, 11.7 mi upstream from Long King Creek, and at mile 129.2.

DRAINAGE AREA.--16,583 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Trinity River Authority). Prior to Feb. 26, 1969, temporary nonrecording gages at site about 200 ft upstream and at same datum.

REMARKS.--The reservoir is formed by an earthfill dam 14,400 ft long. The dam was completed Sept. 29, 1968, and deliberate impoundment began June 26, 1969. The reservoir is operated for industrial water supply in the Houston metropolitan area. The spillway has twelve 40 x 35 ft tainter gates located near the left end of dam. Low-flow releases may be made through multi-gated inlet tower. There are five gated openings at various elevations located in the tower, and all discharge into a 10-foot-diameter concrete conduit through the dam. Flow is affected at times by discharge from the flood-detention pools of 255 floodwater-retarding structures with a combined detention capacity of 184,600 acre-ft. These structures control runoff from an 617 mi² area in the Richland, Chambers, Tehuacana, and Bedias Creeks drainage basins above this station. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	145.0	-
Design flood.....	135.0	2,136,000
Top of tainter gates.....	134.0	2,046,000
Top of conservation pool.....	131.0	1,788,000
Crest of spillway (sill of tainter gates).....	99.0	157,900
Lowest gated outlet (invert).....	58.0	335

COOPERATION.--The capacity table, furnished by the Trinity River Authority, is based on Geological Survey topographic maps.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,032,000 acre-ft Jan. 14, 1991 (elevation, 133.85 ft); minimum since conservation pool capacity was reached on Nov. 2, 1971, 1,345,000 acre-ft Oct. 25, 1988 (elevation, 125.22 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,931,000 acre-ft Feb. 26 at 0400 (elevation, 132.69 ft); minimum, 1,699,000 acre-ft Oct. 1 (elevation, 129.90 ft).

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

128.0	1,550,000	131.0	1,788,000	133.0	1,958,000
129.0	1,627,000	131.5	1,830,000	133.5	2,002,000
130.0	1,707,000	132.0	1,872,000	134.0	2,046,000
130.5	1,748,000	132.5	1,915,000		

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1702000	1873000	1793000	1786000	1817000	1915000	1804000	1805000	1847000	1776000	1803000	1784000
2	1707000	1886000	1797000	1784000	1808000	1919000	1813000	1818000	1849000	1775000	1804000	1791000
3	1715000	1897000	1813000	1781000	1800000	1917000	1813000	1839000	1850000	1772000	1804000	1792000
4	1717000	1895000	1807000	1783000	1802000	1917000	1805000	1847000	1850000	1770000	1813000	1789000
5	1717000	1883000	1809000	1776000	1800000	1917000	1824000	1844000	1839000	1769000	1812000	1793000
6	1717000	1860000	1809000	1784000	1794000	1911000	1808000	1849000	1828000	1767000	1806000	1808000
7	1713000	1841000	1813000	1786000	1794000	1899000	1801000	1851000	1813000	1766000	1807000	1812000
8	1715000	1838000	1815000	1779000	1792000	1887000	1800000	1852000	1802000	1766000	1816000	1815000
9	1720000	1830000	1819000	1779000	1806000	1882000	1798000	1852000	1800000	1767000	1811000	1813000
10	1713000	1817000	1829000	1782000	1821000	1865000	1798000	1864000	1815000	1766000	1808000	1808000
11	1712000	1801000	1826000	1788000	1812000	1844000	1794000	1877000	1812000	1762000	1804000	1804000
12	1709000	1795000	1822000	1790000	1823000	1833000	1829000	1884000	1811000	1760000	1803000	1803000
13	1719000	1786000	1842000	1789000	1814000	1823000	1829000	1870000	1808000	1762000	1802000	1801000
14	1718000	1804000	1840000	1788000	1806000	1814000	1821000	1891000	1798000	1762000	1801000	1798000
15	1718000	1798000	1836000	1781000	1805000	1807000	1824000	1893000	1794000	1773000	1803000	1799000
16	1719000	1807000	1831000	1789000	1801000	1802000	1825000	1878000	1793000	1788000	1793000	1797000
17	1723000	1805000	1838000	1793000	1797000	1798000	1820000	1858000	1792000	1803000	1788000	1795000
18	1734000	1801000	1844000	1792000	1791000	1805000	1813000	1844000	1798000	1813000	1785000	1792000
19	1743000	1804000	1844000	1785000	1785000	1799000	1806000	1830000	1798000	1820000	1781000	1790000
20	1785000	1800000	1846000	1793000	1818000	1791000	1798000	1818000	1800000	1829000	1785000	1787000
21	1793000	1801000	1839000	1792000	1843000	1785000	1793000	1810000	1798000	1835000	1790000	1784000
22	1794000	1798000	1839000	1794000	1876000	1777000	1793000	1805000	1793000	1838000	1790000	1792000
23	1807000	1799000	1831000	1798000	1902000	1782000	1788000	1804000	1793000	1837000	1788000	1777000
24	1817000	1806000	1823000	1797000	1908000	1782000	1786000	1803000	1792000	1833000	1789000	1779000
25	1824000	1796000	1813000	1798000	1928000	1775000	1791000	1807000	1787000	1828000	1786000	1774000
26	1835000	1790000	1803000	1818000	1923000	1780000	1790000	1818000	1786000	1826000	1788000	1769000
27	1842000	1785000	1795000	1850000	1916000	1781000	1782000	1819000	1781000	1826000	1788000	1775000
28	1844000	1785000	1792000	1851000	1911000	1771000	1790000	1824000	1783000	1819000	1785000	1776000
29	1852000	1789000	1786000	1849000	---	1773000	1793000	1840000	1782000	1810000	1780000	1767000
30	1855000	1792000	1785000	1837000	---	1790000	1807000	1844000	1779000	1809000	1784000	1767000
31	1864000	---	1780000	1829000	---	1798000	---	1849000	---	1804000	1785000	---
MAX	1864000	1897000	1846000	1851000	1928000	1919000	1829000	1893000	1850000	1838000	1816000	1815000
MIN	1702000	1785000	1780000	1776000	1785000	1771000	1782000	1803000	1779000	1760000	1780000	1767000
(+)	131.90	131.04	130.90	131.49	132.46	131.12	131.22	131.72	130.89	131.19	130.96	130.74
(#)	+163000	-72000	-12000	+49000	+82000	-113000	+9000	+42000	-70000	+25000	-19000	-18000

CAL YR 1993 MAX 1980000 MIN 1690000 (#) -15000
WTR YR 1994 MAX 1928000 MIN 1702000 (#) +66000

(+) Elevation, in feet, at end of month.
(#) Change in contents, in acre-feet.

TRINITY RIVER MAIN STEM

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD---Chemical and biochemical analyses: October 1969 to current year.

303807095011101 - LIVINGSTON RES SITE AC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	ALKA- LITY WAT WH TOT FET FIELD MG/L AS CAC03	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)
FEB												
24...	1150	1910000	1.00	350	8.1	100	12.5	0.60	10.2	95	110	14
24...	1152	--	10.0	350	8.0	--	11.5	--	9.7	89	--	--
24...	1154	--	20.0	350	7.9	--	11.5	--	9.4	86	--	--
24...	1156	--	30.0	350	7.9	--	11.5	--	9.4	86	--	--
24...	1158	--	40.0	350	7.9	--	11.5	--	9.4	86	--	--
24...	1200	--	50.0	350	8.0	--	11.5	--	9.5	87	--	--
24...	1202	--	60.0	350	8.0	--	11.5	--	9.5	87	--	--
24...	1204	--	76.0	350	8.0	98	11.5	--	9.5	87	110	16
AUG												
23...	1122	1790000	1.00	330	8.9	108	30.0	1.10	7.3	96	110	3
23...	1124	--	10.0	340	7.5	--	29.0	--	3.0	39	--	--
23...	1126	--	20.0	340	7.5	--	29.0	--	2.7	35	--	--
23...	1128	--	30.0	345	7.4	--	28.5	--	0.5	6	--	--
23...	1130	--	40.0	345	7.4	--	28.0	--	0.5	6	--	--
23...	1132	--	50.0	345	7.3	--	27.5	--	0.4	5	--	--
23...	1134	--	60.0	345	7.3	--	24.0	--	0.4	5	--	--
23...	1136	--	71.0	370	7.1	128	22.0	--	0.3	3	120	0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
FEB												
24...	39	4.1	24	1	4.9	100	38	26	0.30	5.2	205	0.670
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	0.680
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	39	4.0	24	1	4.8	98	37	25	0.30	5.3	201	0.680
AUG												
23...	38	3.9	22	0.9	5.2	110	32	23	0.30	6.3	196	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	42	4.0	20	0.8	4.8	130	18	22	0.30	14	213	--

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB												
24...	0.670	0.020	0.690	0.690	0.060	0.34	0.40	0.070	0.050	0.15	21	<1
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	0.680	0.020	0.700	0.700	0.060	0.34	0.40	0.070	0.060	0.18	20	20
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	0.680	0.020	0.700	0.700	0.060	0.34	0.40	0.060	0.050	0.15	4	<1
AUG												
23...	--	<0.010	--	<0.050	0.010	0.29	0.30	0.080	0.070	0.21	4	15
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	0.010	--	<0.050	0.100	0.30	0.40	0.160	0.150	0.46	<10	60
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	<0.010	--	<0.050	0.420	0.38	0.80	0.370	0.350	1.1	250	320
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	<0.010	--	<0.050	1.90	0.40	2.3	1.80	1.80	5.5	1500	1200

TRINITY RIVER MAIN STEM

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08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

303821095005001 - LIVINGSTON RES SITE AL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
24...	1230	1.00	350	8.0	12.5	0.60	10.2	95
24...	1232	10.0	350	7.9	11.5	--	9.3	85
24...	1234	20.0	350	7.9	11.5	--	9.3	85
24...	1236	30.0	350	7.9	11.5	--	9.3	85
24...	1238	40.0	350	7.9	11.5	--	9.3	85
24...	1240	53.0	350	8.0	11.5	--	9.3	85
AUG								
23...	1205	1.00	330	8.8	30.0	1.10	7.3	96
23...	1207	10.0	340	7.5	28.5	--	2.5	32
23...	1209	20.0	345	7.4	28.5	--	2.5	32
23...	1211	30.0	345	7.4	28.0	--	2.7	34
23...	1213	40.0	360	7.3	27.0	--	4.8	60
23...	1215	52.0	390	7.3	27.0	--	5.4	68

303935095055401 - LIVINGSTON RES SITE BC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
24...	1105	1.00	350	8.0	12.0	0.55	10.3	95
24...	1107	10.0	350	8.0	11.5	--	9.8	90
24...	1109	20.0	350	8.0	11.5	--	9.7	89
24...	1111	30.0	350	8.0	11.5	--	9.5	87
24...	1113	40.0	350	8.0	11.5	--	9.5	87
24...	1115	50.0	350	8.0	11.5	--	9.5	87
24...	1117	61.0	350	7.9	11.5	--	9.5	87
AUG								
23...	1045	1.00	340	8.4	29.0	0.95	4.3	56
23...	1047	10.0	340	8.3	29.0	--	4.3	56
23...	1049	20.0	340	8.2	29.0	--	3.8	49
23...	1051	30.0	340	7.9	29.0	--	2.1	27
23...	1053	40.0	350	7.5	28.5	--	0.2	3
23...	1055	50.0	355	7.3	27.0	--	0.2	3
23...	1057	57.0	385	7.0	24.5	--	0.2	2

304144095073001 - LIVINGSTON RES SITE CC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
24...	1035	1.00	395	7.9	13.5	0.45	9.6	92
24...	1037	10.0	395	7.9	13.0	--	9.6	91
24...	1039	20.0	360	8.0	12.5	--	9.4	88
24...	1041	30.0	355	8.0	12.0	--	9.6	89
24...	1043	40.0	355	8.0	12.0	--	9.6	89
24...	1045	50.0	355	8.0	12.0	--	9.5	88
24...	1047	56.0	355	8.0	11.5	--	9.5	87
AUG								
23...	1000	1.00	340	8.4	29.0	0.90	4.9	64
23...	1002	10.0	340	8.3	29.0	--	4.5	58
23...	1004	20.0	340	8.3	29.0	--	4.4	57
23...	1006	30.0	340	8.2	29.0	--	3.9	51
23...	1008	40.0	340	8.0	29.0	--	3.2	42
23...	1010	51.0	380	7.2	27.0	--	0.2	3

TRINITY RIVER MAIN STEM

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

304521095075501 - LIVINGSTON RES SITE DC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
FEB											
24...	0955	1.00	370	8.0	13.0	0.40	9.2	87	1.08	1.08	0.020
24...	0957	10.0	370	7.9	12.5	--	8.8	82	--	--	--
24...	0959	20.0	370	7.9	12.5	--	8.8	82	--	--	--
24...	1001	30.0	365	7.9	12.5	--	8.8	82	--	--	--
24...	1003	40.0	365	7.9	12.5	--	8.8	82	--	--	--
24...	1005	50.0	365	7.9	12.5	--	8.8	82	--	--	--
24...	1007	58.0	365	7.9	12.5	--	8.8	82	1.08	1.08	0.020
AUG											
23...	0915	1.00	340	8.5	29.5	0.75	5.4	71	--	--	<0.010
23...	0917	10.0	340	8.5	29.0	--	5.2	67	--	--	--
23...	0919	20.0	340	8.5	29.0	--	5.2	67	--	--	--
23...	0921	30.0	340	8.5	29.0	--	5.2	67	--	--	--
23...	0923	40.0	340	8.4	29.0	--	5.0	65	--	--	--
23...	0925	50.0	340	8.4	29.0	--	5.0	65	--	--	--
23...	0927	56.0	340	8.4	29.0	--	4.9	64	--	--	<0.010

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB										
24...	1.10	1.10	0.090	0.41	0.50	0.110	0.100	0.31	20	30
24...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
24...	1.10	1.10	0.100	0.50	0.60	0.130	0.090	0.28	30	40
AUG										
23...	--	<0.050	0.020	0.28	0.30	0.130	0.120	0.37	<10	<10
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	<0.050	0.060	0.34	0.40	0.130	0.120	0.37	<10	30

304453095064901 - LIVINGSTON RES SITE DL

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
24...	0930	1.00	390	8.0	13.5	0.40	8.9	85
24...	0932	10.0	390	8.0	13.0	--	8.6	81
24...	0934	22.0	390	8.0	13.0	--	8.6	81
AUG								
23...	0855	1.00	335	8.6	29.0	0.80	6.4	83
23...	0857	10.0	335	8.6	29.0	--	6.4	83
23...	0859	16.0	335	8.6	29.0	--	6.2	80

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

304659095052001 - LIVINGSTON RES SITE EC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
FEB											
24...	0900	1.00	325	8.1	12.5	0.45	8.8	82	0.570	0.570	0.020
24...	0902	10.0	325	8.1	12.5	--	8.7	81	--	--	--
24...	0904	20.0	330	8.3	12.0	--	8.8	81	--	--	--
24...	0906	32.0	330	8.2	12.0	--	8.7	80	0.580	0.580	0.020
AUG											
23...	0830	1.00	340	8.5	29.0	0.70	4.8	62	--	--	0.010
23...	0832	10.0	340	8.5	29.0	--	4.9	64	--	--	--
23...	0834	20.0	340	8.5	29.0	--	5.0	65	--	--	--
23...	0836	29.0	340	8.4	28.5	--	5.0	64	--	--	0.010

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB										
24...	0.590	0.590	0.100	0.40	0.50	0.050	0.040	0.12	40	30
24...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
24...	0.600	0.600	0.110	0.49	0.60	0.060	0.050	0.15	30	30
AUG										
23...	--	<0.050	0.040	0.26	0.30	0.130	0.120	0.37	<10	<10
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	<0.050	0.050	0.25	0.30	0.130	0.120	0.37	<10	20

304843095104001 - LIVINGSTON RES SITE FC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
24...	1330	1.00	360	8.0	14.5	0.20	8.6	84
24...	1332	10.0	360	8.0	14.0	--	8.5	82
24...	1334	20.0	360	7.8	13.5	--	8.2	78
24...	1336	30.0	360	7.8	13.5	--	8.1	77
24...	1338	40.0	360	7.8	13.5	--	8.1	77
24...	1340	50.0	350	7.8	13.5	--	8.0	76
24...	1342	60.0	350	7.9	13.5	--	8.0	76
AUG								
23...	1410	1.00	325	8.6	29.5	0.70	5.4	71
23...	1412	10.0	330	8.3	29.0	--	4.3	56
23...	1414	20.0	330	8.2	29.0	--	3.8	49
23...	1416	30.0	330	8.3	29.0	--	3.9	51
23...	1418	40.0	330	8.3	29.0	--	4.1	53
23...	1420	50.0	330	8.4	29.0	--	4.2	54
23...	1422	57.0	330	8.4	29.0	--	4.2	54

305411095144901 - LIVINGSTON RES SITE GC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CAC03	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
FEB												
25...	0840	1.00	215	7.9	49	14.0	0.10	5.9	57	66	17	22
25...	0842	10.0	215	8.0	--	14.0	--	5.9	57	--	--	--
25...	0844	20.0	210	8.1	--	14.0	--	5.9	57	--	--	--
25...	0846	30.0	200	8.4	--	13.5	--	5.8	56	--	--	--
25...	0848	40.0	200	8.4	--	13.5	--	5.8	56	--	--	--
25...	0850	49.0	200	8.3	51	13.5	--	5.7	55	62	11	21
AUG												
22...	1140	1.00	350	8.2	92	29.0	0.60	4.2	55	98	6	33
22...	1142	10.0	355	8.0	--	29.0	--	3.4	44	--	--	--
22...	1144	20.0	355	8.0	--	29.0	--	3.3	43	--	--	--
22...	1146	30.0	365	7.9	--	28.5	--	3.1	40	--	--	--
22...	1148	44.0	370	7.8	100	28.5	--	3.0	39	110	11	38

TRINITY RIVER MAIN STEM

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

305411095144901 - LIVINGSTON RES SITE GC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
FEB												
25...	2.6	14	0.8	4.1	49	25	16	0.20	6.8	123	0.620	0.620
25...	--	--	--	--	--	--	--	--	--	--	0.650	0.650
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	2.3	12	0.7	3.8	51	21	14	0.20	6.7	115	0.550	0.550
AUG												
22...	3.7	25	1	5.3	92	35	26	0.40	6.6	191	0.100	0.100
22...	--	--	--	--	--	--	--	--	--	--	0.160	0.160
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	3.9	28	1	5.2	100	36	27	0.40	6.6	208	0.430	0.430

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB											
25...	0.020	0.640	0.640	0.060	0.44	0.50	0.090	0.070	0.21	58	6
25...	--	--	--	--	--	--	--	--	--	--	--
25...	0.030	0.680	0.680	0.070	0.53	0.60	0.090	0.080	0.25	70	20
25...	--	--	--	--	--	--	--	--	--	--	--
25...	0.020	0.570	0.570	0.060	0.44	0.50	0.110	0.080	0.25	120	4
AUG											
22...	0.050	0.150	0.150	0.110	0.29	0.40	0.120	0.110	0.34	<3	2
22...	--	--	--	--	--	--	--	--	--	--	--
22...	0.060	0.220	0.220	0.140	0.36	0.50	0.120	0.110	0.34	<10	20
22...	--	--	--	--	--	--	--	--	--	--	--
22...	0.070	0.500	0.500	0.180	0.42	0.60	0.120	0.110	0.34	8	53

305447095161401 - LIVINGSTON RES SITE HC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
FEB											
25...	0920	1.00	205	7.0	14.0	--	6.6	64	0.170	0.170	0.010
25...	0922	10.0	225	7.2	14.0	--	6.6	64	--	--	--
25...	0924	20.0	225	7.3	14.0	--	6.6	64	--	--	--
25...	0926	30.0	225	7.4	14.0	--	6.5	63	--	--	--
25...	0928	40.0	245	7.5	14.0	--	5.8	56	0.710	0.710	0.020
AUG											
22...	1225	1.00	350	8.2	29.5	0.55	5.1	67	0.047	0.047	0.030
22...	1227	10.0	350	7.9	29.5	--	3.6	47	--	--	--
22...	1229	20.0	350	7.9	29.5	--	3.0	39	--	--	--
22...	1231	30.0	355	7.8	29.0	--	3.0	39	--	--	--
22...	1233	38.0	355	7.9	29.0	--	3.0	39	0.070	0.070	0.040

TRINITY RIVER MAIN STEM

505

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

305447095161401 - LIVINGSTON RES SITE HC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB										
25...	0.180	0.180	0.090	0.51	0.60	0.020	0.020	0.06	170	90
25...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
25...	0.730	0.730	0.080	0.62	0.70	0.110	0.070	0.21	100	50
AUG										
22...	0.077	0.077	0.070	0.33	0.40	0.110	0.090	0.28	<10	20
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	0.110	0.110	0.180	0.32	0.50	0.120	0.110	0.34	<10	50

305135095193601 - LIVINGSTON RES SITE IC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
FEB								
25...	1105	1.00	200	6.9	14.5	0.10	6.3	62
25...	1107	10.0	200	6.9	14.5	--	6.3	62
25...	1109	20.0	200	6.9	14.5	--	6.3	62
25...	1111	30.0	200	6.8	14.5	--	6.3	62
25...	1113	42.0	200	6.8	14.5	--	6.3	62
AUG								
22...	1420	1.00	400	8.2	30.0	0.60	6.6	87
22...	1422	10.0	400	7.7	29.5	--	4.1	54
22...	1424	20.0	400	7.6	29.5	--	3.6	47
22...	1426	30.0	410	7.4	29.0	--	2.1	27
22...	1428	39.0	410	7.3	29.0	--	2.0	26

305135095235401 - LIVINGSTON RES SITE JC

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	ALKA- LITY WAT WH TOT FET FIELD MG/L AS CAC03	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CAC03)	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
FEB												
25...	1135	1.00	205	7.1	51	15.0	0.10	6.5	65	65	14	22
25...	1137	10.0	205	7.1	--	14.5	--	6.4	63	--	--	--
25...	1139	20.0	205	7.1	--	14.5	--	6.4	63	--	--	--
25...	1141	30.0	205	7.1	--	14.0	--	6.4	62	--	--	--
25...	1143	42.0	205	7.0	50	14.0	--	6.5	63	63	13	21
AUG												
22...	1510	1.00	395	8.3	98	30.0	0.55	7.7	102	120	23	41
22...	1512	10.0	395	8.0	--	30.0	--	5.4	71	--	--	--
22...	1514	20.0	395	7.9	--	30.0	--	5.1	67	--	--	--
22...	1516	30.0	395	7.5	--	29.5	--	3.3	43	--	--	--
22...	1518	37.0	395	7.4	102	29.5	--	2.6	34	120	18	41

TRINITY RIVER MAIN STEM

08066190 LIVINGSTON RESERVOIR NEAR GOODRICH, TX--Continued

305135095235401 - LIVINGSTON RES SITE JC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
FEB												
25...	2.5	13	0.7	4.1	51	21	14	0.20	7.1	117	0.560	0.560
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	2.5	12	0.7	3.8	50	21	14	0.20	6.8	114	0.560	0.560
AUG												
22...	4.5	31	1	5.8	98	40	37	0.30	8.1	234	1.58	1.58
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	1.67	1.67
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	4.3	29	1	5.5	100	39	34	0.30	8.1	230	1.67	1.67

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB											
25...	0.020	0.580	0.580	0.060	0.34	0.40	0.090	0.080	0.25	70	20
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
25...	0.020	0.580	0.580	0.060	0.44	0.50	0.100	0.080	0.25	130	20
AUG											
22...	0.020	1.60	1.60	0.010	0.29	0.30	0.110	0.100	0.31	<3	1
22...	--	--	--	--	--	--	--	--	--	--	--
22...	0.030	1.70	1.70	0.040	0.36	0.40	0.120	0.120	0.37	<10	10
22...	--	--	--	--	--	--	--	--	--	--	--
22...	0.030	1.70	1.70	0.060	0.24	0.30	0.140	0.130	0.40	4	53

TRINITY RIVER MAIN STEM

507

08066191 LIVINGSTON RESERVOIR AT OUTFLOW WEIR NEAR GOODRICH, TX

LOCATION.--Lat 30°37'55", long 95°01'11", San Jacinto County, Hydrologic Unit 12030202, at end of conduit into stilling basin, 1,700 ft to right of right spillway abutment, 4.8 mi northwest of Goodrich, 11.7 mi upstream from Long King Creek, and at mile 129.2.

DRAINAGE AREA.--16,583 mi².

PERIOD OF RECORD.--August 1969 to current year.

Water-quality records.--Chemical and biochemical analyses: October 1969 to September 1972.

GAGE.--Water-stage recorder, concrete control, and crest-stage gage. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Trinity River Authority). Oct. 1, 1974, to Jan. 30, 1976, staff gage and control only.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. For details concerning outlet works, see Livingston Reservoir (station 08066190). The purpose of this station is to record selective withdrawal releases at outflow weir, crest 61.90 ft. These releases do not constitute the total flow from Livingston Reservoir since flow through tainter gates is not included in these totals.

AVERAGE DISCHARGE.--25 years, 200 ft³/s (144,900 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,990 ft³/s Jan 7, 1982; maximum elevation not determined, but probably occurred between May 16 and May 23, 1990; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 508 ft³/s Sept. 26, 27, 30; maximum elevation, 63.38 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	278	.00	347	354	193	.00	e420	e420	.00	e420	314	295
2	304	.00	348	353	360	.00	e420	e420	.00	e420	298	289
3	301	.00	352	357	360	.00	e420	e192	.00	e420	266	297
4	296	.00	357	360	356	.00	e420	.00	.00	e420	255	305
5	294	.00	350	360	354	.00	e420	.00	.00	e420	331	321
6	290	.00	347	362	347	.00	e420	.00	.00	e420	334	337
7	289	.00	344	364	354	.00	e420	.00	.00	e420	313	346
8	288	.00	355	365	353	.00	e420	.00	.00	e420	323	356
9	288	.00	366	365	351	.00	e420	.00	.00	e420	329	346
10	280	.00	362	367	334	.00	e420	.00	.00	e420	337	325
11	268	.00	363	371	348	.00	e420	.00	.00	e235	318	283
12	274	.00	358	369	346	.00	e420	.00	.00	235	343	233
13	287	22	255	367	349	.00	e262	.00	.00	273	337	.00
14	296	353	.00	367	345	.00	.00	.00	.00	336	313	.00
15	306	340	.00	374	344	.00	.00	.00	.00	329	322	453
16	307	347	.00	368	345	.00	.00	.00	.00	329	337	503
17	320	351	.00	372	343	.00	.00	.00	146	345	352	505
18	327	352	.00	366	343	.00	e18	.00	276	364	356	502
19	323	356	.00	366	353	.00	e420	.00	288	365	337	504
20	336	351	.00	367	353	.00	e420	.00	296	367	268	505
21	346	344	.00	366	190	.00	e420	.00	294	341	254	507
22	344	348	.00	365	.00	e140	e420	.00	300	338	277	507
23	347	343	.00	365	.00	e420	e420	.00	312	330	296	503
24	242	350	.00	368	.00	e420	e420	.00	315	334	302	504
25	.00	336	.00	369	.00	e420	e420	.00	321	353	98	507
26	.00	326	.00	367	.00	e420	e420	.00	e420	316	261	508
27	.00	314	26	240	.00	e420	e420	.00	e420	305	282	508
28	.00	325	352	.00	.00	e420	e420	.00	e420	280	296	507
29	.00	340	342	.00	---	e420	e420	.00	e420	256	303	505
30	.00	345	343	.00	---	e420	e420	.00	e420	304	313	508
31	.00	---	350	.00	---	e420	---	.00	---	310	314	---
TOTAL	7231.00	5843.00	5917.00	9734.00	7021.00	3920.00	10360.00	1032.00	4648.00	10845	9379	11769.00
MEAN	233	195	191	314	251	126	345	33.3	155	350	303	392
MAX	347	356	366	374	360	420	420	420	420	420	356	508

CAL YR 1993 TOTAL 62537.50 MEAN 171 MAX 470
WTR YR 1994 TOTAL 87699.00 MEAN 240 MAX 508

e Estimated

TRINITY RIVER BASIN

08066200 LONG KING CREEK AT LIVINGSTON, TX

LOCATION.--Lat 30°42'58", long 94°57'31", Polk County, Hydrologic Unit 12030202, on right bank at downstream side of bridge on U.S. Highway 190, 2 mi west of Livingston, 2 mi upstream from Choates Creek, and 14.8 mi upstream from mouth.

DRAINAGE AREA.--141 mi².

PERIOD OF RECORD.--January 1963 to current year.

Water-quality records.--Chemical analyses: January 1963 to September 1974.

GAGE.--Water-stage recorder. Datum of gage is 100.12 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. No known diversions above station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1870, about 41 ft in May 1929.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,600 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	1730	4,420	13.77	May 14	0930	7,510	17.89

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.81	4.6	6.2	8.1	51	e400	15	14	49	4.8	1.4	150
2	.81	4.6	6.2	8.9	e40	e300	15	13	32	4.6	1.4	25
3	1.8	5.8	7.0	8.9	e33	151	15	573	24	4.2	1.4	14
4	1.5	7.4	111	8.3	e25	83	14	236	21	4.0	2.4	12
5	1.3	6.8	56	8.0	e18	70	23	64	18	4.1	4.7	7.2
6	1.3	5.7	19	7.8	e16	56	283	33	16	4.0	3.3	5.0
7	1.3	5.0	12	7.7	e14	50	92	23	14	3.8	2.8	3.9
8	1.3	4.8	9.5	7.5	e12	42	40	19	12	3.6	4.9	3.2
9	1.3	5.9	8.3	7.3	e18	625	28	21	11	3.8	9.8	3.2
10	1.3	6.2	7.4	6.6	e2200	519	22	487	144	6.0	7.5	5.3
11	1.3	6.2	6.8	11	e1000	174	21	221	476	4.8	5.4	13
12	4.2	6.0	5.5	15	e400	95	200	77	443	4.8	3.7	7.1
13	3.6	5.8	17	16	e250	68	116	460	128	4.3	2.4	5.4
14	3.5	14	79	13	e140	53	41	4850	37	3.9	2.4	4.4
15	2.8	30	26	11	e65	46	29	550	22	4.6	2.5	193
16	2.5	25	15	9.7	e45	41	41	214	16	4.2	2.0	18
17	2.7	31	12	11	e34	36	39	108	14	3.8	1.8	8.8
18	2.7	22	11	15	e25	34	24	66	12	3.2	1.4	6.3
19	2.6	13	13	14	e20	32	19	44	15	2.9	1.3	5.0
20	21	9.8	18	11	e1600	30	66	33	17	3.3	1.3	4.1
21	52	8.1	19	9.9	e780	29	37	28	19	3.1	3.9	3.4
22	24	7.6	43	9.1	e2600	27	21	24	15	2.7	21	3.2
23	11	7.1	125	8.9	e1000	25	16	22	11	2.4	9.0	2.7
24	7.2	6.8	41	8.9	e300	25	15	20	10	2.5	5.3	2.4
25	5.7	6.7	23	10	e160	25	14	19	8.8	2.4	3.7	2.2
26	5.0	6.5	16	49	e90	23	13	17	7.2	2.0	3.3	2.0
27	4.5	6.4	13	1940	e65	23	12	67	6.1	1.9	3.6	2.0
28	4.2	6.2	12	1530	e54	23	11	40	5.3	1.6	3.3	2.0
29	4.5	6.2	11	238	---	20	11	139	4.9	1.4	2.6	1.9
30	5.9	6.2	9.7	116	---	17	16	245	4.8	1.4	2.3	1.7
31	5.0	---	8.6	72	---	17	---	59	---	1.4	38	---
TOTAL	188.62	287.4	767.2	4197.6	11055	3159	1309	8786	1613.1	105.5	159.8	517.4
MEAN	6.08	9.58	24.7	135	395	102	43.6	283	53.8	3.40	5.15	17.2
MAX	52	31	125	1940	2600	625	283	4850	476	6.0	38	193
MIN	.81	4.6	5.5	6.6	12	17	11	13	4.8	1.4	1.3	1.7
AC-FT	374	570	1520	8330	21930	6270	2600	17430	3200	209	317	1030
CFSM	.04	.07	.18	.96	2.80	.72	.31	2.01	.38	.02	.04	.12
IN.	.05	.08	.20	1.11	2.92	.83	.35	2.32	.43	.03	.04	.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1994, BY WATER YEAR (WY)

	30.8	73.2	126	166	175	148	139	148	147	38.6	16.4	22.2
MEAN	30.8	73.2	126	166	175	148	139	148	147	38.6	16.4	22.2
MAX	292	689	491	966	629	640	844	662	869	493	191	186
(WY)	1974	1974	1974	1974	1992	1990	1979	1969	1989	1989	1983	1973
MIN	.18	.92	2.83	2.79	5.53	3.75	4.06	4.98	.72	.000	.000	.15
(WY)	1966	1989	1971	1971	1971	1971	1971	1978	1971	1971	1971	1967

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1964 - 1994

ANNUAL TOTAL	38224.51	32145.62	102
ANNUAL MEAN	105	88.1	256
HIGHEST ANNUAL MEAN			1973
LOWEST ANNUAL MEAN			12.3
HIGHEST DAILY MEAN	4780 Jan 20	4850 May 14	15900 May 18 1989
LOWEST DAILY MEAN	.81 Oct 1	.81 Oct 1	.00 Aug 5 1965
ANNUAL SEVEN-DAY MINIMUM	.97 Sep 26	1.3 Oct 1	.00 Jun 28 1971
INSTANTANEOUS PEAK FLOW		7510 May 14	27600 May 18 1989
INSTANTANEOUS PEAK STAGE		17.89 May 14	27.27 May 18 1989
ANNUAL RUNOFF (AC-FT)	75820	63760	73930
ANNUAL RUNOFF (CFSM)	.74	.62	.72
ANNUAL RUNOFF (INCHES)	10.08	8.48	9.83
10 PERCENT EXCEEDS	148	139	149
50 PERCENT EXCEEDS	13	12	12
90 PERCENT EXCEEDS	1.9	2.4	.86

e Estimated

TRINITY RIVER MAIN STEM

509

08066250 TRINITY RIVER NEAR GOODRICH, TX

LOCATION.--Lat 30°34'19", long 94°56'55", Polk-San Jacinto County line, Hydrologic Unit 12030202, on left bank at downstream bridge on U.S. Highway 59, 0.2 mi downstream from Long King Creek, 3.0 mi southeast of Goodrich, 11.9 mile downstream from Livingston Dam, and at mile 117.3.

DRAINAGE AREA.--16,844 mi².

PERIOD OF RECORD.--December 1965 to current year.
Water-quality records.--March 1966 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 40.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Twenty-two major reservoirs with a capacity of 6,246,000 acre-ft, of which 1,362,000 acre-ft is for flood control, partly regulate the flow. See station 08065000 for statement regarding floodwater-retarding structures.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1929, 52.0 ft in May 1942, from information by Texas Department of Transportation and by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	756	19700	2160	2610	7520	25500	3340	3740	19200	2190	5500	1690
2	753	21200	2150	2170	6510	25800	4560	4020	19200	1840	4180	1600
3	756	21800	2170	2130	5280	26600	4610	6670	19200	1740	3750	1660
4	753	21800	2670	1990	4500	26900	4610	11700	19200	1720	3730	1590
5	751	21800	2880	1690	4610	27000	4630	12700	19300	1720	4000	1550
6	744	19700	2810	1660	4490	27000	4750	12900	19100	1720	4460	1690
7	744	14900	2930	1650	3170	26900	4490	14000	18600	1710	3880	3350
8	745	12200	4360	1640	2930	26900	3920	14600	15400	1700	4040	4320
9	749	11800	5610	1640	2970	29100	3870	14700	11500	1710	4470	4350
10	746	11700	5810	1650	7280	28100	3180	15800	11800	1700	4480	4370
11	740	10900	6410	1660	8050	26400	2960	19300	12000	1680	4250	3990
12	752	9640	6490	1660	5740	24100	3400	22800	12000	1670	2400	2870
13	765	8040	6700	1640	5120	22900	6690	24800	11500	1660	2070	2670
14	758	6820	7730	1630	5010	21200	7980	29200	10900	1660	2030	2420
15	749	6610	7800	1630	4920	19700	8050	30400	9080	1660	1630	2240
16	748	6600	7770	1640	4810	18900	8040	29700	7480	1660	1580	2180
17	740	6610	7770	1640	4640	16700	8050	29300	6800	2020	1560	2030
18	735	6550	7990	1640	4090	15000	8030	26900	6000	4360	1540	1400
19	740	6530	8900	1630	3930	14600	7040	24200	5940	5500	1540	1340
20	948	6510	10400	1630	3010	14600	6450	22900	5660	6820	1550	1330
21	3610	6510	10600	1630	6830	12100	4420	22300	5520	7400	1590	1320
22	4490	6500	10600	1630	13800	8340	3550	20800	5420	7440	1560	1330
23	4720	6510	10700	1630	23200	6140	2820	19100	3660	7450	1600	1330
24	6440	6510	10600	1750	24600	5960	2210	18900	3070	7460	1570	1310
25	9280	6470	10200	2020	25500	5470	2150	18900	2420	7450	1470	1310
26	11400	6170	9560	2050	25500	4760	2150	19000	2270	7440	1530	1320
27	11600	4080	9200	6310	25400	4720	2150	19000	2210	7430	1530	1310
28	14400	2660	7120	13900	25400	4200	2140	19100	2220	7350	1530	1310
29	17500	2210	4760	12400	---	2530	2130	19300	2220	6720	1530	1310
30	18100	2180	2960	11400	---	2270	2700	19600	2210	6630	1530	1310
31	19500	---	2800	8510	---	2280	---	19300	---	6620	1560	---
TOTAL	136212	301210	200610	98460	268810	522670	135070	585630	291080	125830	79640	61800
MEAN	4394	10040	6471	3176	9600	16860	4502	18890	9703	4059	2569	2060
MAX	19500	21800	10700	13900	25500	29100	8050	30400	19300	7460	5500	4370
MIN	735	2180	2150	1630	2930	2270	2130	3740	2210	1660	1470	1310
AC-FT	270200	597400	397900	195300	533200	1037000	267900	1162000	577400	249600	158000	122600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1994, BY WATER YEAR (WY)

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	3108	6092	8142	8614	9604	11530	10760	14110	12730	4853	2226	2224																
MAX	25630	30260	30270	45550	38660	40490	30750	57850	32120	24310	6819	15230																
(WY)	1974	1975	1992	1992	1992	1992	1977	1990	1973	1989	1982	1974																
MIN	283	449	317	321	472	724	1262	1294	907	1043	355	455																
(WY)	1973	1971	1971	1971	1971	1981	1971	1971	1972	1971	1972	1971																

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1967 - 1994

ANNUAL TOTAL	4118690	2807022	
ANNUAL MEAN	11280	7690	
HIGHEST ANNUAL MEAN			7819
LOWEST ANNUAL MEAN			18310
HIGHEST DAILY MEAN	58400	Jun 27	30400 May 15
LOWEST DAILY MEAN	735	Oct 18	735 Oct 18
ANNUAL SEVEN-DAY MINIMUM	746	Oct 5	746 Oct 5
INSTANTANEOUS PEAK FLOW			31600 May 14
INSTANTANEOUS PEAK STAGE			29.63 May 14
ANNUAL RUNOFF (AC-FT)	8169000	5568000	5664000
10 PERCENT EXCEEDS	23900	19700	22500
50 PERCENT EXCEEDS	7650	4610	2700
90 PERCENT EXCEEDS	1010	1530	697

TRINITY RIVER BASIN
08066295 MENARD CREEK NEAR FUQUA, TX
(National water-quality assessment program)

WATER-QUALITY RECORDS

LOCATION.--Lat 30°27'42", long 94°43'22", Liberty County, 1.5 mi downstream from Menard Creek at Rye, Texas, 0.8 mi west of Hwy 105.

DRAINAGE AREA.--109 mi².

PERIOD OF RECORD.--Chemical and biochemical analyses: April 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CAC03)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	
NOV 17...	1806	142	56	5.5	16.0	8.0	80	12	8	3.2	1.0	5.0	
DEC 14...	1154	40	62	5.5	13.5	8.8	85	15	2	3.9	1.2	8.0	
JAN 20...	1510	32	69	5.3	8.5	10.8	91	17	4	4.8	1.1	7.8	
FEB 09...	1410	44	70	6.2	16.5	8.2	84	15	5	3.9	1.2	6.7	
MAR 16...	1058	113	55	6.3	17.0	8.5	88	14	6	3.8	1.0	5.4	
APR 07...	1148	64	58	6.2	14.5	9.5	92	15	5	4.0	1.1	5.3	
MAY 11...	1140	97	49	6.0	23.0	6.4	74	13	6	3.6	0.95	4.7	
24...	1415	44	68	5.5	22.5	7.0	81	16	4	3.9	1.4	7.6	
JUN 14...	1640	35	43	6.6	25.0	6.3	77	11	3	3.0	0.86	3.4	
JUL 18...	1300	18	61	6.4	25.0	7.6	92	15	4	4.1	1.1	6.1	
AUG 10...	1558	18	57	5.7	24.0	7.6	90	13	2	3.6	0.99	5.6	
SEP 27...	1544	10	62	6.3	19.0	7.5	81	19	8	6.0	1.0	5.5	
DATE		SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CAC03	ALKA-LINITY WAT DIS FIX END FIELD (MG/L AS CAC03	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV 17...		0.6	1.5	0	5	4	--	4.8	11	0.20	9.5	83	39
DEC 14...		0.9	1.0	0	16	14	--	3.0	12	0.10	14	57	52
JAN 20...		0.8	0.90	0	15	14	--	2.5	13	<0.10	13	62	51
FEB 09...		0.8	0.70	--	--	--	9.3	3.8	12	<0.10	13	59	48
MAR 16...		0.6	0.90	0	9	8	--	4.1	11	<0.10	11	47	42
APR 07...		0.6	0.80	0	11	9	--	2.3	12	0.10	12	57	44
MAY 11...		0.6	0.80	0	8	6	--	2.5	11	<0.10	9.8	66	39
24...		0.8	0.90	--	--	--	12	2.9	12	<0.10	16	67	54
JUN 14...		0.4	1.1	0	10	7	--	2.4	7.0	<0.10	8.0	66	31
JUL 18...		0.7	0.70	0	13	10	--	1.5	12	<0.10	14	55	47
AUG 10...		0.7	0.90	0	14	11	--	1.5	10	0.20	13	51	43
SEP 27...		0.5	0.90	0	13	11	--	1.1	14	<0.10	16	58	52

TRINITY RIVER BASIN

511

08066295 MENARD CREEK NEAR FUQUA, TX--Continued
(National water-quality assessment program)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
NOV 17...	--	--	<0.010	--	<0.050	0.020	0.40	0.38	0.38	0.40	0.40
DEC 14...	0.078	0.078	0.020	0.098	0.098	0.030	0.30	0.17	0.17	0.20	0.20
JAN 20...	0.047	0.047	0.030	0.077	0.077	0.010	--	--	--	<0.20	<0.20
FEB 09...	0.090	0.090	0.020	0.110	0.110	0.010	0.41	0.29	--	<0.20	0.30
MAR 16...	0.049	0.049	0.020	0.069	0.069	0.030	0.47	0.37	0.37	0.40	0.40
APR 07...	0.083	--	<0.010	0.083	0.083	0.040	0.38	0.26	--	<0.20	0.30
MAY 11...	0.110	0.110	0.010	0.120	0.120	0.060	0.62	0.44	0.34	0.40	0.50
24...	0.280	--	<0.010	0.280	0.280	0.040	0.58	0.26	0.16	0.20	0.30
JUN 14...	--	--	<0.010	--	<0.050	0.040	0.60	0.56	0.46	0.50	0.60
JUL 18...	0.140	--	<0.010	0.140	0.140	0.020	--	--	--	<0.20	<0.20
AUG 10...	--	--	<0.010	--	<0.050	0.020	--	--	0.18	0.20	<0.20
SEP 27...	0.100	--	<0.010	0.100	0.100	0.020	--	--	--	<0.20	<0.20
DATE	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 17...	0.030	<0.010	<0.010	--	16	1.0	25	9.6	97	620	72
DEC 14...	0.020	0.020	0.010	0.03	7.2	0.4	5	0.54	91	700	39
JAN 20...	<0.010	<0.010	<0.010	--	4.3	0.2	2	0.17	90	470	20
FEB 09...	0.020	<0.010	<0.010	--	5.5	0.3	7	0.83	90	280	67
MAR 16...	0.010	0.010	<0.010	--	9.2	0.4	8	2.4	97	350	68
APR 07...	0.010	<0.010	<0.010	--	6.5	0.3	5	0.86	94	780	25
MAY 11...	0.020	<0.010	0.020	0.06	13	1.5	19	5.0	89	890	91
24...	0.050	0.020	0.030	0.09	4.0	0.4	7	0.83	97	970	54
JUN 14...	0.040	<0.010	<0.010	--	15	0.5	20	1.9	99	690	51
JUL 18...	0.010	<0.010	<0.010	--	2.9	0.2	7	0.34	57	510	48
AUG 10...	0.010	0.010	<0.010	--	2.6	0.2	3	0.15	95	360	43
SEP 27...	0.020	<0.010	<0.010	--	2.5	0.1	3	0.08	95	490	52

TRINITY RIVER BASIN

08066300 MENARD CREEK NEAR RYE, TX

LOCATION.--Lat 30°28'52", long 94°46'46", Liberty County, Hydrologic Unit 12030202, on left bank 20 ft downstream from bridge on State Highway 146, 2.3 mi northwest of Rye, and about 6 mi upstream from mouth.

DRAINAGE AREA.--152 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of of gage is 62.32 ft above National Geodetic Vertical Datum of 1929. September 1974 to August 1976, wire-weight gage read twice daily.

REMARKS.--No estimated daily discharges. Records good. No known diversions above station. Regulation by Bear Foot Lake on Mill Creek, located 0.5 mi upstream from station. A section of the dam on this lake washed out on June 26-27, 1986, and was repaired in 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1929 reached a stage of about 39.4 ft, from information by the Texas Department of Transportation. Flood in September 1961 reached a stage of about 34.0 ft, from information by local resident. Flood of May 1929 may have been equaled or exceeded by other floods during the period 1929-65.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 11	1430	1,860	20.16				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	22	35	45	113	234	64	98	181	40	20	21
2	19	22	35	45	94	316	61	172	109	38	20	20
3	19	22	37	45	82	268	59	409	100	36	19	26
4	19	23	124	44	76	235	57	231	101	35	19	36
5	18	24	118	43	73	161	57	192	94	35	20	41
6	18	25	100	42	69	130	67	133	123	33	20	33
7	18	24	72	42	66	114	78	89	138	32	23	27
8	18	23	58	40	64	103	88	71	85	41	31	24
9	18	23	54	40	64	454	77	77	64	44	35	22
10	18	22	57	40	167	600	65	221	73	54	31	21
11	18	24	48	41	328	1450	60	177	116	42	28	21
12	19	24	49	41	359	1100	97	136	200	37	27	22
13	16	23	57	42	529	519	119	126	495	34	25	21
14	15	27	56	46	468	255	125	640	452	33	27	21
15	17	27	56	48	184	189	92	615	240	32	26	21
16	18	75	55	45	132	162	81	831	123	31	25	20
17	17	175	54	44	113	143	80	798	96	30	28	20
18	16	133	51	42	101	131	70	471	82	30	24	21
19	16	85	49	45	93	119	61	239	74	29	22	23
20	19	66	52	44	92	111	55	146	75	27	21	20
21	31	53	50	44	133	104	52	109	99	26	21	18
22	45	45	55	42	347	97	51	88	103	24	22	18
23	42	41	67	41	941	91	50	76	133	24	27	17
24	34	40	78	41	770	87	48	68	123	25	29	17
25	26	39	77	52	1110	83	47	62	84	23	35	16
26	22	37	66	65	703	80	45	58	69	23	39	16
27	20	36	57	235	279	79	42	55	59	22	29	16
28	19	36	53	522	174	78	41	92	51	21	24	16
29	19	35	50	434	---	76	39	90	46	20	22	16
30	20	35	47	299	---	73	62	155	42	20	21	16
31	20	---	46	157	---	68	---	189	---	20	21	---
TOTAL	653	1286	1863	2796	7724	7710	1990	6914	3830	961	781	647
MEAN	21.1	42.9	60.1	90.2	276	249	66.3	223	128	31.0	25.2	21.6
MAX	45	175	124	522	1110	1450	125	831	495	54	39	41
MIN	15	22	35	40	64	68	39	55	42	20	19	16
AC-FT	1300	2550	3700	5550	15320	15290	3950	13710	7600	1910	1550	1280

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1994, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
42.6	81.2	154	201	219	174
186	514	457	777	727	510
1974	1975	1975	1974	1992	1992
3.42	3.55	8.05	14.6	14.0	13.5
1968	1968	1968	1971	1971	1971
214	159	70.4	45.7	45.5	192
757	788	464	354	192	1983
1983	1986	1989	1983	1983	1983
23.2	8.72	4.52	5.47	4.43	1967
1978	1971	1971	1967	1967	1967

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1967 - 1994

ANNUAL TOTAL	50983	37155	131
ANNUAL MEAN	140	102	279
HIGHEST ANNUAL MEAN			14.7
LOWEST ANNUAL MEAN			1975
HIGHEST DAILY MEAN	2390	1450	8110
LOWEST DAILY MEAN	15	15	2.6
ANNUAL SEVEN-DAY MINIMUM	16	16	2.9
INSTANTANEOUS PEAK FLOW		1860	13200
INSTANTANEOUS PEAK STAGE		20.16	30.78
ANNUAL RUNOFF (AC-FT)	101100	73700	94990
10 PERCENT EXCEEDS	313	208	282
50 PERCENT EXCEEDS	66	48	49
90 PERCENT EXCEEDS	21	20	13

TRINITY RIVER BASIN

08066300 MENARD CREEK NEAR RYE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: August 1950 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
DEC 08...	1055	58	84	14.5	18	8	4.9	1.4	9.6
JAN 26...	1100	62	103	16.0	19	8	5.4	1.3	13
MAR 08...	1150	102	67	19.0	15	6	4.3	1.1	6.9
MAY 09...	1312	62	81	23.5	17	6	5.0	1.2	8.8
JUN 27...	1230	59	74	26.5	18	3	5.1	1.2	8.8
AUG 09...	1325	34	107	26.0	19	4	5.4	1.3	13

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
DEC 08...	1	1.2	10	3.6	18	0.10	14	59
JAN 26...	1	0.90	11	2.5	24	<0.10	14	68
MAR 08...	0.8	0.70	9.0	4.2	12	<0.10	11	46
MAY 09...	0.9	2.9	11	2.6	18	<0.10	11	56
JUN 27...	0.9	0.90	15	1.9	14	<0.10	13	54
AUG 09...	1	1.0	15	1.5	24	0.10	13	68

08066500 TRINITY RIVER AT ROMAYOR, TX
(National stream-quality accounting network)

LOCATION.--Lat 30°25'30", long 94°51'02", Liberty County, Hydrologic Unit 12030202, near right bank at downstream side of bridge on State Highway 787, 1.9 mi south of Romayor, 1.9 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 3.7 mi downstream from Big Creek, and at mile 94.3.

DRAINAGE AREA.--17,186 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1924 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1392: 1932, 1935. WSP 1922: Drainage area. WDR TX-81-1: 1980(M, m).

GAGE.--Water-stage recorder. Datum of gage is 25.92 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1943, nonrecording gage at datum 63.57 ft higher at railroad bridge 1.9 mi upstream. Oct. 1, 1943 to Dec. 31, 1988, water-stage recorder and nonrecording gage (Sept. 15, 1975 to June 16, 1977) at present site and at datum 10.00 ft higher than current datum.

REMARKS.--Records good. Since Sept. 28, 1968, flow has been regulated by Livingston Reservoir (station 08066190), capacity 1,788,000 acre-ft, 35 mi upstream. There are no known large diversions between Livingston Reservoir and this station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--44 years (water years 1925-68) 7,155 ft³/s (5,184,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1925-68).--Maximum discharge, 111,000 ft³/s May 9, 1942 (gage height, 45.8 ft, from floodmark), present site and datum; minimum, 102 ft³/s Aug. 24, 25, 1956. Maximum stage since at least 1908, that of May 9, 1942.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	726	21400	2610	3440	10100	30500	3860	4510	21500	2660	6830	1570
2	718	20700	2600	2830	8600	30900	5690	4840	21300	2370	5230	1630
3	713	20900	2630	2640	7430	31500	6120	7430	21200	2100	4170	1640
4	695	22100	3240	2560	5960	32200	6150	12900	21200	2030	4080	1550
5	689	21800	3700	2080	5800	32100	6190	15200	20700	e2010	4200	1520
6	677	17800	3640	1970	5810	32200	6310	15300	21200	e2000	4860	1500
7	665	15400	3540	1930	4580	32200	6290	16100	20900	e1980	4530	2810
8	662	14700	4760	1910	3680	32100	5470	16900	18000	e1980	4290	4570
9	675	14100	6800	1890	3590	33900	5320	17100	14100	e1980	4920	4870
10	653	13400	7420	1910	6720	34200	4780	17900	12000	e1960	5000	4980
11	632	12300	8020	1920	10900	32000	4110	20800	10900	e1930	4960	5260
12	683	11900	8350	1920	8480	29400	4160	e24000	11000	e1900	3300	3910
13	727	10500	8440	1900	7160	26900	7390	e27600	11300	e1870	2200	3290
14	709	8410	9530	1880	6780	24800	10000	e30900	11900	e1850	2100	2980
15	668	e8510	9910	1880	6300	23000	10400	e35100	10000	e1830	1760	2670
16	655	e8950	9890	1870	6000	22200	10400	e34900	9230	e1810	1590	2610
17	637	e8390	9880	1900	5590	20000	10400	e34100	8580	e1900	1540	2460
18	634	e8590	9960	1880	4990	18300	10300	e32400	7210	e3420	1520	1850
19	625	e8500	10700	1870	4850	17400	9660	e28000	7060	5790	1500	1490
20	708	e8430	12400	1870	4080	17300	8770	e25800	6690	7430	1500	1450
21	2950	e8380	13000	1870	5790	15900	6780	e25000	6790	8600	1510	1440
22	5330	e8360	13000	1860	14400	11800	5080	e23500	6710	8770	1530	1430
23	5610	e8170	13100	1860	26000	8800	4060	e22100	5220	8790	1550	1410
24	7280	e6410	13100	1890	29800	8080	3250	e21100	3970	8800	1600	1410
25	10300	e4980	12800	2350	31000	7790	2920	21000	3380	8770	1510	1400
26	13200	e4660	12000	2500	31000	6620	2860	21000	2990	8770	1430	1400
27	13700	e5640	11700	5330	30500	6440	2850	21000	2850	8760	1490	1380
28	15800	e3850	10100	16000	30300	6130	2800	21100	2770	8730	1470	1350
29	19400	e2850	7210	15900	---	4170	2750	21300	2750	8110	1460	1350
30	20300	e2670	4360	14700	---	3410	2990	21800	2700	7780	1450	1350
31	21700	---	3520	11800	---	3290	---	21700	---	7780	1440	---
TOTAL	149121	332750	251910	118110	326190	635530	178110	662380	326100	144460	86520	68530
MEAN	4810	11090	8126	3810	11650	20500	5937	21370	10870	4660	2791	2284
MAX	21700	22100	13100	16000	31000	34200	10400	35100	21500	8800	6830	5260
MIN	625	2670	2600	1860	3590	3290	2750	4510	2700	1810	1430	1350
AC-FT	295800	660000	499700	234300	647000	1261000	353300	1314000	646800	286500	171600	135900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1994#, BY WATER YEAR (WY)

	MEAN	3298	6557	9010	9541	10760	12800	11180	14780	13620	5308	2507	2439
MAX	25380	30780	31470	51740	44510	46100	31340	60070	33140	26280	7021	14850	
(WY)	1974	1975	1992	1992	1992	1992	1977	1990	1989	1989	1982	1974	
MIN	326	449	351	347	450	909	1176	1303	952	936	404	469	
(WY)	1973	1971	1971	1971	1971	1981	1971	1971	1972	1971	1972	1971	

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR	FOR 1994 WATER YEAR	WATER YEARS 1969 - 1994#
ANNUAL TOTAL	4544400	3279711	
ANNUAL MEAN	12450	8986	8467
HIGHEST ANNUAL MEAN			20630
LOWEST ANNUAL MEAN			730
HIGHEST DAILY MEAN	61800	Jun 27	104000
LOWEST DAILY MEAN	625	Oct 19	292
ANNUAL SEVEN-DAY MINIMUM	662	Oct 14	297
INSTANTANEOUS PEAK FLOW			105000
INSTANTANEOUS PEAK STAGE			41.58
ANNUAL RUNOFF (AC-FT)	9014000	6505000	6134000
10 PERCENT EXCEEDS	25600	21800	24000
50 PERCENT EXCEEDS	9080	5800	2990
90 PERCENT EXCEEDS	1210	1480	836

e Estimated

Period of regulated streamflow.

08066500 TRINITY RIVER AT ROMAYOR, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1941 to November 1949, February 1950 to September 1951, October 1953 to current year. Chemical and biochemical analyses: February 1968 to current year. Pesticide analyses: February 1968 to July 1981, August 1983 to current year. Sediment records: March 1959 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1941 to September 1942, January 1944 to September 1951, October 1953 to current year.

WATER TEMPERATURE: October 1941 to September 1950, October 1953 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1954 to September 1955, October 1968 to September 1971.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the U.S. Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (1945-50, 1953 to current year): Maximum daily, 3,800 microsiemens Oct. 30, 1956; minimum daily, 103 microsiemens Nov. 9, 1946.

WATER TEMPERATURE (1953-58, 1961 to current year): Maximum daily, 37.0°C July 18, 27, 1953; minimum daily, 3.0°C Jan. 18, 1956, Jan. 15, 16, 1968, Jan. 2, 3, 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 368 microsiemens Mar. 3; minimum daily, 203 microsiemens Feb. 11.

WATER TEMPERATURE: Maximum daily, 33.0°C Aug. 29; minimum daily, 8.0°C Feb. 11.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CaCO3)	
NOV													
30...	1450	2690	342	7.4	10.0	--	11.2	99	--	--	--	110	
30...	1610	2660	340	7.4	10.0	6.8	11.6	102	1.3	52	K6	110	
JAN													
20...	1010	1870	340	8.0	9.0	3.5	11.8	101	2.1	24	44	110	
20...	1050	1870	340	8.2	9.0	--	11.4	97	--	--	--	110	
FEB													
09...	1420	5050	353	8.3	12.5	--	8.5	80	--	--	--	110	
MAR													
17...	1230	19800	330	7.9	15.0	8.5	11.4	113	1.5	20	96	100	
17...	1245	19800	330	7.9	14.0	--	11.2	108	--	--	--	100	
MAY													
12...	1200	24000	332	7.9	24.0	--	9.8	116	--	--	--	110	
12...	1205	24000	332	7.9	24.0	4.8	9.8	116	1.0	52	62	100	
24...	1130	5050	337	7.9	25.0	--	7.6	--	--	--	--	110	
JUL													
19...	1235	5780	329	7.9	29.5	--	8.0	105	--	--	--	110	
19...	1237	5780	329	7.9	29.5	2.0	8.0	105	2.3	170	150	110	
AUG													
10...	1310	5020	341	7.5	28.0	0.50	8.1	104	2.2	--	--	110	
10...	1333	5020	341	7.5	28.0	--	8.1	104	--	--	--	110	
DATE		HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CaCO3	ALKA-LINITY WAT DIS FIX END FIELD MG/L AS CaCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS Cl)
NOV													
30...	19	38	3.8	21	0.9	4.4	0	112	92	--	31	24	
30...	13	37	3.8	22	0.9	4.6	0	116	95	--	30	23	
JAN													
20...	17	38	3.9	23	1	4.6	0	115	94	--	32	26	
20...	14	38	3.9	25	1	4.5	0	118	97	--	32	27	
FEB													
09...	18	39	4.0	23	0.9	4.6	--	--	--	96	33	24	
MAR													
17...	19	35	3.8	22	0.9	4.5	0	102	83	--	36	24	
17...	21	34	3.7	21	0.9	3.8	0	97	80	--	35	24	
MAY													
12...	24	39	3.8	21	0.9	4.3	0	108	89	--	35	22	
12...	9	34	3.5	21	0.9	4.1	0	110	90	--	35	21	
24...	27	38	4.1	23	0.9	4.6	--	--	--	85	37	24	
JUL													
19...	14	37	4.0	22	0.9	4.1	0	116	95	--	31	21	
19...	19	38	3.9	20	0.8	4.3	0	112	93	--	30	21	
AUG													
10...	11	39	4.0	21	0.9	4.8	0	126	103	--	30	22	
10...	12	37	3.9	20	0.8	4.8	0	118	96	--	31	22	

TRINITY RIVER MAIN STEM

08066500 TRINITY RIVER AT ROMAYOR, TX--Continued
(National stream-quality accounting network)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)
NOV												
30...	0.30	6.7	206	187	0.470	--	<0.010	0.470	0.470	0.030	0.87	0.37
30...	0.30	6.5	217	187	0.460	--	<0.010	0.460	0.460	0.030	0.86	0.37
JAN												
20...	0.30	7.2	211	195	0.600	0.600	0.020	0.620	0.620	0.020	1.1	0.48
20...	0.30	6.6	214	198	0.590	0.590	0.020	0.610	0.610	0.010	1.0	0.39
FEB												
09...	0.30	6.3	214	199	0.640	0.640	0.020	0.660	0.660	0.040	1.1	0.36
MAR												
17...	0.30	5.8	190	185	0.740	0.740	0.040	0.780	0.780	0.070	1.3	0.43
17...	0.30	5.8	192	178	0.500	0.500	0.030	0.530	0.530	0.060	1.2	0.64
MAY												
12...	0.20	4.1	196	185	0.520	--	<0.010	0.520	0.520	0.030	1.0	0.47
12...	0.30	4.1	195	180	0.510	--	<0.010	0.510	0.510	0.030	1.0	0.47
24...	0.30	4.1	203	194	0.400	0.400	0.020	0.420	0.420	0.050	1.0	0.55
JUL												
19...	0.20	6.4	198	183	--	--	<0.010	--	<0.050	0.010	0.50	0.49
19...	0.20	6.5	199	179	--	--	<0.010	--	<0.050	0.020	0.60	0.58
AUG												
10...	0.30	6.3	183	190	--	--	<0.010	--	<0.050	0.020	0.50	0.48
10...	0.20	6.2	202	183	--	--	<0.010	--	<0.050	0.020	0.30	0.28
DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV												
30...	0.17	0.20	0.40	0.170	0.060	0.060	0.18	5.4	0.4	13	94	98
30...	--	--	0.40	0.150	0.070	0.080	0.25	--	--	14	101	98
JAN												
20...	--	--	0.50	0.090	0.050	0.070	0.21	--	--	8	40	97
20...	0.29	0.30	0.40	0.080	0.060	0.050	0.15	5.2	0.3	6	30	97
FEB												
09...	0.36	0.40	0.40	0.110	0.070	0.060	0.18	5.2	0.5	19	259	84
MAR												
17...	--	--	0.50	0.120	0.070	0.070	0.21	--	--	22	1180	84
17...	0.64	0.70	0.70	0.170	0.170	0.050	0.15	6.2	0.4	24	1280	85
MAY												
12...	0.27	0.30	0.50	0.090	0.050	0.060	0.18	5.8	0.5	--	--	--
12...	--	--	0.50	0.090	0.060	0.060	0.18	--	--	24	1560	96
24...	0.35	0.40	0.60	0.090	0.040	0.050	0.15	5.4	0.7	23	314	89
JUL												
19...	0.39	0.40	0.50	0.140	0.090	0.090	0.28	--	--	49	765	93
19...	--	--	0.60	0.150	0.120	0.090	0.28	--	--	33	515	92
AUG												
10...	--	--	0.50	0.100	0.080	0.080	0.25	--	--	16	217	92
10...	0.28	0.30	0.30	0.080	0.080	0.080	0.25	6.3	0.2	19	258	99
DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
NOV												
30...	--	--	--	21	--	7	--	--	--	--	--	--
30...	<10	49	<3	8	6	5	<10	2	<1	<1.0	270	<6
JAN												
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	38	--	8	--	--	--	--	--	--
FEB												
09...	--	--	--	14	--	2	--	--	--	--	--	--
MAR												
17...	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	28	--	3	--	--	--	--	--	--
MAY												
12...	--	--	--	14	--	2	--	--	--	--	--	--
12...	<10	39	<3	15	5	5	<10	2	<1	<1.0	240	<6
24...	--	--	--	20	--	1	--	--	--	--	--	--
JUL												
19...	--	--	--	6	--	1	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
10...	<10	49	<3	4	6	1	<10	<1	<1	<1.0	290	<6
10...	--	--	--	<3	--	1	--	--	--	--	--	--

TRINITY RIVER MAIN STEM

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08066500 TRINITY RIVER AT ROMAYOR, TX--Continued
(National stream-quality accounting network)

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. 1993	149121	314	179	72200	21	8530	31	12300	110
NOV. 1993	332750	266	151	136000	19	16900	26	23600	91
DEC. 1993	251910	307	175	119000	22	14900	30	20600	100
JAN. 1994	118110	341	194	61900	25	7960	34	10900	120
FEB. 1994	326190	330	188	165000	24	20900	33	28800	110
MAR. 1994	635530	332	189	324000	24	41100	33	56600	110
APR. 1994	178110	311	178	85400	21	10200	30	14600	110
MAY 1994	662380	292	166	298000	20	36100	29	51200	100
JUNE 1994	326100	287	164	145000	19	16600	28	24400	100
JULY 1994	144460	307	175	68300	21	8300	30	11700	110
AUG. 1994	86520	335	191	44700	24	5560	33	7750	110
SEPT 1994	68530	337	192	35600	24	4450	33	6180	120
TOTAL	3279711	**	**	1554000	**	192000	**	269000	**
MTD.AVG.	8986	308	176	**	22	**	30	**	110

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY EQUIVALENT MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	310	325	337	351	348	363	320	318	302	321	330	341
2	313	325	338	353	349	364	321	324	308	324	332	318
3	315	---	339	355	350	368	---	299	314	324	333	326
4	316	---	322	355	350	361	322	309	314	327	334	317
5	315	325	326	354	350	356	322	323	310	327	334	327
6	315	---	326	353	351	356	320	326	---	325	334	330
7	317	343	329	355	350	359	317	328	310	327	334	334
8	316	347	334	353	350	360	316	329	311	327	329	334
9	314	348	335	352	350	351	320	329	313	323	330	332
10	317	346	334	354	341	333	320	327	314	326	332	332
11	318	343	335	353	203	318	323	319	279	320	333	337
12	316	344	336	354	272	311	319	327	292	325	332	339
13	---	341	335	349	---	325	320	---	289	327	338	341
14	312	---	336	352	315	331	320	319	295	327	342	341
15	316	335	337	352	335	331	321	314	302	324	341	340
16	314	318	337	351	345	331	321	322	310	326	339	342
17	316	329	337	351	348	331	322	322	315	329	344	332
18	317	331	337	354	349	---	323	325	315	329	346	336
19	317	335	338	353	350	327	323	330	305	326	347	341
20	---	336	338	354	351	330	324	333	302	327	347	343
21	301	335	339	---	343	330	324	335	309	326	342	346
22	303	336	337	355	324	325	319	334	307	---	339	345
23	308	336	341	354	302	320	326	334	311	326	336	347
24	318	336	341	354	331	324	327	333	304	327	332	347
25	322	337	---	351	350	327	327	334	310	327	334	347
26	318	335	340	350	352	321	328	---	312	326	344	349
27	318	339	342	322	361	321	329	334	318	327	345	349
28	316	337	---	365	365	325	330	337	319	327	339	348
29	315	338	340	324	---	316	331	---	321	328	346	347
30	315	340	341	341	---	316	321	324	321	329	346	348
31	325	---	343	344	---	318	---	321	---	329	345	---
MEAN	315	336	336	351	336	335	323	325	308	326	338	339
MAX	325	348	343	365	365	368	331	337	321	329	347	349
MIN	301	318	322	322	203	311	316	299	279	320	329	317

WTR YR 1994 MEAN 331 MAX 368 MIN 203

TRINITY RIVER MAIN STEM

08066500 TRINITY RIVER AT ROMAYOR, TX--Continued
(National stream-quality accounting network)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	15.0	13.0	12.0	9.0	13.0	16.0	20.0	25.0	30.0	28.0	28.0
2	25.0	15.0	16.0	13.0	9.0	12.0	17.0	20.0	25.0	29.0	28.0	29.0
3	25.0	---	17.0	10.0	9.0	12.0	---	20.0	25.0	29.0	28.0	29.0
4	25.0	15.0	16.0	10.0	10.0	12.0	18.0	21.0	25.0	29.0	28.0	28.0
5	25.0	16.0	14.0	12.0	13.0	14.0	19.0	21.0	26.0	29.0	28.0	28.0
6	25.0	---	13.0	13.0	13.0	14.0	15.0	22.0	---	28.0	28.0	29.0
7	25.0	15.0	13.0	11.0	12.0	14.0	17.0	22.0	27.0	29.0	29.0	29.0
8	27.0	15.0	12.0	10.0	14.0	14.0	17.0	23.0	27.0	29.0	27.0	28.0
9	27.0	15.0	15.0	10.0	14.0	12.0	18.0	23.0	27.0	29.0	28.0	28.0
10	21.0	15.0	16.0	11.0	9.0	12.0	19.0	23.0	27.0	28.0	28.0	28.0
11	20.0	15.0	14.0	12.0	8.0	13.0	19.0	23.0	25.0	29.0	28.0	28.0
12	20.0	15.0	14.0	12.0	10.0	13.0	18.0	23.0	26.0	29.0	28.0	27.0
13	---	15.0	14.0	11.0	9.0	13.0	19.0	23.0	27.0	30.0	28.0	28.0
14	21.0	---	13.0	11.0	10.0	15.0	19.0	22.0	26.0	30.0	29.0	28.0
15	21.0	16.0	13.0	10.0	10.0	15.0	18.0	23.0	27.0	30.0	29.0	28.0
16	21.0	15.0	13.0	12.0	10.0	14.0	19.0	23.0	27.0	30.0	28.0	28.0
17	25.0	16.0	14.0	11.0	11.0	14.0	20.0	23.0	28.0	30.0	29.0	27.0
18	26.0	16.0	14.0	9.0	12.0	---	21.0	23.0	27.0	29.0	29.0	27.0
19	25.0	17.0	13.0	9.0	13.0	15.0	20.0	23.0	28.0	29.0	29.0	27.0
20	---	15.0	13.0	9.0	13.0	16.0	20.0	23.0	28.0	29.0	29.0	25.0
21	22.0	15.0	13.0	---	13.0	14.0	21.0	23.0	27.0	31.0	29.0	25.0
22	20.0	15.0	12.0	10.0	14.0	16.0	20.0	24.0	28.0	---	28.0	26.0
23	20.0	15.0	11.0	12.0	12.0	17.0	22.0	24.0	28.0	31.0	28.0	24.0
24	20.0	16.0	12.0	12.0	11.0	17.0	22.0	25.0	27.0	32.0	28.0	24.0
25	20.0	15.0	---	14.0	13.0	15.0	22.0	24.0	28.0	30.0	29.0	23.0
26	23.0	14.0	12.0	14.0	12.0	17.0	22.0	24.0	28.0	29.0	31.0	23.0
27	20.0	10.0	11.0	14.0	12.0	18.0	22.0	24.0	29.0	29.0	32.0	24.0
28	20.0	10.0	---	12.0	13.0	15.0	23.0	24.0	31.0	29.0	32.0	25.0
29	20.0	10.0	10.0	10.0	---	16.0	22.0	---	31.0	29.0	33.0	26.0
30	16.0	14.0	10.0	10.0	---	16.0	20.0	25.0	30.0	29.0	31.0	27.0
31	15.0	---	10.0	10.0	---	16.0	---	25.0	---	29.0	32.0	---
MEAN	22.0	14.5	13.0	11.0	11.5	14.5	19.5	23.0	27.0	29.5	29.0	27.0
MAX	27.0	17.0	17.0	14.0	14.0	18.0	23.0	25.0	31.0	32.0	33.0	29.0
MIN	15.0	10.0	10.0	9.0	8.0	12.0	15.0	20.0	25.0	28.0	27.0	23.0

WTR YR 1994 MEAN 20.5 MAX 33.0 MIN 8.0

TRINITY RIVER MAIN STEM

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08067000 TRINITY RIVER AT LIBERTY, TX

LOCATION.--Lat 30°03'27", long 94°49'05", Liberty County, Hydrologic Unit 12030203, at upstream side of upstream bridge on U.S. Highway 90 in Liberty, 345 ft downstream from Texas and New Orleans Railroad Co. bridge, and at mile 40.3.

DRAINAGE AREA.--17,468 mi².

PERIOD OF RECORD.--October 1938 to September 1940 (gage heights, discharge measurements, and some records of daily discharge), October 1940 to current year (high-water records only). Gage-height records collected in this vicinity since 1903 are contained in reports of the National Weather Service. Water-quality records.--Chemical and biochemical analyses: October 1970 to September 1972. Pesticide analyses: May 1971 to September 1972.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2.22 ft below National Geodetic Vertical Datum of 1929; unadjusted land-surface subsidence. Prior to Mar. 13, 1973, nonrecording gage at site 105 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Discharges for current year were computed using stage discharge relationship. During years with predominantly low releases from Livingston Reservoir, discharges are estimated using records for Trinity River near Romayor (station 08066500), intervening area computation, and discharge measurements. Estimated discharges below 10,000 ft³/s are not published. Considerable regulation of flow by Livingston Reservoir (station 08066190) 88.9 mi upstream. Many diversions above station for municipal supplies, industrial uses, and irrigation. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 114,000 ft³/s May 12, 1942 (gage height, 29.38 ft); minimum not determined (affected by tides); minimum gage height observed, 2.32 ft Nov. 24, 1970. Maximum gage height since at least 1903, 30.03 ft, May 23, 1990 (at 1700 hours).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 8-11, 1922, reached a stage of 28.6 ft, present datum, from observations by the National Weather Service at nonrecording gage on railroad bridge upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33,800 ft³/s May 18 at 1200 hours (gage height, 26.27 ft); minimum discharge not determined (affected by tides); minimum gage height, not recorded.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	19300	---	---	11400	29800	---	---	21100	---	---	---
2	---	20000	---	---	---	30200	---	---	21000	---	---	---
3	---	21200	---	---	---	30600	---	---	20900	---	---	---
4	---	22100	---	---	---	31100	---	---	20800	---	---	---
5	---	22500	---	---	---	31500	---	---	20700	---	---	---
6	---	22500	---	---	---	31700	---	13400	20600	---	---	---
7	---	21300	---	---	---	31800	---	13800	20500	---	---	---
8	---	17900	---	---	---	31900	---	14500	20000	---	---	---
9	---	15200	---	---	---	32000	---	15200	17500	---	---	---
10	---	14000	---	---	---	32900	---	15700	14600	---	---	---
11	---	13500	---	---	---	33300	---	17000	14400	---	---	---
12	---	12900	---	---	---	32600	---	20000	14600	---	---	---
13	---	11700	---	---	---	31300	---	23300	14400	---	---	---
14	---	---	---	---	---	29500	---	26200	13900	---	---	---
15	---	---	---	---	---	27500	---	30200	13200	---	---	---
16	---	---	---	---	---	25700	---	32700	11700	---	---	---
17	---	---	---	---	---	24100	---	33400	---	---	---	---
18	---	---	---	---	---	21900	---	33500	---	---	---	---
19	---	---	---	---	---	19700	---	32500	---	---	---	---
20	---	---	---	---	---	18400	---	30800	---	---	---	---
21	---	---	11000	---	---	17600	---	29000	---	---	---	---
22	---	---	11500	---	---	15600	---	27400	---	---	---	---
23	---	---	11600	---	15400	12500	---	25600	---	---	---	---
24	---	---	11700	---	24500	---	---	23700	---	---	---	---
25	---	---	11700	---	27100	---	---	22600	---	---	---	---
26	---	---	11500	---	28500	---	---	21800	---	---	---	---
27	10800	---	11000	---	29200	---	---	21300	---	---	---	---
28	11600	---	10600	---	29500	---	---	21000	---	---	---	---
29	13600	---	---	13700	---	---	---	20900	---	---	---	---
30	16500	---	---	14300	---	---	---	21100	---	---	---	---
31	17800	---	---	13300	---	---	---	21200	---	---	---	---

TRINITY RIVER BASIN

08067070 CWA CANAL NEAR DAYTON, TX

LOCATION.--Lat 29°57'40", long 94°48'36". Liberty County, Hydrologic Unit 12030203, at flume on left bank of Coastal Water Authority canal, 1,000 ft west of the Trinity River, 2 mi east of Farm Road 1409, and 7.4 mi southeast of Dayton.

PERIOD OF RECORD.--April 1981 to current year. Prior to October 1990, published as CIWA Canal near Dayton, TX.

GAGE.--Water-stage recorder. National Geodetic Vertical Datum of gage not determined.

REMARKS.--No estimated daily discharges. Records good. There are no known diversions between pumping plant and the gage. Water is pumped from the Trinity River for industrial and municipal use in the area.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	671	528	566	522	536	554	619	632	705	702	481	599
2	626	526	567	535	530	567	622	603	662	719	713	619
3	581	528	568	548	525	569	633	580	662	736	685	632
4	581	529	564	543	534	588	638	567	614	767	669	632
5	608	530	556	572	537	580	631	578	615	774	664	634
6	624	530	541	592	577	582	625	564	612	773	621	633
7	637	529	529	600	573	584	628	566	642	755	569	599
8	669	525	531	595	563	568	643	570	654	737	523	607
9	667	504	551	605	558	549	652	574	694	736	494	596
10	691	492	579	608	555	561	650	634	726	719	590	576
11	717	490	583	601	562	549	626	662	727	688	580	592
12	713	512	600	598	579	530	601	667	756	690	590	593
13	654	538	609	597	548	530	618	675	753	711	586	585
14	600	550	588	594	528	525	632	676	751	722	580	586
15	590	521	588	582	521	521	607	679	751	725	581	584
16	609	514	596	589	557	521	608	645	720	723	601	581
17	606	514	601	591	581	517	607	630	692	722	617	604
18	593	508	602	591	580	514	607	632	680	742	619	607
19	579	507	602	598	579	525	595	636	689	768	618	636
20	582	501	604	576	576	549	603	639	688	770	621	619
21	571	526	606	568	572	556	597	640	685	726	618	699
22	568	543	609	560	580	554	589	640	699	712	604	695
23	560	542	608	563	613	579	580	639	707	712	574	699
24	534	538	610	554	607	570	575	674	699	726	562	706
25	539	531	597	555	601	594	589	731	675	445	561	694
26	550	539	552	561	594	617	641	748	646	726	561	685
27	559	550	527	531	584	619	650	765	642	735	564	658
28	531	544	552	534	561	631	654	780	644	477	562	661
29	522	532	533	545	---	634	647	779	681	723	560	662
30	525	551	517	531	---	625	646	750	688	723	588	664
31	525	---	515	542	---	617	---	740	---	716	572	---
TOTAL	18582	15772	17751	17681	15811	17579	18613	20295	20559	22100	18328	18937
MEAN	599	526	573	570	565	567	620	655	685	713	591	631
MAX	717	551	610	608	613	634	654	780	756	774	713	706
MIN	522	490	515	522	521	514	575	564	612	445	481	576
AC-FT	36860	31280	35210	35070	31360	34870	36920	40260	40780	43840	36350	37560

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1994, BY WATER YEAR (WY)

	MEAN	380	366	356	350	354	369	399	429	454	479	444	425
MAX	599	564	573	570	565	567	620	655	685	764	746	646	
(WY)	1994	1993	1994	1994	1994	1994	1994	1994	1994	1993	1993	1993	
MIN	226	236	219	233	226	235	275	273	303	293	237	251	
(WY)	1985	1985	1983	1983	1983	1985	1982	1986	1983	1983	1983	1983	

SUMMARY STATISTICS

FOR 1993 CALENDAR YEAR

FOR 1994 WATER YEAR

WATER YEARS 1982 - 1994

ANNUAL TOTAL	218173	222008	401	
ANNUAL MEAN	598	608	608	1994
HIGHEST ANNUAL MEAN			259	1983
LOWEST ANNUAL MEAN			826	Jul 6 1993
HIGHEST DAILY MEAN	826	Jul 6	52	Aug 18 1983
LOWEST DAILY MEAN	292	Sep 23	167	Aug 18 1983
ANNUAL SEVEN-DAY MINIMUM	457	Apr 5		
INSTANTANEOUS PEAK FLOW			918	Jun 30
INSTANTANEOUS PEAK STAGE			2.82	Jun 30
ANNUAL RUNOFF (AC-FT)	432700	440400	290300	
10 PERCENT EXCEEDS	751	718	600	
50 PERCENT EXCEEDS	573	597	374	
90 PERCENT EXCEEDS	501	529	240	

TRINITY RIVER BASIN

521

08067118 LAKE CHARLOTTE NEAR ANAHUAC, TX

LOCATION.--Lat 29°52'02", long 94°42'53", Chambers County, Hydrologic Unit 12030203, on east side of Lake Charlotte, which is connected to the Trinity River by a small channel, 1.0 mi west of State Highway 563, 1.9 mi north of Interstate Highway 10, and 2.7 mi northeast of Wallisville.

DRAINAGE AREA.--Not determined.

WATER-STAGE RECORDS

PERIOD OF RECORD.--December 1991 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5.81 ft below National Geodetic Vertical Datum.

REMARKS.--Records good. Lake Charlotte is a shallow natural lake within the Trinity River delta. December 1991 to Nov. 9, 1992, the lowest stilling well intake was at gage height of 7.3 ft. Thereafter it was at gage height of 6.7 ft. Rain gage at station. Satellite telemeter at station.

EXTREME FOR PERIOD OF RECORD.--Maximum gage height, 14.0 ft Jan. 8, 1992 at 1815 hours.

EXTREME FOR CURRENT YEAR.--Maximum gage height, 12.0 ft Mar. 9 at 0545 hours.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	7.0	7.7	8.7	11.6	7.0	7.5	11.1	<6.7	7.5	7.2
2	---	---	7.1	7.3	8.7	11.6	7.0	7.5	11.1	<6.7	7.5	6.9
3	---	---	7.2	6.9	8.5	11.7	7.0	7.5	11.1	<6.7	7.5	6.7
4	---	---	7.2	6.8	8.2	11.7	6.8	7.4	11.1	<6.7	7.4	<6.7
5	---	---	6.9	<6.7	8.0	11.7	7.3	7.7	11.1	6.9	7.2	6.7
6	---	10.7	6.8	<6.7	7.7	11.8	7.0	8.3	11.1	6.8	7.2	6.8
7	---	10.8	6.8	<6.7	7.5	11.8	7.0	8.7	11.0	6.9	7.1	6.8
8	---	10.9	6.8	<6.7	7.4	11.8	7.3	9.1	11.0	6.9	7.3	6.8
9	---	10.8	6.9	<6.7	7.0	11.9	7.5	9.4	10.9	6.9	7.2	7.0
10	---	10.5	7.1	<6.7	6.9	11.9	7.6	9.6	10.7	6.9	7.2	7.3
11	---	10.3	7.1	<6.7	6.8	11.9	7.8	9.7	10.5	6.9	7.2	7.4
12	---	10.2	7.4	<6.7	7.4	11.9	7.6	10.0	10.4	7.1	7.2	7.5
13	---	10.0	7.7	<6.7	7.5	11.9	7.4	10.5	10.3	7.0	7.2	7.5
14	---	9.7	7.6	<6.7	7.5	11.8	7.5	10.8	10.1	7.1	7.1	7.6
15	---	9.3	7.5	<6.7	7.6	11.8	7.8	11.1	10.1	7.0	6.9	7.7
16	---	9.2	7.5	<6.7	7.5	11.7	7.9	11.5	9.8	6.8	6.9	7.5
17	---	8.9	7.7	<6.7	7.3	11.6	8.1	11.7	9.4	<6.7	7.0	7.4
18	---	8.7	7.8	<6.7	7.3	11.6	8.3	11.7	9.0	<6.7	7.2	7.1
19	---	8.6	7.9	<6.7	7.4	11.4	8.4	11.8	8.6	<6.7	7.1	6.9
20	---	8.3	8.1	<6.7	7.3	11.3	8.4	11.8	8.4	6.8	7.2	<6.7
21	---	8.1	8.1	<6.7	7.2	11.1	8.3	11.8	8.2	7.1	6.9	<6.7
22	---	8.1	8.4	<6.7	7.4	10.8	8.1	11.7	8.0	7.3	6.8	6.8
23	---	8.0	8.4	<6.7	7.8	10.5	7.8	11.6	7.9	7.4	<6.7	<6.7
24	---	8.0	8.5	<6.7	8.7	9.9	7.6	11.5	7.8	7.4	<6.7	<6.7
25	---	7.8	8.6	<6.7	9.7	9.2	7.7	11.4	7.5	7.4	<6.7	<6.7
26	---	7.6	8.7	<6.7	10.4	8.9	7.7	11.4	7.4	7.5	<6.7	<6.7
27	---	7.4	8.7	7.1	11.0	8.6	7.8	11.3	7.2	7.5	6.8	<6.7
28	---	7.3	8.7	6.9	11.4	8.2	7.9	11.3	7.0	7.4	6.8	<6.7
29	---	7.1	8.4	7.5	---	7.8	7.8	11.2	6.9	7.5	6.9	<6.7
30	---	6.9	8.1	8.1	---	7.5	7.8	11.2	6.8	7.5	7.0	6.9
31	---	---	7.8	8.5	---	7.2	---	11.1	---	7.5	7.1	---
MAX	---	---	8.7	8.5	11.4	11.9	8.4	11.8	11.1	7.5	7.5	7.7
MIN	---	---	6.8	<6.7	6.8	7.2	6.8	7.4	6.8	<6.7	<6.7	<6.7

< Actual value is known to be less than value shown.

TRINITY RIVER BASIN

08067118 LAKE CHARLOTTE NEAR ANAHUAC, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: December 1991 to current year.

INSTRUMENTATION.--Water-quality instrumentation for water temperature, specific conductance, and air temperature.

REMARKS.--DCP malfunction Oct. 1 to Nov. 4. Air temperature and conductivity are not published.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 36.5°C Jul. 31, Aug. 1, 1992; minimum recorded, 5.0°C Nov. 28, 1992.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 32.0°C several days in Jul., Sept. 6; minimum recorded, 4.5°C Jan. 8, 9.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	16.0	12.5	14.0	12.0	9.0	10.5
2	---	---	---	---	---	---	19.5	15.0	17.0	13.5	10.5	12.0
3	---	---	---	---	---	---	21.5	18.0	19.5	12.0	9.0	10.5
4	---	---	---	---	---	---	20.5	14.0	17.5	12.0	8.0	9.5
5	---	---	---	17.5	16.0	17.0	15.0	11.5	13.5	13.5	6.0	10.0
6	---	---	---	16.0	13.5	14.5	15.0	12.5	13.5	17.0	11.5	14.0
7	---	---	---	13.5	12.0	12.5	14.0	11.0	12.5	15.5	8.0	13.0
8	---	---	---	12.5	12.0	12.5	16.5	13.5	15.0	12.0	4.5	8.0
9	---	---	---	12.5	12.0	12.5	19.5	15.5	17.5	12.5	4.5	9.0
10	---	---	---	13.5	12.5	13.0	21.5	18.5	19.5	12.0	9.5	11.0
11	---	---	---	13.5	13.0	13.5	19.0	15.5	17.0	14.5	12.0	13.0
12	---	---	---	16.5	13.5	15.0	15.5	13.0	14.0	13.5	12.0	13.0
13	---	---	---	19.0	16.0	18.0	16.5	13.5	15.5	15.0	11.0	12.5
14	---	---	---	20.5	17.0	19.5	13.5	11.0	12.5	16.0	10.5	12.5
15	---	---	---	18.5	16.5	17.5	13.0	10.0	11.5	14.5	10.0	12.0
16	---	---	---	17.5	16.5	17.0	12.5	10.0	11.5	15.0	9.5	12.0
17	---	---	---	16.5	14.5	15.5	12.0	11.5	12.0	14.5	10.0	13.0
18	---	---	---	18.0	14.0	16.0	12.0	11.5	12.0	10.0	6.0	7.5
19	---	---	---	18.0	16.0	17.0	12.0	11.5	12.0	8.5	6.0	6.5
20	---	---	---	16.0	12.5	14.0	12.5	11.0	12.0	10.0	6.0	8.0
21	---	---	---	13.0	11.0	12.0	11.5	9.5	10.5	13.0	8.5	10.5
22	---	---	---	12.5	10.5	11.5	11.0	8.0	9.5	13.5	10.5	12.0
23	---	---	---	14.5	11.5	12.5	9.0	7.0	7.5	15.0	10.5	13.0
24	---	---	---	16.0	14.0	15.0	8.5	7.0	8.0	18.5	12.5	15.5
25	---	---	---	16.0	11.0	13.5	9.0	7.0	8.0	21.0	17.0	19.0
26	---	---	---	11.0	8.0	9.0	10.5	7.5	9.0	21.0	18.0	19.5
27	---	---	---	9.5	7.5	8.5	12.5	9.5	11.0	19.5	16.0	18.5
28	---	---	---	11.5	6.5	9.0	14.0	12.0	13.0	16.0	9.0	11.5
29	---	---	---	15.0	10.0	12.0	12.5	9.5	10.5	9.5	8.0	8.5
30	---	---	---	14.0	11.0	13.0	10.0	8.0	9.0	10.0	6.5	8.0
31	---	---	---	---	---	---	9.5	7.5	8.5	10.5	9.0	9.5
MONTH	---	---	---	20.5	6.5	14.0	21.5	7.0	12.5	21.0	4.5	11.5

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	9.5	7.5	8.0	13.5	12.0	13.0	22.0	17.0	19.0	19.5	18.0	19.0
2	9.0	8.0	8.5	13.0	11.5	12.5	23.0	18.0	20.0	21.0	18.0	19.5
3	8.0	7.5	8.0	14.0	12.0	13.0	23.0	18.0	20.0	23.0	19.0	21.0
4	11.0	8.0	8.5	14.5	13.5	14.0	23.0	18.0	20.5	21.0	18.5	20.5
5	13.0	10.5	12.0	16.0	14.0	15.0	22.0	18.0	20.5	23.5	22.0	23.0
6	14.5	12.5	13.0	16.5	15.0	16.0	18.5	18.0	18.0	26.5	22.0	23.5
7	17.0	13.0	14.5	17.5	15.0	16.5	21.5	18.5	19.5	25.0	24.0	24.5
8	20.0	17.0	18.5	18.0	15.5	17.5	22.5	20.0	21.0	28.0	24.0	26.0
9	19.5	11.0	16.0	17.0	14.0	15.0	23.0	20.0	21.5	27.5	26.0	26.5
10	11.0	7.5	8.5	14.5	13.5	14.0	23.0	21.0	22.0	26.5	24.5	25.5
11	9.5	8.0	9.0	14.5	13.5	14.0	23.0	20.5	22.0	26.5	24.5	25.5
12	11.0	8.5	10.0	14.0	13.0	13.5	21.5	20.0	20.5	26.0	25.0	26.0
13	12.0	9.5	11.0	13.5	13.0	13.0	23.5	20.5	22.0	26.0	24.5	25.5
14	12.0	8.5	10.5	15.0	13.0	14.5	26.0	23.0	24.5	24.5	23.0	24.0
15	11.0	10.0	10.5	15.0	14.5	14.5	25.0	22.0	23.5	24.5	24.0	24.5
16	14.5	10.0	12.5	15.5	14.5	15.0	22.0	18.5	20.5	24.5	23.0	24.0
17	15.5	11.5	14.0	16.5	15.0	16.0	21.0	18.5	19.5	23.5	23.0	23.5
18	18.0	13.0	16.5	18.0	16.0	17.5	21.5	19.5	20.5	24.0	23.0	23.5
19	19.0	16.5	18.0	18.5	17.5	18.0	21.5	21.0	21.5	24.0	23.0	23.5
20	18.0	17.0	17.5	19.5	18.0	19.0	23.0	21.5	22.0	23.5	22.5	22.5
21	18.0	17.5	17.5	20.0	19.0	19.5	23.0	21.5	22.5	22.5	22.5	22.5
22	19.5	17.5	18.5	19.0	18.5	19.0	23.0	21.5	22.0	23.5	22.5	23.0
23	18.0	11.5	15.0	20.5	18.5	20.0	24.0	21.0	22.5	25.5	23.5	24.0
24	15.0	11.5	13.5	21.0	20.0	20.5	26.0	22.0	24.0	26.5	24.0	25.0
25	14.5	13.5	14.0	21.0	19.5	20.0	27.0	23.0	25.0	26.5	25.0	25.5
26	14.0	12.0	13.0	21.5	20.0	21.0	26.5	24.5	25.5	26.0	24.5	25.5
27	12.0	11.5	12.0	21.0	17.0	19.5	27.0	24.5	26.0	25.5	25.0	25.5
28	12.5	11.0	11.5	17.5	14.0	16.0	26.5	25.0	26.0	26.0	25.0	25.5
29	---	---	---	17.0	13.0	15.5	27.5	25.0	26.0	27.0	25.5	26.0
30	---	---	---	20.0	15.5	17.5	25.0	19.5	22.5	26.5	26.0	26.5
31	---	---	---	19.5	15.5	17.5	---	---	---	27.0	25.5	26.5
MONTH	20.0	7.5	13.0	21.5	11.5	16.5	27.5	17.0	22.0	28.0	18.0	24.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	26.0	25.5	26.0	31.5	29.0	30.5	28.5	26.0	27.5	30.0	28.5	29.0
2	26.0	25.0	25.5	31.5	29.0	30.5	29.5	26.5	28.0	30.5	28.5	29.5
3	26.0	25.0	25.5	32.0	29.0	31.0	30.0	26.5	28.5	31.5	28.5	30.0
4	26.0	25.5	26.0	31.5	29.0	30.5	29.5	27.0	28.5	31.5	28.5	30.0
5	26.0	25.5	26.0	31.0	29.0	30.5	27.0	25.0	26.0	31.5	28.5	30.5
6	27.0	26.0	26.0	31.5	29.5	30.5	27.5	25.0	26.5	32.0	29.5	31.0
7	30.0	26.5	28.0	31.5	29.0	30.5	30.0	28.0	29.5	30.5	29.0	30.0
8	29.5	28.5	29.0	31.0	28.5	29.5	30.0	26.5	27.5	30.5	29.0	29.5
9	30.0	28.5	29.0	30.5	28.0	29.0	27.0	25.0	26.0	29.5	25.0	27.0
10	30.0	28.0	29.0	30.0	28.5	29.0	29.5	26.0	27.5	25.0	24.0	24.5
11	28.5	27.5	28.0	31.0	28.0	29.5	30.5	27.0	28.5	26.0	23.5	25.0
12	29.0	27.5	28.0	32.0	28.0	30.5	31.0	28.5	29.5	27.5	25.0	26.0
13	29.0	27.0	28.0	32.0	29.0	30.5	31.0	28.0	29.0	28.5	25.0	26.5
14	28.5	27.5	28.0	32.0	29.0	30.5	29.5	28.5	29.0	29.0	26.5	27.5
15	28.5	28.0	28.5	32.0	29.5	30.5	30.5	29.0	30.0	29.5	27.0	28.0
16	29.0	28.0	28.5	31.5	29.0	30.5	31.0	28.5	30.0	28.5	26.0	27.0
17	29.0	28.0	28.5	31.0	29.0	30.5	30.5	28.0	30.0	28.0	25.0	26.5
18	29.5	27.0	28.5	32.0	29.0	31.0	31.0	28.5	30.0	28.5	26.0	27.5
19	28.5	26.0	27.5	31.5	29.0	30.5	31.0	28.5	30.0	29.5	27.5	28.0
20	28.5	26.5	27.5	31.5	29.0	30.5	30.5	28.0	29.5	29.0	25.0	27.5
21	29.5	27.0	28.0	31.0	29.5	30.5	30.0	27.5	28.5	29.0	25.0	26.5
22	29.5	28.0	29.0	31.5	29.0	30.0	28.0	26.0	27.0	28.5	25.0	26.0
23	30.0	28.0	29.0	31.5	29.0	30.5	28.5	25.0	27.0	26.5	23.0	25.0
24	30.0	27.0	28.5	31.5	29.0	30.5	28.5	26.5	28.0	27.0	23.0	24.5
25	30.0	27.0	28.5	31.5	29.0	30.5	30.0	27.5	29.0	26.5	24.0	24.5
26	30.5	28.5	29.5	32.0	29.0	30.5	31.0	28.5	29.5	26.5	24.0	25.5
27	31.0	28.0	29.5	31.0	28.0	29.5	30.0	28.0	29.0	27.5	24.0	25.5
28	30.5	28.0	29.0	29.5	26.0	28.0	31.0	28.0	29.5	28.0	25.5	26.5
29	30.5	28.0	29.5	29.5	27.0	29.0	30.5	29.0	29.5	27.0	24.0	26.0
30	31.0	28.0	29.5	29.5	27.0	28.5	31.5	29.0	30.0	27.0	25.0	25.5
31	---	---	---	28.5	26.0	27.5	31.5	29.0	30.5	---	---	---
MONTH	31.0	25.0	28.0	32.0	26.0	30.0	31.5	25.0	28.5	32.0	23.0	27.0
YEAR	32.0	4.5	21.0									

CEDAR BAYOU MAIN STEM

08067500 CEDAR BAYOU NEAR CROSBY, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°58'21", long 94°59'08", Liberty County, Hydrologic Unit 12040203, on right bank at downstream side of bridge on U.S. Highway 90 and 6.6 mi northeast of Crosby.

DRAINAGE AREA.--64.9 mi².

PERIOD OF RECORD.--March to August 1946, March 1963 to February 1964, May to August 1971 (discharge measurements only), October 1971 to September 1991 (daily mean discharge); October 1991 to current year (peak discharges greater than base discharge).

Water-quality records.--Chemical, biochemical, and pesticide analyses: May 1971 to September 1979.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 31.31 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Stage-discharge relationship is affected by seasonal vegetation during most years. Low flow is sustained by drainage from irrigated lands. There are diversions upstream from station for irrigation. Radio telemeter at station.

AVERAGE DISCHARGE.--20 years (water years 1972-91), 78.7 ft³/s (57,020 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,760 ft³/s June 5, 1981 (gage height, 23.92 ft); maximum gage height, 25.50 ft Mar. 5, 1992; no flow occasionally during pumping season of some years.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 16	2400	1,760	19.02	Feb. 23	Unknown	2,320	20.78

Because the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the U.S. Geological Survey collects limited streamflow data at sites other than continuous stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage of those events. The data collected for special reasons are called measurements at miscellaneous sites.

Streamflow data collected at partial-record stations where water-quality data other than observations of water temperature are not obtained are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations; the second is a table of annual maximum stage and (or) discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low and high flows are given in a third table. Discharge measurements and water-quality data collected at partial-record stations are presented in downstream order in the section of this report entitled "Gaging-station records."

Low-flow partial-record stations

Measurements of streamflow at low-flow partial-record stations that are not published in the gaging-station section are given in the following table. Most of the measurements of low flow were made during periods when streamflow was sustained primarily by ground-water discharge. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will indicate the low-flow potential of the stream. The years listed in the column headed "Period of record" identifies the water years in which measurements were made at the same or at practically the same site.

Discharge measurements made at low-flow partial-record station during water year 1994

Station no.	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
Red River Basin						
07299890	Lelia Lake Creek below Bell Creek near Hedley, Tex.	Lat 34°56'08", long 100°41'46", Donley County, 150 ft downstream from county road crossing, 1.0 mi downstream from mouth of Bell Creek, and about 5 mi north of Hedley.	74	1964-94	03-21-94	3.29
07307700	Roaring Springs near Roaring Springs, Tex.	Lat 33°51'12", long 100°51'53", Motley County, 3.5 mi south of Roaring Springs.	(a)	1937, 1943-94	01-27-94	1.07
Neches River Basin						
08041550	Village Creek at State Hwy. 327 near Silsbee, Tex.	Lat 30°20'48", long 94°16'44", Hardin County, at bridge on State Highway 327, about 1.6 mi upstream from Mill Creek, and 2.7 mi west of Silsbee.	—	1979-94	09-28-94	89.2
08041720	Pine Island Bayou at State Highway 105 near Sour Lake, Tex.	Lat 30°08'08", long 94°16'44", Hardin-Jefferson County line, at bridge on State Highway 105, about 2.0 mi upstream from mouth of Little Pine Island Bayou, and 7.90 mi east of Sour Lake.	—	1979-94	09-30-94	9.79

a Not applicable.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Crest-stage partial-record stations

The following table contains annual maximum stage and (or) discharge at partial-record stations operated primarily for the purpose of defining the flooding characteristics of the streams. At stations where discharge is given, or is footnoted "to be determined", a stage-discharge relation has been, or will be, defined by discharge measurements obtained by current meter or by indirect procedures. Water-stage recorders are located at these flood-hydrograph stations to facilitate complete hydrograph definition. At stations where only the maximum stage is given (discharge column is dashed), the data are generally collected for use in stage-frequency studies of flood-profile definition. Gages at these stations usually consist of a device that will register the peak stage occurring between inspections of the gage. The years used in the column "Period of record" identify the years in which the annual maximum has been determined.

Annual maximum stage and (or) discharge during water year 1994

Station name	Location	Drainage area (mi ²)	Period of record	Water Year 1994 maximum			Period of record maximum		
				Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
Sabine River Basin									
Long Branch at Greenville, Tex. 08017210	Lat 33°07'20", long 96°05'54", Hunt County, on left edge of low-water channel 80 ft upstream from culvert under Moulton St. (Business Rte. U.S. Highway 69), 0.5 mi upstream from IH-30, and 1.3 mi southeast of Hunt County Courthouse in Greenville.	5.37	1986-94	07-15-94	11.36	--	10-29-91	12.16	--
Trinity River Basin									
Big Fossil Creek at Haltom City, Tex. 08048800	Lat 32°48'26", long 97°14'26", Tarrant County, at center of channel at downstream side of down- stream bridge on State Highway 183, 2.0 mi upstream from Little Fossil Creek, 3.5 mi up- stream from mouth, and 6.0 mi northeast of downtown section of Fort Worth.	52.8	160-73† 1974-84‡ 1985-94	08-31-94	7.07	--	09-07-62	26.90	27,000
Cedar River Basin									
Cedar Bayou near Baytown, Tex. 08067510	Lat 29°46'12", long 94°54'59", Chambers-Harris County Line, at bridge on State Highway 146, 0.2 mi downstream from Cary Bayou, 0.2 mi upstream from Saw Pit Gully, and 4.3 mi north- east of Baytown.	169	1984-94	05-16-94	*3.14	--	06-26-89	*7.19	--

u Unknown.

* Elevation, in feet.

† Operated as a continuous-record station.

‡ Operated as an unpublished stage-only station.

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<i>Length</i>		
inch (in.)	2.54×10^1	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^0	kilometer
<i>Area</i>		
acre	4.047×10^3	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi ²)	2.590×10^0	square kilometer
<i>Volume</i>		
gallon (gal)	3.785×10^0	liter
	3.785×10^0	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^3	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft ³)	2.832×10^1	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft ³ /s) d]	2.447×10^3	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^3	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
<i>Flow</i>		
cubic foot per second (ft ³ /s)	2.832×10^1	liter per second
	2.832×10^1	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^1	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
<i>Mass</i>		
ton (short)	9.072×10^{-1}	megagram or metric ton

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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