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Texas
Water Year 2001

Volume 5. Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening Coastal Basins

By S.C. Gandara

Water-Data Report TX-01-5

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

UNITED STATES DEPARTMENT OF THE INTERIOR

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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 6 volumes:

Volume 1.	Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, and Intervening Coastal Basins
Volume 2.	Trinity River Basin
Volume 3.	San Jacinto River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins
Volume 4.	Colorado River Basin, Lavaca River Basin, and Intervening Coastal Basins
Volume 5.	Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening Coastal Basins
Volume 6.	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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13. ABSTRACT *(Maximum 200 words)*

Water-resources data for the 2001 water year for Texas are presented in six 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 5 contains records for water discharge at 77 gaging stations; stage only at 4 gaging stations; stage and contents at 5 lakes and reservoirs; water quality at 27 gaging stations; and data for 23 partial-record stations comprised of 3 flood-hydrograph, 8 low-flow, 4 crest-stage, and 3 miscellaneous stations. Also included are lists of discontinued surface-water discharge or stage-only stations and discontinued surface-water-quality stations. Additional water data were collected at various sites, not part of the systematic data-collection program, and are published as miscellaneous measurements. 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. Records for a few pertinent stations in the bordering States also are included.

14. SUBJECT TERMS

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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; (p) precipitation.]

	Station number	Page
WESTERN GULF OF MEXICO BASINS		
GUADALUPE RIVER BASIN		
Guadalupe River:		
North Fork Guadalupe River near Hunt (d)	08165300	36
Guadalupe River at Hunt (d)	08165500	38
Johnson Creek near Ingram (d)	08166000	40
Guadalupe River above Bear Creek at Kerrville (d)	08166140	42
Guadalupe River at Kerrville (d)	08166200	44
Guadalupe River at Comfort (d)	08167000	46
Guadalupe River near Spring Branch (d)	08167500	48
Canyon Lake near New Braunfels (e)	08167700	50
Guadalupe River at Sattler (d)	08167800	52
Guadalupe River above Comal River at New Braunfels (d)	08168500	54
Comal River:		
Comal Springs at New Braunfels (d)	08168710	56
Comal River at New Braunfels (d)	08169000	58
Guadalupe River at New Braunfels (e)	08169500	60
San Marcos Springs at San Marcos (d)	08170000	62
San Marcos River at San Marcos (d)	08170500	64
Blanco River at Wimberley (d)	08171000	66
Blanco River near Kyle (d)	08171300	68
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Plum Creek near Luling (d)	08173000	74
Guadalupe River at Gonzales (d)	08173900	76
Peach Creek below Dilworth (d)	08174600	78
Sandies Creek near Westhoff (d)	08175000	80
Guadalupe River at Cuero (d)	08175800	82
Guadalupe River at Victoria (d)	08176500	84
Coleto Creek:		
Fifteenmile Creek near Weser (d)	08176550	86
Coleto Creek at Arnold Road Crossing near Schroeder (d)	08176900	88
Perdido Creek at Farm to Market Road 622 near Fannin (d)	08177300	90
Coleto Creek Reservoir near Victoria (e)	08177400	92
Coleto Creek near Victoria (d)	08177500	94
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San Antonio River:		
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San Antonio River at San Antonio (e)	08178000	100
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San Antonio River at Loop 410 at San Antonio (d)	08178565	104
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Elm Waterhole Creek Tributary at San Antonio (c) (t)	08178627	110
Salado Creek at Loop 410 at San Antonio (d)	08178700	112
Salado Creek at Loop 13 at San Antonio (d) (c) (t)	08178800	114
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Medina River at Riomedina (d)	08180500	126
Medina River at La Coste (c) (t) (b) (s) (p)	08180640	128
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Leon Creek:		
Culebra Creek:		
Government Canyon Creek Site 2 near Helotes (c) (t)	08180941	140
Leon Creek at Senic Loop Road near Leon Springs (c) (t)	08180945	142
Leon Creek at Hausman Road at San Antonio (c) (t)	08180947	144
Leon Creek at Prue Road at San Antonio (c) (t)	08181050	146
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	Station number	Page
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Seco Creek at Miller Ranch near Utopia (d)	08201500	230
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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 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
East Chyenne Creek Tributary near Channing (e)	07227460	0.86	1965-74
Canadian River at Tascosa (d)	07227470	18,536	1969-77
Tecovas Creek Tributary near Bushland (e)	07227480	2.5	1966-74
Dixon Creek near Borger (d)	07227920	134	1974-89
Palo Duro Creek near Canyon (e)	07229700	982	1942-54
White Woman Creek Tributary near Darrouzett (e)	07234150	4.03	1966-74
Tierra Blanca Creek above Buffalo Lake near Umbarger (d)	07295500	1,968	1939-54, 1967-73
Buffalo Lake near Umbarger (e)	07296000	2,075	1938-54
Tierra Blanca Creek below Buffalo Lake near Umbarger (d)	07296100	2,075	1967-73
Prairie Dog Town Fork Red River near Canyon (d)	07297500	3,369	1924-26, 1938-49
Middle Tule Draw near Tulia (e)	07297920	313	1967-74
North Tule Draw at Reservoir near Tulia (d)	07298000	189	1939-40, 1941-73
Rock Creek Tributary near Silverton (d)	07298150	13.7	1966-74
Tule Creek near Silverton (d)	07298200	1,150	1964-86
Prairie Dog Town Fork Red River near Brice (d)	07298500	6,082	1939-44, 1949-51, 1960-63
Mulberry Creek near Brice (d)	07299000	534	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
Prairie Dog Town Fork Red River below Mountain Creek near Estelline (e)	07299505	7,341	1974-77
Prairie Dog Town Fork Red River above Jonah Creek near Estelline (e)	07299510	7,533	1974-77
Jonah Creek at Weir near Estelline (d)	07299512	65.50	1974-82
Jonah Creek below Weir near Estelline (d)	07299514	66.60	1974-76
Jonah Creek at mouth near Estelline (d)	07299516	76	1974-76
Salt Creek near Estelline (d)	07299530	142	1974-79
Buck Creek near Wellington (e)	07299550	210	1951-64
Red River near Quanah (d)	07299570	8,321	1960-82
North Groesbeck Creek Tributary near Kirkland (d)	07299575	0.16	1966-74
Wanders Creek at Odell (e)	07299750	199	1949-50, 1952-89
Salt Fork Red River near Clarendon (d)	07299850	457	1960-64
Lelia Lake Creek near Hedley (e)	07299900	86	1951-70
Salt Fork Red River near Hedley (e)	07299930	744	1951, 1956-62
Oklahoma Draw Tributary near Hedley (e)	07299940	1.1	1965-74
Sweetwater Creek near Wheeler (e)	07301400	164	1951-64
Doodlebug Creek near Wheeler (e)	07301405	0.19	1967-73
Elm Creek near Shamrock (e)	07303300	N/A	1947-89
Quitaque Creek near Quitaque (d)	07307500	293	1945-59
North Pease River near Childress (d)	07307600	1,434	1973-79
North Pease River near Kirkland (e)	07307660	N/A	1973-79
Roaring Springs near Roaring Springs (e)	07307700	N/A	1937, 1943-95
Cottonwood Creek Tributary near Afton (e)	07307720	0.68	1967-74
Middle Pease River near Paducah (d)	07307750	1,086	1973-79
Middle Pease River near Paducah (d)	07307760	1,123	1980-82

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Middle Pease River near Kirkland (e)	07307780	1,250	1973-79
Canal Creek near Crowell (e)	07307950	49.0	1968-70, 1978-79
Pease River near Crowell (d)	07308000	3,037	1924-47
Plum Creek near Vernon (e)	07308220	4.99	1967-74
China Creek near Electra (e)	07308400	37	1967-76
North Fork Wichita River near Crowell (d)	07311622	591	1971-76
Middle Fork Wichita River near Truscott (d)	07311648	161	1971-76
South Fork Wichita River near Guthrie (d)	07311780	239	1952-54, 1956-57 1971-76
South Fork Wichita River at Ross Ranch near Benjamin (d)	07311790	499	1971-79
Beaver Creek near Electra (d)	07312200*	652	1960-99
Beaver Creek Tributary near Crowell (e)	07312140	3.43	1966-74
Wolf Creek near Iowa Park (e)	07312300	8.5	1966-74
North Fork Little Wichita River Tributary near Archer City (e)	07314200	0.10	1966-74
Little Wichita River near Henrietta (d)	07315000	1,037	1953-79
Little Wichita River near Ringgold (d)	07315400	1,350	1959-65
Farmers Creek near Saint Jo (e)	07315550	0.82	1966-74
Mineral Creek near Sadler (d)	07316200	26	1968-77
Sandy Creek near Sadler (e)	07316230	24	1968-74
Lake Texoma near Denison (e)	07331500	39,719	1942-93, 2000
Red River at Denison Dam near Denison (d)	07331600	39,720	1924-89
Bois D'Arc Creek near Randolph (d)	07332600	72	1963-85
Cooper Creek near Bonham (e)	07332602	6.21	1966-74
Sanders Creek near Chicota (d)	07335400	175	1968-86
Little Pine Creek near Kanawha (d)	07336750	75.40	1969-80
Pecan Bayou near Clarksville (d)	07336800	100	1962-77
Red River near DeKalb (d)	07336820	47,348	1967-98
McKinney Bayou near Leary (e)	07336940	3.33	1966-73
Barkman Creek near Leary (e)	07336950	31.5	1958-64
Nelson Branch near Leonard (e)	07342450	0.22	1966-74
South Sulphur River near Commerce (d)	07342470	189	1980-91
Cuthand Creek near Bogata (d)	07343300	69	1964-74
Dial Branch near Bagwell (e)	07343350	1.00	1966-74
White Oak Creek near Mt. Vernon (e)	07343480	434	1966, 1969-75
White Oak Creek below Talco (d)	07343800	579	1938-50
Buck Creek near Cookville (e)	07343900	0.78	1966-74
Sulphur River near Darden (d)	07344000	2,774	1924-56
Sulphur River near Texarkana (d)	07344210	3,443	1980-85
Big Cypress Creek near Winnsboro (d)	07344482	27.2	1974-92
Dragoo Creek near Mt. Pleasant (e)	07344490	4.27	1967-74
Williamson Creek near Pittsburg (e)	07344600	7.11	1967-74
Boggy Creek near Daingerfield (d)	07345000	72	1943-77
Ellison Creek Reservoir near Lone Star (e)	07345500	37	1943-62, 1974-89
Cypress Creek Tributary near Jefferson (e)	07346010	0.51	1966-74
Taylor Branch near Smithland (e)	07346072	0.73	1966-74
Big Cypress Creek near Karnack (e)	07346085	2,174	1980-85
Frazier Creek near Linden (d)	07346140	48.0	1965-91
Sabine River near Emory (d)	08017500	888	1952-73
Burnett Branch near Canton (e)	08017700	0.33	1966-74
Grand Saline Creek near Grand Saline (d)	08018200	91.4	1968-73
Burke Creek near Yantis (d)	08018730	33.10	1979-89
Dry Creek near Quitman (e)	08018950	63.6	1968-75
Lake Winnsboro near Winnsboro (d)	08019300	27.1	1962-86
Big Sandy Creek near Hawkins (e)	08019430	196	1980-82
Prairie Creek near Gladewater (d)	08020200	48.90	1968-77

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Sabine River near Longview (d)	08020500	2,947	1904-07, 1924-33
Rabbit Creek at Kilgore (d)	08020700	75.80	1964-77
Grace Creek Tributary at Longview (e)	08020800	5.05	1967-74
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 (d)	08021000	120	1940-49
Lake Cherokee near Longview (e)	08021500	158	1951-83
Sabine River near Tatum (d)	08022000	3,493	1939-78,
" " " " (e)			1979-82
Redmon Branch near Hallesville (e)	08022010	0.46	1966-74
Eight Mile Creek near Tatum (e)	08022050	106	1962-71
Martin Creek near Tatum (d)	08022070	148	1974-96
Martin Creek near Beckville (e)	08022080	192	1962-71
Murvaul 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	1952-81
Dorsey Branch near Milam (e)	08024290	0.70	1967-74
Patroon Bayou near Milam (e)	08024300	130	1952-54, 1959-63
Sabine River near Milam (d)	08024400	6,508	1924-25, 1939-68
Palo Gaucho Bayou near Hemphill (d)	08024500	123	1952-65
Housen Bayou near Yellowpine (e)	08025250	92.1	1952-54, 1957, 1959-63
Sandy Creek near Yellowpine (e)	08025300	135	1952-54, 1957, 1959-63
Mill Creek near Burkeville (d)	08025307	17.6	1974-79
Little Cow Creek below McGraw Creek near Burkeville (e)	08026500	112	1952-58
Moore Branch near Newton (e)	08028505	3.77	1967-74
Nichols Creek near Buna (e)	08029750	54.4	1959-64
Cypress Creek near Buna (d)	08030000	69.20	1952-83
Adams Bayou Tributary near Deweyville (e)	08030700	12.4	1966-74
Cow Bayou near Mauriceville (d)	08031000	83.30	1952-86
Bethlehem Branch near Van (e)	08031100	1.09	1966-74
Kickapoo Creek near Brownsboro (d)	08031200	232	1962-89
Neches River near Reese (d)	08031500	851	1924-27
Hurricane Creek Tributary near Palestine (e)	08032100	0.39	1966-74
One Arm Creek near Maydelle (e)	08032250	6.01	1967-74
Squirrel Creek near Elkhart (e)	08032300	1.57	1967-74
Neches River near Alto (d)	08032500	1,945	1944-79
Piney Creek Tributary near Pennington (e)	08033250	1.17	1967-74
Piney Creek near Groveton (d)	08033300	79	1962-89
Shawnee Creek Tributary near Huntington (e)	08033450	0.52	1966-74
Greenwood Creek Tributary near Colmesneil (e)	08033480	0.15	1966-74
Bowles Creek near Selman City (e)	08033600	14.5	1968-85
Striker Creek near Summerfield (d)	08033700	146	1941-49
Striker Creek Reservoir near New Salem (e)	08033800	148	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	1924-34, 1939-79
Bayou Lanana at Nacogdoches (d)	08037050	31.3	1965-86, 1988-93
Gingham Branch near Mt. Enterprise (e)	08037300	0.90	1967-74
Arenoso Creek near San Augustine (d)	08037500	75.30	1938-40
Angelina River near Zavalla (d)	08038500	2,892	1952-65

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Ayish Bayou at San Augustine (d)	08039000	15.80	1924-25
Angelina River at Horger (d)	08039500	3,486	1928-51, 1967-73
Little Sandy Creek Tributary near Jasper (e)	08039900	0.46	1967-74
Drakes Branch near Spurger (e)	08041400	5.03	1967-74
Hillebrandt Bayou near Lovell Lake (d)	08042500	128	1954-84
West Fork Double Bayou near Anahuac (e)	08042550	4.43	1967-74
North Creek SWS No. 28-A near Jermyn (e)	08042650	6.82	1972-80
North Creek near Jacksboro (d)	08042700	21.60	1956-80
Beans Creek at Wizard Wells (e)	08042900	29.60	1993-95
West Fork Trinity River at Bridgeport (d)	08043100	1,113	1984-89
West Fork Trinity River at Bridgeport (d)	08043500	1,147	1908-30
Big Sandy Creek near Bridgeport (d)	08044000	333	1937-95
Garrett Creek near Paradise (e)	08044135	52.5	1992-95
Salt Creek near Paradise (e)	08044140	52.7	1992-95
Walker Creek near Boyd (e)	08044200	2.95	1965-74
West Fork Trinity River at Lake Worth, Fort Worth (d)	08045500	2,069	1924-34
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	1959-73
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
Deer Creek Tributary near Crowley (e)	08048900	5.86	1967-74
Village Creek at Kennedale (d)	08048980	100	1986-89
Village Creek near Handley (d)	08049000	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
Mountain Creek near Duncanville (e)	08049900	225	1971-90
Mountain Creek near Grand Prairie (d)	08050000	273	1925-33
Elm Fork Trinity River SWS 6-O near Muenster (e)	08050200	0.77	1957-73
Elm Fork Trinity River near Muenster (d)	08050300	46	1957-73
Elm Fork Trinity River near Sanger (d)	08050500	381	1949-85
Isle Du Bois Creek near Pilot Point (d)	08051000	266	1949-85
Elm Fork Trinity River near Pilot Point (d)	08051130	692	1985-92
Elm Fork Trinity River above Aubrey (e)	08051190	684	1981-89
Elm Fork Trinity River near Denton (d)	08052000	1,084	1924-27
Lake Dallas near Lake Dallas (e)	08052500	1,165	1929-57
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
Indian Creek at Hebron Parkway at Carrollton (d)	08053010	15.0	1987-90
Furneaux Creek at Josey Lane at Carrollton (d)	08053030	4.10	1987-90
Hutton Branch at Broadway at Carrollton (e)	08053090	9.10	1987-90
Jones Valley Creek Tributary near Forestburg (e)	08053100	1.70	1966-74
Denton Creek near Roanoke (d)	08054000	621	1924-28, 1939-55
Gamble Branch near Argyle (e)	08054200	0.50	1965-74
Denton Creek near Grapevine (d)	08055000	705	1948-91
Joe's Creek at Royal Lane, Dallas (e)	08055580	1.94	1973-78
Joes Creek near Dallas (e)	08055600	7.4	1964-79
Bachman Branch at Dallas (d)	08055700	10	1964-79
Turtle Creek at Dallas (d)	08056500	7.98	1952-80, 1984-91
Coombs Creek at Sylvan Avenue, Dallas (e)	08057020	4.75	1965-78

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Cedar Creek at Bonnie View Road, Dallas (e)	08057050	9.42	1965-78
White Rock Creek at Keller Springs Road, Dallas (d)	08057100	29.40	1961-79
Spanky Branch at McCallum Lane at Dallas (e)	08057120	6.77	1962-78
Rush Branch at Arapaho Road, Dallas (e)	08057130	1.22	1973-78
Newton Creek at Interstate Highway 635, Dallas (e)	08057135	5.91	1974-78
Cottonwood Creek at Forest Lane, Dallas (e)	08057140	8.50	1962-78
Floyd Branch at Forrest Lane, Dallas (e)	08057160	4.17	1962-78
White Rock Creek at White Rock Lake, Dallas (d)	08057300	100	1963-79
Ash Creek at Highland Road, Dallas (e)	08057320	6.92	1963-78
Forney Creek at Lawnview Avenue, Dallas (e)	08057340	1.84	1963-72
White Rock Creek at Scyene Road, Dallas (d)	08057400	122	1963-79
Trinity River below Dallas (d)	08057410	6,278	1956-98
Elm Creek at Seco Boulevard, Dallas (e)	08057415	1.25	1973-78
Fivemile Creek at Kiest Boulevard, Dallas (e)	08057418	7.65	1974-78
Fivemile Creek at US Highway 77 West, Dallas (e)	08057420	14.30	1965-78
Woody Branch at US Highway 77 West, Dallas (e)	08057425	10.30	1965-78
Fivemile Creek at Lancaster Road, Dallas (e)	08057430	37.90	1965-78
White Branch at Interstate Highway 635, Dallas (e)	08057440	2.53	1974-78
Tenmile Creek at State Highway 342 at Lancaster (d)	08057450	52.80	1970-79
Honey Creek SWS #11 near McKinney (e)	08057500	2.14	1952-73
Honey Creek SWS #12 near McKinney (e)	08058000	1.26	1952-77
Honey Creek near McKinney (d)	08058500	39	1951-73
East Fork Trinity River near McKinney (d)	08059000	190	1949-75
Arls Branch near Westminster (e)	08059200	0.52	1965-74
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
Duck Creek at Buckingham Road, Garland (e)	08061620	8.05	1969-76
Duck Creek near Garland (d)	08061700	31.6	1958-93
South Mesquite Creek at State Highway 352, Mesquite (e)	08061920	13.40	1969-76
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
Bachelor Creek near Terrell (e)	08062850	13.0	1967-74
Kings Creek near Kaufman (d)	08062900	233	1963-87
Lacey Fork near Mabank (d)	08062980	118	1983-84
Cedar Creek near Mabank (d)	08063000	733	1939-66
South Twin Creek near Eustace (d)	08063003	27.40	1983-84
Red Oak Branch near Eustace (e)	08063005	0.90	1966-74
Cedar Creek at Trinidad (d)	08063020	1,011	1965-71
Briar Creek Tributary near Corsicana (e)	08063180	0.72	1966-74
Pin Oak Creek near Hubbard (d)	08063200	17.60	1956-72
Richland Creek near Richland (d)	08063500	734	1939-88
Alvarado Branch near Alvarado (e)	08063550	0.84	1966-74
Kings Branch near Reagor Springs (e)	08063620	0.62	1966-74
Chambers Creek near Corsicana (d)	08064500	963	1939-84
Richland Creek near Fairfield (d)	08064600	1,957	1972-83
Saline Branch Tributary near Bethel (e)	08064630	0.22	1967-74
Catfish Creek near Tennessee Colony (d)	08064800	207	1962-89
Mayes Branch near Latexo (e)	08065320	4.26	1967-74
Trinity River near Midway (d)	08065500	14,450	1939-71
Caney Creek near Madisonville (d)	08065700	112	1963-77
Nelson Creek near Riverside (e)	08065950	86.4	1949, 1965, 1970-74
Harmon Creek near Huntsville (e)	08065975	89.2	1973-81
West Carolina Creek near Oakhurst (e)	08066050	15.2	1949, 1966-73
White Rock Creek near Trinity (e)	08066100	222	1974-85
White Rock Creek near Trinity (e)	08066130	228	1966-74

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Tantaboque Creek near Trinity (e)	08066140	61.3	1966-73
Caney Creek near Groveton (e)	08066145	41.4	1966-73
Brushy Creek near Onalaska (d)	08066150	29.1	1966-70
Rocky Creek near Onalaska (e)	08066180	40.6	1966-73
Livingston Reservoir outflow weir near Goodrich (d)	08066191	16,583	1969-94
Long King Creek near Goodrich (d)	08066210	220	1972-81
Bluff Creek Tributary near Livingston (e)	08066280	0.62	1965-74
Big Creek near Shepherd(e)	08066400	38.80	1966-89
Gaylor Creek near Moss Hill (e)	08066800	32.3	1966-73
Devers Canal near Liberty (d)	08067080	N/A	1972-82
Cedar Bayou at Crosby (d)	08067500*	65.0	1972-91
Goose Creek near McNair (e)	08067520	6.7	1963-65,
Welch Branch near Huntsville (e)	08067550	2.35	1965-74
Lake Conroe near Montgomery (e)	08067580	445	1973-76
Lake Conroe at Outflow Weir near Conroe (d)	08067610	445	1974, 1977-89
Caney Creek near Dobbin (d)	08067700	40.40	1963-65
Landrum Creek Tributary near Montgomery (e)	08067750	0.13	1965-74
Lake Creek near Conroe (e)	08067900	291	1969-89
West Fork San Jacinto River near Porter (e)	08068100	970	1970-76
Mill Creek Tributary near Dobbin (e)	08068300	4.07	1967-73
Swale No. 8 at Woodlands (e)	08068438	0.55	1975-76, 1980-88
Spring Creek at Spring (d)	08068520	419	1975-95
Spring Creek near Humble (e)	08068600	435	1971-76
Cypress Creek at Sharp Road near Hockley (d)	08068700	80.7	1975-85
Cypress Creek near Cypress (e)	08068750*	138	1971-76
Little Cypress Creek near Cypress (d)	08068780*	41.0	1983-92
Cypress Creek at Grant Road near Houston (d)	08068800*	214	1983-92
Cypress Creek at Stuebner-Airline Road near Westfield (d)	08068900*	248	1982-87
Cypress Creek near Humble (e)	08069200	319	1971-76
West Fork San Jacinto River near Humble (d)	08069500	1,741	1929-54
Bear Creek near Cleveland (e)	08069850	1.46	1967-73
Caney Creek near New Caney (e)	08070600	178	1970-76
Peach Creek near New Caney (e)	08071100	155	1970-76
Tarkington Bayou near Dayton (e)	08071200	142	1964-76
Luce Bayou near Huffman (e)	08071300	226	1971-76
San Jacinto River near Huffman (d)	08071500	2,800	1937-53
Buffalo Bayou at Clodine (e)	08072400	84.2	1974-85
Langham Creek at West Little York Road, Addicks (d)	08072760*	25.0	1977-85
Bettina Street Ditch at Houston (e)	08073630	1.37	1979-85
Stony Brook Street Ditch at Houston (e)	08073750	0.50	1967-72
Bering Ditch at Woodway Drive, Houston (e)	08073800	2.77	1965-73
Cole Creek at Guhn Road at Houston (e)	08074100	7.05	1964-72
Bingle Road Storm Sewer at Houston (e)	08074145	0.21	1980-88
Cole Creek at Deihl Road at Houston (d)	08074150*	7.50	1964-86
Brickhouse Gully at Clarblak Street at Houston (e)	08074200	2.56	1965-83
Brickhouse Gully at Costa Rica Street at Houston (d)	08074250*	11.4	1964-81
Lazybrook Street Storm Sewer, Houston (e)	08074400	0.13	1978-88
Little White Oak Bayou at Houston (e)	08074550	20.9	1971-79
Buffalo Bayou at Main St., Houston (d)	08074600*	469	1962-94
Buffalo Bayou at McKee Street, Houston (d)	08074610	469	1992-2000
Buffalo Bayou at 69th Street, Houston (e)	08074700	476	1961-86
Brays Bayou at Addicks-Clodine Rd., Houston (e)	08074750	0.87	1974-77
Brays Bayou at Alief Road, Alief (e)	08074760*	12.9	1977-85
Keegans Bayou at Keegans Road near Houston (e)	08074780*	7.47	1964-71
Keegans Bayou at Roark Road near Houston (d)	08074800*	13.0	1964-85
Bintliff Ditch at Bissonnet Street, Houston (e)	08074850	4.38	1968-82
Willow Waterhole Bayou at Landsdowne Street, Houston (e)	08074900	3.81	1965-72
Hummingbird Street Ditch at Mullins Street, Houston (e)	08074910	0.32	1979-84

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Brays Bayou at Scott Street, Houston (e)	08075100	106	1971-81
Sims Bayou at Carlsbad Street, Houston (e)	08075300	3.81	1964-72
Sims Bayou at MLK Blvd., Houston (e)	08075470	48.4	1978-89
Berry Bayou at Gilpin Street, Houston (e)	08075550	2.87	1965-84
Berry Bayou Tributary at Globe Street, Houston (e)	08075600	1.58	1965-72
Berry Bayou at Forest Oaks Street, Houston (e)	08075650*	10.7	1968-82
Berry Bayou at Galveston Road, Houston (e)	08075700	4.86	1965-72
Huntington Bayou Tributary at Cavalcade Street, Houston (e)	08075750	1.20	1965-72
Huntington Bayou at Falls Street, Houston (e)	08075760	2.75	1964-84
Halls Bayou at Deertrail Street at Houston (e)	08076200	8.69	1965-84
Carpenters Bayou at Cloverleaf (e)	08076900	25.8	1964, 1971-93
Clear Creek near Pearland (d)	08077000	38.8	1944-45, 1946-60, 1963-94
Clear Creek Tributary at Hall Road, Houston (e)	08077100	1.31	1965-86
Clear Creek at Friendswood (d)	08077540	99.6	1994-97
Cowart Creek near Friendswood (e)	08077550	18	1965-74
Clear Creek near Friendswood (e)	08077600	126	1966-94
Armand Bayou near Genoa (e)	08077620	18.2	1968, 1971-73
Highland Bayou at Hitchcock (e)	08077700	15.6	1963-82
Highland Bayou Tributary near Texas City (e)	08077750	1.97	1966-73
Highland Bayou near Texas City (e)	08077780	20.8	1965-88
Flores Bayou near Danbury (e)	08078700	23.3	1967-72
Oyster Creek near Angleton (d)	08079000	171	1945-80
North Fork Double Mountain Fork Brazos River at Lubbock (d)	08079500	5,300	1940-49,
North Fork Double Mountain Fork Brazos River above Buffalo Springs nr Lubbock (e)	08079530	29.3	1952-54, 1957, 1962, 1967-76
Buffalo Springs Lake near Lubbock (e)	08079550	236	1967-77
Barnum Springs Draw near Post (e)	08079570	4.99	1965-73
North Fork Double Mountain Fork Brazos River near Post (d)	08079575	438	1984-93
Rattlesnake Creek near Post (e)	08079580	2.75	1966-74
Double Mountain Fork Brazos River near Rotan (d)	08080000	8,536	1950-51
Guest-Flowers Draw near Aspermont (e)	08080510	3.02	1965-74
McDonald Creek near Post (d)	08080540	103	1966-78
Running Water Draw at Plainview (d)	08080700	1,291	1939-53, 1957-78
Callahan Draw near Lockney (e)	08080750	37.5	1966-77
White River near Crosbytown (e)	08080800	529	1951-64
White River below falls near Crosbytown (e)	08080900	529	1951-64
Salt Fork Brazos River at Farm Road 1081 near Clairemont (e)	08080916	1,135	1968-77
Red Mud Creek near Spur (e)	08080918	65.1	1967-74
Salt Fork Brazos River at State Highway 208 near Clairemont (e)	08080940	1,357	1968-77
Duck Creek near Girard (d)	08080950	431	1965-89
Salt Fork Brazos River at U.S. Highway 380 near Jayton (e)	08080959	1,797	1968-77
Salt Fork Brazos River near Peacock (d)	08081000	4,619	1950-51, 1965-86
Short Croton Creek at mouth near Jayton (e)	08081050	18.1	1959-82
Croton Creek below Short Croton Creek near Jayton (e)	08081100	250	1959-82
Croton Creek near Jayton (d)	08081200	290	1959-86
Salt Croton Creek at Weir D near Aspermont (e)	08081400	55.5	1957-76
Haystack Creek at Weir E near Aspermont (e)	08081450	15.1	1957-77
Salt Croton Creek near Aspermont (d)	08081500	64.30	1957-77
Stinking Creek near Aspermont (d)	08082100	88.80	1966-83
North Croton Creek near Knox City (d)	08082180	251	1965-86
North Elm Creek near Throckmorton (e)	08082900	3.58	1965-77
Elm Creek near Profitt (e)	08082950	275	1969-85
Brazos River near Graham (d)	08083000	16,830	1916-20

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Clear Fork Brazos River at Hawley (d)	08083240	1,416	1968-89
Mulberry Creek near Hawley (d)	08083245	205	1968-89
Elm Creek near Abilene (d)	08083300	133	1964-79
Little Elm Creek near Abilene (d)	08083400	39.10	1964-79
Elm Creek at Abilene (d)	08083430	422	1980-83
Cedar Creek at Abilene (d)	08083470	119	1971-84
Paint Creek near Haskell (d)	08085000	914	1950-51
Humphries Draw near Haskell (e)	08085300	3.51	1965-77
Clear Fork Brazos River at Crystall Falls (d)	08086000	4,323	1922-29
Hubbard Creek near Sedwick (d)	08086015	128	1964-66
Hubbard Creek at Highway 380 near Moran (e)	08086020	152	1963-76
Deep Creek near Putnam (e)	08086030	33.8	1963-66
Brushy Creek near Putnam (e)	08086040	27.6	1963-66
Mexia Creek near Putnam (e)	08086045	67.0	1963-66
Deep Creek at Moran (d)	08086050	228	1963-75
Hubbard Creek near Albany (d)	08086100	454	1962-75
Salt Prong Hubbard Creek below Lake McCarty near Albany (e)	08086110	45.5	1963-66
Salt Prong Hubbard Creek at U.S. 380 near Albany (d)	08086120	61	1964-68
Cook Creek near Albany (e)	08086130	11.3	1963-76
North Fork Hubbard Creek near Albany (d)	08086150	39.3	1963-90
Salt Prong Hubbard Creek near Albany (d)	08086200	115	1962-63
Snailum Creek near Albany (d)	08086210	22.90	1964-66
Big Sandy Creek near Eolian (e)	08086220	91.4	1963-76
Battle Creek near Putnam (e)	08086230	32.0	1963-66
Battle Creek near Moran (d)	08086235	108	1967-68
Battle Creek near Eolian (e)	08086240	137	1963-66
Pecan Creek at FM 1853 near Eolian (e)	08086250	6.95	1963-66
Pecan Creek near Eolian (d)	08086260	26.40	1967-75
Big Sandy Creek near Breckenridge (e)	08086300	288	1962-75
Hubbard Creek near Breckenridge (d)	08086500	1,089	1955-86
Clear Fork Brazos River near Crystal Falls (e)	08087000	5,658	1916-20, 1928-51
Clear Fork Brazos River near Eliasville (d)	08087300	5,697	1916-20, 1924-25, 1928-51, 1962-82
Salt Creek at Olney (d)	08088100	11.80	1958-77
Salt Creek near Newcastle (d)	08088200	120	1958-60
Briar Creek near Graham (d)	08088300	24.20	1958-89
Brazos River at Farm Road 1287 near Graham (e)	08088420	13,432	1970-77
Big Cedar Creek near Ivan (d)	08088450	97	1965-89
Brazos River at Morris Sheppard Dam near Graford (d)	08088600	14,030	1990-94
Elm Creek Tributary near Graford (e)	08089100	1.10	1965-74
Lake Palo Pinto near Santo (e)	08090300	461	1964-82
Palo Pinto Creek near Santo (d)	08090500	573	1925, 1951-76
Cidwell Branch near Granbury (e)	08090850	3.37	1966-73
Morris Branch near Bluff Dale (e)	08091200	0.06	1965-73
Panther Branch near Tolar (e)	08091700	7.82	1966-74
Lake Pat Cleburne near Cleburne (d)	08091900	100	1965-85
Nolan River at Blum (d)	08092000*	282.0	1924-87
Brazos River near Whitney (d)	08093000	17,648	1939-74
Bond Branch near Hillsboro (e)	08093200	0.36	1965-74
Hackberry Creek at Hillsboro (d)	08093250	57.9	1980-92
Hackberry Creek below Hillsboro (e)	08093260	86.8	1980-92
Aquilla Creek above Aquilla (d)	08093360*	255.0	1980-92
Cobb Creek near Abbott (d)	08093400	12.40	1967-79
Aquilla Creek at RR bridge near Aquilla (e)	08093530	345	1976-85
Aquilla Creek at Farm Road 2114 near Aquilla (e)	08093540	351	1976-85
Aquilla Creek at Farm Road and 1858 near Ross (e)	08093560	392	1976-85
Aquilla Creek at Farm Road 933 near Ross (e)	08093580	397	1976-85

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
North Bosque River at Stephenville (d)	08093700	95.90	1958-79
Green Creek SWS #1 near Dublin (d)	08094000	4.19	1955-77
Green Creek near Alexander (d)	08094500	45.40	1958-73
South Bosque River near McGregor (e)	08095220	15.9	1967-73
Willow Branch at McGregor (e)	08095250	2.52	1966-73
Middle Bosque River near McGregor (d)	08095300*	182.0	1959-86
Hog Creek near Crawford (d)	08095400*	78.0	1959-86
South Bosque River near Speegleville (d)	08095500	386	1924-30
Bosque River near Waco (d)	08095600	1,656	1960-82
Box Branch at Robinson (e)	08096550	0.34	1965-73
Cow Bayou SWS No. 4 (inflow) near Bruceville (e)	08096800	5.04	1958-75
Cow Bayou at Mooreville (d)	08097000	83.50	1958-75
Brazos River near Marlin (d)	08097500	30,211	1939-51
Deer Creek at Chilton (d)	08098000	84.50	1934-36
Little Pond Creek at Burlington (d)	08098300	23	1963-82
Leon River near De Leon (d)	08099100*	479.0	1960-87
Sabana River near De Leon (d)	08099300*	264.0	1960-87
Sabana River Tributary near De Leon (e)	08099350	0.48	1966-74
Leon River near Hasse (d)	08099500	1,261	1939-91
Eidson Creek near Hamilton (e)	08100100	2.91	1965-73
Bermuda Branch near Gatesville (e)	08100400	0.50	1966-73
Hoffman Branch near Hamilton (e)	08100800	5.56	1966-74
Cowhouse Creek near Killeen (d)	08101500	667	1925, 1939-42
Nolan Creek at Belton (d)	08102600	112	1974-82
School Branch near Lampasas (e)	08102900	0.90	1966-73
Fleece Branch near Lampasas (e)	08103450	1.08	1965-74
Lampasas River at Youngsport (d)	08104000	1,240	1924-80
Lampasas River near Belton (d)	08104100*	1,321	1963-89
Salado Creek above Salado (e)	08104290*	134	1985-88
Salado Creek below Salado Springs (d)	08104310*	136	1985-87
N. Fork San Gabriel River upstream from State Highway 418 at Georgetown (e)	08104795*	271	1985-88
North Fork San Gabriel River at Georgetown (d)	08104800	268	1964-68
South Fork San Gabriel River near Bertram (e)	08104850	8.9	1967-74
San Gabriel River at Georgetown (d)	08105000*	405	1924-25, 1934-73, 1984-87
Berry Creek at State Hwy. 971 near Georgetown (d)	08105200*	117	1985-87
San Gabriel River near Weir (d)	08105300*	563	1977-90
San Gabriel River near Circleville (d)	08105400	599	1924-34, 1967-77
Avery Branch near Taylor (e)	08105900	3.52	1966-73
Brushy Creek at Coupland (d)	08106000	205.0	1924-26
Brushy Creek near Rockdale (d)	08106300	505	1967-80
San Gabriel River near Rockdale (d)	08106310	1,359	1975-92
Big Elm Creek near Temple (d)	08107000	74.70	1934-36
Big Elm Creek near Buckholts (d)	08107500	171	1934-36
North Elm Creek near Ben Arnold (d)	08108000	32.20	1935-36
North Elm Creek near Cameron (d)	08108200	44.80	1963-73
Little Branch near Bryan (e)	08108800	0.14	1966-73
Brazos River near Bryan (d)	08109000	39,515	1899-1903, 1918-92
Brazos River near College Station (d)	08109500	30,033	1899-1902, 1918-25
Yegua Creek near Somerville (d)	08110000	1,009	1924-92
Brazos River at Washington (e)	08110200	41,192	1966-95
Plummers Creek at Mexia (e)	08110350	4.42	1965-73
Navasota River near Groesbeck (d)	08110400	311	1965-79
Navasota River near Bryan (d)	08111000	1,454	1951-94, 1994-97
Navasota River near College Station (d)	08111010	1,809	1977-85

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Burton Creek at Villa Maria Road, Bryan (d)	08111025	1.33	1968-70
Hudson Creek near Bryan (d)	08111050	1.94	1968-70
Winkleman Creek near Brenham (e)	08111100	0.75	1965-73
Piney Creek near Bellville (e)	08111600	30.7	1948, 1955, 1958, 1964-89
West Fork Mill Creek near Industry (e)	08111650	15.3	1964-89
Mill Creek near Bellville (d)	08111700	376	1963-93
Brazos River near San Felipe (d)	08112000	35,100	1939-57
Brazos River near Wallis (e)	08112200	44,700	1974-75
Brazos River Authority Canal A near Fulshear (d)	08112500	N/A	1932-54, 1958-73
Richmond Irrigation Co. Canal near Richmond (d)	08113500	N/A	1932-54, 1956-78
Brazos River near Juliff (d)	08114500	45,084	1949-69
Seabourne Creek near Rosenberg (e)	08114900	5.78	1968-74
Fairchild Creek near Needville (d)	08115500	26.20	1947-55
Big Creek near Guy (d)	08116000	116	1947-50
Dry Creek near Rosenberg (d)	08116400	8.65	1959-79
Dry Creek near Richmond (d)	08116500	12.20	1947-50, 1957-58
San Bernard River near West Columbia (e)	08117700	766	1949, 1971-77
Mound Creek Tributary at Guy (e)	08117800	1.48	1966-73
Big Boggy Creek near Wadsworth (d)	08117900	10.30	1970-77
Bull Creek near Ira (d)	08118500	26.30	1948-54, 1959-62
Colorado River below Bull Creek near Ira (e)	08118600	3,524	1975-78
Bluff Creek near Ira (d)	08119000	42.60	1948-65
Bluff Creek at mouth near Ira (e)	08119100	44.1	1975-78
Colorado River near Ira (d)	08119500	3,483	1948-52, 1959-89
Morgan Creek near Westbrook (d)	08121500	273	1954-63
Graze Creek near Westbrook (d)	08122000	21.70	1954-59
Morgan Creek near Colorado City (d)	08122500	313	1947-49
Champlin Creek near Colorado City (d)	08123500	198	1948-59
Sulphur Springs Draw near Wellman (e)	08123620	41.80	1966-74
Beals Creek above Big Spring (d)	08123650	9,319	1959-79
Beals Creek at Big Spring (d)	08123700	9,341	1957-59
Beals Creek near Coahoma (d)	08123720	9,383	1983-88
Coahoma Draw Tributary near Big Spring (e)	08123750	2.38	1966-74
Bull Creek Tributary near Forsan (e)	08123760	0.4	1966-74
Colorado River near Silver (d)	08123900	14,997	1957-70
Bitter Creek near Silver (e)	08123920	4.3	1967-74
Salt Creek Tributary near Hylton (e)	08125450	0.25	1966-74
Oak Creek Reservoir near Blackwell (e)	08125500	238	1953-83
Fish Creek Tributary near Hylton (e)	08126300	0.25	1966-71
Colorado River at Ballinger (d)	08126500	16,413	1907-79
Dry Creek near Christoval (e)	08127100	0.79	1965-73
South Concho Irrigation Co. Canal at Christoval (d)	08127500	N/A	1940-83
Middle Concho River near Tankersley (d)	08128500	2,653	1930-61
Spring Creek above Tankersley (d)	08129300*	424.7	1961-95
Dove Creek Springs near Knickerbocker (d)	08129500*	N/A	1944-58
Dove Creek at Knickerbocker (d)	08130500*	226.43	1961-95
Spring Creek near Tankersley (d)	08131000	699	1930-60
South Concho River above Gardner Dam near San Angelo (e)	08131190	434	1966-74, 2000
South Concho River above Pecan Creek near San Angelo (e)	08131300	470	1963-84
Tom Green Co. WCID No. 1 Canal near San Angelo (d)	08131600	N/A	1963-81

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
South Concho River at San Angelo (d)	08132500	3,866	1932-53
Quarry Creek near Sterling City (e)	08133300	3.25	1965-73
North Concho River at Sterling City (d)	08133500*	588.0	1939-87
Broome Creek near Broome (e)	08133800	0.29	1965-73
Nolke Station Creek near San Angelo (e)	08134300	0.59	1965-73
Gravel Pit Creek near San Angelo (e)	08134400	0.19	1965-74
North Concho River at San Angelo (d)	08135000	1,525	1916-31, 1947-90
Concho River near Veribest (e)	08136150	5,610	1970-74, 1998-2000
Puddle Creek near Veribest (e)	08136200	12.0	1966-73
Frog Pond Creek near Eden (e)	08136300	1.96	1967-73
Mukewater Creek SWS No. 10A near Trickham (e)	08136900	15.3	1965-72
Mukewater Creek SWS No. 9 near Trickham (e)	08137000	4.02	1961-72
Mukewater Creek at Trickham (d)	08137500	70	1951-73
Deep Creek SWS No. 3 near Placid (e)	08139000	3.42	1954-60
Deep Creek near Mercury (d)	08139500	43.90	1954-73
Deep Creek SWS No. 8 near Mercury (e)	08140000	5.14	1952-71
Dry Prong Deep Creek near Mercury (d)	08140500	8.31	1951-71
Lake Clyde near Clyde (e)	08140600	36.9	1970-85
Pecan Bayou near Cross Cut (d)	08140700	532	1968-79
Jim Ned Creek near Coleman (d)	08140800	333	1965-80
McCall Branch near Coleman (e)	08141100	2.17	1966-73
Hords Creek near Valera (d)	08141500	54.20	1947-91
Hords Creek at Coleman (d)	08142000	107	1941-70
Brown County WID No. 1 Canal near Brownwood (d)	08142500	N/A	1950-83
Pecan Bayou at Brownwood (d)	08143500	1,660	1917-18, 1924-83
Brown Creek Tributary near Goldthwaite (e)	08143700	2.48	1966-73
Noyes Canal at Menard (d)	08144000	N/A	1924-83
Brady Creek near Eden (d)	08144800	101	1962-85
Brady Creek Tributary near Brady (e)	08145100	4.05	1967-73
Lake Buchanan near Burnet (e)	08148000	31,910	1937-90
Llano River Tributary near London (e)	08150200	0.58	1966-73
Stone Creek Tributary near Art (e)	08150900	0.40	1966-73
Llano River near Castell (d)	08151000	3,747	1924-39
Johnson Creek near Valley Spring (e)	08151300	5.66	1967-73
Sandy Creek near Kingsland (d)	08152000	327	1967-93
Little Flatrock Creek near Marble Falls (e)	08152700	3.20	1966-74
Spring Creek near Fredericksburg (e)	08152800	15.20	1967-73
Pedernales River at Stonewall (d)	08153000	647	1924-34
Cane Branch at Stonewall (e)	08153100	1.37	1965-71
Pedernales River near Spicewood (d)	08154000	1,294	1924-39
Lake Travis near Austin (d)	08154500	38,755	1940-90
Colorado River below Mansfield Dam, Austin (d)	08154510	38,755	1975-90
West Bull Creek at Loop 360 near Austin (e)	08154750	6.77	1976-82
Bull Creek at FM 2222, Austin (e)	08154760	30.4	1975-78
Bee Creek at West Lake Drive near Austin (e)	08154950	3.28	1980-82
Barton Creek near Camp Craft Road near Austin (d)	08155260	109	1982-89
Skunk Hollow Creek below Pond 1 at Austin (e)	08155400	0.12	1982-84
West Bouldin Creek at Riverside Drive, Austin (e)	08155550	3.12	1976-82
Shoal Creek at Steck Avenue, Austin (e)	08156650	2.79	1975-82
Shoal Creek at Northwest Park at Austin (d)	08156700	6.52	1975-84
Shoal Creek at White Rick Drive, Austin (e)	08156750	12.30	1975-82
Waller Creek at 38th Street, Austin (d)	08157000	2.31	1955-80
Waller Creek at 23rd Street, Austin (d)	08157500	4.13	1955-80
Walnut Creek at Farm-Market 1325 near Austin (e)	08158100	12.60	1975-88
Walnut Creek at Dessau Road, Austin (e)	08158200	26.20	1975-88
Ferguson Branch at Springdale Road, Austin (e)	08158300	1.63	1978-82
Little Walnut Creek at Georgian Drive, Austin (e)	08158380	5.22	1975-88
Little Walnut Creek at IH 35, Austin (e)	08158400	5.57	1975-82

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Little Walnut Creek at Manor Road, Austin (e)	08158500	12.1	1975-82
Walnut Creek at Southern Pacific Railroad bridge, Austin (e)	08158640	53.5	1975-86
Onion Creek at Buda (e)	08158800	166	1961-78,
" " " (d)			1979-83,
			1992-95
Bear Creek at Farm-Market Road 1626 near Manchaca (e)	08158820	24.0	1979-83
Little Bear Creek at Farm-Market Road 1626 near Manchaca (d)	08158825	21.0	1979
Slaughter Creek at FM 2304 near Austin (e)	08158860	23.1	1978-83
Boggy Creek (South) at Circle S Road, Austin (e)	08158880	3.58	1976-88
Fox Branch near Oak Hill (e)	08158900	0.12	1965-73
Williamson Creek at Oak Hill (d)	08158920	6.30	1978-93
Williamson Creek at Jimmy Clay Road, Austin (d)	08158970	27.60	1975-85
Onion Creek below Del Valle (e)	08159100	339	1962-75
Wilbarger Creek near Pflugerville (d)	08159150	4.6	1963-80
Big Sandy Creek near McDade (d)	08159165	38.70	1979-85
Big Sandy Creek near Elgin (d)	08159170	63.80	1979-85
Dogwood Creek near McDade (e)	08159180	0.53	1980-85
Dogwood Creek at Highway 95 near McDade (e)	08159185	5.03	1980-85
Reeds Creek near Bastrop (e)	08159450	5.22	1967-73
Dry Creek at Buescher Lake near Smithville (d)	08160000	1.48	1940-66
Colorado River at La Grange (d)	08160500	40,430	1939-55
Colorado River above Columbus (d)	08160700	41,403	1983-85
Dry Branch Tributary near Altair (e)	08161580	0.68	1966-73
Little Robin Slough near Matagorda (e)	08162530	3.4	1969
Cashs Creek near Blessing (e)	08162650	14.8	1969-77
East Carancahua Creek near Blessing (e)	08162700	81.2	1968,
			1970-83
West Carancahua Creek near Laward (e)	08162800	57.1	1970-76
Navidad River near Speaks (d)	08164350	437	1982-89,
			1995-2000
Navidad River at Morales (d)	08164370	549	1995-2000
Navidad River near Ganado (d)	08164500	826	1939-80
Guadalupe River above Kerrville (e)	08166150	488	1976-79
Turtle Creek Tributary near Kerrville (e)	08166300	0.46	1966-74
Guadalupe River near Comfort (d)	08166500	762	1918-32
Rebecca Creek near Spring Branch (d)	08167600	10.90	1960-79
Blieders Creek at New Braunfels (e)	08168600	16.0	1962-89
Panther Canyon at New Braunfels (e)	08168700	0.73	1962-89
Trough Creek near New Braunfels (e)	08168720	0.48	1966-74
W.P. Dry Comal Creek Tributary near New Braunfels (e)	08168750	0.32	1966-74
Dry Comal Creek at New Braunfels (e)	08168800	N/A	1962-74
Walnut Branch near Seguin (e)	08169750	5.46	1967-74
East Pecan Branch near Gonzales (e)	08169850	0.24	1965-74
San Marcos River at San Marcos (d)	08169950	83.7	1915-21
West Elm Creek near Niederwald (e)	08172100	0.44	1965-74
Plum Creek near Lockhart (d)	08172500	184	1925-30
San Marcos River at Ottine (d)	08173500	1,249	1915-43
Guadalupe River below Cuero (d)	08176000	4,923	1903-07,
			1916-19,
			1921-36
Irish Creek near Cuero (e)	08176200	15.5	1967-74
Three Mile Creek near Cuero (e)	08176600	0.48	1966-74
Coleto Creek Reservoir inflow (Guadalupe diversion) near Schroeder (d)	08176990	357	1980-94
Coleto Creek near Schroeder (d)	08177000	369	1930-34,
			1953-79
Olmos Creek Tributary at FM 1535 at Savano Park (e)	08177600	0.33	1969-81
Olmos Reservoir at San Antonio (e)	08177800	32.4	1968-71,
			1976-89.
			1992-95
San Antonio River at Woodlawn Avenue, San Antonio (e)	08177860	36.4	1989-95

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
San Antonio River at Dolorosa, San Antonio (d)	08177920	N/A	1980-86
San Antonio River at San Antonio (d)	08178000	41.8	1895-1906, 1915-29, 1939-97
Alazan Creek at St. Cloud Street, San Antonio (e)	08178300	3.26	1969-79
San Pedro Creek at Furnish St., San Antonio (d)	08178500*	2.60	1916-29
Harlandale Creek at W. Harding Street, San Antonio (e)	08178555	2.43	1977-81
Panther Springs Creek at FM 2696 near San Antonio (e)	08178600	9.54	1969-77
Lorence Creek at Thousand Oaks Blvd., San Antonio (e)	08178620	4.05	1980-84
West Elm Creek at San Antonio (e)	08178640	2.45	1976-88
East Elm Creek at San Antonio (e)	08178645	2.33	1976-81
Salado Creek Tributary at Bitters Road, San Antonio (e)	08178690	0.26	1969-81
Salado Creek at Rittman Road, San Antonio (e)	08178720	137.1	1968-81
Salado Creek Tributary at Bee Street, San Antonio (e)	08178736	0.45	1970-77
Salado Creek at E. Houston Street, San Antonio (e)	08178740	181	1968-81
Salado Creek at U.S. Highway 87, San Antonio (e)	08178760	186	1968-81
Salado Creek at Southcross Blvd., San Antonio (e)	08178780	188	1968-81
Bandera Creek Tributary near Bandera (e)	08178900	0.27	1966-74
Medina River near Pipe Creek (d)	08179000	474	1923-35, 1953-82
Red Bluff Creek near Pipe Creek (d)	08179100	56.30	1956-81
Medina River Tributary near Pipe Creek (e)	08179200	0.30	1966-74
Medina River at La Coste (d)	08180640	805	1987-2000
Medio Creek at Pearsall Road, San Antonio (e)	08180750	47.9	1987-95
Leon Creek Tributary at FM 1604, San Antonio (e)	08181000	5.57	1968-80
French Creek Tributary near Helotes (e)	08181200	1.08	1966-74
Ranch Creek near Helotes (d)	08181410		1978
Leon Creek Tributary at Kelly Air Force Base (d)	08181450	1.19	1969-79
Calaveras Creek SWS No. 6 (inflow) near Elmendorf (e)	08182400	7.01	1957-77
Calaveras Creek near Elmendorf (d)	08182500	77.20	1954-71
San Antonio River at Calaveras (d)	08183000	1,786	1918-25
Cibolo Creek near Boerne (d)	08183900	68.4	1963-95
Cibolo Creek near Bulverde (d)	08184000	198	1946-66
Cibolo Creek above Bracken (d)	08184500	250	1946-51
Cibolo Creek at Sutherland Springs (d)	08185500	665	1924-29
Ecleto Creek near Runge (d)	08186500	239	1962-89
Escondido Creek SWS No. 1 (inflow) near Kenedy (e)	08187000	3.29	1955-73
Escondido Creek at Kenedy (d)	08187500	72.40	1954-73
Escondido Creek SWS No. 11 (inflow) near Kenedy (e)	08187900	8.45	1959-77
Dry Escondido Creek near Kenedy (d)	08188000	9.43	1954-59
Baugh Creek at Goliad (e)	08188400	3.02	1966-74
Guadalupe-Blanco River Authority Calhoun Canal-Flume No. 2 near Long Mott (d)	08188750	N/A	1972-86
Guadalupe River at State Highway 35 near Tivoli (e)	08188810	10,280	1975-82
Medio Creek near Beeville (d)	08189300	204	1962-77
Olmos Creek Tributary near Skidmore (e)	08189600	0.58	1966-73
Chiltipin Creek at Sinton (d)	08189800	128	1970-91
Nueces River near Uvalde (d)	08191500	1,930	1928-39
Nueces River near Cinonia (d)	08192500	2,150	1915-25
Plant Creek near Tilden (e)	08194550	0.36	1965-74
Nueces River at Simmons (d)	08194600	8,561	1965-77
Frio River at Knippa (d)	08195700	N/A	1953
Dry Frio River at Knippa (d)	08196500	179	1953
East Elm Creek near Sabinal (e)	08198900	10.6	1967-74
Frio River near Frio Town (d)	08199700	1,460	1924-27
Hondo Creek near Hondo (d)	08200500	132	1953-64
Bone Creek near Hondo (e)	08200900	0.19	1965-74
Seco Creek near Utopia (d)	08202000	53.20	1952-61
Seco Creek Reservoir inflow near Utopia (d)	08202450	59.5	1991-98
Seco Creek near D'Hanis (d)	08202500	87.40	1952-64

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Parkers Creek Reservoir (d)	08202800	10.0	1991-99
Leona River Tributary near Uvalde (e)	08203500	1.21	1966-74
Leona River Spring Flow near Uvalde (d)	08204000*	1.21	1939-77
Leona River near Divot (d)	08204500	565	1924-29
Frio River at Calliham (d)	08207000	5,491	1925-26, 1932-81
Rutledge Hollow Creek near Poteet (e)	08207200	9.33	1966-74
Rutledge Hollow at 7th Street, Poteet (d)	08207220	N/A	1979-2000
Atascoas River at U.S. Highway 281, Pleasanton (d)	08207300	N/A	1973-2000
Atascosa River near McCoy (d)	08207500	530	1951-57
Lucas Creek near Pleasanton (e)	08207700	32.80	1966-73
Ramirena Creek near George West (d)	08210300	84.40	1968-72
Lagarto Creek near George West (d)	08210400	155	1972-89
Nueces River below Mathis (d)	08211100	16,726	1966-67
Rincon Bayou Channel near Calallen (d)	08211503	N/A	1996-2000
Pintas Creek Tributary near Banquete (e)	08211550	3.28	1966-74
Hamon Creek near Freer (e)	08211600	0.73	1965-73
San Diego Creek at Alice (d)	08211800	319	1964-89
Lake Alice at Alice (e)	08211850	150	1965-86
San Fernando Creek near Alice (d)	08212000	518	1962-63
North Las Animas Creek Tributary near Freer (e)	08212320	0.07	1969-74
Rio Grande at Vinton Bridge near Anthony (d)	08363840	28,680	1969-74
Northgate Reservoir at El Paso (e)	08365540	6.89	1973-75
Range Reservoir at El Paso (e)	08365545	11.89	1973-75
Franklin Canal at El Paso (d)	08365550	N/A	1969-72
McKelligon Canyon at El Paso (d)	08365600	2.30	1958-77
Government Ditch at El Paso (d)	08365800	6.40	1958-77
Rio Grande at Jaurez, MX (d)	08366000	29,350	1938-56
Riverside Canal near Socorro (d)	08366400	37,830	1969-72
Rio Grande at Island Station near El Paso (d)	08366500	29,743	1938-60
Rio Grande at Tornillo Branch near Fabens (d)	08367000	N/A	1924-38
Tornillo Drain at mouth near Tornillo (d)	08368000	N/A	1969-72
Tornillo Canal near Tornillo (d)	08368300	N/A	1969-72
Hudspeth Feeder Canal near Tornillo (d)	08368900	N/A	1969-72
Rio Grande at County Line Station near El Paso (d)	08369500	30,610	1938-60
Camo Rice Arroyo Tributary near Fort Hancock (e)	08370200	2.35	1966-74
Wild Horse Creek Tributary near Van Horn (e)	08370800	0.74	1966-73
Cibolo Creek near Presidio (d)	08373200	276	1971-77
Rio Grande above Presidio (lower Station) (d)	08373500	N/A	1901-13, 1924-54
Rio Grande at Langtry (d)	08377500	84,795	1900-14, 1920, 1924-60
Rio Grande Tributary near Langtry (e)	08377600	0.32	1966-74
Delaware River Tributary near Orla (e)	08407800	1.6	1966-74
Pecos River near Angeles (d)	08409500	20,540	1914-37
Salt Screwbean Draw near Orla (d)	08411500	464	1939-41, 1944-57
Pecos River near Mentone (d)	08414000	21,650	1922-26, 1969-73
Reeves County WID No. 2 Canal near Mentone (d)	08414500	N/A	1922-25, 1939-57, 1964-90
Ward County WID No. 3 Canal near Barstow (d)	08415000	N/A	1939-57, 1964-90
Pecos River above Barstow (d)	08416500	21,800	1916-21
Ward County Irrigation District No. 1 Canal near Barstow (d)	08418000	N/A	1922-25, 1939-57, 1964-90
Pecos River at Pecos (d)	08420500	22,100	1898-1907, 1914-15, 1922-26, 1939-55

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Madera Canyon near Toyahvale (d)	08424500	53.80	1932-49
Phantom Lake Spring near Toyahvale (d)	08425500*	N/A	1932-34, 1942-66
Giffin Springs at Toyahvale (d)	08427000*	N/A	1932-33
San Solomon Springs at Toyahvale (d)	08427500*	N/A	1932-34, 1941-65
West Sandia Spring at Balmorhea (d)	08429000	N/A	1932-33
East Sandia Spring at Balmorhea (d)	08430000	N/A	1932-33
Toyah Creek near Pecos (d)	08431000	1,024	1940-41, 1944-45
Salt Draw near Pecos (d)	08431500	1,882	1939-41, 1944-45
Limpia Creek below Fort Davis (d)	08431800	227	1962-77
Limpia Creek near Fort Davis (d)	08432000	303	1925-32
Barrilla Draw near Saragosa (d)	08433000	612	1925-26, 1932, 1976-83
Toyah Creek below Toyah Lake near Pecos (d)	08434000	3,709	1939-51
Grandfalls-Big Valley Canal near Barstow (d)	08435000	N/A	1922-26, 1939-57, 1964-76
Pecos River below Barstow (d)	08435500	25,980	1939-41
Toronto Creek near Alpine (d)	08435600	27.90	1971-76
Alpine Creek at Alpine (d)	08435620	18.10	1971-76
Moss Creek near Alpine (d)	08435660	11.30	1971-76
Sunny Glen Canyon near Alpine (d)	08435700	29.70	1968-77
Coyanosa Draw near Fort Stockton (d)	08435800	1,182	1964-77
Pecos County WID No. 2 (Upper Div.) Canal near Grandfalls (d)	08436500	N/A	1922-25, 1939-57, 1964-90
Courtney Creek Tributary near Fort Stockton (e)	08436800	0.44	1966-74
Pecos County WID No. 2 Canal near Imperial (d)	08437500	N/A	1940-57, 1964-90
Lake Leon Tributary near Fort Stockton (e)	08437550	1.59	1966-74
Pecos County WID No. 3 Canal near Imperial (d)	08437600	N/A	1940-57, 1964-90
Monument Draw Tributary at Pyote (e)	08437650	178	1966-74
Ward County WID No. 2 Canal near Grand Falls (d)	08437700	N/A	1939-57, 1964-90
Pecos River near Grand Falls (d)	08438100	27,810	1916-26
Pecos River below Grand Falls (d)	08441500	27,820	1921-26, 1939-56
Three Mile Mesa Creek near Fort Stockton (e)	08444400	1.04	1966-74
Comanche Springs at Fort Stockton (d)	08444500	N/A	1936-64
Pecos River near Sheffield (d)	08447000	31,600	1922-25, 1940-49
Independence Creek near Sheffield (d)	08447020	763	1974-85
Howards Creek Tributary near Ozona (e)	08447200	7.53	1967-73
Pecos River near Shumla (d)	08447400	35,162	1955-60
Pecos River near Comstock (d)	08447500	35,298	1900-54
Goodenough Springs near Comstock (e)	08448500	N/A	1929-60
Sonora Field Creek at Sonora (e)	08448800	2.60	1965-71
Devils River near Juno (d)	08449000	2,730	1925-49, 1964-73
Devils River near Comstock (d)	08449300	3,903	1955-58
Rough Canyon Tributary near Del Rio (e)	08449470	7.90	1967-73
Devils River near Del Rio (d)	08449500	4,185	1900-14, 1924-57
Evans Creek Tributary near Del Rio (e)	08449600	0.39	1966-73
Devils River near mouth, Del Rio (d)	08450500	4,305	1954-60

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Rio Grande near Del Rio (d)	08452500	123,303	1900-15, 1920, 1924-54
San Felipe Creek near Del Rio (e)	08453000	46.0	1931-60
Zorro Creek near Del Rio (e)	08453100	10.0	1966-74
East Perdido Creek near Brackettville (e)	08454900	3.39	1965-74
Pinto Creek near Del Rio (d)	08455000	249	1929-69, 1971-72
Rio Grande at San Antonio Crossing (d)	08458700	129,226	1952-60
Arroyo San Bartolo at Zapata (e)	08459600	0.61	1966-74
Rio Grande near Zapata (d)	08460500	163,344	1932-53
International Falcon Reservoir near Falcon Heights (d)	08461200	N/A	1953-60
Rio Grande at Roma (d)	08462500	166,464	1900-13, 1923-54
Rio Grande near Rio Grande City (d)	08465500	180,941	1932-54
Rio Grande Tributary near Rio Grande City (e)	08466100	1.20	1966-74
Rio Grande Tributary near Sullivan City (e)	08466200	0.40	1966-74
North Floodway South of McAllen (d)	08468000	N/A	1928-60
South Floodway South of McAllen (d)	08470000	N/A	1929-60
Rio Grande at Hildalgo (d)	08471500	176,100	1928-32, 1935, 1939, 1941-51
Rio Grande near Progreso Bridge (d)	08473300	176,228	1953-60
Rio Grande near San Beniot (d)	08473700	176,304	1953-60
Rio Grande at Matamoros, MX (d)	08474500	182,211	1900-13, 1923-54
Rio Grande near Brownsville (d)	08475000	176,333	1935-50

The following stations were discontinued as continuous-record surface-water-quality stations prior to the 2000 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	19,200	SC, T, Cl	1948-53,
		18,536	SC, T, pH, Cl	1969-77
Canadian River near Canadian	07228000	22,866	SC, T	1974-81
Prairie Dog Town Fork Red River near Wayside	07297910	4,221	SC, T	1969-81
Tule Creek near Silverton	07298200	1,150	SC, T, pH, Cl	1968-69
Prairie Dog Town Fork Red River near Brice	07298500	6,082	SC, pH, Cl, S	1949-51,
			T	1950-51
Mulberry Creek near Brice	07299000	534	SC, pH, Cl, S	1949-51
Prairie Dog Town Fork Red River near Lakeview	07299200	6,792	SC, T	1968-80,
			S	1979-80
Little Red River near Turkey	07299300	139	SC, T	1968-81,
			S	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,
				1994-97
Salt Fork Red River near Hedley	07299930	868	SC, T, pH, Cl	1956-61
Salt Fork Red River near Wellington	07300000	1,222	SC, T, pH, Cl	1952-54,
			SC, T	1968-91
North Pease River near Childress	07307600	1,434	SC, T	1973-79
Middle Pease River near Paducah	07307750	1,086	SC	1973-79,
			T	1973-79,
			S	1994-97
Middle Pease River near Paducah	07307760	1,128	SC	1980-82,
			T	1980
Pease River near Childress	07307800	2,754	SC, T	1968-82,
				1994-97
Pease River near Crowell	07308000	3,037	SC	1942-43
Pease River near Vernon	07308200	3,488	SC,T	1999
Red River near Burkburnett	07308500	20,570	SC, T	1968-81
North Fork Wichita River near Paducah	07311600	540	SC, T	1968-76
North Fork Wichita River near Crowell	07311622	591	SC	1971-76
Middle Fork Wichita River near Truscott	07311648	161	SC	1970-76
Truscott Brine Lake near Truscott	07311669	26.2	SC, T	1985-90
North Fork Wichita River near Truscott	07311700	937	SC, T	1969-92
South Fork Wichita River near Guthrie	07311780	239	SC	1970-76
South Wichita River below Low-Flow Dam near Guthrie	07311783	223	SC, T	1987-89
South Fork Wichita River at Ross Ranch near Guthrie	07311790	499	SC	1971-79,
			Cl	1988-97,
			S	1978-79
Wichita River near Seymour	07311900	1,874	SC, T	1968-79
Beaver Creek near Electra	07312200	652	SC,T	1969-70
				1996-99
Little Wichita River near Archer City	07314500	481	SC	1953-55,
			T	1953-54
Little Wichita River near Henrietta	07314900	1,037	SC, DO	1999
Little Wichita River near Henrietta	07315000	1,037	SC, T, pH, Cl	1953-56,
			S, T	1959-66,
East Fork Little Wichita River near Henrietta	07315200	178	T	1954
Little Wichita River near Ringgold	07315400	1,350	SC, pH, Cl	1959-62
Red River near Gainesville	07316000	30,872	SC, Cl	1944-46,
			SC, T, pH, Cl	1953-63,
			SC, T	1967-89,

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record (water years)
Red River at Denison Dam near Denison	07331600	39,720	SC	1944-89,
			T	1945-89
Little Pine Creek near Kanawha	07336750	75.40	T	1980
Red River near De Kalb	07336820	47,348	SC, T	1968-91
South Sulphur River near Cooper	07342500	527	SC, T, pH, Cl	1959-66,
				1968-72,
			SC, T	1973-89
Sulphur River near Talco	07343200	1,365	SC, T, pH, Cl	1966-72,
			SC, T	1973-91
White Oak Creek near Talco	07343500	494	SC, T, pH, Cl	1966-72,
			SC, T	1973-91
Sulphur River near Darden	07344000	2,774	SC, T, pH, Cl	1947-50
Big Cypress Creek near Pittsburg	07344500	366	SC, T, pH, Cl	1968-72,
			SC, T	1973-89
Little Cypress Creek near Jefferson	07346070	675	SC, T, pH, Cl	1968-72,
			SC, T	1973-91
Sabine River near Emory	08017500	888	SC, T, pH, Cl	1952-54
Grand Saline Creek near Grand Saline	08018200	91.40	SC, T, pH, Cl	1968-73
Sabine River near Mineola	08018500	1,357	SC, T, pH, Cl	1968-72,
			SC, T	1973-92
Lake Fork Creek near Quitman	08019000	585	SC, T, pH, Cl	1968-72,
			SC, T	1973-89
Big Sandy Creek near Big Sandy	08019500	231	SC, T, S	1985-86
Sabine River near Beckville	08022040	3,589	SC, T	1952-98
Sabine River below Toledo Bend near Burkeville	08026000	7,482	SC, T	1969-86,
			C	1969-75
Sabine River near Bon Wier	08028500	8,229	SC, T, C	1969-84
Sabine River near Ruliff	08030500	9,329	SC	1945,
				1947-98
			T	1947-98
			pH, DO	1968-75,
			C	1970-76,
			Cl	1968
Cow Bayou near Mauriceville	08031000	83.30	SC, T, pH, Cl	1952-54,
			SC, T	1954-56
Neches River near Neches	08032000	1,145	SC, T	1974-91
Neches River near Alto	08032500	1,945	SC, T	1950-69
Neches River near Diboll	08033000	2,724	SC, T	1970-81
Neches River near Rockland	08033500	3,636	SC	1941-42,
				1946-47
Angelina River near Lufkin	08037000	1,600	SC, T, pH, Cl	1955-78,
			SC, T	1955-
Attoyac Bayou near Chireno	08038000	503	SC, T	1984-99
Sam Rayburn Reservoir near Jasper	08039300	3,449	SC, T	1964-84,
				1993-99
Angelina River below Sam Rayburn Dam near Jasper	08039400	3,449	SC, T	1964-79
Angelina River at SH 63 near Ebenezer	08039500	3,435	SC, T	1994-99
Village Creek near Kountze	08041500	860	SC, T	1968-70
Pine Island Bayou near Sour Lake	08041700	336	SC, T, pH, Cl	1968-72,
			SC, T	1973-89
Big Sandy Creek near Bridgeport	08044000	333	SC, T, S	1968-77,
Lake Worth above Fort Worth	08045400	2,064	pH, Cl	
Clear Fork Trinity River at Fort Worth	08047500	518	SC, pH, Cl	1949-52,
			T	1948-62
Village Creek at Everman	08048970	84.5	SC, pH, T, DO	1990
Elm Fork Trinity River SWS # 6-0 near Muenster	08050200	0.77	S	1957-66

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record (water years)
Elm Fork Trinity River near Muenster	08050300	46	SC	1967-68,
			T	1957-58, 1966-68,
			S	1957-68
Clear Creek near Sanger	08051500	295	SC, T, S	1968-77
Little Elm Creek near Celina	08052650	46.70	SC	1967-75,
			T, S	1966-75
Little Elm Creek near Aubrey	08052700	75.50	SC	1967-75,
			T, S	1967-75
Elm Fork Trinity River near Lewisville	08053000	1,673	SC	1982-86,
			T	1976-86
White Rock Creek at Greenville Avenue, Dallas	08057200	66.4	SC, pH, T, DO	1997-2000
Trinity River below Dallas	08057410	6,278	SC, T	1968-2000,
			S	1972-75, 1998-2000
			Cl	1970-81, 1998-99
Lavon Lake near Lavon	08060500	770	SC,T,CL	1969-74, 1975,82, 1995-99
Duck Creek near Garland	08061700	31.6	SC, pH, T, DO	1988-89
East Fork Trinity River above Seagoville	08061970	1,183	SC, T, pH, DO	1987-93
East Fork Trinity River at Seagoville	08061980	1,224	SC, pH, T, DO	1987-96
East Fork Trinity River near Crandall	08062000	1,256	SC, T	1968-1981, 1987-2000
			pH, DO	1977, 1986-2000
			Cl	1964-81, 1986-2000
Trinity River at Trinidad	08062700	8,538	SC, T	1967-81 1986-2000
			pH, DO	1967-81, 1986-2000
			Cl	1966-94
			S	1978-94
Cedar Creek near Mabank	08063000	733	SC, T, pH, Cl	1956-57
Pin Oak Creek near Hubbard	08063200	17.60	SC	1967-72,
			T	1957-60, 1965-72,
			S	1957-60, 1962-72
Richland Creek near Richland	08063500	734	SC, T, pH, Cl	1968-69,
			SC, T	1983-89
Chambers Creek near Corsicana	08064500	963	SC, T, pH, Cl	1961-70
Richland Creek near Fairfield	08064600	1,957	SC, T, pH, Cl	1956-66, 1972,
			SC, T	1973-83
Trinity River near Oakwood	08065000	12,833	SC, T, pH, Cl	1948-54,
			SC, T, S	1977-81
Bedias Creek near Madisonville	08065800	321	SC, T	1985-87,
			S	1986
Long King Creek at Livingston	08066200	141	SC, T, pH, Cl	1963-72
Trinity River near Goodrich	08066250	16,844	SC, T	1970-73
Trinity River near Moss Bluff	08067100	17,738	SC, pH, Cl	1950-65
Old River near Cove	08067200	19.0	SC, pH, Cl	1950-65,
			T	1965
Trinity River at Anahuac	08067300	17,912	SC, pH, Cl	1950-65

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record (water years)
West Fork San Jacinto River near Conroe	08068000	828	SC, T	1962-90,
			DO	1979-81
Panther Branch near Spring	08068450	34.50	S	1975-76
West Fork San Jacinto River near Humble	08069500	1,741	SC, Cl	1945-46
East Fork San Jacinto River near New Caney	08070200	388	SC,T	1984-99
San Jacinto River near Huffman	08071500	2,800	SC	1945-54,
			T	1949-54
Buffalo Bayou at West Belt Drive at Houston	08073600	307	SC, T	1979-81
Buffalo Bayou at Houston	08074000	358	SC, pH, T, DO	1986-2000
			Cl	1969-81
Whiteoak Bayou at Main Street, Houston	08074598	127	SC, T, DO	1992-97
Buffalo Bayou at Main Street, Houston	08074600	469	SC, T, DO	1986-92
Buffalo Bayou at McKee Street, Houston	08074610	469	SC, T, DO	1992-2000
			pH	1998-2000
Sims Bayou at Houston	08075500	63.0	SC, T, DO	1994-97
Chocolate Bayou near Alvin	08078000	87.70	SC, T	1978-81
North Fork Double Mountain Fork Brazos River near Post	08079575	438	SC, T	1984-93
Double Mountain Fork Brazos River near Rotan	08080000	8,536	SC, T	1950-51
Double Mountain Fork Brazos River near Aspermont	08080500	8,796	SC, T, S	1949-51
			SC, T	1957-95
McDonald Creek near Post	08080540	103	SC, T	1964-78
Salt Fork Brazos River near Peacock	08081000	4,619	SC, T	1950-51,
				1965-86
Croton Creek near Jayton	08081200	290	SC, T	1961-80
Salt Croton Creek near Aspermont	08081500	64.30	SC	1969-77,
			T	1972-73
Salt Fork Brazos River near Aspermont	08082000	5,130	SC, T, pH, Cl	1949-51,
			SC, T	1957-82
Stinking Creek near Aspermont	08082100	88.80	T	1950,
			SC, T	1966-69
North Croton Creek near Knox City	08082180	251	SC, T	1966-86
Brazos River at Seymour	08082500	15,538	SC, T	1960-95
Medina River near Somerset	08082800	967	SC, T, Cl	1998-2000
Clear Fork Brazos River at Hawley	08083240	1,416	SC, T	1968-79,
				1982-84
Clear Fork Brazos River at Nugent	08084000	2,199	SC, T, pH, Cl	1948-53
California Creek near Stamford	08084800	478	SC, T	1963-79
Paint Creek near Haskell	08085000	914	SC, T	1950-5
Clear Fork Brazos River at Fort Griffin	08085500	3,988	SC, T, S	1950-51,
			SC, T	1968-79,
				1982-84
Hubbard Creek near Sedwick	08086015	128	SC, T	1964-66
Deep Creek at Moran	08086050	228	SC, T	1963-75
Hubbard Creek near Albany	08086100	454	SC, T	1962-75
Salt Prong Hubbard Creek at U.S. Highway 380 near Albany	08086120	61	SC, T	1964-68
North Fork Hubbard Creek near Albany	08086150	39.30	SC, T	1964-90
Salt Prong Hubbard Creek near Albany	08086200	115	SC, T	1962-63
Snailum Creek near Albany	08086210	22.90	SC, T	1964-66
Battle Creek near Moran	08086235	108	SC, T	1967-68
Pecan Creek near Eolian	08086260	26.40	SC, T	1967-75
Big Sandy Creek near Breckenridge	08086300	288	SC, T	1962-77
Hubbard Creek near Breckenridge	08086500	1,089	SC, T	1955-75
Clear Fork Brazos River at Eliasville	08087300	5,697	SC, T	1962-82
Brazos River near South Bend	08088000	22,673	SC, Cl	1942-48,
			SC, T	1978-81
Salt Creek at Olney	08088100	11.80	SC, T	1958-60
Salt Creek near Newcastle	08088200	120	SC, T	1958-60

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record (water years)
Brazos River at Morris Sheppard Dam near Graford	08088600	23,596	SC	1942-91,
			T	1950-55, 1966-91
Brazos River near Dennis	08090800	25,237	SC, T	1971-95
Brazos River at Whitney Dam near Whitney	08092600	27,189	SC, T	1947-97
Aquilla Creek above Aquilla	08093360	255	SC, T	1980-83
Aquilla Creek near Aquilla	08093500	308	SC, T	1966, 1968-82
Brazos River near Highbank	08098290	30,436	T	1968-84
Leon River near Eastland	08098500	235	SC, T	1950-53
Leon River near Hasse	08099500	1,261	SC, T	1980-82, 1990-97
Leon River near Belton	08102500	3,542	T	1957-72
South Fork Rocky Creek near Briggs	08103900	33.30	S	1963-65
Lampasas River at Youngsport	08104000	1,240	SC, T	1961-64
Little River near Little River	08104500	5,228	SC, T	1965-73, 1980-82
Little River near Cameron	08106500	7,065	SC, T	1959-97
San Gabriel River near Weir	08105300	563	T	1977-82
San Gabriel River at Laneport	08105700	738	T	1977-82
Brazos River at State Highway 21 near Bryan	08108700	39,049	SC, T	1961-65
Brazos River near Bryan	08109000	39,515	SC, T	1966
Brazos River near College Station	08109500	39,599	SC, T	1961-84
Yegua Creek near Somerville	08110000	1,009	SC, T	1961-67
Navasota River above Groesbeck	08110325	239	SC, T	1968-89
Navasota River near Groesbeck	08110400	311	SC, T	1968-78
Navasota River near Easterly	08110500	968	SC	1942-43, 1947
Navasota River near Bryan	08111000	1,454	SC, T	1959-81,
			S	1976-81
Brazos River near Richmond	08114000	45,007	S	1966-86,
			SC	1942-95,
			T	1951-95
Brazos River near Rosharon	08116650	45,399	SC, T	1969-80
Brazos River at Harris Reservoir near Angleton	08116700	44,000	SC	1962-77,
			T	1967-77
Brazos River at Brazoria Reservoir near Brazoria	08117200	44,000	SC	1962-77,
			T	1967-77
San Bernard River near Boling	08117500	727	SC, T	1978-81
Colorado River above Bull Creek near Knapp	08118200	N/A	SC, T, Cl	1950-52
Bull Creek near Ira	08118500	26.30	SC, T, pH, Cl	1950-51
Bluff Creek near Ira	08119000	42.60	SC, T, pH, Cl	1950
Colorado River near Ira	08119500	3,483	SC, T	1950-52, 1959-70, 1975-82,
			Cl	1951-52
Deep Creek near Dunn	08120500	198	SC, T	1953-54
Morgan Creek near Westbrook	08121500	273	T	1954-55
Graze Creek near Westbrook	08122000	21.70	T	1954-55
Morgan Creek near Colorado City	08122500	313	T	1947-49
Lake Colorado City near Colorado City	08123000	340	T	1954-55
Beals Creek above Big Spring	08123650	9,319	SC, T	1973-78
Beals Creek near Big Spring	08123700	9,341	SC, T	1956-57
Beals Creek near Coahoma	08123720	9,383	SC, T	1983-88
Colorado River near Silver	08123900	14,997	SC, T	1957-68
Colorado River at Robert Lee	08124000	15,307	SC, T, pH, Cl	1948-51,
			S	1949-51

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record (water years)
Oak Creek near Blackwell	08126000	209	SC, T	1950
Colorado River at Ballinger	08126500	16,413	SC, T	1961-79,
			S	1978-79
Pecan Bayou at Brownwood	08143500	1,660	SC, T	1948-49
Pecan Bayou near Mullin	08143600	2,073	SC, T	1968-91
San Saba River near San Saba	08145500	N/A	SC, T	1962-65
San Saba River at San Saba	08146000	3,046	SC	1962-69,
			T	1963-70
Colorado River near San Saba	08147000	37,217	SC, T	1947-92,
			S	1951-62
Llano River at Llano	08151500	4,197	SC, T	1979-81
Lake Austin at Austin	08154900	38,240	SC, T	1965-80
Barton Creek below Barton Springs at Austin	08155505	125	SC, T,	1965,
				1975-83,
				1989-91,
				1994-97
Waller Creek at 23rd Street at Austin	08157500	4.13	T	1955-60
East Bouldin Creek at South 1st Street, Austin	08157600	2.4	Cl	1997-2000
Colorado River at Austin	08158000	39,009	SC, T	1948-91
Colorado River above Columbus	08160700	41,403	SC, T	1983-86
Colorado River at Columbus	08161000	41,640	SC	1967-73,
			T	1957-59,
				1961-68
			S	1957-73
Colorado River at Wharton	08162000	42,003	SC	1945-92,
			T	1946-48,
Lavaca River near Edna	08164000	817	SC, T	1978-81
Navidad River near Speaks	08164350	437	SC, T, pH, Cl	1996-97
Navidad River near Ganado	08164500	826	SC, T	1960-80
Guadalupe River near Spring Branch	08167500	1,315	SC	1942-45
Guadalupe River at Sattler	08167800	1,436	T	1984-87
Blanco River at Wimberley	08171000	355	T	1977-78
Plum Creek near Luling	08173000	309	SC, T	1968-86
Sandies Creek near Westhoff	08175000	549	S	1966
			Cl	1962-99
Guadalupe River at Victoria	08176500	5,198	SC	1946-81,
			T	1951-81
Coleto Creek Reservoir (Condenser No. 1) near Fannin	08177360	414	T	1980-94
Coleto Creek Reservoir (outflow) near Victoria	08177410	494	T	1980-94
Olmos Creek at Dresden Drive, San Antonio	08177700	21.2	SC, pH, T, DO	1969-99
			S	1973
San Antonio River at San Antonio	08178000	41.8	SC, T	1991-92,
				1996-97
San Antonio River at Mitchell Street, San Antonio	08178050	42.4	SC, pH, T, DO	1992-99
San Antonio River at Loop 410 at San Antonio	08178565	125	SC, pH, T, DO	1987-2000
Medina River near Macdona	08180700	885	SC, pH, T, DO	1998-2000
Medina River at La Coste	08180640	805	SC, pH, T, DO	1987-95
Medio Creek at Pearsall Rd. at San Antonio	08180750	47.9	SC, pH, T, DO	1987-95
Ingram Road Outfall at Leon Creek Tributary at San Antonio	08181410	0.02	SC, pH, T, DO	1994-2000
Leon Creek at Interstate Highway 35 at San Antonio	08181480	219	SC, pH, T, DO	1985-2000
Medina River at San Antonio	08181500	1,317	SC, pH, T, DO	1987-2000
			Cl	1965-2000
San Antonio River near Falls City	08183500	2,113	SC, pH, T, DO	1987-96
Cibolo Creek near Falls City	08186000	827	SC, T	1969-91
Escondido Creek SWS #1 near Kenedy	08187000	3.29	S	1955-65
Guadalupe River at Tivoli	08188800	10,128	SC, T	1966-82
Mission River at Refugio	08189500	690	SC, T	1961-81

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record (water years)
Nueces River at Cotulla	08194000	5,171	SC	1942
Nueces River near Tilden	08194500	8,093	SC, T, S	1950
Frio River at Calliham	08207000	5,491	SC, T	1968-81
Nueces River near Three Rivers	08210000	15,427	SC	1945-47,
			SC, T, pH, Cl, S	1951-52,
			SC, T	1975-81
Nueces River at Bluntzer	08211000	16,772	SC, T	1948-91
Los Olmos Creek near Falfurrias	08212400	480	SC, T	1975-81
Rio Grande at El Paso	08364000	29,267	SC, pH, T, DO	1930-2000
Rio Grande at Fort Quitman	08370500	31,944	SC, T	1975-78.
Rio Grande at Foster Ranch near Langtry	08377200	80,742	SC, T	1975-81
Pecos River below Red Bluff Dam near Orla	08410100	20,720	SC	1937-69,
			T	1953-69
Salt Draw near Orla	08411500	464	SC, T	1943-48
Pecos River near Mentone	08414000	21,650	SC	1939
Pecos River at Pecos	08420500	22,100	SC	1939-41
Toyah Creek near Pecos	08431000	1,024	SC	1940,
				1944
Salt Draw near Pecos	08431500	1,882	SC	1940,
				1944
Toyah Creek below Toyah Lake near Pecos	08434000	3,709	SC	1940-50,
			Cl	1940
Pecos River below Grand Falls	08441500	27,820	SC	1939-42,
				1947-56
Pecos River near Girvin	08446500	29,560	SC	1940-41,
				1947,
				1954-82
			T	1954-59,
				1964-82
Pecos River near Sheffield	08447000	31,600	SC	1940-41,
				1947
Pecos River near Langtry	08447410	35,179	SC, T	1971-76,
				1981-85
Devils River at Pafford Crossing near Comstock	08449400	3,961	SC, T	1978-85
Rio Grande at Laredo	08459000	132,578	SC	1975-86,
			T	1974-76
Rio Grande at Roma	08462500	166,464	SC	1942-43
Rio Grande at Fort Ringgold, Rio Grande City	08464700	174,362	SC, pH, T	1959-2000
Rio Grande near Los Ebanos	08466300	N/A	SC, pH, T	1977-2000
Rio Grande at Mission Pumping Plant	08468000	171,800	SC	1945-50
Rio Grande below Anzalduas Dam	08469200	176,112	SC, pH, T	1967-72,
				1959-2000
Rio Grande at Cameron Co. WID #2 near San Benito	08473800	N/A	SC	1942-43
Rio Grande at Los Fresnos Pumping Plant near Brownsville	08474130	N/A	SC	1945-46
Rio Grande near Brownsville	08475000	176,333	SC	1943-44,
			SC, T	1967-83
			S	1966-83

WATER RESOURCES DATA—TEXAS, 2001

VOLUME 5

GUADALUPE RIVER BASIN, NUECES RIVER BASIN, RIO GRANDE 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 six 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 5 contains records for water discharge at 77 gaging stations; stage only at 4 gaging stations; stage and contents at 5 lakes and reservoirs; and water quality at 27 gaging stations. Also included are data for 23 partial-record stations comprised of 3 flood-hydrograph, 8 low-flow, 4 crest-stage, and 3 miscellaneous measurement 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, and expanding to five volumes beginning with the 1999 water year. 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-01-5." 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 (703)) 605-6000.

Additional information, including the current prices, for ordering specific reports may be obtained from the Texas District Chief at the address given on the back of the title page or by telephone (512) 927-3500.

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 water year 2001 are:

- Corps of Engineers, U.S. Army.
- International Boundary and Water Commission United States and Mexico, U.S. Section.
- National Park Service
- 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, Fort Worth, Gainesville, Garland, Georgetown, Graham, Houston, Lubbock, Nacogdoches, San Angelo, and Wichita Falls; Bexar, Medina, and Atascosa Counties Water Improvement District No. 1; Barton Springs/Edwards Aquifer Conservation District; Brazos River Authority; Canadian Municipal Water Authority; Coastal Water Authority; Colorado River Municipal Water District; Dallas Public Works Department; Dallas Water Utilities; Edwards Underground Aquifer Authority; Fort Bend Subsidence District; Franklin County Water District; Galveston County; Greenbelt Municipal and Industrial Water Authority; Guadalupe-Blanco River Authority; Harris-Galveston Coastal Subsidence District; Harris County Office of Emergency Management; Harris County Flood Control District: Houston-Galveston Area Council; Lavaca-Navidad River Authority; Lower Colorado River Authority; Lower Neches Valley Authority; 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 of Texas; Sabine River Authority of Texas; Sabine River Compact Administration; San Antonio City Public Service Board; San Antonio River Authority; San Antonio Water System; San Jacinto River Authority; Somervell County Water District; Tarrant Regional Water District; Texas Soil & Water Conservation Board; Texas State Department of Highways & Public Transportations; Texas Natural Resources Conservation Commission; Titus County Fresh Water Supply District No. 1; Trinity River Authority; Upper Colorado 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 averaged above normal during water year 2001.

Conservation storage in 77 selected reservoirs throughout the State, with a combined conservation capacity of 34,481,000 acre-feet, increased from 67 percent at the end of September 2000 to 76 percent at the end of September 2001. Records from these reservoirs indicate that storage increased in 54, decreased in 20, and remained the same in 3.

The area for which water resources data are presented in volume 5 includes the Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening Coastal Basins. The area described in volume 5 and the location of selected streamflow-gaging and water-quality stations in the area are shown in figure 1.

Streamflow

In the area covered in volume 5, streamflow averaged above normal during water year 2001. Streamflow for water year 2001 and streamflow for the period of record at the four selected stations (fig. 1) for which data are included in volume 5 is presented in table 1.

At the four long-term hydrologic index stations in the State, monthly mean streamflow during water year 2001 averaged above normal. Monthly mean discharges for water year 2001 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 Guadalupe River was above normal for November through April and September, and normal for the remaining 5 months. The station Neches River near Rockland had above normal streamflow during November through March, June, and September and normal for the remaining 5 months. The station North Bosque River near Clifton had above normal streamflow during November, January, February and March, below normal streamflow during June and August, and normal streamflow for the remaining 6 months. The station North Concho River near Carlsbad had above normal streamflow for October and November, below normal streamflow for May, and normal streamflow for the remaining 9 months of water year 2001.

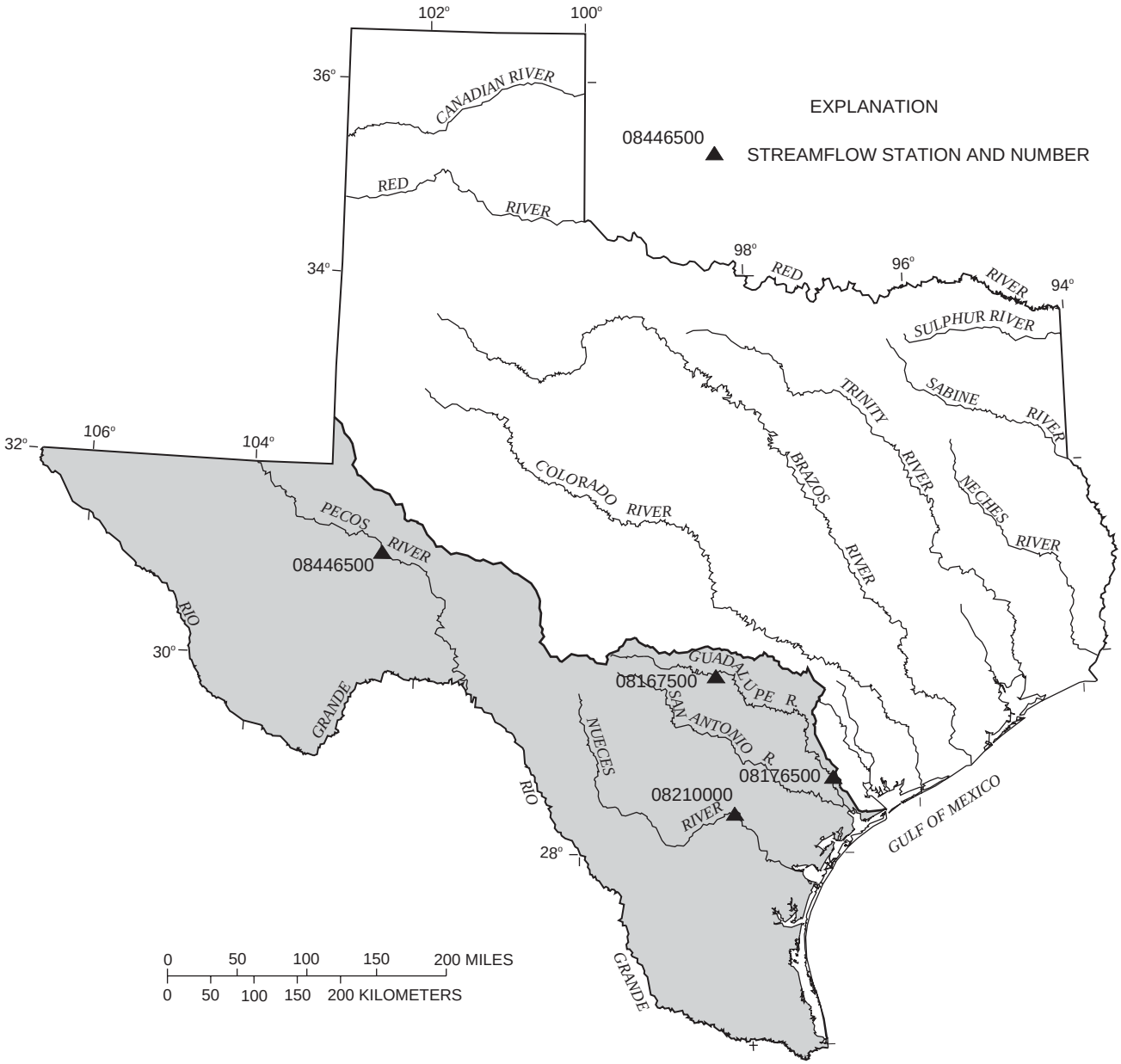


Figure 1. Area of Texas covered by volume 5 (shaded) and location of selected streamflow and water-quality stations in volume 5.

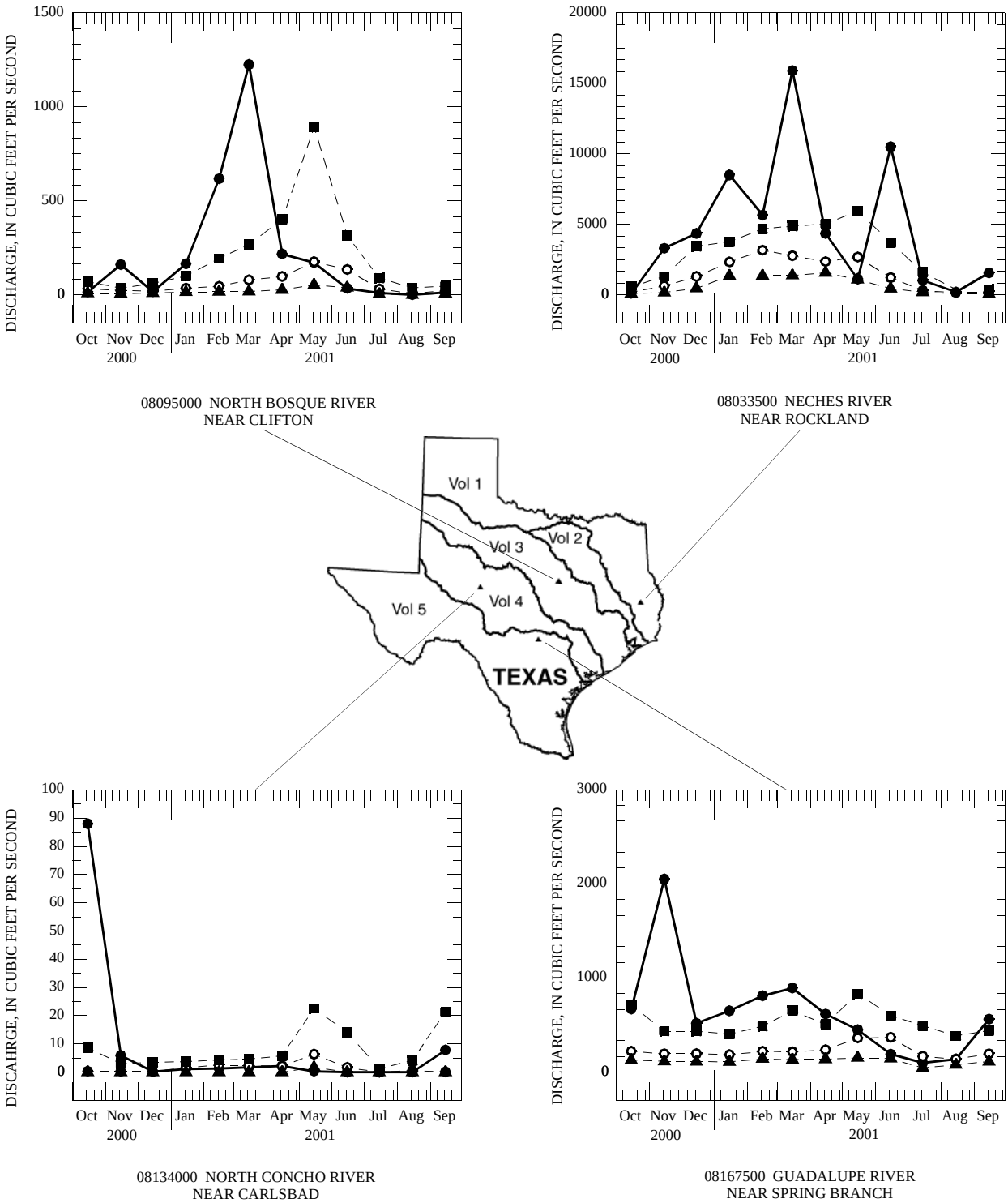


Figure 2. Monthly mean discharges at four long-term hydrologic index stations during 2001 water year and median of the monthly mean discharges for 1961–90 water years.

Conservation storage in 8 selected reservoirs in this area of the State, with a total combined conservation capacity of 5,244,000 acre-feet, increased from 36 percent of capacity at the end of September 2000 to 40 percent of capacity at the end of September 2001. Records from these reservoirs indicate that storage increased in 5 and decreased in 3.

Water Quality

Dissolved-solids concentrations in most streams in the State are inversely related to streamflow discharges. 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 where discharge is controlled by reservoirs, the dissolved-solids concentrations may remain relatively constant despite substantial fluctuations in precipitation and runoff.

Table 1. Streamflow at four selected stations

Station no. and name		Discharge during 2001 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
Guadalupe River Basin							
08167500	Guadalupe River near Spring Branch, TX 1/	35,100	23	634	i160,000	0	428 (1956-2001)
08176500	Guadalupe River at Victoria, TX	39,300	271	2,513	i466,000	14	1,902 (1935-2001)
Nueces River Basin							
08210000	Nueces River near Three Rivers, TX	5,660	28	260	18,300	0	674 (1946-2001)
Rio Grande Basin							
08446500	Pecos River near Girvin, TX	125	5.3	18.6	k20,000	1.9	70.7 (1939-2001)

1/ Hydrologic index station.
i From indirect measurement of peak flow.
k From supplementary gage.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the streamflow representative of undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities. At 10 of these sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the effects of acid deposition on stream chemistry. Additional information on the Hydrologic Benchmark Program can be found at http://water.usgs.gov/hbn/.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations were operated in the Mississippi, Columbia, Colorado, and Rio Grande. From 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia so that a network of 5 stations could be implemented on the Yukon River. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of the constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals. Additional information about the NASQAN program can be found at http://water.usgs.gov/nasqan/.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical constituents in precipitation throughout the United States. As the lead federal agency, the USGS works together with over 100 organizations to provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 225 precipitation-chemistry monitoring sites. This long-term, nationally consistent monitoring program, coupled with ecosystem research, provides critical information toward a national scorecard to evaluate the effectiveness of ongoing and future regulations intended to reduce atmospheric emissions and subsequent impacts to the Nation's land and water resources. Data from the network, as well as information about individual sites, are available through the World Wide Web at: http://nadp.sws.uiuc.edu/.

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 conditions for a large, representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 59 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.

The USGS National Water-Quality Laboratory collects quality-control data on a continuing basis to evaluate selected analytical methods to determine long-term method detection levels (LT-MDL's) and laboratory reporting levels (LRL's). These values are re-evaluated each year on the basis of the most recent quality-control data and, consequently, may change from year to year.

This reporting procedure limits the occurrence of false positive error. The chance of falsely reporting a concentration greater than the LT-MDL for a sample in which the analyte is not present is 1 percent or less. Application of the LRL limits the occurrence of false negative error. The chance of falsely reporting a non-detection for a sample in which the analyte is present at a concentration equal to or greater than the LRL is 1 percent or less.

Accordingly, concentrations are reported as <LRL for samples in which the analyte was either not detected or did not pass identification. Analytes that are detected at concentrations between LT-MDL and LRL and that pass identification criteria are estimated. Estimated concentrations will be noted with a remark code of "E." These data should be used with the understanding that their uncertainty is greater than that of data reported without the "E" remark code.

Communication and coordination between USGS personnel and other local, State, and federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key federal, State, and local water resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies. There are currently three NAWQA Programs operating in Texas; the Trinity NAWQA, the South Central Texas NAWQA, and the southern portion of the High Plains Ground-Water NAWQA.

Additional information about the NAWQA Programs are available through the world wide web at:

http://wwwrvares.er.usgs.gov/nawqa/nawqa_home.html
http://tx.usgs.gov/trin
http://tx.usgs.gov/sctx
http://co.water.usgs.gov/nawqa/hpgw

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 2001 water year that began October 1, 2000, and ended September 30, 2001. A calendar of the water year is provided on the inside of the front cover. The records contain stage and 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.

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 upstream 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 indention in the "List of Stations" in the front of this report. Each indention represents one rank. This downstream order and system of indention 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 streamflow may be complete or partial. Complete records of discharge are those obtained using a stage-recording device through which either instantaneous or daily mean 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 for any time, or period of time. They may be obtained using a stage-recording device, but need not be. Because daily-mean discharges and daily-mean reservoir contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements 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 "Flood-hydrograph partial records,

"Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow channel gain and loss studies, may be considered as partial records, but they are presented separately in this report. Instantaneous peak discharges are presented for all but the low-flow partial-record stations.

Data Collection and Computation

The data obtained at a complete record gaging station on a stream or canal consist of records of stage (that is recorded every 5, 15, 30, or 60 minutes), measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relation between stage and discharge. These data, together with supplemental information such as weather records, are used to compute daily mean 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 relation between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute lake storage.

Records of stage are obtained with recorders at selected time intervals. Measurements of discharge are made with current meters and indirect procedures 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, TWRI, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves then are constructed. From these curves, rating tables indicating the 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 can be 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-backwater techniques. Stage-discharge ratings at gaging stations are described in TWRI, Book 3, Chapter A10.

Instantaneous discharges are computed by applying each individual recorded stage (gage height) to the stage-discharge table. The daily mean discharge is computed as the mean of the instantaneous discharges. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the 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 rating 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 backwater from reservoirs, tributary streams, bays, or other sources. This necessitates the use of the slope method in which the slope (fall) in a reach of the stream is a factor in computing discharge. The slope 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 relation 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 are determined. If the stage-content relation changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relation. 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 relations much as other stream discharges are computed.

For some streamflow 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 stage sensor or recorder fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily mean 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-mean 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 sea level, 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 errors in published water-quality records are discovered after publication, appropriate updates are made in the U.S. Geological Survey's distributed data system, NWIS, and subsequently to its web-based National data system, NWISWeb [http://water.usgs.gov/nwis/nwis]. 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 NWIS or NWISWeb to ensure the most recent updates. Updates to NWISWeb are currently made on an annual basis.

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. (This 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 ft^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures for more than 1,000 ft^3/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. Records of surface-water quality at some National Water Quality Accounting (NAWQA) Sites include data collected by different government agencies as identified in the water-quality data tables under AGENCY COLLECTING SAMPLE (CODE NUMBER). Values for this code are given below:

1028 - U.S. Geological Survey
84823 - International Boundary & Water Commission

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. A1, A3, and A4; Book 9, Chap. A1-A9. 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 (NASQAN) (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. Information on the method used to collect the sample at National Stream Quality Accounting Network sites is given in the water-quality data tables under SAMPLING METHOD. Values for this code are given below:

10	-	Equal Width Increment (EWI)
20	-	Equal Discharge Increment (EDI)
25	-	Timed Sampling Interval
30	-	Single Vertical
40	-	Multiple Verticals
50	-	Point Sample
60	-	Weighted Bottle
70	-	Grab Sample (DIP)
90	-	Discharge Integrated, Centroid
120	-	Velocity Integrated
8010	-	Other

Detailed information on sampling methods may be found in the following publications: OFR-90-127 “Guidelines for Collection and Analysis of Water-Quality Samples from Streams in Texas”, OFR-94-455 “Field Guide for Collecting and Processing Stream-Water Samples for the National Water-Quality Assessment Program”, and OFR-94-539 “U.S. Geological Survey protocol for the collection and processing of surface-water samples for the subsequent determination of inorganic constituents in filtered water”. Specific questions pertaining to water-quality sample collection may be directed to the District Water-Quality Specialist in Austin, Texas, or the Regional Water-Quality Specialist in Denver, Colorado.

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.

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 readings beginning at 0100 hours and ending at 2400 hours for the day of record.

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 streamflow 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 (2001) 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 in the U.S. Geological Survey's distributed data system, NWIS, and subsequently to its web-based National data system, NWISWeb [http://water.usgs.gov/nwis/nwis]. 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 NWIS or NWISWeb to ensure the most recent updates. Updates to NWISWeb are currently made on an annual basis.

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 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.
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).
V	Analyte was detected in both the environmental sample and the associated blanks.
&	Biological organism estimated as dominant.
M	Presence of material verified but not quantified.

Dissolved Trace-Element Concentrations

***NOTE**:--Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (µg/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 µg/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural 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.

Change in National Trends Network Procedures

***NOTE**:--Sample handling procedures at all National Trends Network stations were changed substantially on January 11, 1994, in order to reduce contamination from the sample shipping container. The data for samples before and after that date are different and not directly comparable. A tabular summary of the differences based on a special intercomparison study, is available from the NADP Program Office, Illinois State Water Survey, 2204 Griffith Drive, Champaign, IL 61820-7495 (217-333-7873).

Water-Quality Control Data

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental sample data cannot be adequately interpreted because the errors associated with the sample data are unknown. The various types of QC samples collected by this District are described in the following section. Procedures have been established for the storage of water-quality-control data within the USGS. These procedures allow for storage of all derived QC data and are identified so that they can be related to corresponding environmental samples.

Blank Samples

Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated by the overall data-collection process. The blank solution used to develop specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. There are many types of blank samples possible, each designed to segregate a different part of the overall data-collection process. The types of blank samples collected in this district are:

Source solution blank – a blank solution that is transferred to a sample bottle in an area of the office laboratory with an atmosphere that is relatively clean and protected with respect to target analytes.

Ambient blank – a blank solution that is put in the same type of bottle used for an environmental sample, kept with the set of sample bottles before sample collection, and opened at the site and exposed to the ambient conditions.

Field blank – a blank solution that is subjected to all aspects of sample collection, field processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank – a blank solution that is put in the same type of bottle used for an environmental sample, and kept with the set of sample bottles before and after sample collection.

Equipment blank – a blank solution that is processed through all equipment used for collecting and processing an environmental sample (similar to field blank but normally done in the more controlled conditions of the office).

Sampler blank – a blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Pump blank – a blank solution that is processed through the same pump-and-tubing system used for an environmental sample.

Standpipe blank – a blank solution that is poured from the containment vessel (stand-pipe) before the pump is inserted to obtain the pump blank.

Filter blank – a blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank – a blank solution that is mixed and separated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank – a blank solution that is treated with the sample preservatives used for an environmental sample.

Canister blank – a blank solution that is taken directly from a stainless steel canister just before the VOC sampler is submerged to obtain a field blank sample.

Reference Samples

Reference material is a solution or material prepared by a laboratory whose composition is certified for one or more properties so that it can used to assess a measurement method. Samples of reference material are submitted for analysis to

ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. There are many types of replicate samples possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this District are:

Concurrent sample – a type of replicate sample in which the samples are collected simultaneoulsy with two or more samplers or by using one sampler and alternating collection of samples into two or more compositing containers.

Sequential sample – a type of replicate sample in which the samples collected one after the other, typically over a short time.

Split sample – a type of replicate sample in which a sample is split into subsamples contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quantities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis.

Concurrent sample – a type of spike sample that is collected at the same time with the same sampling and compositing devices then spiked with the same spike solution containing laboratory-certified concentrations of selected analytes.

Split sample – a type of spike sample in which a sample is split into subsamples contemporaneous in time and space then spiked with the same spike solution containing laboratory-certified concentrations of selected analytes.

ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the world wide web (www). These data may be accessed at http://tx.usgs.gov

Some water-quality and ground-water data also are available through the www. In addition, data can be provided in various machine-readable formats on magnetic tape, 3-1/2 inch floppy disk or CD-ROM. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices (See address on the back of the title page.)

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Terms such as algae, water level, precipitation are used in their common everyday meanings, definitions of which are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting English units to International System (SI) Units on the inside of the back cover.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an “unfiltered” sample (formerly reported as alkalinity).

Acre-foot (AC-FT, acre-ft) is a unit of volume, commonly used to measure quantities of water used or stored, equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters. (See also “Annual runoff”)

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

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.

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a “filtered” sample.

Annual runoff is the total quantity of water that is discharged (“runs off”) from a drainage basin in a year. Data reports may present annual runoff data as volumes in acre-feet, as discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches.

Annual 7-day minimum is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year and the water year (October 1 to September 30). Most low-flow frequency analyses use a climatic year (April 1-March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

Aroclor is the registered trademark for a group of polychlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type and the last two digits represent the weight percent of the hydrogen substituted chlorine.

Artificial substrate is a device that 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. (See also "Substrate")

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. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2). (See also "Biomass")

Bacteria are microscopic unicellular organisims, typically spherical, rodlike, 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.

Base discharge (for peak discharge) is a discharge value, determined for selected stations, above which peak discharge data are published. The base discharge at each station is selected so that an average of about three peaks per year will be published.

Base flow is sustained flow of a stream in the absence of direct runoff. It includes natural and human-induced streamflows. Natural base flow is sustained largely by ground-water discharge.

Bedload is material in transport that is supported primarily by the streambed. In this report, bedload is considered to consist of particles in transit from the bed to an elevation equal to the top of the bedload sampler nozzle (ranging from 0.25 to 0.5 ft) that are retained in the bedload sampler. A sample collected with a pressure-differential bedload sampler may also contain a component of the suspended load.

Bedload discharge (tons per day) is rate of sediment moving as bedload, reported as dry weight, that passes through a cross section in a given time. NOTE: Bedload discharge values in this report may include a component of the suspended-sediment discharge. A correction may be necessary when computing the total sediment discharge by summing the bedload discharge and the suspended-sediment discharge. (See also "Bedload" and "Sediment")

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed. (See also "Bedload" and "Sediment")

Benthic organisms are the group of organisms inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish. They are useful as indicators of water quality.

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 mass per unit area or volume of habitat.

Biomass pigment ratio is an indicator of the total proportion of periphyton which are autotrophic (plants). This is also called the Autotrophic Index.

Blue-green algae (*Cyanophyta*) 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. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample. (See also "Phytoplankton")

Bottom material See "Bed material".

Cells/volume refers to the number of cells of any organism that 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 volume, and are generally reported as cells or units per milliliter (mL) or liter (L).

Cells volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements on cell dimensions (for example,

length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

sphere $4/3\ \pi r^3$ cone $1/3\ \pi r^3 h$ cylinder $\pi r^3 h$.

pi is the ratio of the circumference to the diameter of a circle; pi = 3.14159…

From cell volume, total algal biomass expressed as biovolume ($\mu m^3/mL$) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes over all species.

Cfs-day (See "Cubic foot per second-day")

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 BOD or with carbonaceous organic pollution from sewage or industrial wastes. [See also "Biochemical oxygen demand (BOD)"]

Clostridium perfringens *(C. perfringens)* is a spore-forming bacterium that is common in the feces of human and other warm-blooded animals. Clostridial spores are being used experimentally as an indicator of past fecal contamination and presence of microorganisms that are resistant to disinfection and environmental stresses. (See also "Bacteria")

Coliphages are viruses that infect and replicate in coliform bacteria. They are indicative of sewage contamination of waters and of the survival and transport of viruses in the environment.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases, the water level can rise above the ground surface, yielding a flowing well. (See also "Aquifer")

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.

Continuous-record station is a site where data are collected with sufficient frequency to define daily mean values and variations within a day.

Control designates a feature in the channel downstream from a gaging station that physically influences the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, 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 saltwater.

Cubic foot per second (CFS, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second or approximately 449 gallons per minute, or 0.02832 cubic meters per second. The term "second-feet" sometimes is used synonymously with "cubic feet per second" but is now obsolete.

Cubic foot per second-day (CFS-DAY, Cfs-day, [$(ft^3/s)/d$]) 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, 1.98347 acre-feet, 646,317 gallons, or 2,446.6 cubic meters. The daily-mean discharges reported in the daily-value data tables are numerically equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.

Cubic foot per second per square mile [CFSM, $(ft^3/s)/mi^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area. (See also "Annual runoff")

Daily mean suspended-sediment concentration is the time-weighted concentration of suspended sediment passing a stream cross section during a 24-hour day. (See also "Daily mean suspended-sediment concentration," "Sediment," and "Suspended-sediment concentration")

Daily-record station is a site where data are collected with sufficient frequency to develop a record of one or more data values per day. The frequency of data collection can range from continuous recording to periodic sample or data collection on a daily or near-daily basis.

Data Collection Platform (DCP) is an electronic instrument that collects, processes, and stores data from various sensors, and transmits the data by satellite data relay, line-of-sight radio, and/or landline telemetry.

Data logger is a microprocessor-based data acquisition system designed specifically to acquire, process, and store data. Data are usually downloaded from onsite data loggers for entry into office data systems.

Datum is a surface or point relative to which measurements of height and/or horizontal position are reported. A vertical datum is a horizontal surface used as the zero point for measurements of gage height, stage, or elevation; a horizontal

datum is a reference for positions given in terms of latitude-longitude, State Plane coordinates, or UTM coordinates. (See also "Gage datum," "Land-surface datum," "National Geodetic Vertical Datum of 1929," and "North American Vertical Datum of 1988")

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. (See also "Phytoplankton")

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or flow, is the rate that matter passes through a cross section of a stream channel or other water body per unit of time. The term commonly refers to the volume of water (including, unless otherwise stated, any sediments or other constituents suspended or dissolved in the water) that passes a cross section in a stream channel, canal, pipeline, etc., within a given period of time (cubic feet per second). Discharge also can apply to the rate at which constituents such as suspended sediment, bedload, and dissolved or suspended chemical constituents, pass through a cross section, in which cases the quantity is expressed as the mass of constituent that passes the cross section in a given period of time (tons per day).

Dissolved refers to that material in a representative water sample that passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal and State agencies that collect water-quality data. Determinations of "dissolved" constituent concentrations are made on sample water that has been filtered.

Dissolved oxygen (DO) is the molecular oxygen (oxygen gas) dissolved in water. The concentration in water is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved-solids concentration. Photosynthesis and respiration by plants commonly cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved-solids concentration in water is the quantity of dissolved material in a sample of water. It 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, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L $CaCO_3$) can be converted to carbonate concentration by multiplying by 0.60.

Diversity index (H) (Shannon Index) is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

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

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area upstream from the location, measured in a horizontal plane, that has a common outlet at the site for its surface runoff from precipitation that normally drains by gravity into a stream. Drainage areas given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth's surface that contains a drainage system with a common outlet for its surface runoff. (See "Drainage area")

Dry mass refers to the mass of residue present after drying in an oven at 105 °C, 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. (See also "Ash mass," "Biomass," and "Wet mass")

Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65 °C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue. (See also "Wet weight")

Enterococcus bacteria are commonly found in the feces of humans and other warm-blooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41 °C on mE agar and subsequent transfer to EIA medium. Enterococci include *Streptococcus feacalis, Streptococcus feacium, Streptococcus avium,* and their variants. (See also "Bacteria")

EPT Index is the total number of distinct taxa within the insect orders Ephemeroptera, Plecoptera, and Trichoptera. This index summarizes the taxa richness within the aquatic insects that are generally considered pollution sensitive, the index usually decreases with pollution.

Escherichia coli (E. coli) are bacteria present in the intestine and feces of warm-blooded animals. *E. coli* are a member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5 °C on mTEC medium. Their concentra-

tions are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Estimated (E) value of a concentration is reported when an analyte is detected and all criteria for a positive result are met. If the concentration is less than the method detection limit (MDL), an 'E' code will be reported with the value. If the analyte is qualitatively identified as present, but the quantitative determination is substantially more uncertain, the National Water Quality Laboratory will identify the result with an 'E' code even though the measured value is greater than the MDL. A value reported with an 'E' code should be used with caution. When no analyte is detected in a sample, the default reporting value is the MDL preceded by a less than sign (<).

Euglenoids (*Euglenophyta*) are a group of algae that are usually free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark. (See also "Phytoplankton")

Extractable organic halides (EOX) are organic compounds that contain halogen atoms such as chlorine. These organic compounds are semi-volatile and extractable by ethyl acetate from air-dried streambed sediments. The ethyl acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the streambed sediments.

Fecal coliform bacteria 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 plus or minus 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. (See also "Bacteria")

Fecal streptococcal bacteria are present in the intestine of warm-blooded animals and are ubiquitous in the environment. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35 °C plus or minus 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. (See also "Bacteria")

Fire algae (*Pyrrhophyta*) are free-swimming unicells characterized by a red pigment spot. (See also "Phytoplankton")

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

Gage datum is a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom such that the gage height is usually slightly larger than the maximum depth of water. Because the gage datum itself is not an actual physical object, the datum usually is defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks. Gage datum is a local datum that is maintained independently of any National geodetic datum. However, if the elevation of the gage datum relative to the National datum (North American Vertical Datum of 1988 or National Geodetic Vertical Datum of 1929) has been determined, then the gage readings can be converted to elevations above the National datum by adding the elevation of the gage datum to the gage reading.

Gage height (G.H.) is the water-surface elevation, in feet above the gage datum. If the water surface is below the gage datum, the gage height is negative. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used in reference to a reading on a gage.

Gage values are values that are recorded, transmitted and/or computed from a gaging station. Gage values typically are collected at 5-, 15-, or 30-minute intervals.

Gaging station is a site on a stream, canal, lake, or reservoir where systematic observations of stage, discharge, or other hydrologic data are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

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. (See also "Phytoplankton")

Habitat quality index is the qualitative description (level 1) of instream habitat and riparian conditions surrounding the reach sampled. Scores range from 0 to 100 percent with higher scores indicative of desirable habitat conditions for aquatic life. Index only applicable to wadable streams.

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 (primarily calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate ($CaCO_3$).

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. *See NOAA web site: http://www.co-ops.nos.noaa.gov/tideglos.html*

Hilsenhoff's Biotic Index (HBI) is an indicator of organic pollution which uses tolerance values to weight taxa abundances; usually increases with pollution. It is calculated as follows:

$$HBI = sum\frac{(n)(a)}{N}$$

where *n* is the number of individuals of each taxon, a is the tolerance value of each taxon, and *N* is the total number of organisms in the sample.

Horizontal datum (See "Datum")

Hydrologic benchmark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a benchmark station may be used to separate effects of natural from human-induced changes in other basins that have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped benchmark basin.

Hydrologic index stations referred to in this report are four continuous-record gaging stations that have been selected as representative of streamflow patterns for their respective regions. Station locations are shown on index maps.

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

Inch (IN., in.), as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were uniformly distributed on it. (See also "Annual runoff")

Instantaneous discharge is the discharge at a particular instant of time. (See also "Discharge")

Laboratory Reporting Level (LRL) is generally equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a non-detection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or equal to 1 percent. The value of the LRL will be reported with a "less than" (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually based on the most current quality-control data and may, therefore, change. [Note: In several previous NWQL documents (Connor and others, 1998; NWQL Technical Memorandum 98.07, 1998), the LRL was called the non-detection value or NDV—a term that is no longer used.)

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation

$$I = I_o e^{-\lambda L},$$

where I_o is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light attenuation coefficient is defined as

$$\lambda = -\frac{1}{L}\log_e\frac{I}{I_o}.$$

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

Long-Term Method Detection Level (LT–MDL) is a detection level derived by determining the standard deviation of a minimum of 24 method detection limit (MDL) spike sample measurements over an extended period of time. LT–MDL data are collected on a continuous basis to assess year-to-year variations in the LT–MDL. The LT–MDL controls false positive error. The chance of falsely reporting a concentration at or greater than the LT–MDL for a sample that did not contain the analyte is predicted to be less than or equal to 1 percent.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. *See NOAA web site: http://www.co-ops.nos.noaa.gov/tideglos.html*

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that are usually arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Mean concentration of suspended sediment (Daily mean suspended-sediment concentration) is the time-weighted concentration of suspended sediment passing a stream cross section during a given time period. (See also "Daily mean suspended-sediment concentration" and "Suspended-sediment concentration")

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

Mean high or low tide is the average of all high or low tides, respectively, over a specific period.

Mean sea level is a local tidal datum. It is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; for example, monthly mean sea level and yearly mean sea level. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. (See also "Datum")

Measuring point (MP) is an arbitrary permanent reference point from which the distance to water surface in a well is measured to obtain water level.

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

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.

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the analyte concentration is greater than zero. It is determined from the analysis of a sample in a given matrix containing the analyte. At the MDL concentration, the risk of a false positive is predicted to be less than or equal to 1 percent.

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 (UG/G, µg/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 kilogram (UG/KG, µg/kg) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

Micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter. One microgram per liter is equivalent to 1 part per billion.

Microsiemens per centimeter (US/CM, µS/cm) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in water as the mass (milligrams) of constituent 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.

Minimum Reporting Level (MRL) is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method (Timme, 1995).

Miscellaneous site, miscellaneous station, or miscellaneous sampling site is a site where streamflow, sediment, and/or water-quality data or water-quality or sediment samples are collected once, or more often on a random or discontinuous basis to provide better areal coverage for defining hydrologic and water-quality conditions over a broad area in a river basin.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It was formerly called "Sea Level Datum of 1929" or "mean sea level." Although the datum was derived from the mean sea level at 26 tide stations**,** it does not necessarily represent local mean sea level at any particular place. *See NOAA web site: http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88* (See "North American Vertical Datum of 1988")

Natural substrate refers to any naturally occurring immersed or submersed solid surface, such as a rock or tree, upon which an organism lives. (See also "Substrate.")

Nekton are the consumers in the aquatic environment and consist of large free-swimming organisms that are capable of sustained, directed mobility.

Nephelometric turbidity unit (NTU) is the measurement for reporting turbidity that is based on use of a standard suspension of Formazin. Turbidity measured in NTU uses nephelo-

metric methods that depend on passing specific light of a specific wavelength through the sample.

North American Vertical Datum of 1988 (NAVD 1988) is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and mapping activities in the U.S. This datum was established in 1991 by minimum-constraint adjustment of the Canadian**,** Mexican, and U.S. first-order terrestrial leveling networks.

Open or screened interval is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediments. May be reported as dissolved organic carbon (DOC), particulate organic carbon (POC), or total organic carbon (TOC).

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. Organic mass is expressed in the same units as for ash mass and dry mass. (See also "Ash mass," "Biomass," and "Dry mass")

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.

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter Code is a 5-digit number used in the USGS computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

Particle size is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method utilizes the principle of Stokes Law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, Sedigraph) 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, as 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/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.

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at a discrete series of times, the peak recorded value may be taken as an approximation to the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

Percent composition or **percent of total** 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, weight, mass, or volume.

Percent shading is determined by using a clinometer to estimate left and right bank shading. The values are added together and divided by 180 to determine percent shading relative to a horizontal surface.

Periodic-record station is a site where stage, discharge, sediment, chemical, physical, or other hydrologic measurements are made one or more times during a year, but at a frequency insufficient to develop a daily record.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, proto-

zoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

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

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7 are termed "acidic," and solutions with a pH greater than 7 are termed "basic." Solutions with a pH of 7 are neutral. The presence and concentration of many dissolved chemical constituents found in water are, in part, influenced by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms are also influenced, in part, by the hydrogen-ion activity of water.

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. (See also "Plankton")

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 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. Concentrations are expressed as a number of cells per milliliter (cells/mL of sample).

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.

Polychlorinated naphthalenes (PCNs) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCBs) and have been identified in commercial PCB preparations.

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 (carbon method) by the plants.

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [mg C/(m^2/time)] for periphyton and macrophytes or per volume [mg C/(m^3/time)] for phytoplankton. Carbon method defines 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. (See also "Primary productivity")

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [mg O/(m^2/time)] for periphyton and macrophytes or per volume [mg O/(m^3/time)] for phytoplankton. Oxygen method defines 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. (See also "Primary productivity")

Radioisotopes are isotopic forms of an element that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight, but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

Recoverable from bed (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. (See also "Bed material")

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or non-exceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most

of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the non-exceedances of the $7Q_{10}$ occur less than 10 years after the previous non-exceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous non-exceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

Return period (See "Recurrence interval")

River mileage is the curvilinear distance, in miles, measured upstream from the mouth along the meandering path of a stream channel in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council, and typically used to denote location along a river.

Runoff is the quantity of water that is discharged ("runs off") from a drainage basin in a given time period. Runoff data may be presented as volumes in acre-feet, as mean discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches. (See also "Annual runoff")

Sea level, as used in this report, refers to one of the two commonly used national vertical datums, (NGVD 1929 or NAVD 1988). See separate entries for definitions of these datums. See conversion of units page (inside back cover) for identification of the datum used in this report.

Sediment is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or deposited from water, it is referred to as "fluvial sediment." Sediment 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 and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of precipitation.

Seven-day 10-year low flow (7Q10) is the discharge below which the annual 7-day minimum flow falls in 1 year out of 10 on the long-run average. The recurrence interval of the 7Q10 is 10 years; the chance that the annual 7-day minimum flow will be less than the 7Q10 is 10 percent in any given year. (See also "Recurrence interval" and "Annual 7-day minimum")

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. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

Specific electrical conductance (conductivity) is a measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 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.

Stable isotope ratio (per MILL/MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific waters, to evaluate mixing of different waters, as an aid in determining reaction rates, and other chemical or hydrologic processes.

Stage (See "Gage height")

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

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.

Substrate Embeddedness Class is a visual estimate of riffle streambed substrate larger than gravel that is surrounded or covered by fine sediment (<2mm, sand or finer). Below are the class categories expressed as percent covered by fine sediment:

0	< no gravel or larger substrate		
1	> 75%		
2	51-75%	4	5-25%
3	26-50%	5	< 5%

Surface area of a lake is that area (acres) encompassed by the boundary of the lake as shown on USGS topographic maps, or other available maps or photographs. Because surface area changes with lake stage, surface areas listed in this report represent those determined for the stage at the time the maps or photographs were obtained.

Surficial bed material is the upper surface (0.1 to 0.2 ft) of the bed material such as that material which 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 operationally defined as 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 suspended water-sediment sample that is retained on a 0.45-micrometer 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 directly analyzing the suspended material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also "Suspended")

Suspended sediment is the sediment maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid. (See also "Sediment")

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). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also "Sediment" and "Suspended sediment")

Suspended-sediment discharge (tons/day) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross 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. (See also "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

Suspended-sediment load is a general term that refers to a given characteristic of the material in suspension that passes a point during a specified period of time. The term needs to be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It is not synonymous with either suspended-sediment discharge or concentration. (See also "Sediment")

Suspended, total is the total amount of a given constituent in the part of a water-sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. 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 directly analyzing portions of the suspended material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent. (See also "Suspended")

Suspended solids, total residue at 105 °C concentration is the concentration of inorganic and organic material retained on a filter, expressed as milligrams of dry material per liter of water (mg/L). An aliquot of the sample is used for this analysis.

Synoptic studies are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Taxa richness is the total number of distinct species or groups and usually decreases with pollution. (See also "Percent Shading")

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*

Temperature preferences:

Cold – preferred water temperature for the species is less than 20 °C or spawning temperature preference less than 16 °C and native distribution is considered to be predominantly north of 45° N. latitude.

Warm – preferred water temperatures for the species is greater than 20 °C or spawning temperature preference greater than 16 °C and native distribution is considered to be predominantly south of 45° N. latitude.

Cool – intermediate between cold and warm water temperature preferences.

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder' is used in the table descriptions 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 resulting from the mixing of flow proportionally to the duration of the concentration.

Tons per acre-foot (T/acre-ft) is the dry mass (tons) of a constituent per unit volume (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, tons/d) is a common chemical or sediment discharge unit. It is the quantity of a substance in solution, in suspension, or as bedload that passes a stream section during a 24-hour period. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

Total is the amount of a given constituent in a representative whole-water (unfiltered) 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 at least 95 percent of the constituent in the sample.)

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warm-blooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 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 plus or minus 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. (See also "Bacteria")

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total in bottom material is the amount of a given constituent in a representative sample of bottom material. 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 judge when the results should be reported as "total in bottom material."

Total length (fish) is the straight-line distance from the anterior point of a fish specimen's snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

Total organism count is the number of organisms collected and enumerated in any particular sample. (See also "Organism count/volume.")

Total recoverable is the amount of a given constituent in a whole-water sample after a 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 for whole-water samples, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures may produce different analytical results.

Total sediment discharge is the mass of suspended-sediment plus bed-load transport, measured as dry weight, that passes a cross section in a given time. It is a rate and is reported as tons per day. (See also "Sediment," "Suspended sediment," "Suspended-Sediment Concentration," "Bedload," and "Bedload discharge")

Total sediment load or total load is the sediment in transport as bedload and suspended-sediment load. The term may be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It differs from total sediment discharge in that load refers to the material whereas discharge refers to the quantity of material, expressed in units of mass per unit time. (See also "Sediment," "Suspended-Sediment Load," and "Total load")

Trophic group:

Filter feeder – diet composed of suspended plant and/or animal material.

Herbivore – diet composed predominantly of plant material.

Invertivore – diet composed predominantly of invertebrates.

Omnivore – diet composed of at least 25-percent plant and 25-percent animal material.

Piscivore – diet composed predominantly of fish.

Turbidity is the reduction in the transparency of a solution due to the presence of suspended and some dissolved substances. The measurement technique records the collective optical properties of the solution that cause light to be scattered and attenuated rather than transmitted in straight lines; the higher the intensity of scattered or attenuated light, the higher the value of the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU). Depending on the method used, the turbidity units as NTU can be defined as the intensity of light of a specified wavelength scattered or attenuated by suspended particles or absorbed at a method specified angle, usually 90 degrees, from the path of the incident light. Currently approved methods for the measurement of turbidity in the USGS include those that conform to EPA Method 180.1, ASTM D1889-00, and ISO 7027. Measurements of turbidity by these different methods and different instruments are unlikely to yield equivalent values. Consequently, the method of measurement and type of instrument used to derive turbidity records should be included in the "REMARKS" column of the Annual Data Report.

Ultraviolet (UV) absorbance (absorption) at 254 or 280 nanometers is a measure of the aggregate concentration of the mixture of UV absorbing organic materials dissolved in the analyzed water, such as lignin, tannin, humic substances, and various aromatic compounds. UV absorbance (absorption) at 254 or 280 nanometers is measured in UV absorption units per centimeter of pathlength of UV light through a sample.

Vertical datum (See "Datum")

Volatile organic compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens (U.S. Environmental Protection Agency, 1996).

Water table is the level in the saturated zone at which the pressure is equal to the atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which is found the water table.

Water year in USGS 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, 2001, is called the "2001 water year."

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.

Wet mass is the mass of living matter plus contained water. (See also "Biomass" and "Dry mass")

Wet weight refers to the weight of animal tissue or other substance including its contained water. (See also "Dry weight")

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

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, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers. (See also "Plankton")

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."

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

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 pages.

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 pages.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

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 pages.

2-D2. *Application of seismic-refraction techniques to hydrologic studies,* by F.P. Haeni: USGS–TWRI Book 2, Chapter D2. 1988. 86 pages.

Section E. Subsurface Geophysical Methods

2-E1. *Application of borehole geophysics to water-resources investigations,* by W.S. Keys and L.M. MacCary: USGS–TWRI 11.0

2-E2. *Borehole geophysics applied to ground-water investigations,* by W.S. Scott Keys: USGS–TWRI Book 2, Chapter E2. 1990. 150 pages.

Section F. Drilling and Sampling Methods

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 pages.

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

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 pages.

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 pages.

3-A3. *Measurement of peak discharge at culverts by indirect methods,* by G.L. Bodhaine: USGS–TWRI Book 3, Chapter A3. 1968. 60 pages.

3-A4. *Measurement of peak discharge at width contractions by indirect methods,* by H.F. Matthai: USGS–TWRI Book 3, Chapter A4. 1967. 44 pages.

3-A5. *Measurement of peak discharge at dams by indirect methods,* by Harry Hulsing: USGS–TWRI Book 3, Chapter A5. 1967. 29 pages.

3-A6. *General procedure for gaging streams,* by R.W. Carter and Jacob Davidian: USGS–TWRI Book 3, Chapter A6. 1968. 13 pages.

3-A7. *Stage measurements at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS–TWRI Book 3, Chapter A7. 1968. 28 pages.

3-A8. *Discharge measurements at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS–TWRI Book 3, Chapter A8. 1969. 65 pages.

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 pages.

3-A10. *Discharge ratings at gaging stations,* by E.J. Kennedy: USGS–TWRI Book 3, Chapter A10. 1984. 59 pages.

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 pages.

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 pages.

3-A13. *Computations of continuous records of streamflow,* by E.J. Kennedy: USGS– TWRI Book 3, Chapter A13, 1983. 53 pages.

3-A14. *Use of flumes in measuring discharge,* by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI Book 3, Chapter A14. 1983. 46 pages.

3-A15. *Computation of water-surface profiles in open channels,* by Jacob Davidian: USGS–TWRI Book 3, Chapter A15. 1984. 48 pages.

3-A16. *Measurement of discharge using tracers,* by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI Book 3, Chapter A16. 1985. 52 pages.

3-A17. *Acoustic velocity meter systems,* by Antonius Laenen: USGS–TWRI Book 3, Chapter A17. 1985. 38 pages.

3-A18. *Determination of stream reaeration coefficients by use of tracers,* by F.A. Kilpatrick, R.E. Rathbun, N. Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI Book 3, Chapter A18. 1989. 52 pages.

3-A19. *Levels of streamflow gaging stations,* by E.J. Kennedy: USGS–TWRI Book 3, Chapter A19. 1990. 27 pages.
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-A21. *Stream-gaging cableways,* by C. Russell Wagner: USGS–TWRI Book 3, Chapter A21. 1995. 56 pages.

Section B. Ground-Water Techniques

3-B1. *Aquifer-test design, observation, and data analysis,* by R.W. Stallman: USGS–TWRI Book 3, Chapter B1. 1971. 26 pages.
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 pages.
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 pages.
3-B4. *Regression modeling of ground-water flow,* by Richard L. Cooley and Richard L. Naff: USGS–TWRI Book 3, Chapter B4. 1990. 232 pages.
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 pages.
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 pages.
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-B8. *System and boundary conceptualization in ground-water flow simulation,* by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI book 3, Chapter B8. 2001. 29 pages.

Section C. Sedimentation and Erosion Techniques

3-C1. *Fluvial sediment concepts,* by H.P. Guy: USGS–TWRI Book 3, Chapter C1. 1970. 55 pages.
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 pages.
3-C3. *Computation of fluvial-sediment discharge,* by George Porterfield: USGS–TWRI Book 3, Chapter C3. 1972. 66 pages.

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

4-A1. *Some statistical tools in hydrology,* by H.C. Riggs: USGS–TWRI Book 4, Chapter A1. 1968. 39 pages.
4-A2. *Frequency curves,* by H.C. Riggs: USGS–TWRI Book 4, Chapter A2. 1968. 15 pages.

Section B. Surface Water

4-B1. *Low-flow investigations,* by H.C. Riggs: USGS–TWRI Book 4, Chapter B1. 1972. 18 pages.
4-B2. *Storage analyses for water supply,* by H.C. Riggs and C.H. Hardison: USGS–TWRI Book 4, Chapter B2. 1973. 20 pages.
4-B3. *Regional analyses of streamflow characteristics,* by H.C. Riggs: USGS–TWRI Book 4, Chapter B3. 1973. 15 pages.

Section D. Interrelated Phases of the Hydrologic Cycle

4-D1. *Computation of rate and volume of stream depletion by wells,* by C.T. Jenkins: USGS–TWRI Book 4,Chapter D1. 1970. 17 pages.

Book 5. Laboratory Analysis

Section A. Water Analysis

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 pages.
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 pages.
5-A3. *Methods for the determination of organic substances in water and fluvial sediments,* edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS–TWRI Book 5, Chapter A3. 1987. 80 pages.
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 pages.
5-A5. *Methods for determination of radioactive substances in water and fluvial sediments,* by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI Book 5, Chapter A5. 1977. 95 pages.
5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments,* by L.C. Friedman and D.E. Erdmann: USGS–TWRI Book 5, Chapter A6. 1982. 181 pages.

Section A. Sediment Analysis

5-C1. *Laboratory theory and methods for sediment analysis,* by H.P. Guy: USGS–TWRI Book 5, Chapter C1. 1969. 58 pages.

Book 6. Modeling Techniques

Section A. Ground Water

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 pages.
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.

6-A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction,* by Eric D. Swain and Eliezer J. Wexler. 1995. 125 pages.

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments,* by pages.C. Trescott, G.F. Pinder, and S.P. Larson: USGS–TWRI Book 7, Chapter C1. 1976. 116 pages.

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 pages.

7-C3. *A model for simulation of flow in singular and interconnected channels,* by R.W. Schaffrannek, R.A. Baltzer, and D.E. Goldberg: USGS–TWRI Book 7, Chapter C3. 1983. 110 pages.

Book 8. Instrumentation

Section A. Instruments for Measurement of Water Level

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 pages.

8-A2. *Installation and service manual for U.S. Geological Survey manometers,* by J.D. Craig: USGS–TWRI Book 8, Chapter A2. 1983. 57 pages.

Section B. Instruments for Measurement of Discharge

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 pages.

Book 9. Handbooks for Water-Resources Investigations

Section A. National Field Manual for the Collection of Water-Quality Data

9-A1. *National Field Manual for the Collection of Water-Quality Data: Preparations for Water Sampling,* by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI Book 9, Chapter A1. 1998. 47 pages.

9-A2. *National Field Manual for the Collection of Water-Quality Data: Selection of Equipment for Water Sampling,* edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI Book 9, Chapter A2. 1998. 94 pages.

9-A3. *National Field Manual for the Collection of Water-Quality Data: Cleaning of Equipment for Water Sampling,* edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI Book 9, Chapter A3. 1998. 75 pages.

9-A4. *National Field Manual for the Collection of Water-Quality Data: Collection of Water Samples,* edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI Book 9, Chapter A5. 1999. 156 pages.

9-A5. *National Field Manual for the Collection of Water-Quality Data: Processing of Water Samples,* edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI Book 9, Chapter A5. 1999. 149 pages.

9-A6. *National Field Manual for the Collection of Water-Quality Data: Field Measurements,* edited by F.D. Wilde and D.B. Radtke: USGS–TWRI Book 9, Chapter A6. 1998. Variously paginated.

9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators,* edited by D.N. Myers and F.D. Wilde: USGS–TWRI Book 9, Chapter A7. 1997 and 1999. Variously paginated.

9-A8. *National Field Manual for the Collection of Water-Quality Data: Bottom Material Samples,* by D.B. Radtke: USGS–TWRI Book 9, Chapter A8. 1998. 48 pages.

9-A9. *National Field Manual for the Collection of Water-Quality Data: Saafety in Field Activities,* by S.L. Lane and R.G. Fay: USGS–TWRI Book 9, Chapter A9. 1998. 60 pages.

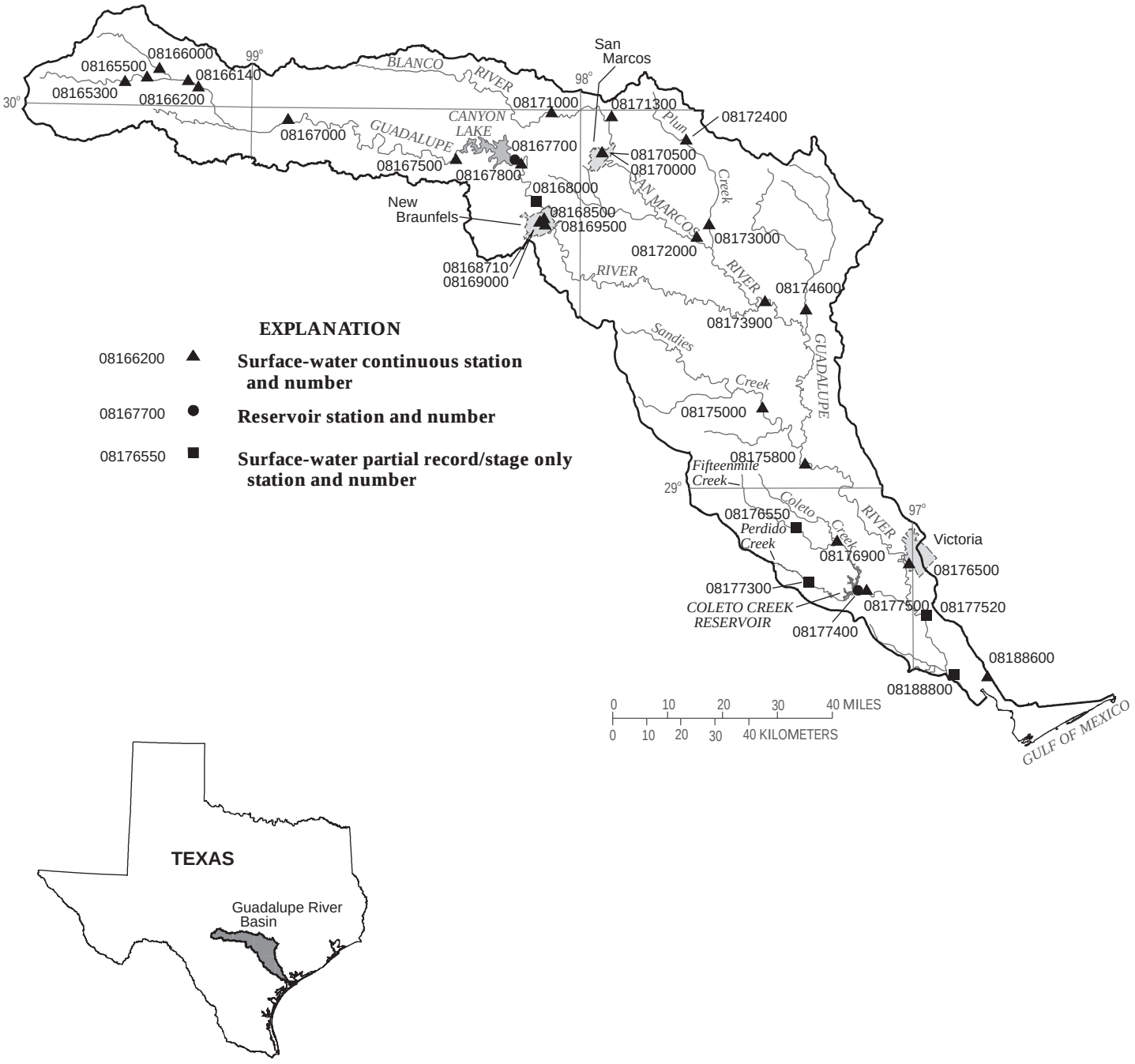


Figure 3.--Map showing location of gaging stations in the Guadalupe River Basin

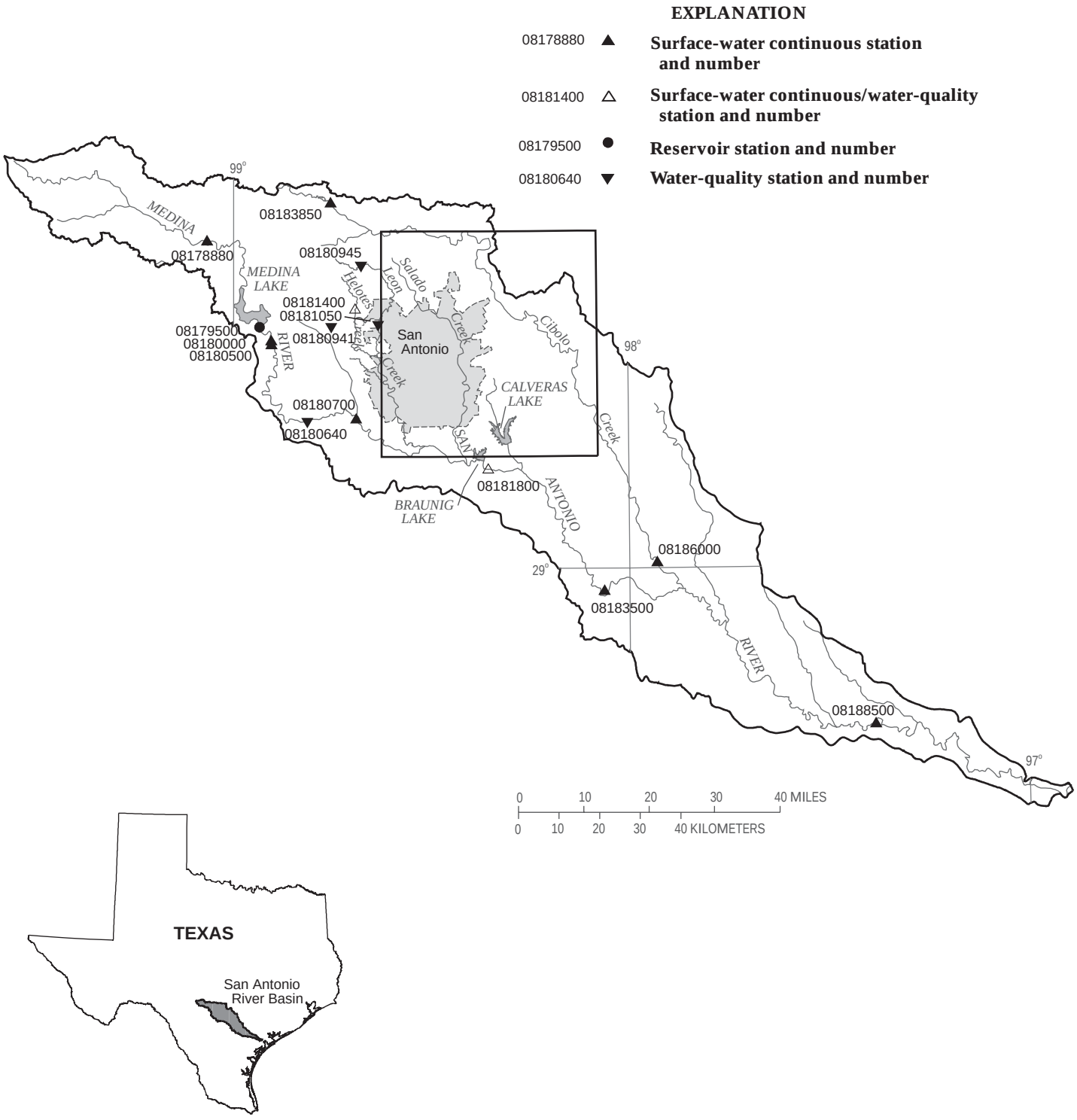
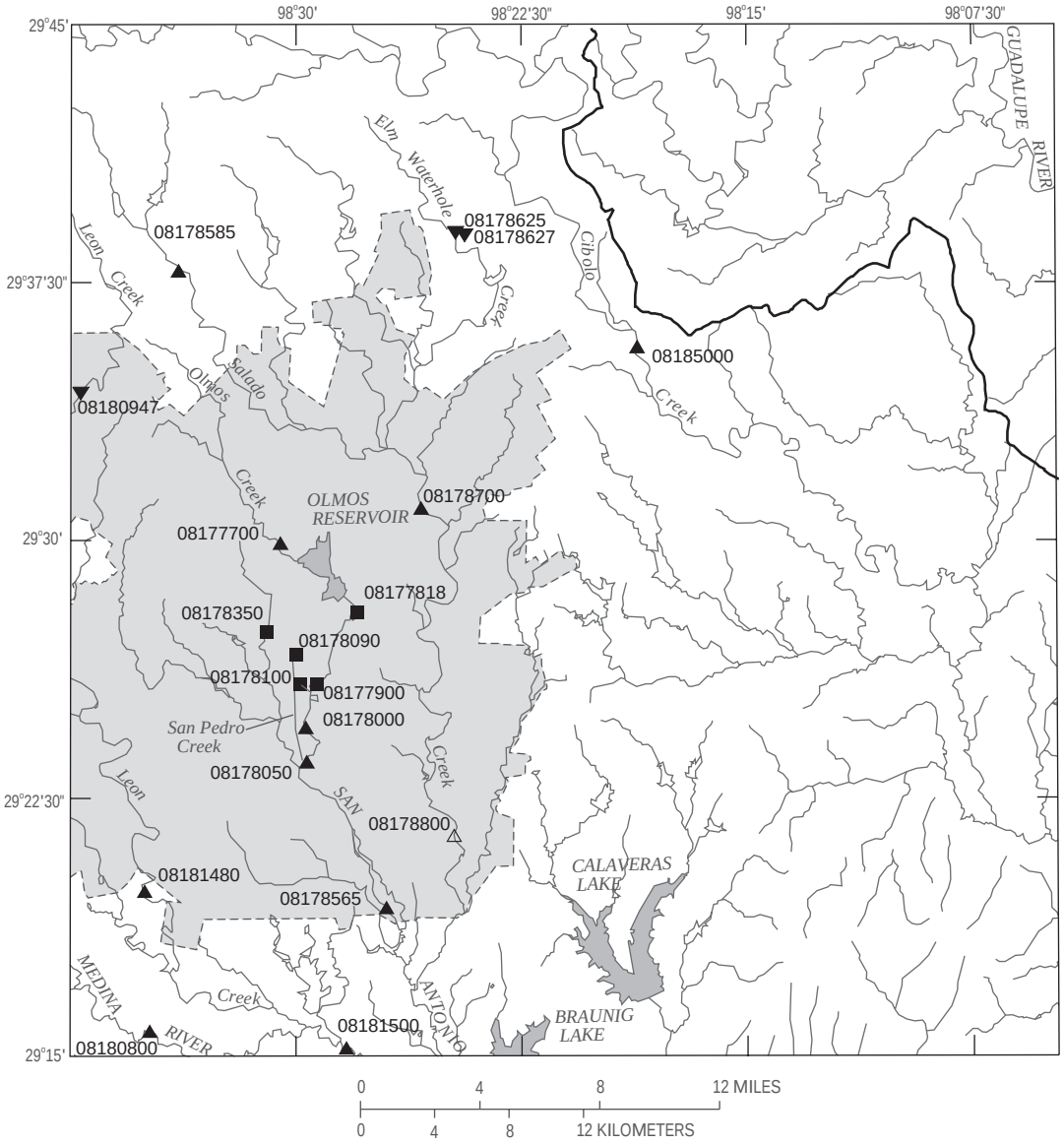


Figure 4.--Map showing location of gaging stations in the San Antonio River Basin



EXPLANATION

08178050	▲	**Surface-water continuous station and number**
08180800	△	**Surface-water continuous/water-quality station and number**
08178100	■	**Surface-water partial record/stage only station and number**
08180947	▼	**Water-quality station and number**

Figure 5.--Map showing location of gaging stations in the San Antonio inset of the San Antonio River Basin

08165300 North Fork Guadalupe River near Hunt, TX 36
08165500 Guadalupe River at Hunt, TX 38
08166000 Johnson Creek near Ingram, TX 40
08166140 Guadalupe River above Bear Creek at Kerrville, TX 42
08166200 Guadalupe River at Kerrville, TX 44
08167000 Guadalupe River at Comfort, TX 46
08167500 Guadalupe River near Spring Branch, TX 48
08167700 Canyon Lake near New Braunfels, TX 50
08167800 Guadalupe River at Sattler, Tx 52
08168000 Hueco Springs near New Braunfels, TX 339
08168500 Guadalupe River above Comal River at New Braunfels, TX 54
08168710 Comal Springs at New Braunfels, Tx 56
08169000 Comal River at New Braunfels, TX 58
08169500 Guadalupe River at New Braunfels, TX 60
08170000 San Marcos Springs at San Marcos, TX 62
08170500 San Marcos River at San Marcos, TX 64
08171000 Blanco River at Wimberley, TX 66
08171300 Blanco River near Kyle, Tx 68
08172000 San Marcos River at Luling, TX 70
08172400 Plum Creek at Lockhart, TX 72
08173000 Plum Creek near Luling, TX 74
08173900 Guadalupe River at Gonzales, TX 76
08174600 Peach Creek below Dilworth, TX 78
08175000 Sandies Creek near Westhoff, TX 80
08175800 Guadalupe River at Cuero, TX 82
08176500 Guadalupe River at Victoria, TX 84
08176550 Fifteenmile Creek near Weser, TX 86
08176900 Coleto Creek at Arnold Road Crossing near Schroeder, TX 88
08177300 Perdido Creek at Farm to Market Road 622 near Fannin, TX 90
08177400 Coleto Creek Reservoir near Victoria, TX 92
08177500 Coleto Creek near Victoria, TX 94
08177520 Guadalupe River near Bloomington, TX 96
08177700 Olmos Creek at Dresden Drive, San Antonio, TX 98
08177818 San Antonio Springs at San Antonio, TX 339
08177900 San Antonio River at Navarro Street, San Antonio, TX 341
08178000 San Antonio River at San Antonio, TX 100
08178050 San Antonio River at Mitchell Street, San Antonio, TX 102
08178090 San Pedro Springs at San Antonio, TX 339
08178100 San Pedro Creek at Santa Rosa Street, San Antonio, TX 341
08178350 Martinez Creek at Fredericksburg Road, San Antonio, TX 341
08178565 San Antonio River at Loop 410, San Antonio, TX 104
08178585 Salado Creek at Wilderness Road at San Antonio, TX 106
08178625 Elm Waterhole Creek at Evans Road near San Antonio, TX 108
08178627 Elm Waterhole Creek Tributary at San Antonio, TX 110
08178700 Salado Creek at Loop 410 at San Antonio, TX 112
08178800 Salado Creek at Loop 13 at San Antonio, TX 114
08178880 Medina River at Bandera, TX 120
08179500 Medina Lake near San Antonio, TX 122
08180000 Medina Canal near Riomedina, TX 124
08180500 Medina River at Riomedina, TX 126
08180640 Medina River at LaCoste, TX 128
08180700 Medina River near Macdona, TX 136
08180800 Medina River near Somerset, TX 138
08180941 Government Canyon Creek Site 2 near Helotes, TX 140
08180945 Leon Creek at Senic Loop Road near Leon Springs, TX 142
08180947 Leon Creek at Hausman Road at San Antonio, TX 144
08181050 Leon Creek at Prue Road at San Antonio, TX 146
08181400 Helotes Creek at Helotes, TX 148
08181480 Leon Creek at Interstate Highway 35 at San Antonio, TX 152
08181500 Medina River at San Antonio, TX 154
08181800 San Antonio River near Elemendorf, TX 156
08183500 San Antonio River near Falls City, TX 170
08183850 Cibolo Creek at Interstate Highway 10 above Boerne, TX 172
08185000 Cibolo Creek at Selma, TX 174
08186000 Cibolo Creek near Falls City, TX 176
08188500 San Antonio River at Goliad, TX 178
08188600 GBRA Calhoun Canal Pump Station near Long Mott, TX 180
08188800 Guadalupe River near Tivoli, TX 182

08165300 North Fork Guadalupe River near Hunt, TX

LOCATION.--Lat 30°03'50", long 99°23'12", Kerr County, Hydrologic Unit 12100201, on right bank, 1,000 ft upstream from Ranch Road 1340, 1.9 mi downstream from Bear Creek, 3.1 mi west of Hunt, and 3.5 mi upstream from Honey Creek.

DRAINAGE AREA.--169.0 mi^2.

PERIOD OF RECORD.--Aug. 1967 to current year. Low-flow records not equivalent prior to June 7, 1989 because of undetermined channel flow loss between present and former site 0.58 mi upstream.

REVISED RECORDS.--WRD TX-74-1: 1971(P).

GAGE.--Water-stage recorder. Datum of gage is 1,800.10 ft above sea level. Prior to June 7, 1989, at site 0.58 mi upstream at same datum. Satellite telemeter at station.

REMARKS.--Records fair. No known regulation or diversions.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900 occurred July 1, 1932 (gage height, 37.3 ft, at site 0.58 mi upstream), discharge, 140,000 ft^3/s, by slope-area measurements, combined flow of North Fork Guadalupe River 5 mi upstream and Bear Creek 2 mi upstream from mouth, and adjusted for difference in drainage area.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	54	64	50	44	43	41	31	28	23	20	24
2	13	57	62	49	43	43	41	29	28	24	20	23
3	13	1540	63	48	44	46	41	25	28	24	20	23
4	13	755	62	47	44	50	38	e26	28	24	20	28
5	13	227	61	47	43	47	40	28	28	24	20	129
6	14	657	60	47	43	47	38	26	27	24	20	68
7	17	94	60	47	43	46	38	25	27	23	20	44
8	24	89	60	47	43	46	39	26	27	22	21	39
9	29	81	59	46	43	46	38	27	26	22	20	36
10	26	78	58	51	41	46	37	27	26	22	20	35
11	23	78	58	49	41	46	38	26	26	22	20	34
12	23	75	56	47	42	47	40	25	26	22	20	33
13	22	72	57	47	43	49	40	29	25	22	19	33
14	21	71	56	46	43	46	39	28	25	22	19	31
15	21	70	56	45	43	47	39	27	25	22	20	31
16	21	71	55	45	48	48	38	24	25	21	20	30
17	23	67	55	45	44	48	37	24	25	21	22	30
18	28	76	55	44	43	48	35	27	24	21	21	30
19	25	73	55	43	43	48	34	31	24	21	20	29
20	24	70	55	42	43	47	34	31	24	21	22	29
21	25	68	55	42	44	46	34	30	24	21	21	30
22	27	68	54	41	43	46	33	30	24	21	20	31
23	6560	68	53	41	43	46	37	29	24	21	22	32
24	337	68	54	41	44	44	35	29	25	21	22	30
25	87	68	54	41	44	43	33	29	23	21	20	28
26	74	67	58	41	43	42	32	29	23	21	21	28
27	66	66	53	42	43	43	31	29	24	21	29	27
28	61	66	52	42	43	43	31	29	24	21	24	27
29	59	66	52	49	---	43	30	29	23	21	22	26
30	58	64	51	45	---	42	30	28	23	21	24	25
31	54	---	50	44	---	42	---	29	---	20	23	---
TOTAL	7814	5024	1753	1401	1211	1414	1091	862	759	677	652	1043
MEAN	252	167	56.5	45.2	43.2	45.6	36.4	27.8	25.3	21.8	21.0	34.8
MAX	6560	1540	64	51	48	50	41	31	28	24	29	129
MIN	13	54	50	41	41	42	30	24	23	20	19	23
AC-FT	15500	9970	3480	2780	2400	2800	2160	1710	1510	1340	1290	2070
CFSM	1.49	.99	.33	.27	.26	.27	.22	.16	.15	.13	.12	.21
IN.	1.72	1.11	.39	.31	.27	.31	.24	.19	.17	.15	.14	.23

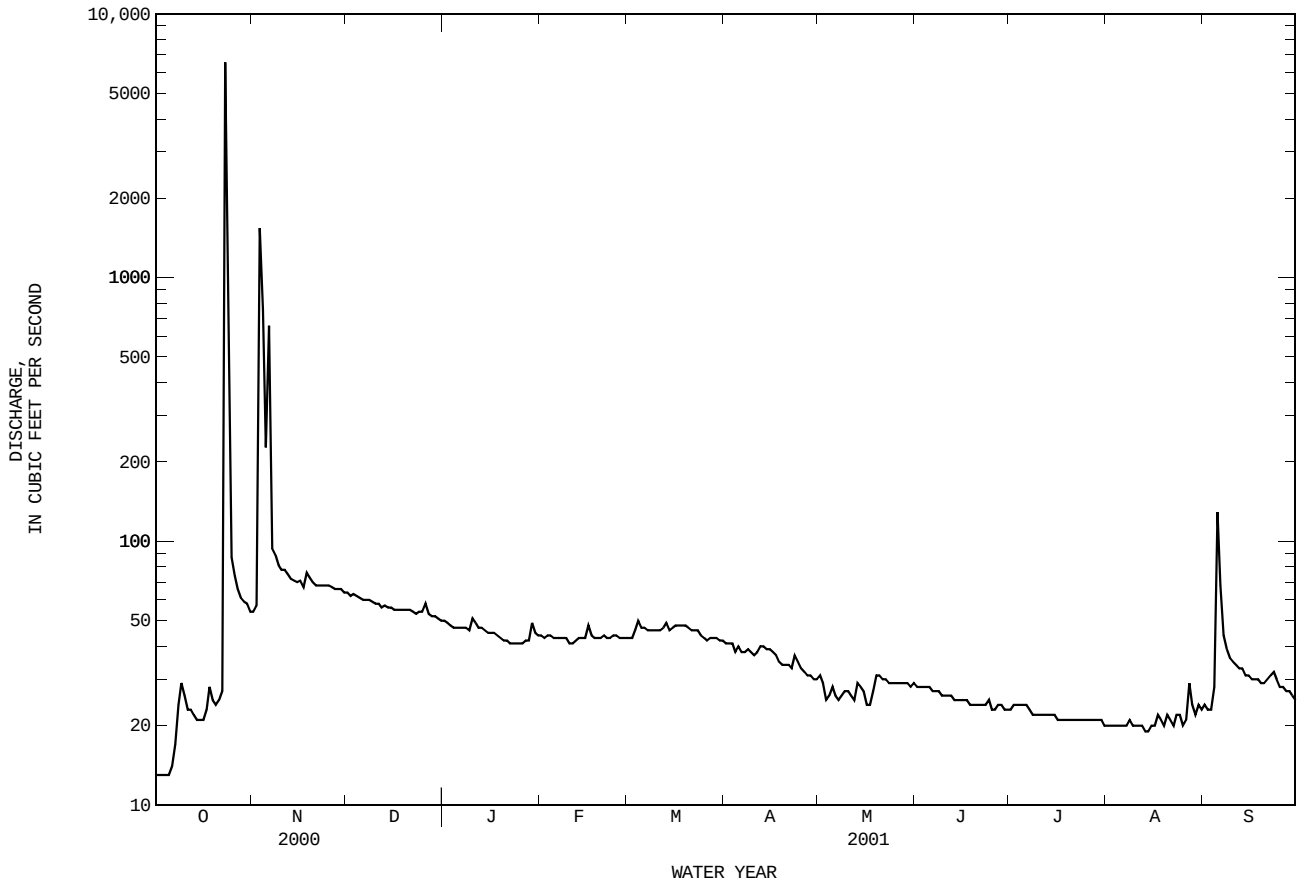
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2001, BY WATER YEAR (WY)

MEAN	70.7	35.2	42.3	31.7	30.5	29.8	39.5	41.9	43.1	39.0	52.1	38.5
MAX	529	167	296	113	108	144	351	149	278	465	452	198
(WY)	1986	2001	1985	1968	1992	1992	1977	1990	1981	1987	1978	1986
MIN	12.5	14.8	16.2	15.2	13.3	13.6	13.6	11.8	10.8	11.0	10.6	10.8
(WY)	1984	1984	1990	1990	1984	1971	1971	1971	1971	1971	1984	1984

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1967 - 2001	
ANNUAL TOTAL	19724		23701			
ANNUAL MEAN	53.9		64.9		41.4	
HIGHEST ANNUAL MEAN					103	1987
LOWEST ANNUAL MEAN					13.4	1984
HIGHEST DAILY MEAN	6560	Oct 23	6560	Oct 23	14900	Oct 19 1985
LOWEST DAILY MEAN	11	Sep 5	13	Oct 1	6.6	May 30 1969
ANNUAL SEVEN-DAY MINIMUM	11	Sep 3	14	Oct 1	8.3	Jun 7 1971
MAXIMUM PEAK FLOW			20900	Oct 23	c57000	Oct 19 1985
MAXIMUM PEAK STAGE			12.45	Oct 23	a29.81	Oct 19 1985
ANNUAL RUNOFF (AC-FT)	39120		47010		30020	
ANNUAL RUNOFF (CFSM)	.32		.38		.25	
ANNUAL RUNOFF (INCHES)	4.34		5.22		3.33	
10 PERCENT EXCEEDS	62		63		48	
50 PERCENT EXCEEDS	20		36		24	
90 PERCENT EXCEEDS	13		21		15	

e Estimated
c From rating curve extended above indirect measurement of 39,000 ft^3/s.
a From floodmark.

08165300 North Fork Guadalupe River near Hunt, TX--Continued



08165500 Guadalupe River at Hunt, TX

LOCATION.--Lat 30°04'11", long 99°19'17", Kerr County, Hydrologic Unit 12100201, on left bank, 56 ft upstream and 252 ft to left of left end of bridge on State Highway 39, 0.6 mi downstream from confluence of North and South Forks, 0.8 mi east of Hunt, and at mile 430.9.

DRAINAGE AREA.--288 mi^2.

PERIOD OF RECORD.--Oct. 1941 to Sept. 1949 (daily mean discharge below base), Apr. 1965 to current year. Periodic discharge measurements made 1950-64.

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1,722.70 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation. There are numerous diversions for irrigation above station, amounts unknown.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1900, 36.6 ft July 2, 1932, from information by local resident (discharge, 206,000 ft^3/s, determined by slope-area measurement 4.5 mi downstream from gage).

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

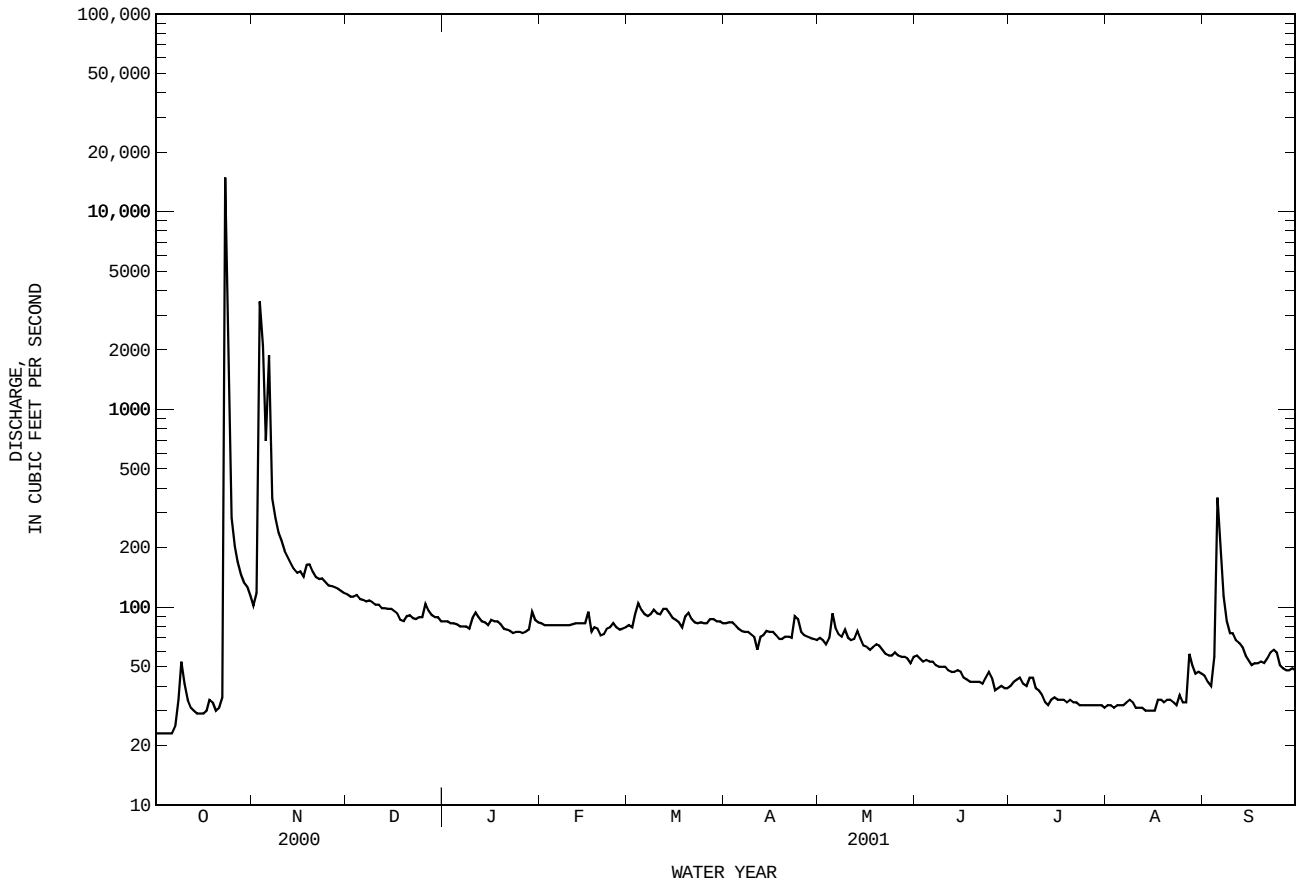
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	102	116	85	83	81	83	70	57	40	32	45
2	23	118	113	85	81	79	84	68	55	42	32	42
3	23	3520	113	83	81	92	84	65	53	43	31	40
4	23	2100	115	83	81	105	81	70	54	44	32	56
5	23	692	110	82	81	97	78	93	53	41	32	358
6	23	1880	109	80	81	92	76	79	53	40	32	222
7	25	355	107	80	81	90	75	73	51	44	33	114
8	34	283	108	80	81	92	75	71	50	44	34	85
9	53	237	106	78	81	97	73	77	50	39	33	74
10	41	217	103	88	81	93	71	70	50	38	31	74
11	34	193	103	94	82	92	61	68	48	36	31	68
12	31	179	99	89	83	98	71	69	47	33	31	66
13	30	166	99	85	83	98	72	76	47	32	30	63
14	29	156	98	84	83	93	76	69	48	34	30	57
15	29	149	98	81	83	88	75	64	47	35	30	54
16	29	152	96	86	95	86	75	63	44	34	30	51
17	30	143	93	85	75	84	72	61	43	34	34	52
18	34	164	86	85	79	79	69	63	42	34	34	52
19	33	165	85	82	78	90	69	65	42	33	33	53
20	30	151	90	78	72	94	71	64	42	34	34	52
21	31	142	91	77	73	87	71	61	42	33	34	55
22	35	139	88	76	78	84	70	58	41	33	33	59
23	14900	140	87	74	79	83	90	57	44	32	32	61
24	1250	134	89	75	83	84	87	57	47	32	36	59
25	284	129	89	75	79	83	75	59	44	32	33	51
26	204	128	104	74	77	83	72	57	38	32	33	49
27	169	126	96	75	78	87	71	56	39	32	58	48
28	147	124	91	77	79	87	70	56	40	32	51	48
29	133	121	89	95	---	85	69	55	39	32	46	49
30	127	118	89	86	---	85	68	52	39	32	47	48
31	114	---	85	84	---	83	---	56	---	31	46	---
TOTAL	17994	12423	3045	2541	2251	2751	2234	2022	1389	1107	1088	2205
MEAN	580	414	98.2	82.0	80.4	88.7	74.5	65.2	46.3	35.7	35.1	73.5
MAX	14900	3520	116	95	95	105	90	93	57	44	58	358
MIN	23	102	85	74	72	79	61	52	38	31	30	40
AC-FT	35690	24640	6040	5040	4460	5460	4430	4010	2760	2200	2160	4370
CFSM	2.02	1.44	.34	.28	.28	.31	.26	.23	.16	.12	.12	.26
IN.	2.32	1.60	.39	.33	.29	.36	.29	.26	.18	.14	.14	.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2001, BY WATER YEAR (WY)

MEAN	115	70.6	72.3	61.0	62.3	63.3	75.2	85.0	81.9	76.4	105	69.9
MAX	677	414	322	151	213	257	570	286	551	956	992	312
(WY)	1986	2001	1985	1968	1992	1992	1977	1994	1987	1987	1978	1980
MIN	33.4	34.0	35.3	31.1	30.4	28.8	28.6	21.1	17.0	14.9	14.6	17.1
(WY)	1966	1966	1966	1966	1966	1966	1984	1984	1984	1984	1984	1984

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1965 - 2001	
ANNUAL TOTAL	42815		51050			
ANNUAL MEAN	117		140		78.7	
HIGHEST ANNUAL MEAN					223	1987
LOWEST ANNUAL MEAN					27.6	1984
HIGHEST DAILY MEAN	14900	Oct 23	14900	Oct 23	22200	Jul 17 1987
LOWEST DAILY MEAN	18	Sep 5	23	Oct 1	8.2	Jul 17 1984
ANNUAL SEVEN-DAY MINIMUM	19	Sep 1	23	Oct 1	9.4	Jul 12 1984
MAXIMUM PEAK FLOW			53900	Oct 23	108000	Jul 17 1987
MAXIMUM PEAK STAGE			22.40	Oct 23	28.38	Jul 17 1987
ANNUAL RUNOFF (AC-FT)	84920		101300		57030	
ANNUAL RUNOFF (CFSM)	.41		.49		.27	
ANNUAL RUNOFF (INCHES)	5.53		6.59		3.71	
10 PERCENT EXCEEDS	118		122		96	
50 PERCENT EXCEEDS	37		73		48	
90 PERCENT EXCEEDS	20		32		29	

08165500 Guadalupe River at Hunt, TX--Continued



08166000 Johnson Creek near Ingram, TX

LOCATION.--Lat 30°06'00", long 99°16'58", Kerr County, Hydrologic Unit 12100201, on right bank 1.6 mi upstream from Henderson Branch, 3.4 mi northwest of Ingram, 3.8 mi upstream from mouth, and 9.2 mi northwest of Kerrville.

DRAINAGE AREA.--114 mi^2.

PERIOD OF RECORD.--Oct. 1941 to Nov. 1959, Oct. 1961 to Sept. 1993, Apr. 1999 to current year.
Water quality records.--Chemical data: June 1952 to July 1966.

REVISED RECORDS.--WSP 1058: 1942-45. WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,721.30 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation. There are numerous small diversions above station for irrigation.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1852, 35 ft July 2, 1932, from information by local resident: discharge 138,000 ft^3/s, by slope-area measurement at point 0.5 mi downstream from the Heart of the Hills State Fish Hatchery and 6 or 7 mi upstream from gage. Flood of June 14, 1935 reached a stage of 31 or 32 ft, from information by local resident.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	146	53	41	29	33	40	32	27	26	19	37
2	12	150	50	41	28	32	40	35	25	36	19	28
3	13	933	51	39	28	45	43	33	23	35	19	29
4	13	539	51	39	27	49	38	41	24	34	19	41
5	14	611	50	39	27	42	37	49	22	28	21	118
6	13	668	48	39	29	39	39	38	20	25	21	150
7	17	317	47	39	28	39	39	36	20	22	19	51
8	28	303	46	39	29	42	39	36	20	25	21	40
9	35	290	46	39	27	41	37	40	24	24	20	33
10	27	264	46	45	24	41	35	35	32	23	19	31
11	22	228	46	43	25	42	35	36	31	23	19	31
12	23	209	45	41	27	52	35	33	31	23	19	29
13	23	194	46	42	30	45	35	36	30	22	19	28
14	22	184	45	41	29	45	36	32	29	22	18	27
15	23	177	45	40	28	42	34	31	29	22	18	26
16	24	185	45	40	47	40	34	30	28	21	20	26
17	28	170	45	41	32	39	32	30	27	22	34	26
18	33	200	44	40	31	45	33	30	25	22	24	25
19	28	234	43	40	31	42	34	29	24	22	25	25
20	26	200	43	39	31	40	35	29	26	21	26	24
21	29	176	43	39	31	39	35	27	24	21	24	26
22	31	151	42	38	31	39	35	25	22	21	22	38
23	2220	145	42	38	36	40	48	25	25	20	21	38
24	397	134	42	38	33	40	39	25	27	21	20	27
25	272	127	42	22	29	39	36	28	25	20	20	27
26	258	122	46	27	29	39	35	27	29	20	20	26
27	247	108	42	27	32	41	32	26	27	19	57	26
28	241	80	42	28	30	41	31	26	23	19	39	25
29	225	59	41	43	---	43	30	25	22	19	33	25
30	161	54	41	30	---	40	31	25	23	16	34	25
31	150	---	41	30	---	39	---	28	---	17	31	---
TOTAL	4668	7358	1399	1167	838	1275	1082	978	764	711	740	1108
MEAN	151	245	45.1	37.6	29.9	41.1	36.1	31.5	25.5	22.9	23.9	36.9
MAX	2220	933	53	45	47	52	48	49	32	36	57	150
MIN	12	54	41	22	24	32	30	25	20	16	18	24
AC-FT	9260	14590	2770	2310	1660	2530	2150	1940	1520	1410	1470	2200
CFSM	1.32	2.15	.40	.33	.26	.36	.32	.28	.22	.20	.21	.32
IN.	1.52	2.40	.46	.38	.27	.42	.35	.32	.25	.23	.24	.36

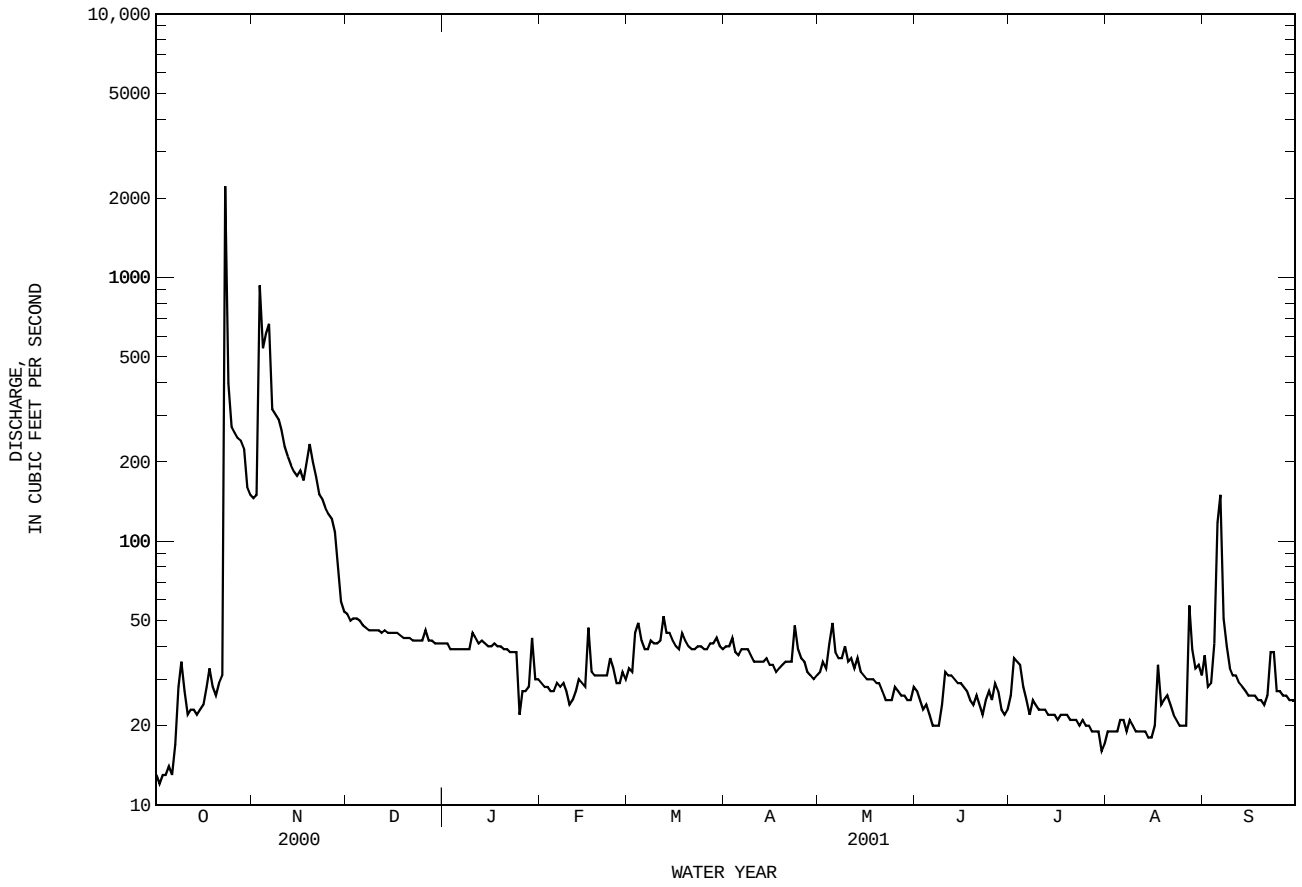
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2001h, BY WATER YEAR (WY)

MEAN	36.2	23.3	22.6	20.9	21.0	19.9	24.1	25.7	26.9	18.6	35.3	20.9
MAX	361	245	178	97.8	114	108	195	101	165	188	726	71.0
(WY)	1986	2001	1985	1968	1992	1992	1977	1977	1987	1987	1978	1974
MIN	4.80	5.17	5.44	5.31	6.05	5.27	4.20	5.54	2.84	1.16	1.13	3.02
(WY)	1952	1957	1955	1956	1952	1956	1954	1953	1956	1954	1954	1954

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1942 - 2001h	
ANNUAL TOTAL	18173.7		22088			
ANNUAL MEAN	49.7		60.5		24.2	
HIGHEST ANNUAL MEAN					79.0	1978
LOWEST ANNUAL MEAN					4.78	1954
HIGHEST DAILY MEAN	2220	Oct 23	2220	Oct 23	17200	Aug 3 1978
LOWEST DAILY MEAN	9.1	Jul 21	12	Oct 2	.40	Jul 26 1956
ANNUAL SEVEN-DAY MINIMUM	10	Aug 13	14	Oct 1	.59	Jul 23 1956
MAXIMUM PEAK FLOW			16400	Oct 23	95900	Oct 4 1959
MAXIMUM PEAK STAGE			11.88	Oct 23	24.25	Oct 4 1959
ANNUAL RUNOFF (AC-FT)	36050		43810		17500	
ANNUAL RUNOFF (CFSM)	.44		.53		.21	
ANNUAL RUNOFF (INCHES)	5.93		7.21		2.88	
10 PERCENT EXCEEDS	88		120		37	
50 PERCENT EXCEEDS	19		33		14	
90 PERCENT EXCEEDS	12		21		6.0	

h See PERIOD OF RECORD paragraph.

08166000 Johnson Creek near Ingram, TX--Continued



08166140 Guadalupe River above Bear Creek at Kerrville, TX

LOCATION.--Lat 30°04'10", long 99°11'42", Kerr County, Hydrologic Unit 12100201, on left bank 600 ft downstream from Goat Creek, 900 ft upstream from Bear Creek and Bear Creek Crossing, and 2.4 mi east of intersection of State Highway 27 and 39 in Ingram.

DRAINAGE AREA.--494 mi^2.

PERIOD OF RECORD.--Apr. 1978 to June 1986 (daily mean discharge below base), Dec. 1994 to Mar. 1999 (periodic discharge measurements only), Apr. 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,623.20 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor. No known regulation. Numerous diversions for irrigation above station, amounts unknown.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1900, 34.1 ft July 2, 1932, from information by local resident.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	208	228	160	174	157	160	127	102	77	55	e137
2	37	219	218	159	169	156	163	130	97	82	52	e97
3	37	1830	221	154	166	198	163	129	94	86	51	e91
4	38	1650	223	148	162	243	159	148	91	85	52	e113
5	38	748	207	148	160	215	154	210	92	78	52	e442
6	39	1520	200	148	159	196	155	169	89	70	50	e565
7	44	596	199	151	161	188	153	149	87	67	51	267
8	62	546	200	151	164	193	152	142	86	74	54	209
9	89	436	201	149	165	195	149	151	88	70	55	181
10	95	351	196	207	151	193	143	140	87	66	53	152
11	71	330	195	210	147	186	134	130	84	65	52	129
12	64	315	179	183	149	218	136	128	82	59	52	123
13	61	298	175	178	167	197	144	136	82	57	53	118
14	59	286	173	172	165	199	147	134	79	57	50	114
15	58	278	172	164	160	179	146	123	84	61	51	111
16	59	283	171	166	254	170	145	122	83	59	52	109
17	57	271	169	177	198	166	140	118	81	60	70	107
18	55	303	166	170	170	173	133	118	76	61	68	105
19	57	321	147	166	168	180	133	118	72	63	64	109
20	52	296	158	161	160	179	135	115	72	60	61	105
21	54	284	153	158	155	170	136	111	71	60	56	107
22	61	279	151	159	162	168	136	113	69	59	54	126
23	13000	283	152	157	174	167	177	98	69	59	52	147
24	1130	274	156	156	181	167	164	98	76	59	52	108
25	517	268	158	154	162	163	145	109	77	60	55	86
26	437	265	230	158	155	161	136	107	72	60	54	84
27	385	260	197	161	158	170	133	107	71	60	99	84
28	317	251	173	165	155	172	131	106	69	58	104	83
29	309	233	167	245	---	169	133	102	68	57	85	82
30	288	232	163	206	---	162	132	93	68	57	84	83
31	247	---	161	183	---	161	---	99	---	55	e174	---
TOTAL	17854	13714	5659	5224	4671	5611	4367	3880	2418	2001	1967	4374
MEAN	576	457	183	169	167	181	146	125	80.6	64.5	63.5	146
MAX	13000	1830	230	245	254	243	177	210	102	86	174	565
MIN	37	208	147	148	147	156	131	93	68	55	50	82
AC-FT	35410	27200	11220	10360	9260	11130	8660	7700	4800	3970	3900	8680

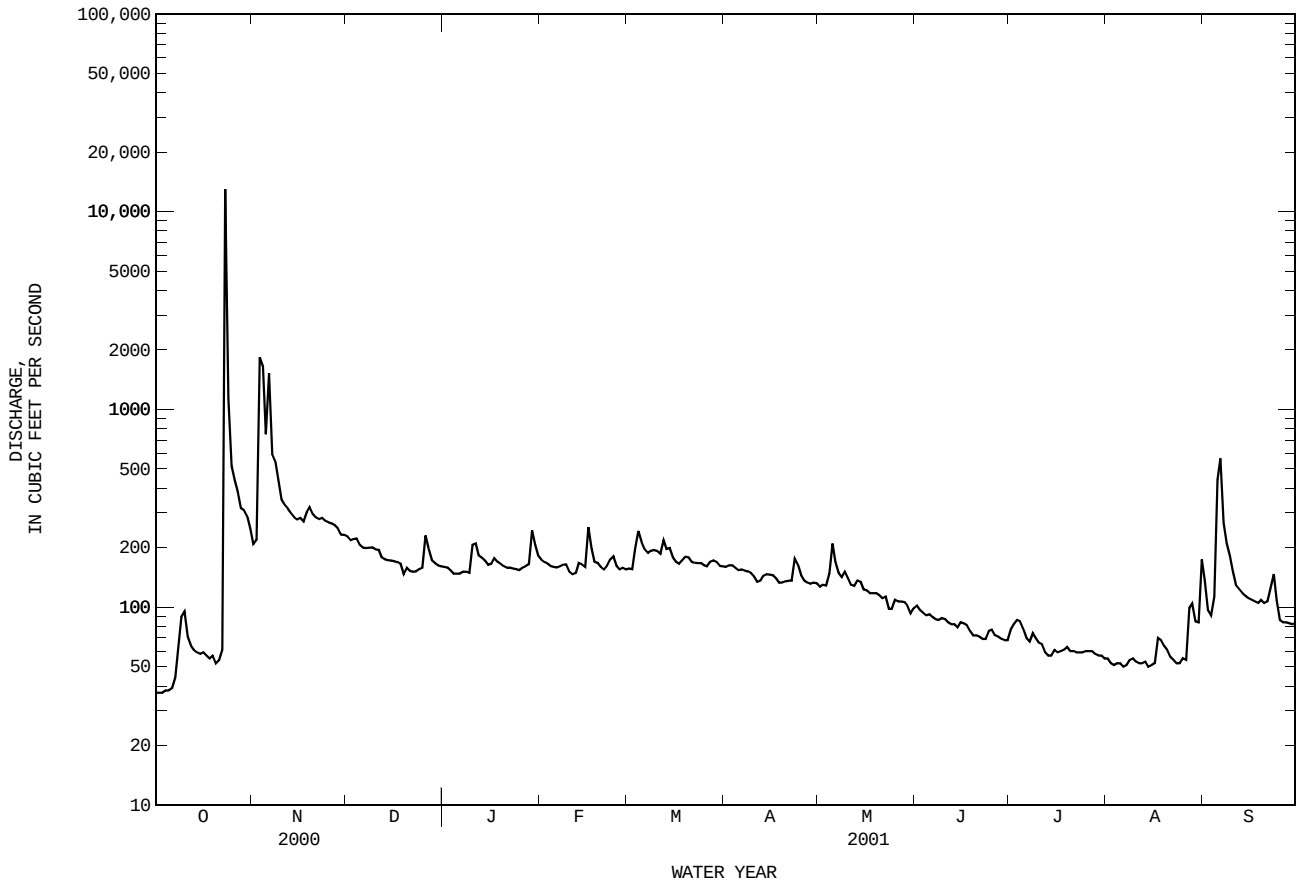
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2001, BY WATER YEAR (WY)

MEAN	318	262	128	121	120	126	109	108	98.6	68.0	54.7	80.5
MAX	576	457	183	169	167	181	146	125	135	97.7	68.5	146
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	1999	1999	1999	2001
MIN	60.5	66.9	73.4	73.0	74.2	71.0	72.9	80.9	79.7	41.8	32.3	33.4
(WY)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1999 - 2001	
ANNUAL TOTAL	54230		71740			
ANNUAL MEAN	148		197		130	
HIGHEST ANNUAL MEAN					197	2001
LOWEST ANNUAL MEAN					63.3	2000
HIGHEST DAILY MEAN	13000	Oct 23	13000	Oct 23	13000	Oct 23 2000
LOWEST DAILY MEAN	28	Sep 7	37	Oct 1	28	Sep 7 2000
ANNUAL SEVEN-DAY MINIMUM	29	Sep 6	39	Oct 1	29	Sep 6 2000
MAXIMUM PEAK FLOW			55700	Oct 23	55700	Oct 23 2000
MAXIMUM PEAK STAGE			18.63	Oct 23	18.63	Oct 23 2000
ANNUAL RUNOFF (AC-FT)	107600		142300		94050	
10 PERCENT EXCEEDS	232		256		179	
50 PERCENT EXCEEDS	71		147		76	
90 PERCENT EXCEEDS	32		57		47	

e Estimated

08166140 Guadalupe River above Bear Creek at Kerrville, TX--Continued



08166200 Guadalupe River at Kerrville, TX

LOCATION.--Lat 30°03'11", long 99°09'47", Kerr County, Hydrologic Unit 12100201, on left bank 300 ft below left end of Kerrville Dam, 1.0 mi upstream from mouth of Town Creek, and 1.4 mi upstream from State Highway 16 on Guadalupe Street at Guadalupe Park in Kerrville.

DRAINAGE AREA.--510 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 1,601.00 ft above sea level. Prior to Apr. 4, 1989, at site 300 ft upstream, and on opposite bank at datum 1.0 ft lower. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since installation of gage in 1986, at least 10% of contributing drainage area has been regulated. Numerous diversions for irrigation above station, amounts unknown.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum estimated discharge, 196,000 ft^3/s July 2, 1932 (estimated gage height, 39 ft).

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

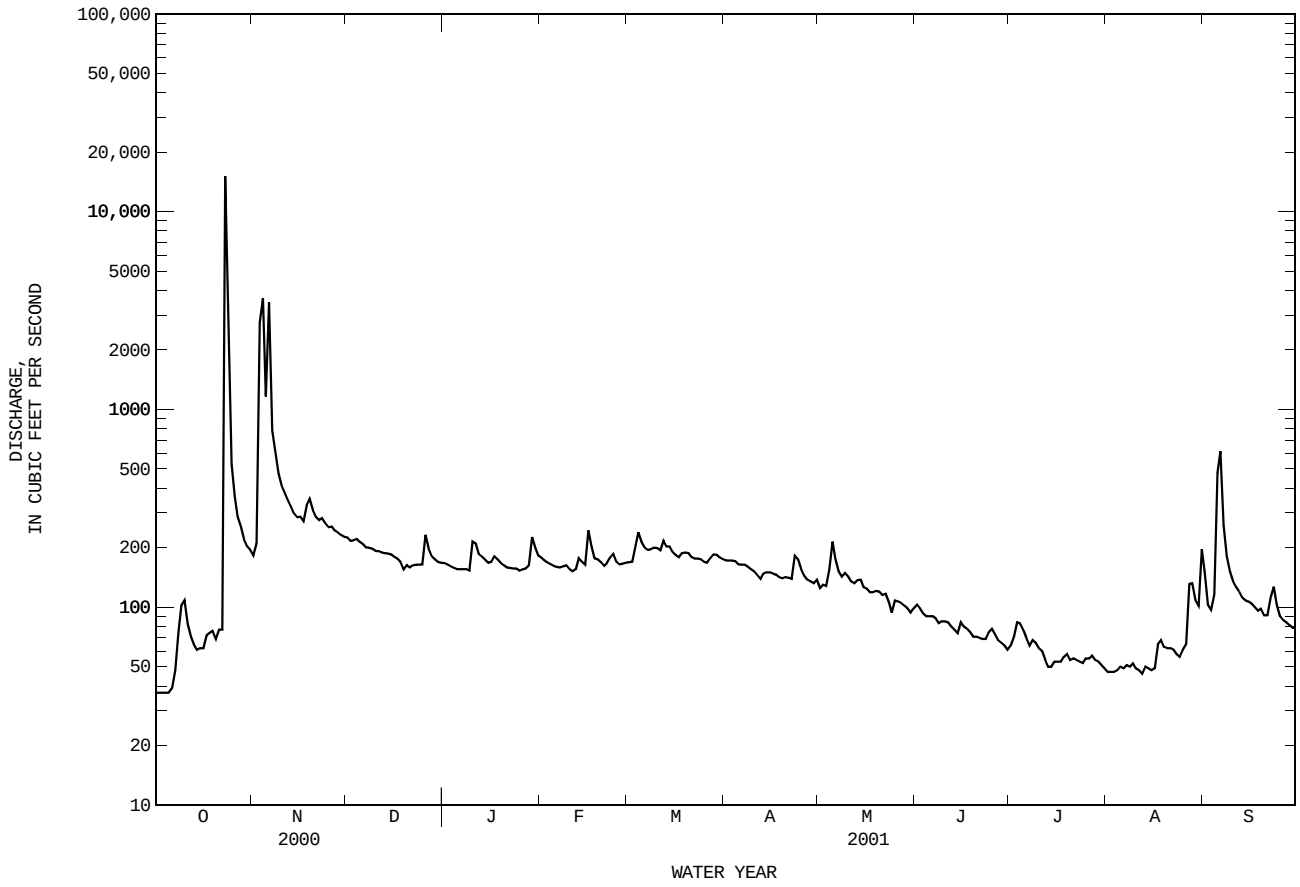
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	183	225	167	178	169	172	125	103	64	47	150
2	37	210	216	164	172	170	172	130	99	71	47	103
3	37	2760	218	161	168	199	172	128	93	84	47	97
4	37	3650	221	158	165	239	171	156	90	83	48	116
5	37	1160	214	156	162	214	165	215	90	77	50	480
6	39	3470	208	156	160	201	164	175	90	70	49	615
7	48	783	201	156	159	195	164	152	88	64	51	260
8	75	601	200	156	161	196	160	143	83	68	50	181
9	102	472	198	153	163	200	156	149	85	66	52	151
10	108	415	193	215	156	199	152	143	85	62	49	136
11	82	380	192	210	152	194	145	135	84	60	48	127
12	71	349	189	186	156	217	139	132	80	54	46	120
13	65	322	188	181	177	203	148	137	77	50	50	112
14	61	298	187	174	170	203	150	138	74	50	49	108
15	62	285	185	168	164	190	150	126	84	53	48	107
16	62	287	180	170	245	183	148	124	80	53	49	104
17	72	272	176	181	202	179	146	119	78	53	65	100
18	74	328	170	175	177	188	142	119	75	56	68	96
19	76	353	155	168	175	189	140	121	71	58	63	98
20	69	310	163	163	169	188	142	120	71	54	62	91
21	77	286	159	159	162	179	141	115	70	55	62	91
22	77	276	163	158	167	176	139	117	69	54	61	112
23	15100	282	164	157	178	176	182	106	69	53	58	127
24	2410	265	164	157	186	175	175	94	75	52	56	103
25	531	254	165	153	170	170	156	108	78	55	61	90
26	362	256	232	155	165	168	144	107	73	55	65	86
27	286	244	198	157	166	177	138	105	68	57	131	84
28	256	239	181	163	168	185	135	102	66	54	132	81
29	220	232	174	226	---	184	132	99	64	53	109	79
30	203	227	170	200	---	178	138	94	61	51	102	79
31	195	---	168	183	---	175	---	99	---	49	196	---
TOTAL	20968	19449	5817	5286	4793	5859	4578	3933	2373	1838	2071	4284
MEAN	676	648	188	171	171	189	153	127	79.1	59.3	66.8	143
MAX	15100	3650	232	226	245	239	182	215	103	84	196	615
MIN	37	183	155	153	152	168	132	94	61	49	46	79
AC-FT	41590	38580	11540	10480	9510	11620	9080	7800	4710	3650	4110	8500
CFSM	1.33	1.27	.37	.33	.34	.37	.30	.25	.16	.12	.13	.28
IN.	1.53	1.42	.42	.39	.35	.43	.33	.29	.17	.13	.15	.31

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

MEAN	167	146	146	125	153	160	126	166	213	205	106	114
MAX	676	648	572	282	555	547	329	313	1088	1572	281	256
(WY)	2001	2001	1992	1992	1992	1992	1992	1994	1987	1987	1987	1986
MIN	59.7	63.7	64.1	56.6	59.4	57.1	46.9	55.6	40.1	27.3	30.0	34.9
(WY)	2000	2000	1990	1996	1996	2000	2000	1996	1996	1996	2000	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1986 - 2001	
ANNUAL TOTAL	60776		81249			
ANNUAL MEAN	166		223		153	
HIGHEST ANNUAL MEAN					399	1987
LOWEST ANNUAL MEAN					55.8	2000
HIGHEST DAILY MEAN	15100	Oct 23	15100	Oct 23	36100	Jul 17 1987
LOWEST DAILY MEAN	22	Sep 5	37	Oct 1	17	Aug 7 1996
ANNUAL SEVEN-DAY MINIMUM	24	Sep 3	39	Oct 1	19	Aug 4 1996
MAXIMUM PEAK FLOW			55700	Oct 23	141000	Jul 17 1987
MAXIMUM PEAK STAGE			17.94	Oct 23	37.72	Jul 17 1987
ANNUAL RUNOFF (AC-FT)	120500		161200		110500	
ANNUAL RUNOFF (CFSM)	.33		.44		.30	
ANNUAL RUNOFF (INCHES)	4.43		5.93		4.07	
10 PERCENT EXCEEDS	222		239		222	
50 PERCENT EXCEEDS	60		151		93	
90 PERCENT EXCEEDS	30		54		48	

08166200 Guadalupe River at Kerrville, TX--Continued



08167000 Guadalupe River at Comfort, TX

LOCATION.--Lat 29°58'10", long 98°53'33", Kendall County, Hydrologic Unit 12100201, on right bank at downstream side of southbound bridge on Interstate Highway 10 at Comfort, 0.5 mi downstream from Cypress Creek, and at mile 396.2.

DRAINAGE AREA.--839 mi^2.

PERIOD OF RECORD.--May 1939 to current year.

REVISED RECORDS.--WSP 1632: 1958. WSP 1732: 1939(M). WSP 2123: Drainage area, 1944(M), 1952(M), 1957(M), 1960(M).

GAGE.--Water-stage recorder. Datum of gage is 1,369.83 ft above sea level. Prior to Nov. 27, 1939, nonrecording gage. Nov. 27, 1939, to June 2, 1980, water-stage recorder at site 0.4 mi upstream at datum 2.22 ft higher. June 2, 1980, to Sept. 30, 1986, at present site at datum 2.00 ft higher. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since 1956, at least 10% of contributing drainage area has been regulated. There are many small diversions above station for irrigation. No flow at times.

AVERAGE DISCHARGE PRIOR TO REGULATION.--17 years (water years 1939-55), 127 ft^3/s (92,340 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1939-1955).--Maximum discharge 74,200 ft^3/s May 26, 1944 (gage height 29.40 ft); no flow at times 1952-55.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1869 reached a stage of 42.3 ft, present datum, from report by U.S. Army Corps of Engineers. Flood of July 1, 1932, reached a stage of 38.4 ft, from floodmark, and from information by Texas Department of Transportation. Flood of July 16, 1900, reached about the same stage as that of July 1, 1932, from information by local residents. All stages are at site and datum then in use. Maximum stage since at least 1848, that of Aug. 2, 1978.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	254	395	296	426	386	422	241	173	82	49	413
2	28	1370	372	288	412	392	432	238	172	91	49	164
3	29	e5800	362	282	404	513	426	233	164	94	52	129
4	28	8400	387	279	393	599	415	244	158	106	50	128
5	27	1610	376	273	380	522	394	707	147	99	50	149
6	29	5750	372	270	380	484	378	458	145	91	51	919
7	42	1580	348	277	379	466	381	357	142	84	50	504
8	63	1270	342	265	383	467	376	345	138	79	58	274
9	e88	981	334	257	384	480	355	339	137	81	50	213
10	e92	809	329	560	356	468	338	300	136	77	53	187
11	e95	711	323	560	350	463	332	274	133	70	49	172
12	e88	643	310	431	353	719	309	262	121	69	48	157
13	e80	575	311	411	386	556	314	257	114	63	48	147
14	e75	529	307	395	398	555	325	267	111	59	49	141
15	e60	493	301	365	374	532	319	248	113	56	47	133
16	e59	493	300	361	884	479	313	238	117	60	46	128
17	e60	471	280	452	569	467	299	230	114	58	53	123
18	e62	595	280	441	462	483	282	224	109	57	59	118
19	e67	716	266	409	438	511	275	224	100	55	71	113
20	e70	597	261	380	423	481	277	224	95	57	80	114
21	81	527	261	371	404	467	272	220	96	55	61	111
22	102	502	257	359	401	450	265	210	96	55	60	117
23	e15000	528	261	357	425	445	557	209	97	54	58	180
24	5000	514	264	351	485	441	441	188	97	50	54	157
25	1330	463	271	350	409	428	343	183	104	49	52	130
26	791	448	451	349	385	424	305	188	102	51	58	117
27	575	432	461	359	390	441	282	185	94	51	101	112
28	444	427	372	374	397	491	268	182	88	50	143	107
29	357	411	332	653	---	470	258	176	87	49	140	104
30	298	399	307	528	---	446	257	171	83	51	125	103
31	271	---	299	452	---	425	---	171	---	50	128	---
TOTAL	25420	38298	10092	11755	11830	14951	10210	7993	3583	2053	2042	5664
MEAN	820	1277	326	379	422	482	340	258	119	66.2	65.9	189
MAX	15000	8400	461	653	884	719	557	707	173	106	143	919
MIN	27	254	257	257	350	386	257	171	83	49	46	103
AC-FT	50420	75960	20020	23320	23460	29660	20250	15850	7110	4070	4050	11230

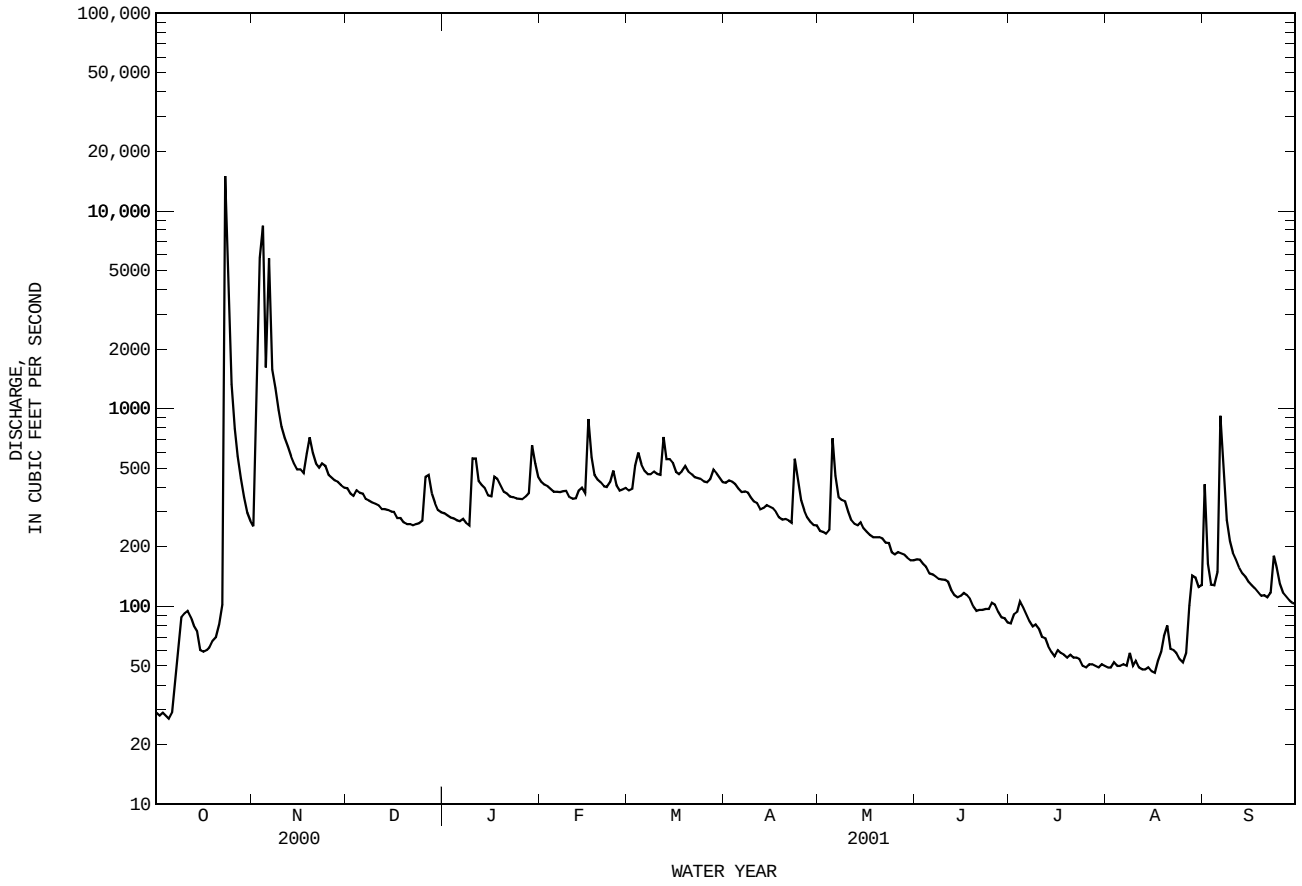
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2001z, BY WATER YEAR (WY)

MEAN	333	199	234	201	246	243	251	298	335	194	278	172
MAX	2417	1277	2700	987	1728	1559	1598	1122	2820	1974	4782	575
(WY)	1986	2001	1992	1992	1992	1992	1977	1975	1987	1987	1978	1978
MIN	.000	3.63	10.5	16.8	24.4	16.6	15.5	14.9	.097	.000	2.66	5.90
(WY)	1957	1957	1957	1957	1957	1956	1956	1956	1956	1956	1963	1956

08167000 Guadalupe River at Comfort, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1956 - 2001z	
ANNUAL TOTAL	90229		143891			
ANNUAL MEAN	247		394		249	
HIGHEST ANNUAL MEAN					894	1992
LOWEST ANNUAL MEAN					14.5	1956
HIGHEST DAILY MEAN	15000	Oct 23	e15000	Oct 23	74200	Aug 2 1978
LOWEST DAILY MEAN	14	Aug 21	27	Oct 5	.00	Jun 5 1956
ANNUAL SEVEN-DAY MINIMUM	14	Sep 3	30	Oct 1	.00	Jun 5 1956
MAXIMUM PEAK FLOW			59400	Oct 23	c240000	Aug 2 1978
MAXIMUM PEAK STAGE			a24.08	Oct 23	a40.90	Aug 2 1978
ANNUAL RUNOFF (AC-FT)	179000		285400		180300	
10 PERCENT EXCEEDS	403		527		408	
50 PERCENT EXCEEDS	72		274		129	
90 PERCENT EXCEEDS	23		55		35	

e Estimated
z Period of regulated streamflow.
c From rating curve extended above 92,000 ft^3/s.
a From floodmark.



08167500 Guadalupe River near Spring Branch, TX
(Hydrologic index station)

LOCATION.--Lat 29°51'37", long 98°23'00", Comal County, Hydrologic Unit 12100201, at downstream side of bridge on Ranch Road 311, 1.9 mi southeast of Spring Branch Post Office, 7.5 mi downstream from Curry Creek, and at mile 334.4.

DRAINAGE AREA.--1,315 mi^2.

PERIOD OF RECORD.--June 1922 to current year.
Water-quality records.--Chemical data: Oct. 1942 to Sept. 1945, Oct. 1980 to Sept. 1982, Oct. 1989 to Aug. 1995, Apr. 1996 to Apr. 1998. Biochemical data: Oct. 1980 to Sept. 1982, Oct. 1989 to Aug. 1995, Apr. 1996 to Apr. 1998. Sediment data: Apr. 1996 to Apr. 1998.

REVISED RECORDS.--WSP 1562: 1923-24, 1926, 1927-28(M), 1929, 1930(M). WSP 2123: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 948.10 ft above sea level. Prior to Jan. 14, 1981, at site 220 ft downstream at same datum. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Since 1956, at least 10% of contributing drainage area has been regulated. Several small diversions above station for irrigation. No flow at times.

AVERAGE DISCHARGE PRIOR TO REGULATION.--34 years (water years 1922-55), 249 ft^3/s (180,400 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1922-55).--Maximum discharge 121,000 ft^3/s July 3, 1932 (gage height 42.10 ft); no flow at times 1951, 1952, 1954, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1859, about 53 ft in 1869; flood in July 1900 reached a stage of about 49 ft, from information by local resident.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	273	670	463	856	744	758	466	285	125	73	3510
2	29	1500	646	449	819	741	747	452	281	124	73	739
3	26	9910	624	438	796	817	749	436	272	126	71	399
4	24	e11200	626	435	782	1020	735	430	259	129	73	302
5	23	e2600	623	435	756	1000	718	602	250	133	71	358
6	24	e7000	606	429	745	921	694	899	239	135	71	2980
7	41	e4150	590	427	737	883	676	663	233	129	69	1280
8	48	2500	569	421	727	865	670	612	227	122	70	784
9	64	2080	552	403	730	906	658	618	222	116	70	578
10	75	1590	539	708	705	884	635	553	215	113	74	483
11	105	1330	532	1070	679	870	617	504	212	113	69	414
12	101	1190	509	799	674	971	600	503	207	109	69	375
13	95	1070	507	697	677	1160	579	486	194	103	68	342
14	81	962	505	678	706	1010	577	455	185	101	67	317
15	72	900	492	644	710	1070	579	452	179	97	68	344
16	66	857	487	615	e1750	980	567	433	175	93	77	294
17	65	826	469	653	e1000	928	555	413	177	90	71	276
18	68	830	454	801	e900	919	534	397	172	89	67	263
19	65	1150	439	742	e850	944	519	382	168	88	69	252
20	79	1060	426	697	823	933	513	380	159	85	75	238
21	71	926	420	671	795	903	509	463	153	82	84	232
22	82	858	409	653	776	878	497	409	148	82	84	229
23	96	1010	407	636	776	851	691	382	144	80	76	275
24	e12400	1130	411	628	845	831	851	367	156	79	73	280
25	3760	914	420	616	828	807	675	344	153	78	72	267
26	990	825	456	616	762	787	588	323	147	76	70	240
27	639	783	625	622	742	782	545	325	146	75	370	223
28	487	753	595	716	749	836	514	318	140	74	319	213
29	394	726	528	966	---	851	492	304	132	74	230	205
30	337	691	490	1130	---	818	475	291	127	73	483	197
31	298	---	472	937	---	785	---	289	---	72	915	---
TOTAL	20738	61594	16098	20195	22695	27695	18517	13951	5757	3065	4191	16889
MEAN	669	2053	519	651	811	893	617	450	192	98.9	135	563
MAX	12400	11200	670	1130	1750	1160	851	899	285	135	915	3510
MIN	23	273	407	403	674	741	475	289	127	72	67	197
AC-FT	41130	122200	31930	40060	45020	54930	36730	27670	11420	6080	8310	33500

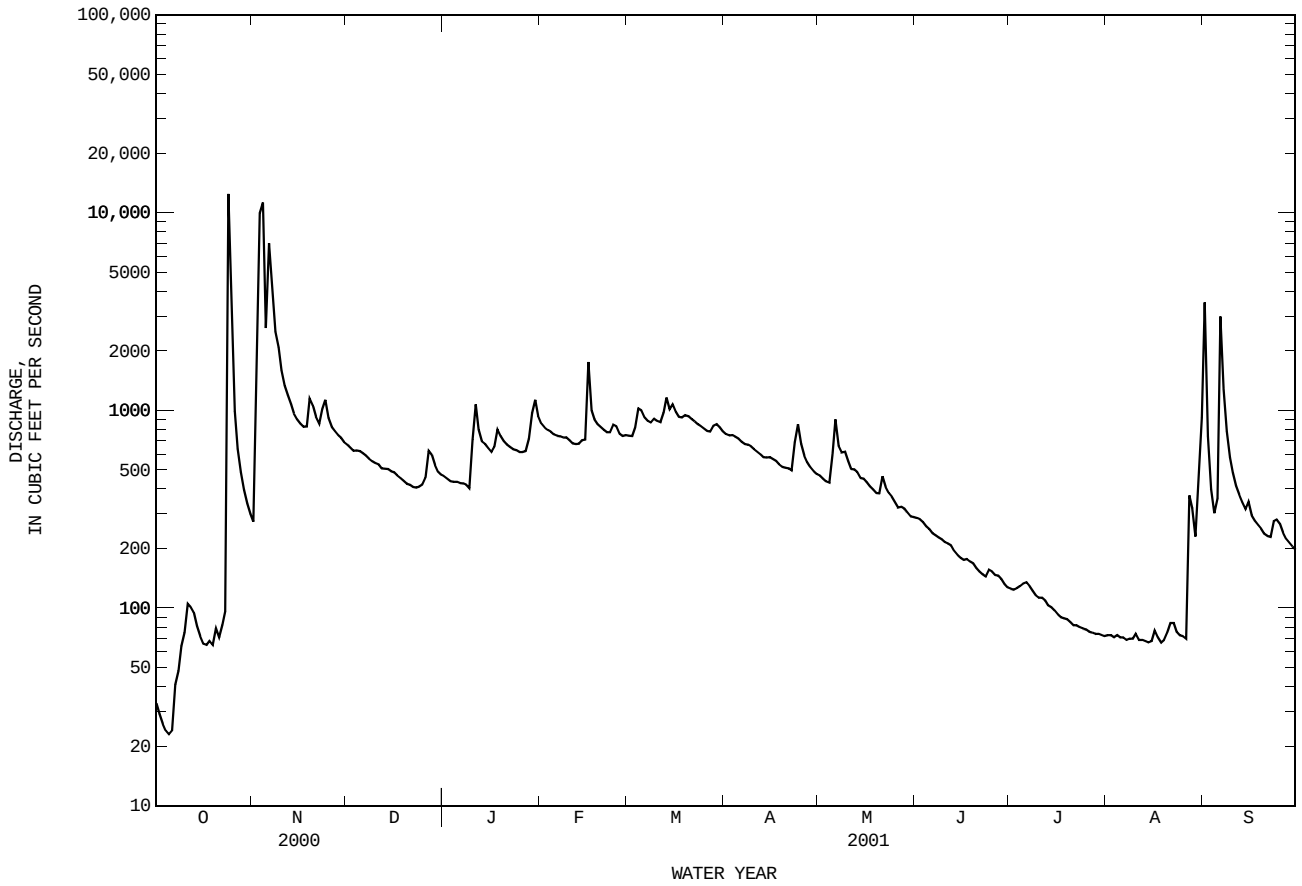
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2001z, BY WATER YEAR (WY)

MEAN	463	328	395	360	458	449	453	564	716	341	350	263
MAX	1584	2053	4927	1903	4164	3306	2417	2216	6329	2626	4980	941
(WY)	1982	2001	1992	1992	1992	1992	1977	1992	1987	1987	1978	1978
MIN	6.77	11.1	6.48	10.9	29.3	16.8	6.11	19.3	.000	.000	3.24	6.85
(WY)	1957	1957	1957	1957	1956	1956	1956	1956	1956	1956	1963	1956

08167500 Guadalupe River near Spring Branch, TX--Continued
(Hydrologic index station)

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1956 - 2001z	
ANNUAL TOTAL	116816.9		231385			
ANNUAL MEAN	319		634		428	
HIGHEST ANNUAL MEAN					1819	1992
LOWEST ANNUAL MEAN					13.3	1956
HIGHEST DAILY MEAN	12400	Oct 24	e12400	Oct 24	76500	Aug 3 1978
LOWEST DAILY MEAN	5.4	Sep 9	23	Oct 5	.00	May 29 1956
ANNUAL SEVEN-DAY MINIMUM	6.3	Sep 4	29	Oct 1	.00	May 29 1956
MAXIMUM PEAK FLOW			35100	Oct 24	i160000	Aug 3 1978
MAXIMUM PEAK STAGE			27.46	Oct 24	a45.25	Aug 3 1978
ANNUAL RUNOFF (AC-FT)	231700		459000		310100	
10 PERCENT EXCEEDS	625		940		769	
50 PERCENT EXCEEDS	84		475		196	
90 PERCENT EXCEEDS	15		73		48	

e Estimated
z Period of regulated streamflow.
i From indirect measurement of peak flow.
a From floodmark.



08167700 Canyon Lake near New Braunfels, TX

LOCATION.--Lat 29°52'07", long 98°11'55", Comal County, Hydrologic Unit 12100201, in intake structure of Canyon Dam on Guadalupe River, 12 mi northwest of New Braunfels, and at mile 303.0.

DRAINAGE AREA.--1,432 mi^2.

PERIOD OF RECORD.--July 1962 to Sept. 2000 (U.S. Army Corps of Engineers furnished contents), Oct. 2000 to current year. Prior to Oct. 1970, published as "Canyon Reservoir".
Water-quality records.--Chemical data: Oct. 1980 to Sept. 1982, Oct. 1989 to Aug. 1995. Biochemical data: Oct. 1980 to Sept. 1982, Oct. 1989 to Aug. 1995.

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Army Corps of Engineers). Prior to Sept. 24, 1964, nonrecording gage at present site and datum. Satellite telemeter at station.

REMARKS.--Records good. The lake is formed by a rolled earthfill dam 6,830 ft long, consisting of the main dam 4,410 ft long, an earthen dike 210 ft long, a 1,260-foot-long uncontrolled broad-crested-type spillway, and a 950-foot concrete and earthen nonoverflow section. Deliberate impoundment began June 16, 1964, and main part of dam was completed in Aug. 1964. The flood-control outlet works consist of a 10.0-foot-diameter conduit controlled by two 5.7 by 10.0-foot hydraulically operated slide gates. The dam is owned by the U.S. Army Corps of Engineers. The lake was built for water conservation and flood control. Capacity table beginning Oct. 1, 1974, is based on a sedimentation survey of Aug. 1972. Small diversions above the lake for irrigation. Conservation pool storage is 378,852 acre-ft. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam	974.0
Crest of spillway	943.0
Top of conservation pool	908.6
Lowest gated outlet (invert)	775.0

COOPERATION.--Prior to Oct. 1, 2000, record of 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, 732,600 acre-ft, June 19, 1987 (elevation, 942.68 ft); minimum observed since conservation pool first reached in Apr. 1968, 311,200 acre-ft, Nov. 24, 1984 (elevation, 899.85 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 466,700 acre-ft, Nov. 8, elevation, 918.64 ft; minimum contents, 333,400 acre-ft, Oct. 6, 7, elevation, 902.86 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

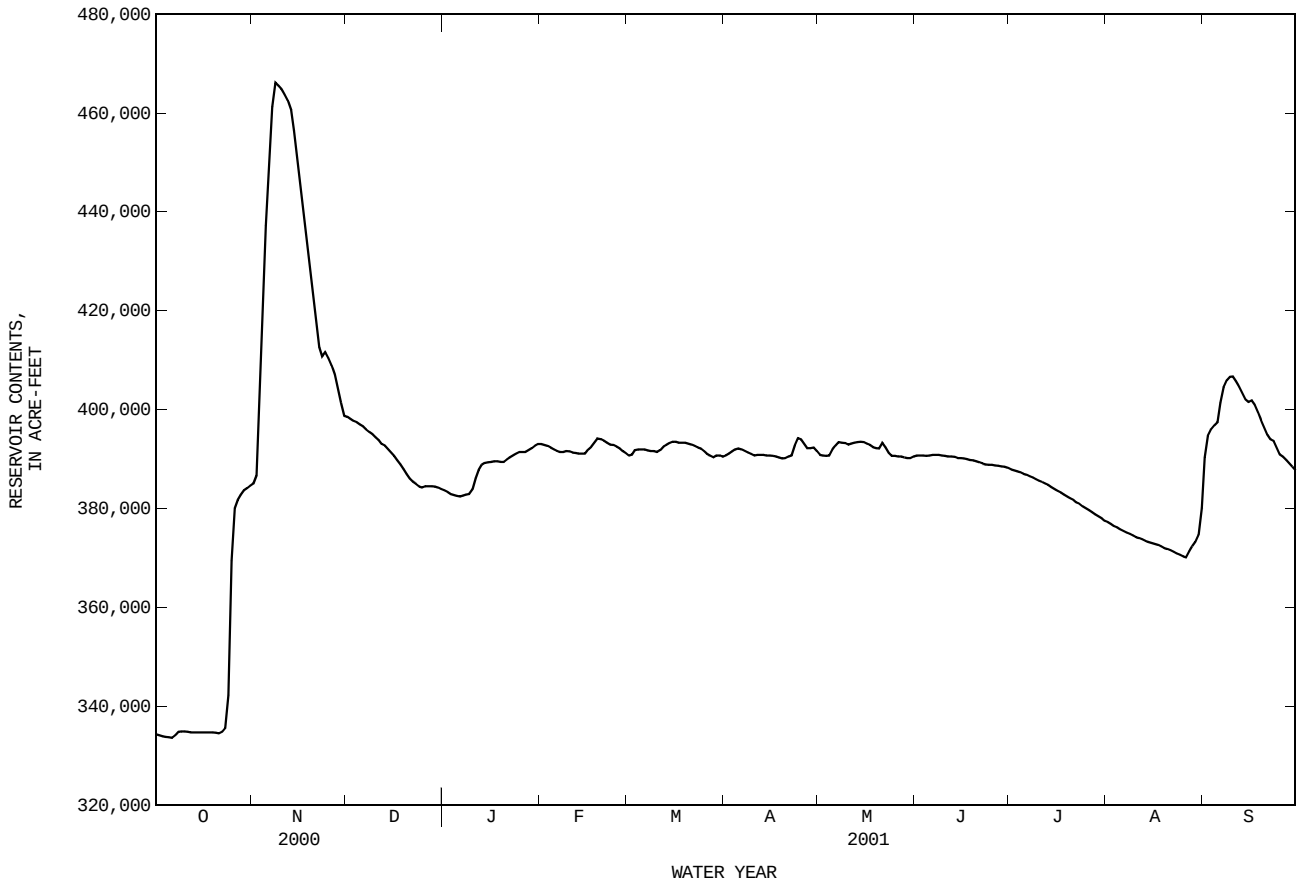
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	334300	385000	398500	383600	393000	390700	390700	390800	390700	387900	377200	390300
2	334100	386700	398100	383300	392800	390900	391100	390700	390700	387700	376800	394700
3	333900	404900	397700	382900	392600	391800	391500	390600	390700	387500	376400	396000
4	333800	421200	397400	382700	392300	391900	391900	390700	390600	387300	376100	396800
5	333700	437200	397000	382500	391900	391900	392100	391900	390700	387000	375700	397400
6	333600	448400	396600	382400	391600	391900	391900	392700	390800	386800	375400	401400
7	334100	461200	396000	382600	391400	391700	391600	393400	390800	386500	375100	404500
8	334800	466100	395500	382800	391400	391600	391300	393300	390800	386200	374800	405900
9	334900	465500	395000	382900	391600	391600	391000	393200	390700	385900	374500	406600
10	334900	464800	394400	383800	391500	391400	390700	392900	390600	385600	374200	406700
11	334800	463700	393800	386100	391300	391800	390800	393100	390500	385300	374000	405700
12	334700	462500	393000	387700	391200	392500	390800	393300	390500	385000	373700	404600
13	334700	460600	392700	388800	391100	392800	390800	393400	390400	384700	373400	403300
14	334700	456400	392000	389200	391100	393200	390700	393500	390200	384300	373200	402000
15	334700	450600	391300	389300	391100	393500	390700	393400	390200	383900	373000	401500
16	334700	444800	390600	389400	391900	393500	390600	393100	390100	383500	372800	401800
17	334700	438800	389700	389500	392500	393300	390500	392800	390000	383200	372600	400900
18	334700	433400	388900	389500	393300	393300	390300	392400	389800	382800	372300	399400
19	334700	428300	387900	389400	394100	393300	390100	392200	389700	382400	372000	397900
20	334600	423200	386900	389400	394000	393100	390200	392100	389500	382000	371800	396400
21	334500	417700	386000	389900	393700	392900	390500	393200	389300	381700	371500	394900
22	334800	412600	385400	390300	393300	392600	390700	392300	389100	381200	371200	393900
23	335500	410700	384900	390700	392900	392300	392700	391200	388900	380900	370900	393600
24	342200	411600	384400	391100	392800	392100	394200	390600	e388800	380400	370600	392300
25	369400	410400	384200	391400	392500	391600	393900	390600	e388800	380000	370300	390900
26	380000	408900	384500	391400	392100	391000	393000	390500	e388700	379600	370100	390400
27	381600	407000	384500	391400	391600	390600	392200	390500	e388600	379200	371300	389800
28	382700	404200	384500	391800	391200	390300	392200	390300	388500	378800	372300	389100
29	383600	401300	384400	392200	---	390700	392300	390200	388400	378400	373200	388400
30	384100	398700	384200	392700	---	390700	391600	390200	388200	378000	374600	387700
31	384600	---	383900	393000	---	390400	---	390500	---	377500	380100	---
MEAN	345200	429500	390400	387900	392200	392000	391400	391900	389800	383300	373600	397500
MAX	384600	466100	398500	393000	394100	393500	394200	393500	390800	387900	380100	406700
MIN	333600	385000	383900	382400	391100	390300	390100	390200	388200	377500	370100	387700
(+)	909.31	911.00	909.23	910.32	910.11	910.01	910.16	910.02	909.75	908.46	908.77	909.69
(@)	+50200	+14100	-14800	+9100	-1800	-800	+1200	-1100	-2300	-10700	+2600	+7600

CAL YR 2000 MAX 466100 MIN 333600 (@) +27000
WTR YR 2001 MAX 466100 MIN 333600 (@) +53300

e Estimated

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

08167700 Canyon Lake near New Braunfels, TX--Continued



08167800 Guadalupe River at Sattler, TX

LOCATION.--Lat 29°51'32", long 98°10'47", Comal County, Hydrologic Unit 12100202, on right bank 200 ft upstream from Horseshoe Falls, 0.8 mi north of Sattler, 1.8 mi downstream from Canyon Dam, 2.3 mi upstream from Heiser Hollow, 11.2 mi north of New Braunfels, and at mile 301.2.

DRAINAGE AREA.--1,436 mi^2, of which 1,432 mi^2 is above Canyon Dam.

PERIOD OF RECORD.--Mar. 1960 to current year.
Water-quality records.--Chemical data: Oct. 1980 to Sept. 1982, Oct. 1989 to Aug. 1995. Biochemical data: Oct. 1980 to Sept. 1982, Oct. 1989 to Aug. 1995. Water temperature: June 1984 to Sept. 1987.

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 742.24 ft above sea level (U.S. Army Corps of Engineers bench mark). Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since 1960, at least 10% of contributing drainage area has been regulated. Small diversions above station for irrigation. No flow July 31 to Aug. 6, 1962 (result of closure of Canyon Dam). No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1869 (stage unknown) has not been exceeded since that date; flood in July 1900 (stage unknown) exceeded 39 ft; maximum stage since at least 1904, 39 ft in July 1932 and June 1935, from information by local residents.

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

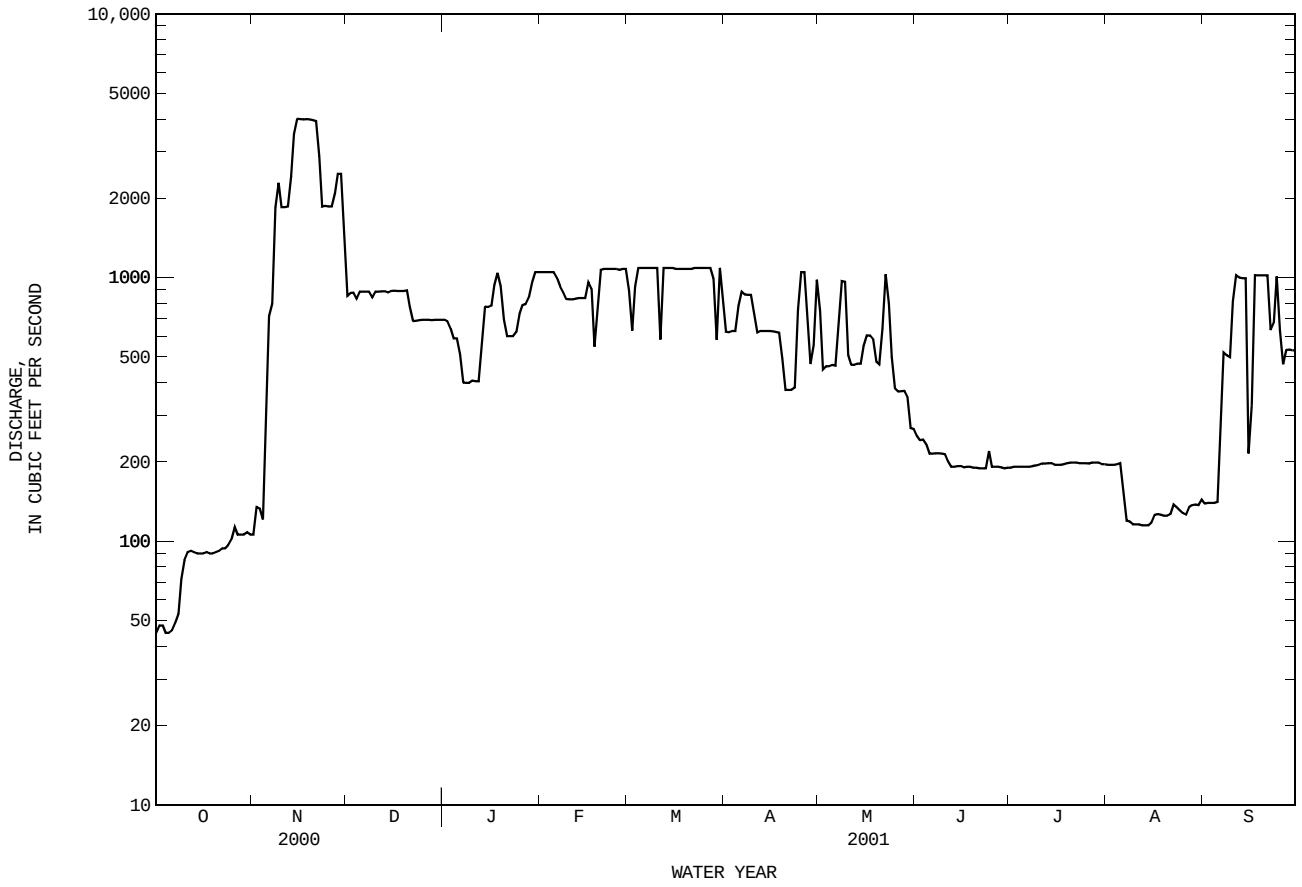
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	106	854	692	1050	893	625	748	251	190	195	139
2	48	135	876	683	1050	629	620	449	242	192	195	140
3	48	133	877	643	1050	925	627	462	243	192	195	140
4	45	121	832	588	1050	1090	628	461	233	192	196	140
5	45	317	885	589	1050	1090	780	467	215	192	198	141
6	46	713	886	512	999	1090	884	464	215	192	152	260
7	49	797	886	400	927	1090	863	660	216	192	120	521
8	53	1850	886	399	877	1090	862	972	216	193	119	507
9	72	2290	841	399	830	1090	861	966	215	194	116	499
10	85	1850	886	407	828	1090	735	508	214	195	116	813
11	91	1850	886	405	828	582	619	468	201	197	116	1020
12	92	1860	888	405	832	1090	628	467	192	197	115	1000
13	91	2420	887	566	837	1090	628	472	192	198	115	996
14	90	3510	879	777	837	1090	628	472	193	198	115	995
15	90	4010	891	775	837	1090	628	550	193	195	118	215
16	90	4000	892	783	963	1080	626	603	191	195	126	328
17	91	3980	889	937	907	1080	623	604	192	195	127	1020
18	90	3990	889	1040	547	1080	619	584	192	196	126	1020
19	90	3980	891	926	781	1080	493	480	190	198	125	1020
20	91	3960	894	695	1070	1080	375	469	190	199	125	1020
21	92	3930	773	601	1080	1080	375	642	189	199	127	1020
22	94	2890	685	601	1080	1090	375	1030	189	199	138	633
23	94	1860	686	601	1080	1090	383	799	189	198	135	675
24	97	1870	690	623	1080	1090	756	500	220	198	131	1010
25	102	1860	692	730	1080	1090	1050	380	192	198	128	633
26	113	1860	693	787	1070	1090	1050	370	192	197	126	469
27	106	2090	692	794	1080	1090	715	371	192	199	135	532
28	106	2480	691	841	1080	991	470	372	191	199	137	533
29	106	2480	692	957	---	580	555	354	189	199	138	531
30	108	1350	692	1050	---	1090	982	269	190	196	137	529
31	106	---	692	1050	---	820	---	267	---	196	144	---
TOTAL	2566	64542	25273	21256	26780	31520	20063	16680	6119	6070	4286	18499
MEAN	82.8	2151	815	686	956	1017	669	538	204	196	138	617
MAX	113	4010	894	1050	1080	1090	1050	1030	251	199	198	1020
MIN	45	106	685	399	547	580	375	267	189	190	115	139
AC-FT	5090	128000	50130	42160	53120	62520	39790	33080	12140	12040	8500	36690

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

MEAN	321	400	351	441	440	500	501	477	607	589	449	291
MAX	1463	2151	2121	4437	2089	3949	3705	2318	2783	5309	3854	1306
(WY)	1961	2001	1999	1992	1992	1992	1992	1992	1992	1997	1978	1987
MIN	43.1	66.2	41.4	60.4	13.4	71.7	45.6	47.1	36.1	22.1	7.32	10.5
(WY)	1964	1976	1966	1964	1965	1988	1971	1971	1963	1963	1962	1963

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1960 - 2001	
ANNUAL TOTAL	115456		243654			
ANNUAL MEAN	315		668		450	
HIGHEST ANNUAL MEAN					1900	1992
LOWEST ANNUAL MEAN					69.4	1963
HIGHEST DAILY MEAN	4010	Nov 15	4010	Nov 15	10000	Oct 29 1960
LOWEST DAILY MEAN	42	Sep 13	45	Oct 1	.00	Jul 31 1962
ANNUAL SEVEN-DAY MINIMUM	45	Sep 7	47	Oct 1	.00	Jul 31 1962
MAXIMUM PEAK FLOW			4030	Nov 15	20800	Oct 29 1960
MAXIMUM PEAK STAGE			7.75	Nov 15	12.20	Oct 29 1960
ANNUAL RUNOFF (AC-FT)	229000		483300		325800	
10 PERCENT EXCEEDS	885		1090		803	
50 PERCENT EXCEEDS	99		582		212	
90 PERCENT EXCEEDS	51		116		70	

08167800 Guadalupe River at Sattler, TX--Continued



08168500 Guadalupe River above Comal River at New Braunfels, TX

LOCATION.--Lat 29°42'53", long 98°06'35", Comal County, Hydrologic Unit 12100202, on right bank at New Braunfels, 1.1 mi upstream from Comal River, 21.9 mi downstream from Canyon Lake, and at mile 281.1.

DRAINAGE AREA.--1,518 mi^2, of which 1,432 mi^2 is above Canyon Dam.

PERIOD OF RECORD.--Dec. 1927 to current year.

REVISED RECORDS.--WSP 898: 1935. WSP 1562: 1932. WSP 2123: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 586.65 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since 1956, at least 10% of contributing drainage area has been regulated. Small diversions for irrigation above this station. No flow at times.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--28 years (water years 1928-55), 344 ft^3/s (249,300 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1928-55).--Maximum discharge, 101,000 ft^3/s June 15, 1935 (gage height, 32.95 ft); minimum, 2.2 ft^3/s Sept. 27-29, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1845, 38 ft July 8, 1869, and in Dec. 1913, from information by local residents.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	167	1070	936	1300	1270	793	1050	419	327	241	504
2	43	188	1090	916	1300	829	792	636	401	323	241	393
3	43	1430	1090	907	1300	1030	785	628	394	300	241	355
4	44	493	1040	816	1300	1360	786	629	384	294	241	319
5	44	435	1090	812	1300	1360	900	e635	364	293	241	298
6	44	1330	1090	785	1280	1360	1030	e632	349	288	239	326
7	84	1070	1090	596	1160	1360	1040	e828	348	288	192	660
8	114	1910	1090	593	1120	1360	1000	1200	349	283	165	661
9	109	2750	1040	587	1050	1360	1000	1190	349	282	161	639
10	133	2140	1090	666	1040	1360	865	866	349	280	158	789
11	131	2120	1090	682	1040	814	786	671	347	276	158	1150
12	125	2110	1080	659	1040	1420	790	667	322	276	158	1150
13	118	2420	1120	706	1050	1400	796	653	312	276	154	1150
14	111	3430	1100	1060	1050	1430	796	643	304	271	155	1140
15	109	4070	1120	1050	1050	1440	793	669	300	270	154	624
16	106	4040	1120	1050	1130	1420	786	765	296	270	153	348
17	106	4020	1120	1150	1300	1420	786	758	294	270	160	1000
18	110	4060	1120	1330	757	1440	786	759	294	267	161	1120
19	104	4070	1120	1260	825	1430	735	665	294	264	161	1120
20	103	4030	1120	1020	1300	1420	544	620	289	259	161	1110
21	103	4010	1060	840	1320	1430	535	810	288	258	161	1110
22	115	3430	894	835	1330	1430	527	1260	289	258	164	866
23	134	2110	894	835	1330	1440	708	1120	289	258	169	713
24	200	2280	899	836	1330	1440	780	769	560	258	169	1090
25	191	2190	924	919	1320	1440	1270	575	350	252	165	e713
26	187	2170	943	1020	1320	1440	1260	551	322	252	163	e549
27	189	2270	947	1030	1330	1440	1080	544	312	249	198	e612
28	186	2800	945	1040	1330	1440	661	542	305	246	213	628
29	180	2780	938	1170	---	788	650	531	300	246	218	628
30	176	1990	936	1310	---	1370	1110	452	298	246	323	627
31	172	---	936	1300	---	1210	---	441	---	241	403	---
TOTAL	3658	72313	32206	28716	33302	41151	25170	22759	10071	8421	6041	22392
MEAN	118	2410	1039	926	1189	1327	839	734	336	272	195	746
MAX	200	4070	1120	1330	1330	1440	1270	1260	560	327	403	1150
MIN	43	167	894	587	757	788	527	441	288	241	153	298
AC-FT	7260	143400	63880	56960	66050	81620	49920	45140	19980	16700	11980	44410

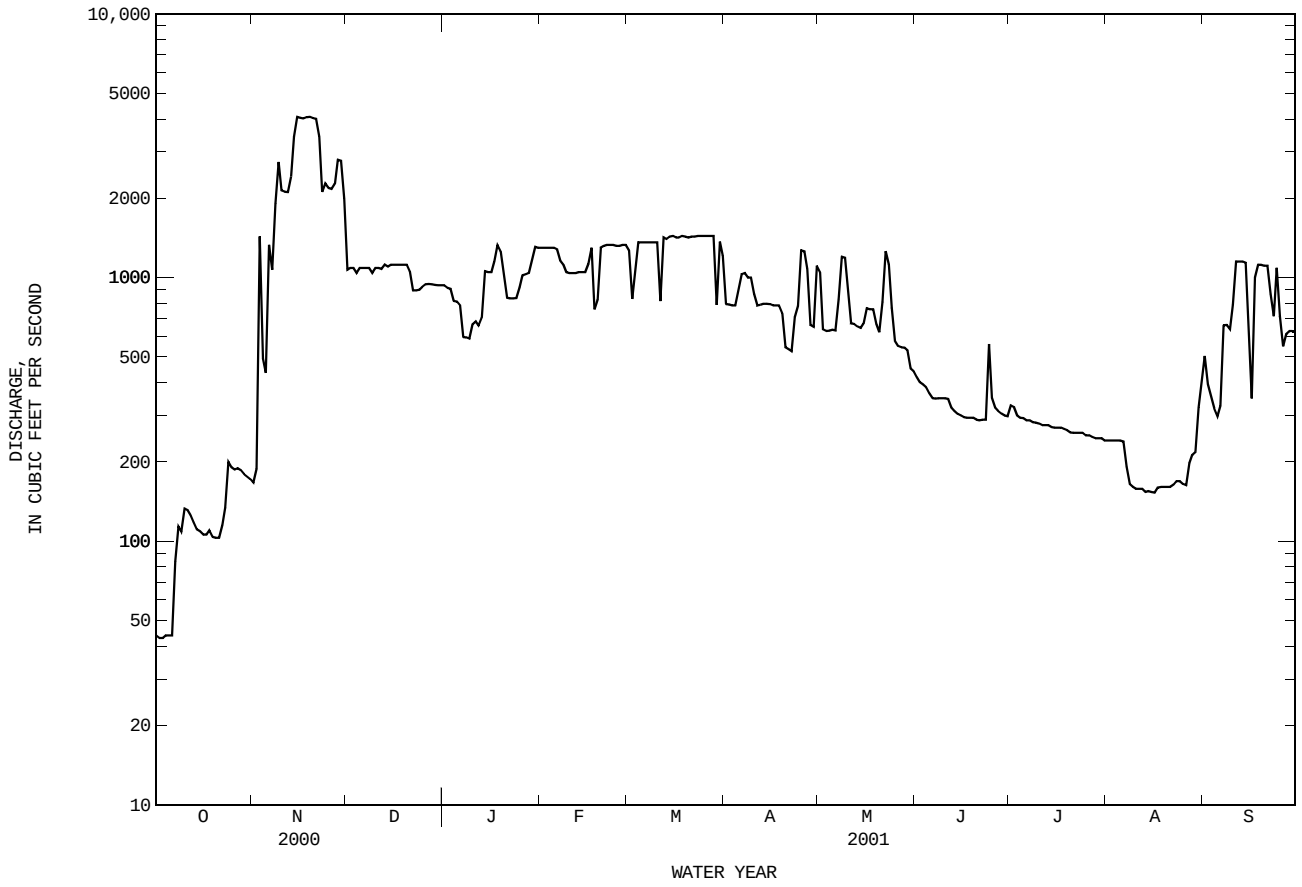
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2001z, BY WATER YEAR (WY)

MEAN	472	470	419	512	529	585	597	616	712	619	475	350
MAX	2033	2410	2233	4704	2379	4254	3826	2450	2948	5236	3866	1484
(WY)	1999	2001	1999	1992	1992	1992	1992	1992	1992	1997	1978	1987
MIN	9.99	11.8	21.8	12.3	31.2	19.6	9.35	13.7	.67	.055	6.64	4.87
(WY)	1957	1956	1957	1957	1956	1956	1956	1956	1956	1956	1956	1956

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1956 - 2001z	
ANNUAL TOTAL	133227		306200			
ANNUAL MEAN	364		839		530	
HIGHEST ANNUAL MEAN					2057	1992
LOWEST ANNUAL MEAN					13.8	1956
HIGHEST DAILY MEAN	4070	Nov 15	4070	Nov 15	37400	Oct 17 1998
LOWEST DAILY MEAN	40	Sep 6	43	Oct 2	.00	Jul 8 1956
ANNUAL SEVEN-DAY MINIMUM	40	Sep 5	49	Oct 1	.00	Jul 17 1956
MAXIMUM PEAK FLOW			4510	Nov 3	i142000	Oct 17 1998
MAXIMUM PEAK STAGE			5.58	Nov 3	a35.57	Oct 17 1998
ANNUAL RUNOFF (AC-FT)	264300		607300		383700	
10 PERCENT EXCEEDS	1090		1420		991	
50 PERCENT EXCEEDS	103		769		283	
90 PERCENT EXCEEDS	46		162		75	

e Estimated
z Period of regulated streamflow.
i From indirect measurement of peak flow.
a From floodmark.

08168500 Guadalupe River above Comal River at New Braunfels, TX--Continued



08168710 Comal Springs at New Braunfels, TX

LOCATION.--Lat 29°42'21", long 98°07'20", Comal County, Hydrologic Unit 12100202, on right bank 200 ft upstream from San Antonio Street viaduct in New Braunfels, and 1.1 mi upstream from mouth.

DRAINAGE AREA.--Not applicable. This is a springflow station.

PERIOD OF RECORD.--Dec. 1927 to Sept. 1932 (fragmentary daily springflow discharges), Oct. 1932 to current year. Records of daily springflow discharges prior to Oct. 1995, obtained by applying modified Institute of Hydrology base-flow separation program BFI 4.02 to entire period of record of Comal River at New Braunfels (station 08169000), are available in files of the U.S. Geological Survey. Periodic discharge measurements made in 1882, 1896-1906, 1910-11, 1915, 1921, and 1924-30 were published as miscellaneous measurements (some years published as "Comal River").

GAGE.--Water-stage recorder. Prior to Jan. 7, 1928, nonrecording gage at same site. Concrete control since Oct. 3, 1955. Datum of gage is 582.80 ft above sea level. Datum originally 0.19 ft lower was revised to current level effective Oct. 1, 1936.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Springflow is equal to flow at Comal River at New Braunfels (station 08169000) except during periods of local runoff. During periods of local runoff, springflow is separated from river flow using modified Institute of Hydrology base-flow separation program BFI 4.02. All days with springflow separations, and all days in which river flow were estimated are flagged as estimated springflow days. Comal Springs emerge from the Edwards and associated limestones in the Balcones Fault Zone about 1 mi upstream. Flow is affected at times by cleanup operations by the city of New Braunfels at Landa Park Lake. No flow June 13 to Nov. 3, 1956.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186	258	348	345	362	350	356	359	349	e318	270	e288
2	185	e280	346	345	360	352	356	359	347	e322	266	e294
3	183	e287	352	344	360	e355	355	359	348	325	267	e302
4	180	e297	351	345	361	e357	355	362	344	322	268	309
5	179	e309	351	345	362	360	353	e365	339	322	266	e313
6	184	e320	353	346	362	356	354	378	340	316	263	e317
7	e190	332	350	349	362	355	358	370	336	319	258	e322
8	e196	324	353	348	362	356	355	366	335	317	258	326
9	e206	322	353	348	362	355	354	365	336	315	257	324
10	209	317	354	e351	360	356	352	367	335	311	255	325
11	209	319	353	e355	362	356	352	365	329	308	255	326
12	211	323	351	358	364	359	351	366	327	309	255	328
13	212	323	e351	354	361	353	349	371	323	303	251	329
14	212	323	351	352	362	e355	350	368	323	306	250	329
15	213	319	349	351	362	e356	349	365	e324	303	249	329
16	215	320	348	351	e359	358	344	365	e326	298	250	331
17	219	320	348	e354	356	356	344	364	327	297	251	330
18	217	e328	347	e357	353	361	345	362	322	295	249	333
19	221	e336	347	e360	353	359	346	362	320	294	249	330
20	225	e335	347	363	351	358	352	364	316	291	249	330
21	226	339	347	356	351	357	352	e367	315	e288	249	328
22	e230	337	347	355	350	356	353	370	313	291	247	e331
23	e235	e340	347	353	353	357	e355	367	316	e286	247	e335
24	e239	e342	347	357	351	355	e358	362	e316	281	248	338
25	244	e345	e348	356	350	356	360	356	317	281	243	336
26	248	348	e349	358	353	356	355	358	318	281	247	336
27	250	348	e350	360	353	360	356	361	312	276	e254	336
28	251	346	351	360	349	357	356	e356	314	279	261	336
29	255	345	345	e370	---	357	357	351	313	278	e268	334
30	257	345	344	375	---	358	357	349	315	e274	e274	335
31	257	---	345	364	---	355	---	e349	---	271	e281	---
TOTAL	6744	9727	10823	10985	10006	11047	10589	11248	9795	9277	7955	9760
MEAN	218	324	349	354	357	356	353	363	326	299	257	325
MAX	257	348	354	375	364	361	360	378	349	325	281	338
MIN	179	258	344	344	349	350	344	349	312	271	243	288
AC-FT	13380	19290	21470	21790	19850	21910	21000	22310	19430	18400	15780	19360

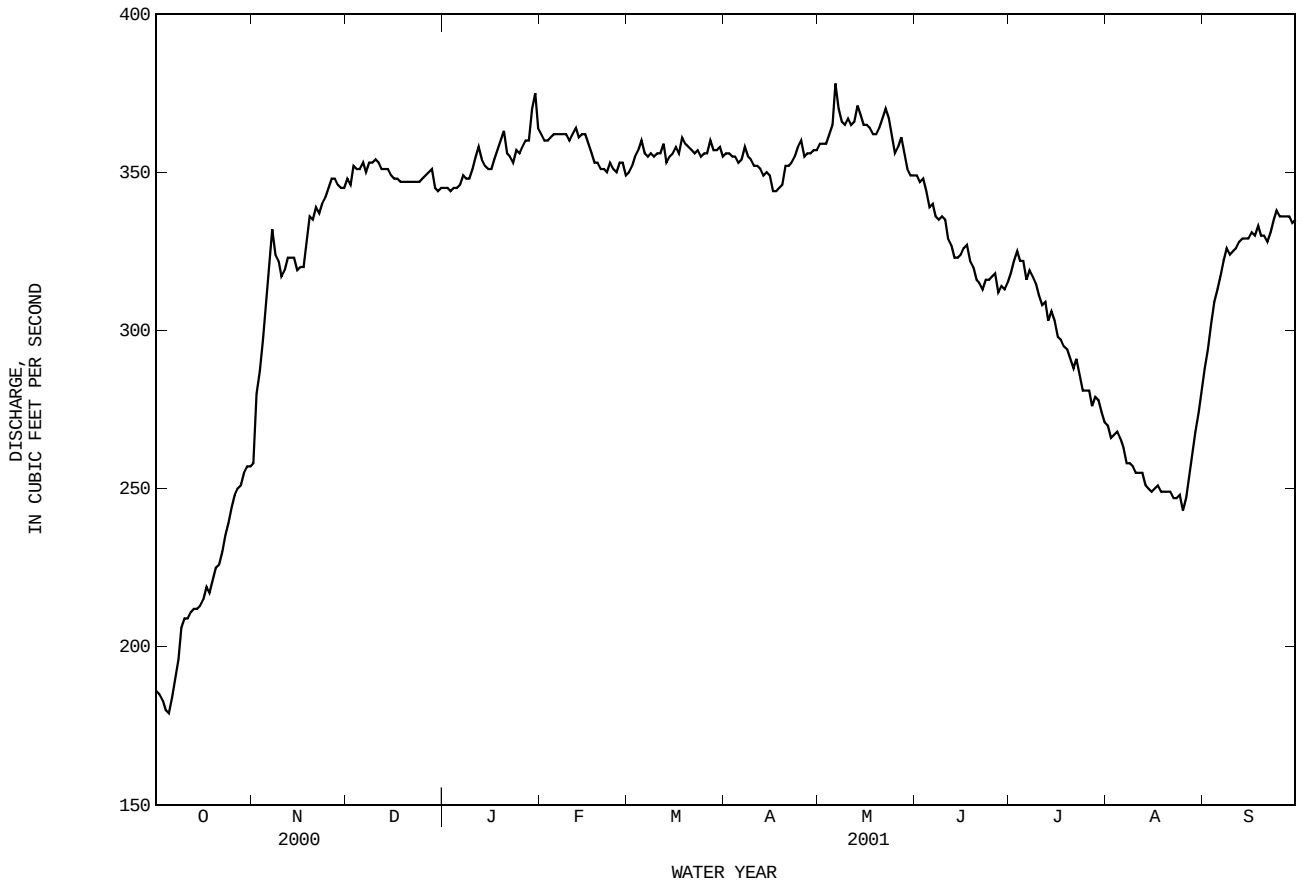
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2001, BY WATER YEAR (WY)

MEAN	273	286	295	301	302	300	296	293	285	268	253	259
MAX	465	450	437	430	446	477	474	456	481	465	465	427
(WY)	1974	1974	1974	1974	1992	1992	1992	1992	1992	1992	1992	1992
MIN	.000	21.5	35.6	51.1	49.5	65.4	41.5	27.8	3.67	.000	.000	.000
(WY)	1957	1957	1957	1957	1957	1957	1956	1956	1956	1956	1956	1956

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1933 - 2001	
ANNUAL TOTAL	95604		117956			
ANNUAL MEAN	261		323		284	
HIGHEST ANNUAL MEAN					402	1993
LOWEST ANNUAL MEAN					45.5	1956
HIGHEST DAILY MEAN	354	Dec 10	378	May 6	534	Oct 14 1973
LOWEST DAILY MEAN	138	Sep 7	179	Oct 5	.00	Jun 13 1956
ANNUAL SEVEN-DAY MINIMUM	144	Sep 4	184	Oct 1	.00	Jun 13 1956
ANNUAL RUNOFF (AC-FT)	189600		234000		205800	
10 PERCENT EXCEEDS	344		361		380	
50 PERCENT EXCEEDS	270		345		303	
90 PERCENT EXCEEDS	178		250		168	

e Estimated

08168710 Comal Springs at New Braunfels, TX--Continued



08169000 Comal River at New Braunfels, TX

LOCATION.--Lat 29°42'21", long 98°07'20", Comal County, Hydrologic Unit 12100202, on right bank 200 ft upstream from San Antonio Street viaduct in New Braunfels and 1.1 mi upstream from mouth.

DRAINAGE AREA.--130 mi^2 of contributing surface drainage, however, most of the time flow is solely from Comal Springs.

PERIOD OF RECORD.--Dec. 1927 to Sept. 1932 (daily mean discharges below base, and stage-discharge relation is not affected by backwater from Guadalupe River), Oct. 1932 to current year.
Water-quality records.--Chemical data: Apr. 1996 to Apr. 1998. Biochemical data: Apr. 1996 to Apr. 1998. Sediment data: Apr. 1996 to Apr. 1998.

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Prior to Jan. 7, 1928, non-recording gage at same site. Concrete control since Oct. 3, 1955. Datum of gage is 582.80 ft above sea level. Datum originally 0.19 ft lower was revised to current level effective Oct. 1, 1936. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Entire flow of river is from Comal Springs except during periods of local runoff. Comal Springs emerge from the Edwards and associated limestones in the Balcones Fault Zone about 1.0 mi upstream. Since water year 1974, at least 10% of contributing drainage area has been regulated. Flow is affected at times by cleanup operations by the city of New Braunfels at Landa Park Lake and at times by discharge from the flood-detention pools of five floodwater-retarding structures. These structures control runoff from 74.6 mi^2 above station. Stage-discharge relation is affected at times by backwater from the Guadalupe River.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--41 years (water years 1933-73), 286 ft^3/s (207,200 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION.--Maximum discharge, 60,800 ft^3/s May 11, 1972 (gage height, 36.55 ft, from floodmark), from rating curve extended above 13,000 ft^3/s on basis of contracted-opening measurements on Blieders and Dry Comal Creeks and unit rainfall-runoff studies; no flow from Comal Springs from June 13 to Nov. 3, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood information begins with flood of July 8, 1869, which reached a stage of 36.91 ft, from painted and dated marks in old Remmert Brewery 0.5 mi downstream; the flood of Oct. 17, 1870, reached a stage of 37.65 ft at same site (probably some backwater from Guadalupe River).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186	258	348	345	362	350	356	359	349	469	270	346
2	185	328	346	345	360	352	356	359	347	351	266	360
3	183	891	352	344	360	412	355	359	348	325	267	317
4	180	399	351	345	361	386	355	362	344	322	268	309
5	179	360	351	345	362	360	353	380	339	322	266	320
6	184	511	353	346	362	356	354	378	340	316	263	448
7	213	332	350	349	362	355	358	370	336	319	258	334
8	204	324	353	348	362	356	355	366	335	317	258	326
9	213	322	353	348	362	355	354	365	336	315	257	324
10	209	317	354	579	360	356	352	367	335	311	255	325
11	209	319	353	421	362	356	352	365	329	308	255	326
12	211	323	351	358	364	359	351	366	327	309	255	328
13	212	323	379	354	361	353	349	371	323	303	251	329
14	212	323	351	352	362	367	350	368	323	306	250	329
15	213	319	349	351	362	371	349	365	346	303	249	329
16	215	320	348	351	368	358	344	365	336	298	250	331
17	219	320	348	359	356	356	344	364	327	297	251	330
18	217	408	347	369	353	361	345	362	322	295	249	333
19	221	396	347	377	353	359	346	362	320	294	249	330
20	225	344	347	363	351	358	352	364	316	291	249	330
21	226	339	347	356	351	357	352	427	315	295	249	328
22	231	337	347	355	350	356	353	370	313	291	247	424
23	236	352	347	353	353	357	593	367	316	287	247	400
24	270	589	347	357	351	355	402	362	334	281	248	338
25	244	360	362	356	350	356	360	356	317	281	243	336
26	248	348	396	358	353	356	355	358	318	281	247	336
27	250	348	373	360	353	360	356	361	312	276	279	336
28	251	346	351	360	349	357	356	360	314	279	261	336
29	255	345	345	389	---	357	357	351	313	278	276	334
30	257	345	344	375	---	358	357	349	315	277	873	335
31	257	---	345	364	---	355	---	357	---	271	416	---
TOTAL	6815	11146	10935	11332	10015	11160	10871	11335	9845	9468	8722	10207
MEAN	220	372	353	366	358	360	362	366	328	305	281	340
MAX	270	891	396	579	368	412	593	427	349	469	873	448
MIN	179	258	344	344	349	350	344	349	312	271	243	309
AC-FT	13520	22110	21690	22480	19860	22140	21560	22480	19530	18780	17300	20250

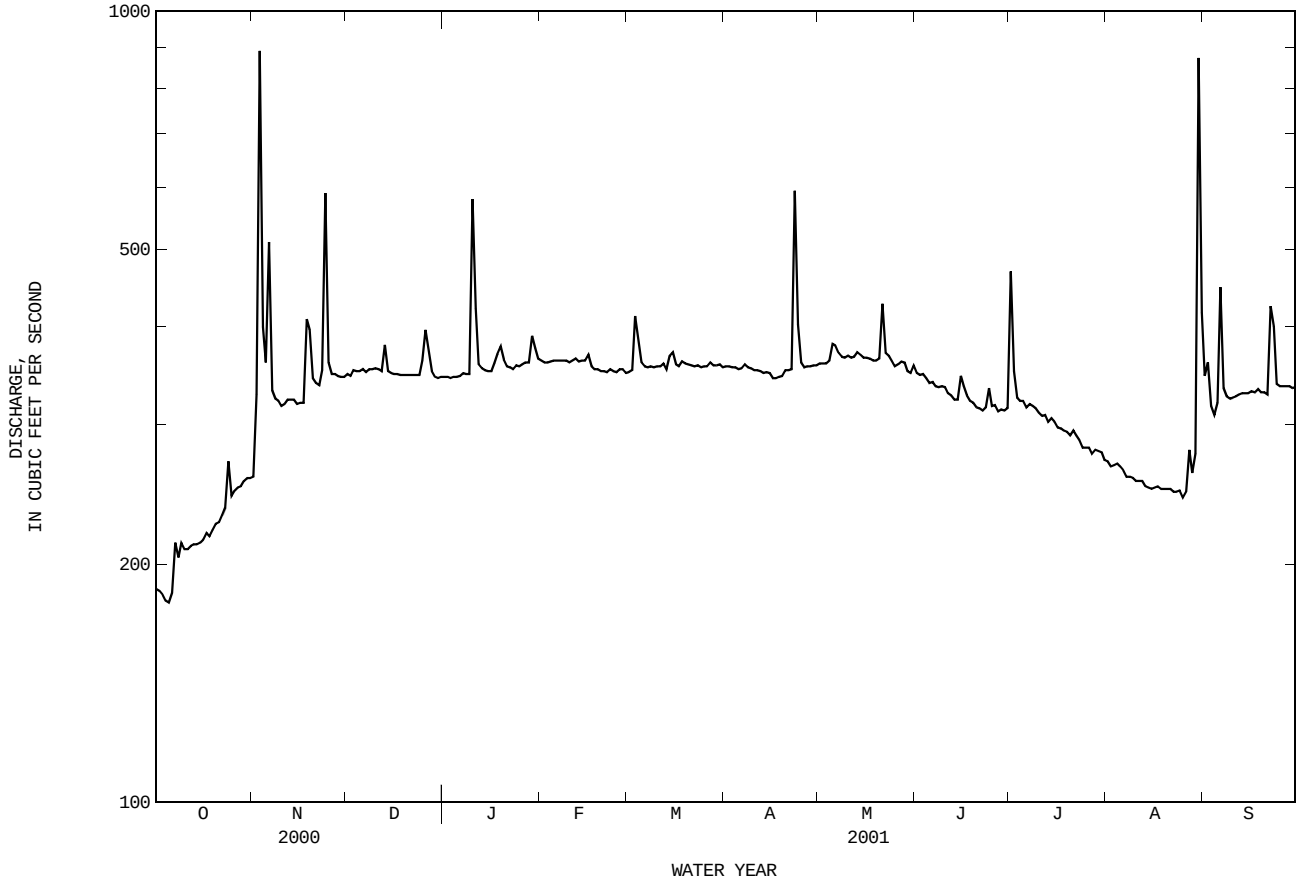
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2001z, BY WATER YEAR (WY)

MEAN	336	314	326	328	331	322	320	328	312	281	262	267
MAX	1662	486	437	443	527	536	531	547	520	466	466	428
(WY)	1999	1975	1992	1977	1992	1992	1977	1975	1987	1992	1992	1992
MIN	100	144	166	174	175	199	146	101	78.5	35.4	36.4	43.7
(WY)	1990	1990	1990	1990	1990	1990	1984	1984	1984	1984	1984	1984

08169000 Comal River at New Braunfels, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1974 - 2001z	
ANNUAL TOTAL	98078		121851			
ANNUAL MEAN	268		334		311	
HIGHEST ANNUAL MEAN					482	1999
LOWEST ANNUAL MEAN					145	1984
HIGHEST DAILY MEAN	891	Nov 3	891	Nov 3	22000	Oct 17 1998
LOWEST DAILY MEAN	138	Sep 7	179	Oct 5	26	Jul 18 1984
ANNUAL SEVEN-DAY MINIMUM	146	Sep 5	187	Oct 1	28	Jul 18 1984
MAXIMUM PEAK FLOW			1730	Aug 30	c73500	Oct 17 1998
MAXIMUM PEAK STAGE			6.81	Aug 30	a39.28	Oct 17 1998
ANNUAL RUNOFF (AC-FT)	194500		241700		225000	
10 PERCENT EXCEEDS	347		367		418	
50 PERCENT EXCEEDS	274		347		308	
90 PERCENT EXCEEDS	180		250		187	

z Period of regulated streamflow.
c From rating curve extended above indirect measurements of 55,800 ft^3/s and 60,800 ft^3/s.
a From floodmark.



08169500 Guadalupe River at New Braunfels, TX

LOCATION.--Lat 29°41'52", long 98°06'23", Comal County, Hydrologic Unit 12100202, in second floor of abandoned turbine building at Comal Mills, 300 ft. downstream from Missouri Pacific Railroad, 0.4 miles upstream from IH-35, 0.7 mile downstream from mouth of Comal River, 23.7 mi downstream from Canyon Lake, and at mile 279.3.

DRAINAGE AREA.--1,652 mi^2, of which 1,432 mi^2 is above Canyon Dam.

PERIOD OF RECORD.--Jan. 1915 to Dec. 1927 (daily mean discharge), Apr. 1974 to Sept. 1999 (annual peak discharge), Oct. 1999 to current year (daily mean stage).
Water-quality records.--Chemical data: Oct. 1982 to Feb. 1998.

GAGE.--Water-stage recorder. Datum of gage is 572.55 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good. Interruptions in the record were due to malfunction of the instrument. Since reactivation of gage in 1974, flow has been completely regulated. Small diversions for irrigation above this station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.-- 12 years (water years 1916-27), 751 ft^3/s (544,100 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1915-28).-- Maximum discharge, 56,600 ft^3/s Sept. 10, 1921 (gage height, 28.60 ft); minimum discharge 270 ft^3/s July 20, 1918.

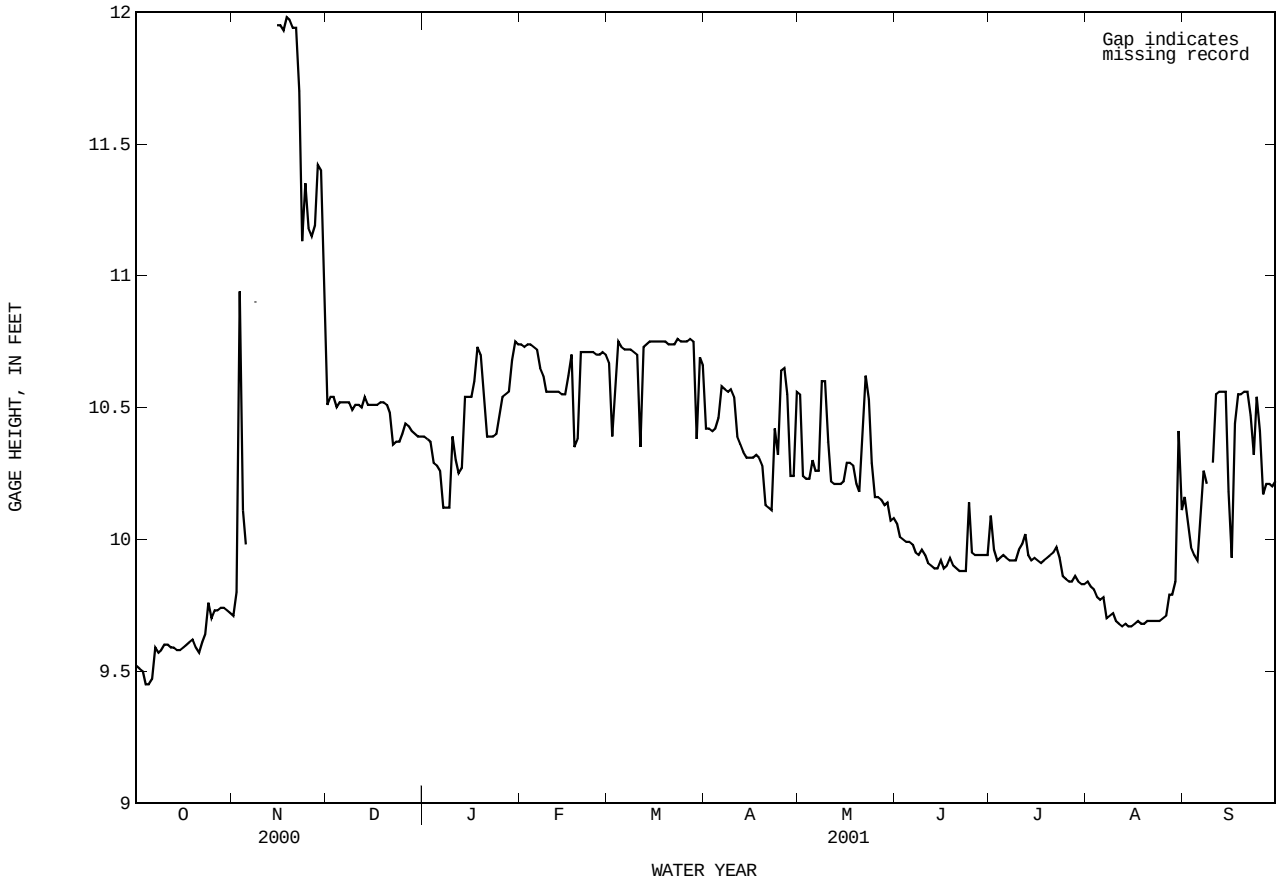
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1845, 39.5 ft Aug. 1869 and in Dec. 1913, from information by local residents. Maximum discharge, 101,000 ft^3/s June 15, 1935 (gage height, unknown).

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 12.44 ft, Nov. 3; minimum gage height, 9.42 ft, Oct. 4, 5.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.52	9.71	10.51	10.39	10.74	10.67	10.42	10.55	10.06	10.09	9.84	10.16
2	9.51	9.80	10.54	10.38	10.73	10.39	10.42	10.24	10.01	9.96	9.82	10.06
3	9.50	10.94	10.54	10.37	10.74	10.57	10.41	10.23	10.00	9.92	9.81	9.97
4	9.45	10.11	10.50	10.29	10.74	10.75	10.42	10.23	9.99	9.93	9.78	9.94
5	9.45	9.98	10.52	10.28	10.73	10.73	10.46	10.30	9.99	9.94	9.77	9.92
6	9.47	---	10.52	10.26	10.72	10.72	10.58	10.26	9.98	9.93	9.78	10.08
7	9.59	---	10.52	10.12	10.65	10.72	10.57	10.26	9.95	9.92	9.70	10.26
8	9.57	10.90	10.52	10.12	10.62	10.72	10.56	10.60	9.94	9.92	9.71	10.21
9	9.58	---	10.49	10.12	10.56	10.71	10.57	10.60	9.96	9.92	9.72	---
10	9.60	---	10.51	10.39	10.56	10.70	10.54	10.37	9.94	9.96	9.69	10.29
11	9.60	---	10.51	10.30	10.56	10.35	10.39	10.22	9.91	9.98	9.68	10.55
12	9.59	---	10.50	10.25	10.56	10.73	10.36	10.21	9.90	10.02	9.67	10.56
13	9.59	---	10.54	10.27	10.56	10.74	10.33	10.21	9.89	9.94	9.68	10.56
14	9.58	---	10.51	10.54	10.55	10.75	10.31	10.21	9.89	9.92	9.67	10.56
15	9.58	11.95	10.51	10.54	10.55	10.75	10.31	10.22	9.92	9.93	9.67	10.18
16	9.59	11.95	10.51	10.54	10.62	10.75	10.31	10.29	9.89	9.92	9.68	9.93
17	9.60	11.93	10.51	10.60	10.70	10.75	10.32	10.29	9.90	9.91	9.69	10.44
18	9.61	11.98	10.52	10.73	10.35	10.75	10.31	10.28	9.93	9.92	9.68	10.55
19	9.62	11.97	10.52	10.70	10.38	10.75	10.28	10.21	9.90	9.93	9.68	10.55
20	9.59	11.94	10.51	10.53	10.71	10.74	10.13	10.18	9.89	9.94	9.69	10.56
21	9.57	11.94	10.48	10.39	10.71	10.74	10.12	10.38	9.88	9.95	9.69	10.56
22	9.61	11.70	10.36	10.39	10.71	10.74	10.11	10.62	9.88	9.97	9.69	10.47
23	9.64	11.13	10.37	10.39	10.71	10.76	10.42	10.53	9.88	9.93	9.69	10.32
24	9.76	11.35	10.37	10.40	10.71	10.75	10.32	10.29	10.14	9.86	9.69	10.54
25	9.70	11.18	10.40	10.47	10.70	10.75	10.64	10.16	9.95	9.85	9.70	10.41
26	9.73	11.15	10.44	10.54	10.70	10.75	10.65	10.16	9.94	9.84	9.71	10.17
27	9.73	11.19	10.43	10.55	10.71	10.76	10.55	10.15	9.94	9.84	9.79	10.21
28	9.74	11.42	10.41	10.56	10.70	10.75	10.24	10.13	9.94	9.86	9.79	10.21
29	9.74	11.40	10.40	10.68	---	10.38	10.24	10.14	9.94	9.84	9.84	10.20
30	9.73	11.00	10.39	10.75	---	10.69	10.56	10.07	9.94	9.83	10.41	10.22
31	9.72	---	10.39	10.74	---	10.66	---	10.08	---	9.83	10.11	---
MEAN	9.61	11.21	10.48	10.44	10.64	10.69	10.40	10.28	9.94	9.92	9.76	10.30
MAX	9.76	11.98	10.54	10.75	10.74	10.76	10.65	10.62	10.14	10.09	10.41	10.56
MIN	9.45	9.71	10.36	10.12	10.35	10.35	10.11	10.07	9.88	9.83	9.67	9.92

08169500 Guadalupe River at New Braunfels, TX--Continued



08170000 San Marcos Springs at San Marcos, TX

LOCATION.--Lat 29°53'20", long 97°56'02", Hays County, Hydrologic Unit 12100203, on left bank at downstream side of bridge on Aquarena Springs Drive (Loop 82), 500 ft downstream from Spring Lake, and 4.2 mi upstream from Blanco River.

DRAINAGE AREA.--Not applicable. This is a springflow station.

PERIOD OF RECORD.--May 1956 to current year. May 1956 to Sept. 1988, at site 0.7 mi downstream from bridge on Interstate Highway 35 and 2.1 mi upstream from Blanco River. Oct. 1988 to Sept. 1994, at site of ground-water well No. LR-67-09-110, 0.2 mi southwest of intersection of FM 2439 and McCarty Lane and 3.7 mi south of San Marcos; water-level data and measurements of springflow were used to compute springflow. Records prior to Oct. 1997 published as San Marcos River Springflow at San Marcos.

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 557.67 ft above sea level. May 1956 to Sept. 1988, water-stage recorder 0.7 mi downstream from Interstate Highway 35 and 2.1 mi upstream from Blanco River, datum 536.82 ft above sea level. Oct. 1988 to Sept. 1994, water-stage recorder at ground-water well No. LR-67-09-110, 0.2 mi southwest of intersection of FM 2439 and McCarty Lane and 3.7 mi south of San Marcos, datum 678.50 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Springflow is equal to flow at San Marcos River at San Marcos (station 08170500) except during periods of local runoff. Springflow is separated from runoff using modified Institute of Hydrology base-flow separation program BFI 4.02. Selected springflow values computed using the program are revised on the basis of further examination of the base-flow records. The springflow for all days with springflow separations and all days in which the river flow was estimated, are shown as estimated. San Marcos Springs emerge from the Edwards and associated limestones about 1.1 mi upstream from Interstate Highway 35, in the Balcones Fault Zone.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	118	231	220	247	254	267	231	224	e194	181	e202
2	113	e132	229	221	246	257	266	232	224	189	181	e216
3	115	e148	227	223	248	e258	266	232	222	201	181	229
4	114	e165	226	226	251	258	267	233	219	200	181	225
5	114	e185	226	226	251	256	267	e234	219	194	180	e224
6	113	e207	225	228	253	256	267	e234	218	196	178	223
7	e114	231	226	227	252	256	266	e234	216	196	179	223
8	116	230	224	226	253	256	263	233	215	196	178	220
9	e114	231	223	228	253	256	264	235	214	196	180	219
10	115	231	222	e230	252	258	262	235	214	195	180	219
11	116	229	222	233	253	259	261	234	214	195	180	219
12	116	231	220	234	255	e258	260	236	212	195	179	221
13	115	229	e220	236	257	258	260	237	210	194	176	212
14	116	229	220	236	259	e260	260	237	208	191	176	217
15	117	229	219	236	259	263	256	239	204	189	176	214
16	116	228	218	239	e258	264	251	239	203	187	172	205
17	115	227	217	240	257	263	248	237	203	189	176	212
18	115	e228	216	242	258	265	248	237	202	188	175	208
19	116	228	215	243	258	265	251	236	201	188	167	214
20	114	226	212	243	259	269	249	236	202	186	172	217
21	e114	225	212	241	258	269	248	240	202	187	171	215
22	e114	224	212	242	257	269	246	237	200	182	174	214
23	114	e226	212	242	259	266	e246	237	198	185	172	212
24	116	229	212	242	261	266	245	237	201	183	171	210
25	116	230	e216	245	260	265	244	235	200	184	170	207
26	116	231	220	245	257	266	239	234	201	184	e170	206
27	117	232	219	247	256	267	239	233	200	184	e172	206
28	116	232	221	247	255	268	238	229	200	185	e169	204
29	116	232	220	252	---	269	236	225	200	183	e168	203
30	e118	232	220	247	---	268	233	224	200	180	e172	201
31	e117	---	221	248	---	268	---	e224	---	181	e186	---
TOTAL	3569	6455	6823	7335	7142	8130	7613	7256	6246	5877	5443	6417
MEAN	115	215	220	237	255	262	254	234	208	190	176	214
MAX	118	232	231	252	261	269	267	240	224	201	186	229
MIN	111	118	212	220	246	254	233	224	198	180	167	201
AC-FT	7080	12800	13530	14550	14170	16130	15100	14390	12390	11660	10800	12730

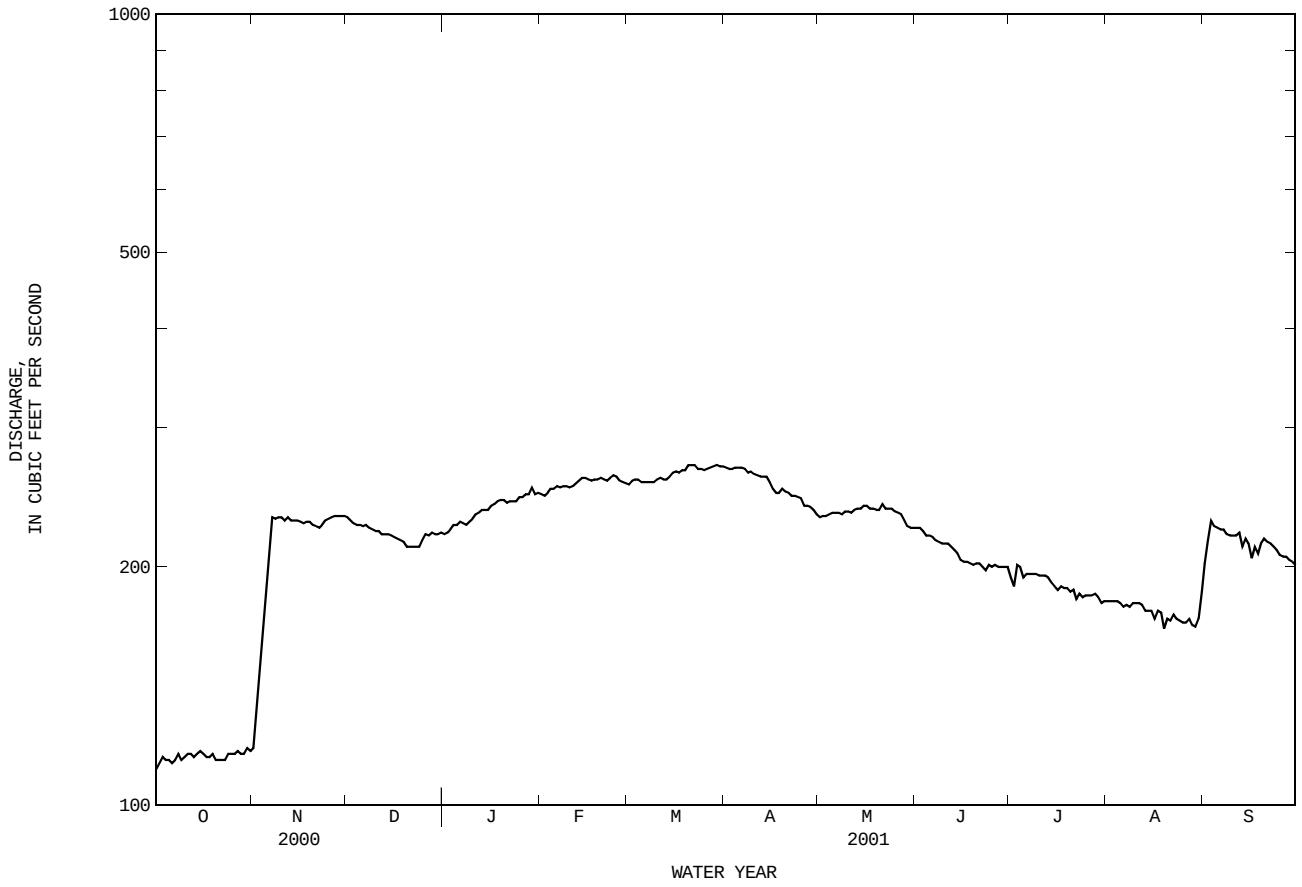
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2001, BY WATER YEAR (WY)

MEAN	154	160	165	166	170	172	171	181	189	179	163	155
MAX	275	372	355	382	418	445	427	407	415	381	315	269
(WY)	1999	1999	1999	1992	1992	1992	1992	1992	1992	1992	1992	1987
MIN	64.6	70.3	72.0	74.3	72.4	89.3	98.1	99.3	63.6	54.5	53.5	59.1
(WY)	1957	1957	1957	1957	1957	1964	1964	1984	1956	1956	1956	1956

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1956 - 2001	
ANNUAL TOTAL	51204		78306			
ANNUAL MEAN	140		215		170	
HIGHEST ANNUAL MEAN					331	1992
LOWEST ANNUAL MEAN					92.0	1964
HIGHEST DAILY MEAN	232	Nov 27	269	Mar 20	451	Mar 12 1992
LOWEST DAILY MEAN	108	Jan 10	111	Oct 1	46	Aug 15 1956
ANNUAL SEVEN-DAY MINIMUM	109	Sep 17	113	Oct 1	50	Aug 10 1956
ANNUAL RUNOFF (AC-FT)	101600		155300		122800	
10 PERCENT EXCEEDS	221		259		245	
50 PERCENT EXCEEDS	117		224		158	
90 PERCENT EXCEEDS	111		168		102	

e Estimated

08170000 San Marcos Springs at San Marcos, TX--Continued



08170500 San Marcos River at San Marcos, TX

LOCATION.--Lat 29°53'20", long 97°56'02", Hays County, Hydrologic Unit 12100203, on left bank at downstream side of bridge on Aquarena Springs Drive (Loop 82), 500 ft downstream from Spring Lake, and 4.2 mi upstream from Blanco River.

DRAINAGE AREA.--47 mi^2 of contributing surface drainage, however, most of the time flow is solely from San Marcos Springs.

PERIOD OF RECORD.--July 1915 to Sept. 1921 (daily mean discharges below base discharge), May to Sept. 1956, Oct. 1994 to current year. Periodic measurements were made outside period of record since Nov. 14, 1894, and were published as miscellaneous measurements.

REVISED RECORDS.--WSP 1923: Drainage area. WDR 1998: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 557.67 ft above sea level. July 1915 to Jan. 1916, nonrecording gage at site 0.5 mi upstream from Interstate Highway 35, and Mar. 1916 to Sept. 1921, water-stage recorder about 0.7 mi downstream from Interstate Highway 35; datum relations unknown. May to Sept. 1956, water-stage recorder 0.7 mi downstream from Interstate Highway 35 and 2.1 mi upstream from Blanco River, at datum 536.82 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation. Entire flow of river is from San Marcos Springs except during periods of local runoff. San Marcos Springs emerge from the Edwards and associated limestones about 1.1 mi upstream from Interstate Highway 35, in the Balcones Fault Zone.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	118	231	220	247	254	267	231	224	215	181	280
2	113	149	229	221	246	257	266	232	224	189	181	232
3	115	397	227	223	248	266	266	232	222	201	181	229
4	114	243	226	226	251	258	267	233	219	200	181	225
5	114	226	226	226	251	256	267	257	219	194	180	228
6	113	237	225	228	253	256	267	242	218	196	178	223
7	116	231	226	227	252	256	266	251	216	196	179	223
8	116	230	224	226	253	256	263	233	215	196	178	220
9	117	231	223	228	253	256	264	235	214	196	180	219
10	115	231	222	242	252	258	262	235	214	195	180	219
11	116	229	222	233	253	259	261	234	214	195	180	219
12	116	231	220	234	255	276	260	236	212	195	179	221
13	115	229	226	236	257	258	260	237	210	194	176	212
14	116	229	220	236	259	264	260	237	208	191	176	217
15	117	229	219	236	259	263	256	239	204	189	176	214
16	116	228	218	239	271	264	251	239	203	187	172	205
17	115	227	217	240	257	263	248	237	203	189	176	212
18	115	233	216	242	258	265	248	237	202	188	175	208
19	116	228	215	243	258	265	251	236	201	188	167	214
20	114	226	212	243	259	269	249	236	202	186	172	217
21	122	225	212	241	258	269	248	240	202	187	171	215
22	131	224	212	242	257	269	246	237	200	182	174	214
23	114	229	212	242	259	266	290	237	198	185	172	212
24	116	229	212	242	261	266	245	237	201	183	171	210
25	116	230	217	245	260	265	244	235	200	184	170	207
26	116	231	220	245	257	266	239	234	201	184	172	206
27	117	232	219	247	256	267	239	233	200	184	180	206
28	116	232	221	247	255	268	238	229	200	185	176	204
29	116	232	220	252	---	269	236	225	200	183	178	203
30	121	232	220	247	---	268	233	224	200	180	188	201
31	120	---	221	248	---	268	---	229	---	181	240	---
TOTAL	3605	6878	6830	7347	7155	8160	7657	7309	6246	5898	5540	6515
MEAN	116	229	220	237	256	263	255	236	208	190	179	217
MAX	131	397	231	252	271	276	290	257	224	215	240	280
MIN	111	118	212	220	246	254	233	224	198	180	167	201
AC-FT	7150	13640	13550	14570	14190	16190	15190	14500	12390	11700	10990	12920

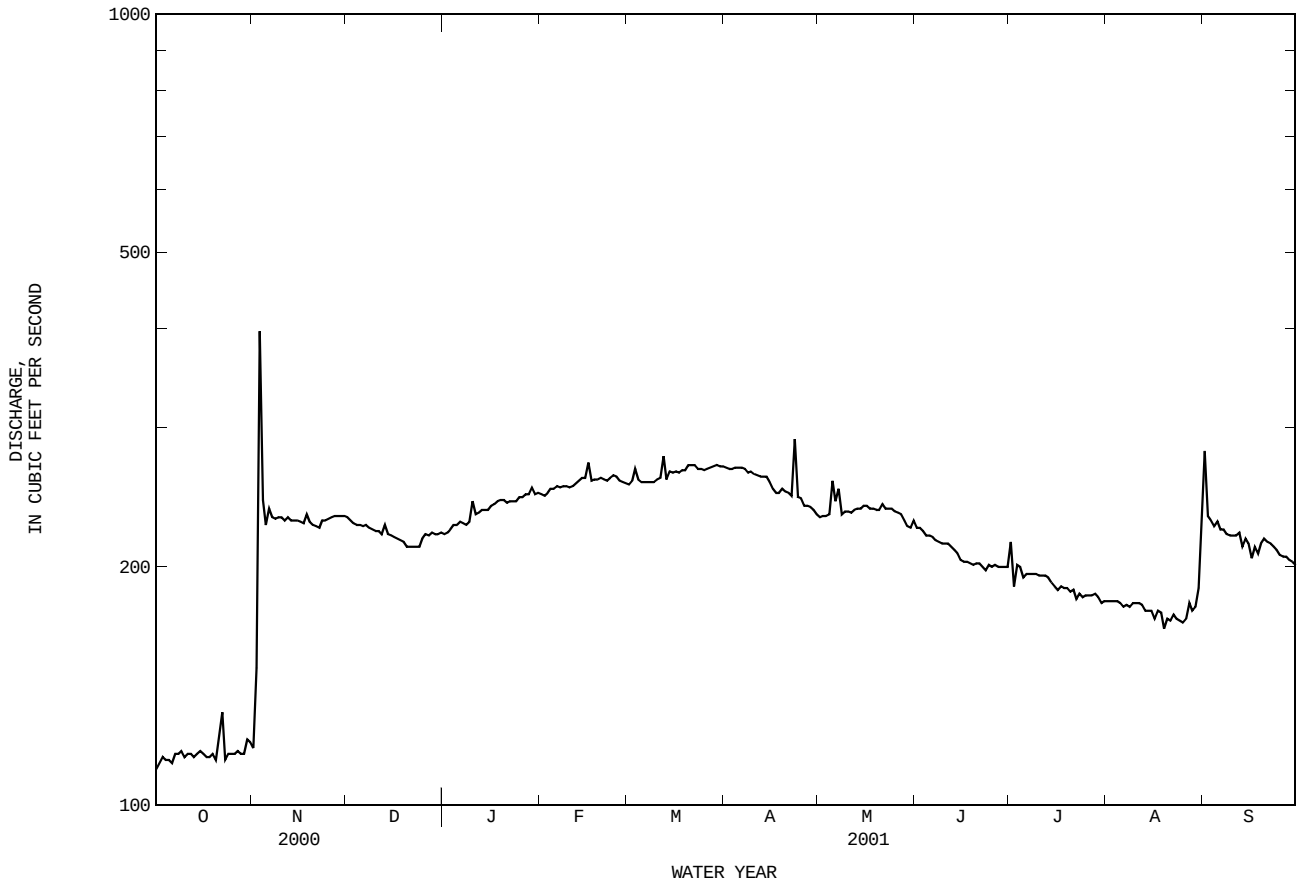
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2001, BY WATER YEAR (WY)

MEAN	220	183	176	172	168	170	168	165	191	180	161	164
MAX	729	373	355	312	275	263	255	236	308	307	267	227
(WY)	1999	1999	1999	1999	1999	2001	2001	2001	1997	1997	1997	1997
MIN	107	93.1	91.5	99.0	98.2	108	101	99.6	94.4	84.4	84.2	109
(WY)	1997	1997	1997	1997	1997	1996	1996	1996	1996	1996	1996	1996

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1995 - 2001	
ANNUAL TOTAL	51865		79140			
ANNUAL MEAN	142		217		176	
HIGHEST ANNUAL MEAN					274	1999
LOWEST ANNUAL MEAN					110	1996
HIGHEST DAILY MEAN	397	Nov 3	397	Nov 3	e6200	Oct 17 1998
LOWEST DAILY MEAN	108	Jan 10	111	Oct 1	76	Aug 15 1996
ANNUAL SEVEN-DAY MINIMUM	109	Sep 17	114	Oct 1	77	Aug 15 1996
MAXIMUM PEAK FLOW			620	Apr 23	i21500	Oct 17 1998
MAXIMUM PEAK STAGE			7.17	Apr 23	a21.29	Oct 17 1998
INSTANTANEOUS LOW FLOW			109	Oct 1	71	Nov 18 1996
ANNUAL RUNOFF (AC-FT)	102900		157000		127800	
10 PERCENT EXCEEDS	224		260		258	
50 PERCENT EXCEEDS	118		226		162	
90 PERCENT EXCEEDS	111		171		103	

e Estimated
i From indirect measurement of peak flow.
a From floodmark.

08170500 San Marcos River at San Marcos, TX--Continued



08171000 Blanco River at Wimberley, TX

LOCATION.--Lat 29°59'39", long 98°05'19", Hays County, Hydrologic Unit 12100203, on left bank at downstream side of highway, near left end of bridge on Ranch Road 12, 0.3 mi southeast of Wimberley, 2,200 ft downstream from Cypress Creek, and at mile 29.0.

DRAINAGE AREA.--355 mi^2.

PERIOD OF RECORD.--Aug. 1924 to Sept. 1926, June 1928 to current year.
Water-quality records.--Chemical data: Apr. 1962 to Sept. 1979, Feb. 1988 to Sept. 1993, Apr. 1996 to Apr. 1998. Biochemical data: Jan. 1974 to Sept. 1979, Feb. 1988 to Sept. 1993, Apr. 1996 to Apr. 1998. Pesticide data: Jan. 1974 to Sept. 1979, Feb. 1988 to Sept. 1993, Apr. 1996 to Apr. 1998. Sediment data: Nov. 1965 to Apr. 1966, Apr. 1996 to Apr. 1998. Water temperature: Dec. 1976 to Sept. 1978.

REVISED RECORDS.--WSP 1562: 1929, 1930-31(M), 1935-36(M), 1938(M), 1941-42(M), 1947(M), 1949(M). WSP 2123: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 797.23 ft above sea level. Aug. 6, 1924 to Sept. 30, 1926, nonrecording gage at site 1,030 ft upstream at datum 5.00 ft higher. Recording gage from June 6, 1928 to June 12, 1975, at site 1,000 ft upstream at datum 5.00 ft higher. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. No known regulation. There are many small diversions above station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1869 reached a stage of 25 ft, from information by local residents. Maximum stage since at least 1869, that of May 28, 1929.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	17	220	e209	389	238	278	139	100	63	43	1360
2	9.3	1380	204	e200	367	241	266	137	98	64	42	331
3	9.2	4370	193	e193	e353	288	260	132	94	64	42	180
4	9.0	728	196	e190	e351	362	252	131	90	62	42	150
5	8.9	398	196	e187	343	316	245	157	90	61	43	136
6	11	1610	186	e182	328	293	238	186	88	60	42	611
7	15	595	177	e178	301	288	229	315	86	59	42	326
8	21	533	170	e172	301	284	222	208	88	58	42	193
9	22	478	162	e168	286	285	216	177	86	57	41	152
10	17	348	155	e230	273	277	209	163	84	56	40	131
11	13	288	152	650	258	275	202	155	83	56	39	122
12	12	250	146	e450	255	354	195	150	81	56	38	115
13	11	221	170	e380	254	417	191	179	80	54	38	110
14	e11	192	162	e350	258	359	189	151	79	54	38	105
15	e12	175	162	e330	254	408	186	141	80	53	39	103
16	13	167	154	320	333	360	179	137	78	53	38	98
17	e13	161	146	309	404	334	169	133	76	51	38	95
18	13	186	142	409	302	344	162	128	74	51	37	93
19	13	249	137	403	289	365	160	125	73	51	36	91
20	12	247	136	e380	282	348	157	125	72	51	38	88
21	19	207	134	e350	274	338	153	126	67	50	36	86
22	24	194	127	e325	252	325	149	118	67	50	37	99
23	27	272	126	315	247	321	221	117	67	49	36	258
24	34	715	125	298	274	310	291	115	66	48	35	119
25	27	414	149	284	274	294	206	115	67	48	35	101
26	22	339	225	277	251	279	175	112	66	47	40	96
27	20	301	e275	290	244	275	159	110	65	46	80	91
28	20	283	e260	335	240	323	152	108	63	45	94	88
29	19	252	e245	410	---	327	146	105	63	45	67	86
30	18	231	e230	e470	---	305	140	103	63	44	84	83
31	18	---	e217	e410	---	287	---	106	---	44	686	---
TOTAL	502.7	15801	5479	9654	8237	9820	5997	4404	2334	1650	2028	5697
MEAN	16.2	527	177	311	294	317	200	142	77.8	53.2	65.4	190
MAX	34	4370	275	650	404	417	291	315	100	64	686	1360
MIN	8.9	17	125	168	240	238	140	103	63	44	35	83
AC-FT	997	31340	10870	19150	16340	19480	11900	8740	4630	3270	4020	11300

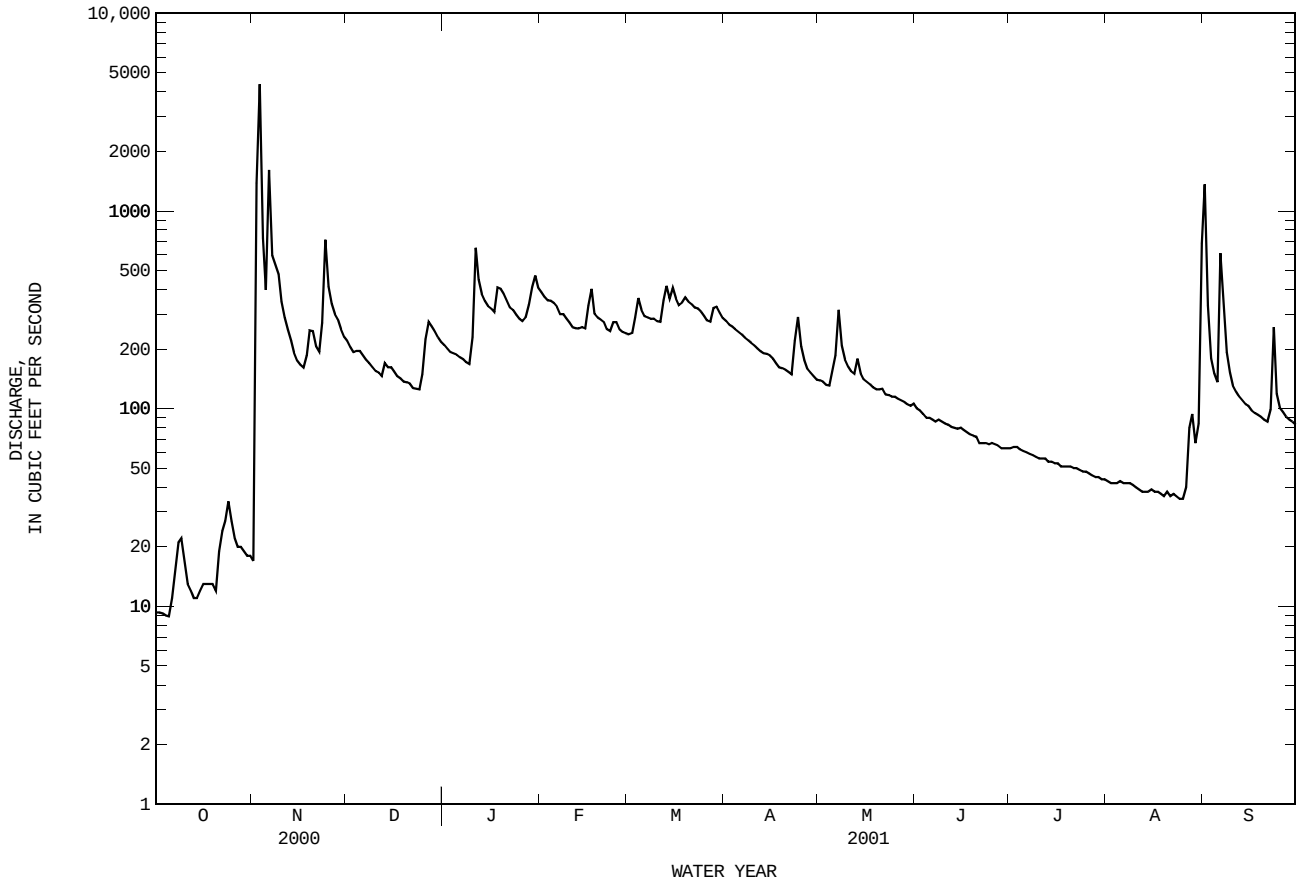
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2001h, BY WATER YEAR (WY)

MEAN	114	96.9	119	124	163	154	178	215	228	101	49.5	88.2
MAX	1322	828	1364	1134	1401	977	953	1470	2308	935	201	1413
(WY)	1999	1999	1992	1968	1992	1992	1957	1929	1997	1973	1973	1952
MIN	6.24	7.41	7.87	6.66	8.13	5.93	5.19	12.5	3.44	1.70	2.89	6.93
(WY)	1941	1956	1956	1956	1956	1956	1956	1956	1956	1956	1956	1928

08171000 Blanco River at Wimberley, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1924 - 2001h	
ANNUAL TOTAL	27863.1		71603.7			
ANNUAL MEAN	76.1		196		135	
HIGHEST ANNUAL MEAN					566	1992
LOWEST ANNUAL MEAN					6.45	1956
HIGHEST DAILY MEAN	4370	Nov 3	4370	Nov 3	36900	Sep 11 1952
LOWEST DAILY MEAN	4.9	Sep 4	8.9	Oct 5	.70	Jul 17 1956
ANNUAL SEVEN-DAY MINIMUM	6.5	Sep 2	10	Oct 1	.79	Aug 12 1956
MAXIMUM PEAK FLOW			13500	Nov 2	i113000	May 28 1929
MAXIMUM PEAK STAGE			13.51	Nov 2	a33.30	May 28 1929
ANNUAL RUNOFF (AC-FT)	55270		142000		98000	
10 PERCENT EXCEEDS	192		349		279	
50 PERCENT EXCEEDS	21		152		53	
90 PERCENT EXCEEDS	10		36		12	

e Estimated
h See PERIOD OF RECORD paragraph.
i From indirect measurement of peak flow.
a From floodmark.



08171300 Blanco River near Kyle, TX

LOCATION.--Lat 29°58'45", long 97°54'35", Hays County, Hydrologic Unit 12100203, on left bank 800 ft downstream from Tarbutton Ranch House (Hatchett Ranch), 2.2 mi southwest of Kyle, 4.2 mi downstream from Halifax Creek, and 6.3 mi upstream from bridge on U.S. Highway 81.

DRAINAGE AREA.--412 mi^2.

PERIOD OF RECORD.--May 1956 to current year.

REVISED RECORDS.--WSP 1923: 1957-58, 1960(M). WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 620.12 ft above sea level (levels by U.S. Army Corps of Engineers). Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation. Small diversions above station for irrigation. Most of the low flow of the Blanco River enters the Edwards and associated limestones in the Balcones Fault Zone which crosses the basin upstream from this station and below Blanco River at Wimberley (station 08171000). No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1882, about 40 ft in May 1929, from information by local residents (discharge, 139,000 ft^3/s). Flood of Sept. 11, 1952, reached a stage of 38.0 ft (discharge, 115,000 ft^3/s).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	245	206	366	216	260	126	77	40	3.1	1060
2	.00	22	223	195	351	223	250	121	71	33	3.3	416
3	.00	5080	208	186	338	267	244	118	68	32	2.8	184
4	.00	780	204	180	331	338	239	114	61	29	2.7	126
5	.00	401	202	176	316	308	228	159	62	27	2.5	101
6	.00	1410	192	171	307	277	217	158	60	24	2.2	340
7	.00	642	177	167	299	269	209	382	57	23	1.8	357
8	.00	453	169	157	291	268	202	232	57	21	1.5	183
9	.00	493	159	149	283	268	196	188	59	21	1.2	129
10	.00	337	154	215	270	265	190	160	54	20	.72	103
11	.00	278	150	637	255	261	185	147	51	19	.35	90
12	.00	239	140	416	250	295	175	140	49	18	.12	80
13	.00	204	165	357	246	379	174	157	46	17	.01	74
14	.00	174	160	345	241	329	171	142	45	15	.00	70
15	.00	152	155	327	236	362	168	127	46	14	.00	66
16	.00	143	150	314	276	344	161	121	42	13	.00	63
17	.00	135	136	320	390	316	154	116	39	13	.15	59
18	.00	157	132	391	295	324	148	111	37	12	.05	56
19	.00	221	125	390	272	344	144	107	35	11	.00	54
20	.00	254	123	356	263	332	145	104	35	11	.00	50
21	.00	206	119	341	254	315	141	106	33	9.9	.00	56
22	.00	185	116	330	243	305	136	97	34	9.0	.00	104
23	.00	207	110	320	239	296	196	94	33	8.2	.00	198
24	.00	843	114	313	244	288	260	91	33	7.9	.00	115
25	.00	489	123	301	259	273	211	96	31	7.2	.00	76
26	.00	389	235	292	225	261	166	90	30	7.1	.00	66
27	.00	345	285	297	219	263	150	88	29	6.8	16	61
28	.00	319	277	331	216	292	141	82	27	6.4	49	57
29	.00	294	250	401	---	323	135	79	27	5.5	43	54
30	.00	263	227	472	---	289	128	76	26	4.4	49	51
31	.00	---	215	392	---	272	---	80	---	3.6	632	---
TOTAL	0.00	15115.00	5440	9445	7775	9162	5524	4009	1354	489.0	811.50	4499
MEAN	.000	504	175	305	278	296	184	129	45.1	15.8	26.2	150
MAX	.00	5080	285	637	390	379	260	382	77	40	632	1060
MIN	.00	.00	110	149	216	216	128	76	26	3.6	.00	50
AC-FT	.00	29980	10790	18730	15420	18170	10960	7950	2690	970	1610	8920
CFSM	.00	1.22	.43	.74	.67	.72	.45	.31	.11	.04	.06	.36
IN.	.00	1.36	.49	.85	.70	.83	.50	.36	.12	.04	.07	.41

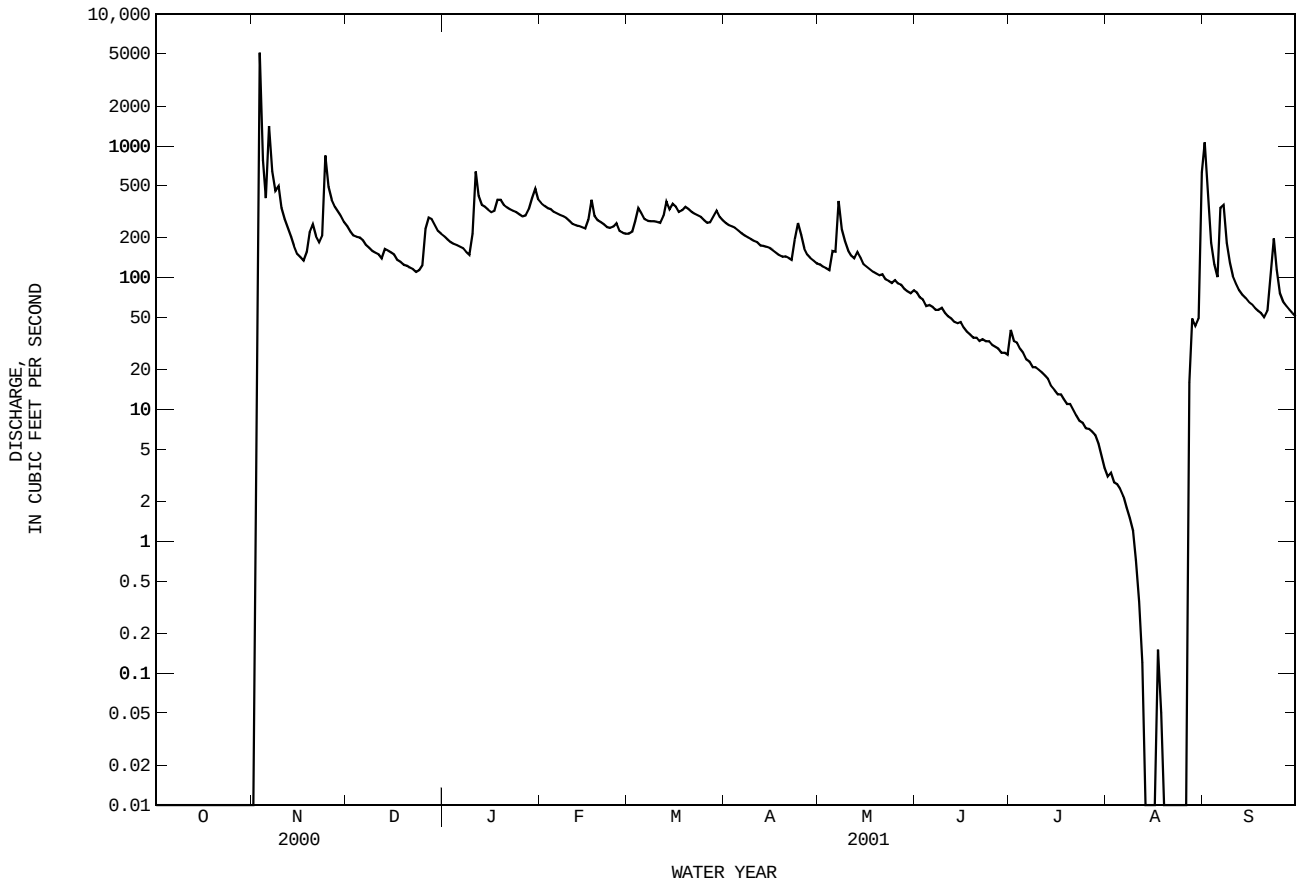
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2001, BY WATER YEAR (WY)

MEAN	151	124	154	153	199	175	186	236	308	103	42.5	54.8
MAX	1646	961	1775	1319	1511	1078	906	1148	2459	828	196	348
(WY)	1999	1999	1992	1968	1992	1992	1977	1958	1997	1973	1973	1986
MIN	.000	.000	.000	.000	.000	.14	.000	1.96	.000	.000	.000	.000
(WY)	1964	1964	1964	1957	1990	2000	2000	1964	1956	1956	1956	1956

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1956 - 2001	
ANNUAL TOTAL	21777.86		63623.50			
ANNUAL MEAN	59.5		174		158	
HIGHEST ANNUAL MEAN					625	1992
LOWEST ANNUAL MEAN					3.44	2000
HIGHEST DAILY MEAN	5080	Nov 3	5080	Nov 3	26000	Oct 17 1998
LOWEST DAILY MEAN	.00	Feb 11	.00	Oct 1	.00	Jun 1 1956
ANNUAL SEVEN-DAY MINIMUM	.00	Feb 15	.00	Oct 1	.00	Jun 1 1956
MAXIMUM PEAK FLOW			12000	Nov 3	i105000	Oct 17 1998
MAXIMUM PEAK STAGE			18.25	Nov 3	a36.30	May 2 1958
ANNUAL RUNOFF (AC-FT)	43200		126200		114300	
ANNUAL RUNOFF (CFSM)	.14		.42		.38	
ANNUAL RUNOFF (INCHES)	1.97		5.74		5.20	
10 PERCENT EXCEEDS	187		338		329	
50 PERCENT EXCEEDS	.00		140		51	
90 PERCENT EXCEEDS	.00		.00		.67	

i From indirect measurement of peak flow.
a From floodmark.

08171300 Blanco River near Kyle, TX--Continued



08172000 San Marcos River at Luling, TX

LOCATION.--Lat 29°39'58", long 97°39'02", Caldwell County line, Hydrologic Unit 12100203, at downstream side of bridge on State Highway 80, 0.9 mi south of U.S. Post Office at Luling, and 9.5 mi upstream from Plum Creek.

DRAINAGE AREA.--838 mi^2.

PERIOD OF RECORD.--Apr. 1939 to current year.
Water-quality records.--Chemical data: Feb. 1944 to Feb. 1959, Sept. 1961 to Apr. 1966, Nov. 1968 to Aug. 1999. Pesticide data: June 1986 to May 1999. Sediment data: Oct. 1960 to Apr. 1966.

REVISED RECORDS.--WSP 958: 1940. WSP 1312: 1940(M), 1945(M), 1947(M). WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 322.05 ft above sea level. Prior to Oct. 21, 1988, at site 390 ft downstream at same datum. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since water year 1984, at least 10% of contributing drainage area has been regulated. Flow is affected at times by discharge from the flood-detention pools of 18 floodwater-retarding structures. These structures control runoff from 105 mi^2 in the Town, Sink and York Creeks drainage basins.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--44 years (water years 1940-83), 370 ft^3/s (268,100 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1939-83).--Maximum discharge, 57,000 ft^3/s Sept. 12, 1952 (gage height, 34.95 ft); minimum daily, 43 ft^3/s Aug. 12, 1951.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1859, 40.4 ft in 1869 or 1870, from information by Texas Department of Transportation. Flood of May 29, 1929, reached a stage of 37.1 ft and is the second highest known.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	107	512	529	710	579	652	481	341	219	186	861
2	87	108	488	514	679	590	641	471	325	284	185	1040
3	86	1290	470	500	665	714	633	461	319	247	186	610
4	87	6120	460	491	654	1330	627	454	311	234	182	429
5	87	1380	448	489	648	882	619	477	305	225	180	716
6	89	2410	441	483	640	761	608	561	298	220	182	1330
7	96	2320	432	478	634	699	598	667	294	217	180	508
8	111	1150	422	473	631	669	590	768	290	215	180	536
9	117	855	414	465	627	665	581	592	287	210	180	1290
10	114	788	406	669	618	665	574	525	279	209	182	452
11	101	634	400	1580	610	656	567	489	273	209	181	344
12	97	563	392	1070	600	665	559	467	267	206	182	317
13	96	542	456	774	596	715	556	458	262	206	180	305
14	94	487	527	684	593	835	550	454	255	204	181	290
15	95	450	452	646	591	1020	546	454	254	201	184	285
16	96	429	425	626	652	842	540	436	247	199	182	278
17	101	417	407	641	732	767	532	422	244	197	183	270
18	103	619	392	661	728	722	524	410	240	197	180	273
19	96	1190	382	1210	667	743	518	399	234	196	183	268
20	94	630	371	861	640	744	515	393	232	193	181	267
21	99	545	360	701	628	727	514	433	230	193	180	267
22	131	e509	357	653	616	704	509	514	228	194	177	279
23	381	e579	354	632	604	691	547	437	226	192	182	476
24	184	e1810	352	620	602	679	766	400	252	194	180	367
25	141	e1090	356	613	600	666	663	381	250	193	179	335
26	129	e818	493	603	608	652	614	370	230	192	181	297
27	111	717	1090	599	592	645	552	363	225	193	192	281
28	108	635	767	611	583	653	522	352	222	192	234	275
29	107	584	634	1030	---	666	507	343	220	191	239	270
30	104	546	579	833	---	694	492	335	218	190	259	265
31	104	---	546	784	---	667	---	339	---	188	1720	---
TOTAL	3535	30322	14585	21523	17748	22707	17216	14106	7858	6400	7363	13781
MEAN	114	1011	470	694	634	732	574	455	262	206	238	459
MAX	381	6120	1090	1580	732	1330	766	768	341	284	1720	1330
MIN	86	107	352	465	583	579	492	335	218	188	177	265
AC-FT	7010	60140	28930	42690	35200	45040	34150	27980	15590	12690	14600	27330

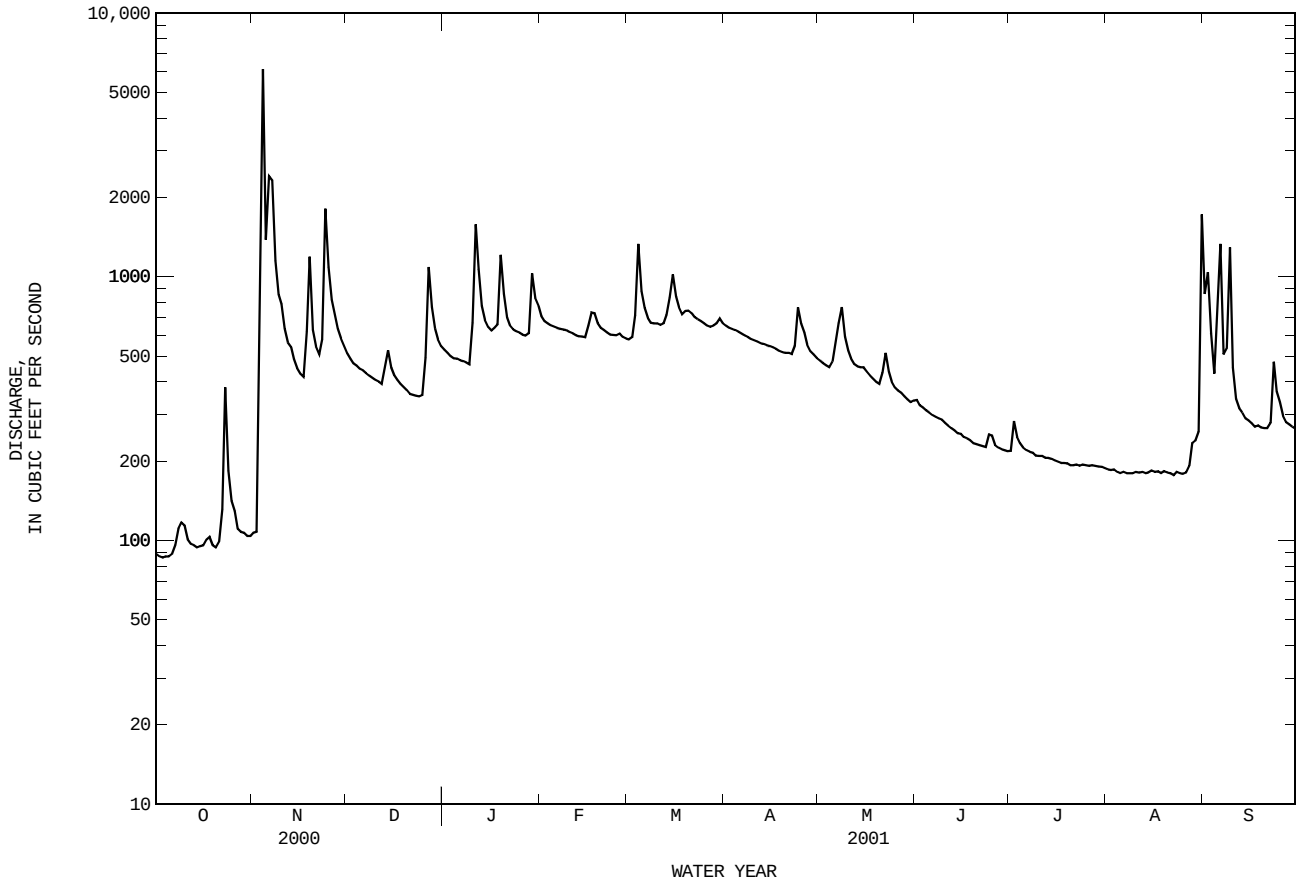
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2001z, BY WATER YEAR (WY)

MEAN	513	377	538	445	535	484	406	475	874	325	212	238
MAX	5485	1682	3520	1948	3358	2438	1170	1519	4850	884	515	471
(WY)	1999	1999	1992	1992	1992	1992	1992	1992	1987	1997	1992	1986
MIN	80.7	90.4	87.1	91.3	95.8	114	103	84.5	83.7	68.4	63.7	64.4
(WY)	1990	1990	1990	1990	1990	1996	1996	1996	1984	1984	1984	1984

08172000 San Marcos River at Luling, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1984 - 2001z	
ANNUAL TOTAL	84813		177144			
ANNUAL MEAN	232		485		451	
HIGHEST ANNUAL MEAN					1482	1992
LOWEST ANNUAL MEAN					119	1984
HIGHEST DAILY MEAN	6120	Nov 4	6120	Nov 4	90500	Oct 18 1998
LOWEST DAILY MEAN	86	Oct 3	86	Oct 3	56	Sep 1 1984
ANNUAL SEVEN-DAY MINIMUM	88	Sep 29	89	Oct 1	59	Aug 26 1984
MAXIMUM PEAK FLOW			8540	Nov 4	i206000	Oct 18 1998
MAXIMUM PEAK STAGE			26.67	Nov 4	a41.85	Oct 18 1998
ANNUAL RUNOFF (AC-FT)	168200		351400		326800	
10 PERCENT EXCEEDS	487		751		761	
50 PERCENT EXCEEDS	121		454		226	
90 PERCENT EXCEEDS	95		180		99	

e Estimated
z Period of regulated streamflow.
i From indirect measurement of peak flow.
a From floodmark.



08172400 Plum Creek at Lockhart, TX

LOCATION.--Lat 29°55'22", long 97°40'44", Caldwell County, Hydrologic Unit 12100203, on right bank 548 ft upstream from bridge on U.S. Highway 183, 2.7 mi north of Lockhart, 3.7 mi upstream from Town Creek, 5.0 mi downstream from Brushy Creek, and 30.4 mi upstream from mouth.

DRAINAGE AREA.--112 mi^2.

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

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 431.19 ft above sea level. Apr. 30, 1959, to July 25, 1968, at site 548 ft downstream at present datum. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since water year 1963, at least 10% of contributing drainage area has been regulated. No known diversions above station. Flow is affected at times by discharge from the flood-detention pools of 17 floodwater-retarding structures. These structures control runoff from 67.8 mi^2 above this station. No flow at times.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--3 years (water years 1960-62), 60.2 ft^3/s (43,610 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1959-62).--Maximum discharge, 26,600 ft^3/s Oct. 29, 1960 (gage height, 20.62 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1905, 22 ft in June 1936 at present site; flood in 1951 reached a stage of 20 ft at present site, from information by local resident.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	54	50	84	23	17	2.4	.00	e.13	.00	30
2	.00	.00	44	40	63	25	16	2.6	.00	.50	.00	11
3	.00	419	35	34	51	124	15	2.3	.00	.00	.00	4.8
4	.00	294	32	29	44	233	14	2.0	.00	.00	.00	3.9
5	.00	186	30	25	39	122	13	5.6	.00	e.00	.00	7.2
6	.00	351	27	22	35	80	12	8.5	.00	.00	.00	28
7	.00	176	24	20	34	59	11	26	.00	.00	.00	12
8	.00	147	23	17	33	48	9.4	18	.00	.00	.00	5.5
9	.00	123	21	15	32	42	8.2	12	.00	.00	.00	5.3
10	.00	90	19	155	28	35	6.8	8.6	.00	.00	.00	2.2
11	.00	54	22	366	26	31	5.9	7.4	.00	.00	.00	.15
12	.00	63	21	186	25	126	5.6	6.5	.00	.00	.00	.00
13	.00	158	56	120	25	111	5.0	73	.00	.00	.00	.00
14	.00	49	72	92	25	114	4.7	22	.00	.00	.00	.00
15	.00	33	51	66	25	226	4.2	12	.00	.00	.00	.00
16	.00	28	43	54	141	116	3.3	8.2	.00	.00	.00	.00
17	.00	25	34	54	113	74	2.8	5.6	.00	.00	.00	.00
18	.00	108	29	68	75	56	2.7	3.7	.00	.00	.00	.00
19	.00	205	25	234	57	63	2.4	2.5	.00	.00	.00	.00
20	.00	95	22	120	47	53	2.2	1.8	.00	.00	.00	.00
21	.00	62	20	81	41	43	1.8	1.3	.00	.00	.00	.00
22	.00	48	18	59	36	36	1.3	.76	.00	.00	.00	55
23	.00	45	16	51	32	30	1.5	.33	.00	.00	.00	38
24	.00	711	13	50	31	25	5.0	.16	9.2	.00	.00	14
25	.00	302	67	44	29	22	3.9	45	.39	.00	.00	4.9
26	.00	234	341	41	25	18	2.0	21	.00	.00	.00	2.2
27	.00	191	367	45	24	16	1.3	6.3	.00	.00	.00	1.7
28	.00	143	217	77	24	19	1.4	2.0	.00	.00	.00	2.6
29	.00	105	138	466	---	22	1.8	.53	.00	.00	.00	2.0
30	.00	74	90	218	---	21	2.5	.02	e.00	.00	.00	1.5
31	.00	---	63	133	---	19	---	.00	---	.00	2.6	---
TOTAL	0.00	4519.00	2034	3032	1244	2032	183.7	308.10	9.59	0.63	2.60	231.95
MEAN	.000	151	65.6	97.8	44.4	65.5	6.12	9.94	.32	.020	.084	7.73
MAX	.00	711	367	466	141	233	17	73	9.2	.50	2.6	55
MIN	.00	.00	13	15	24	16	1.3	.00	.00	.00	.00	.00
AC-FT	.00	8960	4030	6010	2470	4030	364	611	19	1.2	5.2	460

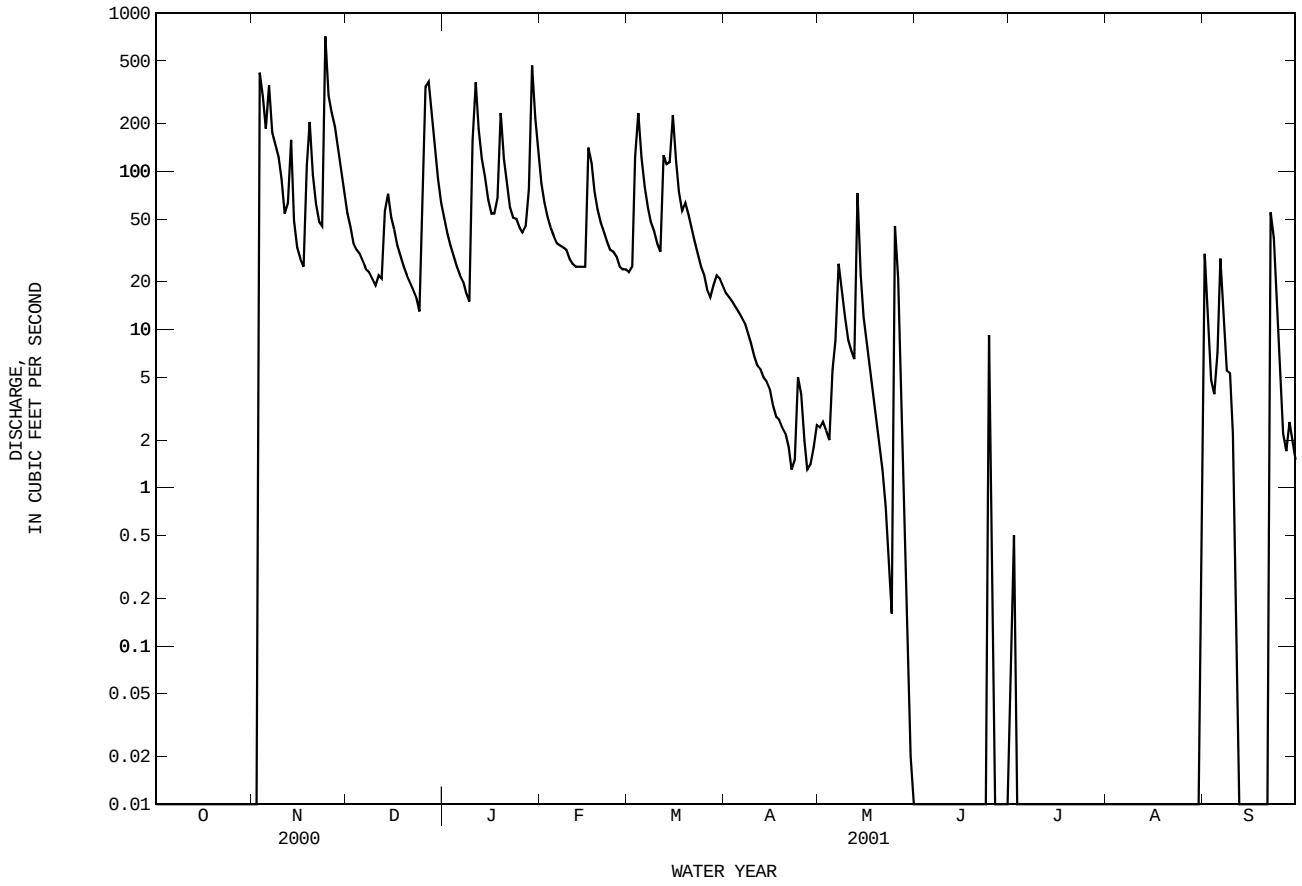
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2001z, BY WATER YEAR (WY)

MEAN	62.1	49.4	54.1	44.4	64.8	38.2	40.0	105	100	10.9	3.33	8.24
MAX	1526	590	605	416	815	332	343	595	905	151	118	142
(WY)	1999	1986	1992	1968	1992	1992	1976	1975	1981	1985	1974	1974
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1964	1964	1964	1964	1989	1964	1967	1971	1963	1963	1963	1963

08172400 Plum Creek at Lockhart, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1963 - 2001z	
ANNUAL TOTAL	7200.16		13597.57			
ANNUAL MEAN	19.7		37.3		48.2	
HIGHEST ANNUAL MEAN					238	1992
LOWEST ANNUAL MEAN					.10	1978
HIGHEST DAILY MEAN	711	Nov 24	711	Nov 24	19400	Oct 18 1998
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 11 1962
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Nov 9 1962
MAXIMUM PEAK FLOW			1380	Nov 24	c47200	Oct 18 1998
MAXIMUM PEAK STAGE			13.59	Nov 24	a23.09	Oct 18 1998
ANNUAL RUNOFF (AC-FT)	14280		26970		34950	
10 PERCENT EXCEEDS	50		112		62	
50 PERCENT EXCEEDS	.00		5.9		.28	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated
z Period of regulated streamflow.
c From rating curve extended above current meter discharge measurements of 12,900 ft^3/s and 21,300 ft^3/s.
a From floodmark.



08173000 Plum Creek near Luling, TX

LOCATION.--Lat 29°41'58", long 97°36'12", Caldwell County, Hydrologic Unit 12100203, on left bank at downstream side of bridge on county road, 1.2 mi upstream from West Fork, 1.9 mi upstream from Southern Pacific Railroad Co. bridge, 2.2 mi upstream from McNeil Creek, 2.9 mi northeast of Luling, and 7.5 mi upstream from mouth.

DRAINAGE AREA.--309 mi^2.

PERIOD OF RECORD.--Mar. 1930 to Sept. 1993, July 2001 to current year.
Water-quality records.--Chemical data: Feb. 1944, Apr. 1961 to Sept. 1986. Sediment data: Nov. 1965 to June 1966. Specific conductance: Oct. 1967 to Sept. 1986. Water temperature: Oct. 1967 to Sept. 1986.

REVISED RECORDS.--WSP 1923: 1933. WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 321.57 ft above sea level. Prior to Aug. 18, 1976, at datum 5.0 ft higher. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. Since water year 1963, at least 10% of contributing drainage area has been regulated. No known diversions above station. Flow is affected at times by discharge from the flood-detention pools of 27 floodwater-retarding structures. These structures control runoff from 119 mi^2 above this station. No flow at times.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--32 years (water years 1931-62), 92.4 ft^3/s (66,940 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1931-62).--Maximum discharge, 78,500 ft^3/s July 1, 1936 (gage height, 30.70 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1868, that of Oct. 18, 1998; flood in 1913 reached about same stage as that of July 1, 1936, from information by local residents.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	2.5	162
2	---	---	---	---	---	---	---	---	---	---	2.4	50
3	---	---	---	---	---	---	---	---	---	---	2.3	89
4	---	---	---	---	---	---	---	---	---	---	2.1	86
5	---	---	---	---	---	---	---	---	---	---	2.1	210
6	---	---	---	---	---	---	---	---	---	---	2.2	526
7	---	---	---	---	---	---	---	---	---	---	2.0	83
8	---	---	---	---	---	---	---	---	---	---	2.0	30
9	---	---	---	---	---	---	---	---	---	---	2.1	152
10	---	---	---	---	---	---	---	---	---	---	2.2	42
11	---	---	---	---	---	---	---	---	---	---	2.3	18
12	---	---	---	---	---	---	---	---	---	---	2.5	12
13	---	---	---	---	---	---	---	---	---	---	2.4	9.4
14	---	---	---	---	---	---	---	---	---	---	2.7	8.6
15	---	---	---	---	---	---	---	---	---	---	2.7	8.3
16	---	---	---	---	---	---	---	---	---	---	3.0	8.0
17	---	---	---	---	---	---	---	---	---	---	9.3	8.0
18	---	---	---	---	---	---	---	---	---	4.1	6.9	8.4
19	---	---	---	---	---	---	---	---	---	4.0	4.0	8.8
20	---	---	---	---	---	---	---	---	---	3.8	3.7	8.9
21	---	---	---	---	---	---	---	---	---	3.6	3.8	9.1
22	---	---	---	---	---	---	---	---	---	3.5	3.7	9.2
23	---	---	---	---	---	---	---	---	---	3.3	3.7	517
24	---	---	---	---	---	---	---	---	---	3.3	3.8	102
25	---	---	---	---	---	---	---	---	---	3.2	3.7	39
26	---	---	---	---	---	---	---	---	---	3.1	3.9	20
27	---	---	---	---	---	---	---	---	---	2.6	4.2	15
28	---	---	---	---	---	---	---	---	---	2.7	4.6	12
29	---	---	---	---	---	---	---	---	---	2.8	6.8	11
30	---	---	---	---	---	---	---	---	---	2.7	7.0	10
31	---	---	---	---	---	---	---	---	---	2.6	165	---
TOTAL	---	---	---	---	---	---	---	---	---	---	271.6	2272.7
MEAN	---	---	---	---	---	---	---	---	---	---	8.76	75.8
MAX	---	---	---	---	---	---	---	---	---	---	165	526
MIN	---	---	---	---	---	---	---	---	---	---	2.0	8.0
AC-FT	---	---	---	---	---	---	---	---	---	--	539	4510

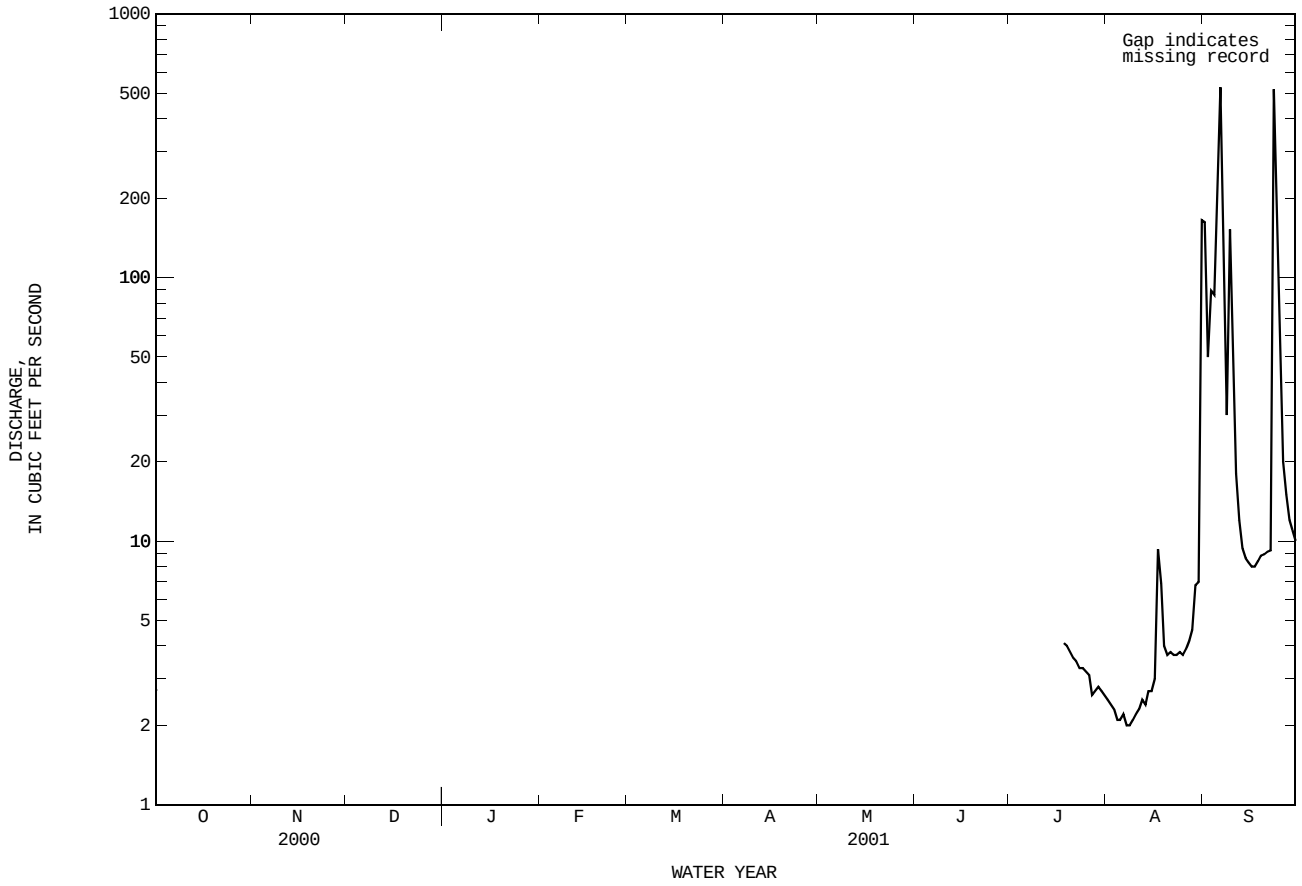
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2001hz, BY WATER YEAR (WY)

MEAN	80.6	118	153	144	205	97.9	136	310	230	35.8	14.4	39.9
MAX	905	1040	1969	987	2083	828	1110	1922	2389	279	211	416
(WY)	1974	1986	1992	1991	1992	1992	1976	1975	1987	1985	1974	1974
MIN	.90	2.64	3.26	4.26	5.60	4.49	2.55	2.21	1.56	.72	.82	1.16
(WY)	1964	1990	1990	1990	1990	1967	1972	1964	1967	1963	1964	1984

08173000 Plum Creek near Luling, TX--Continued

SUMMARY STATISTICS	FOR 2001 WATER YEAR		WATER YEARS 1963 - 2001hz	
ANNUAL TOTAL	2589.6			
ANNUAL MEAN	34.5		129	
HIGHEST ANNUAL MEAN			578	1992
LOWEST ANNUAL MEAN			7.35	1990
HIGHEST DAILY MEAN	526	Sep 6	19200	Jun 4 1987
LOWEST DAILY MEAN	2.0	Aug 7	.00	Jul 21 1963
ANNUAL SEVEN-DAY MINIMUM	2.1	Aug 4	.00	Aug 31 1964
MAXIMUM PEAK FLOW	994	Sep 6	36300	May 24 1975
MAXIMUM PEAK STAGE	12.05	Sep 6	26.51	May 24 1975
ANNUAL RUNOFF (AC-FT)	5140		93580	
10 PERCENT EXCEEDS	94		172	
50 PERCENT EXCEEDS	4.1		12	
90 PERCENT EXCEEDS	2.3		2.4	

h See PERIOD OF RECORD paragraph.
z Period of regulated streamflow.



08173900 Guadalupe River at Gonzales, TX

LOCATION.--Lat 29°29'03", long 97°27'00", Gonzales County, Hydrologic Unit 12100202, in City Park on left bank 0.2 mi upstream from U.S. Highway 183 bridge, and 4.4 mi downstream from San Marcos River.

DRAINAGE AREA.--3,490 mi^2.

PERIOD OF RECORD.--July 1915 to Sept. 1922, Oct. 1951 to Sept. 1952 (discharge measurements only), Mar. 1977 to Sept. 1996 (peak stage only), Oct. 1996 to current year. Records for July 1915 to Sept. 1922, published in WSP 408, 438, 458, and 528, are unreliable and should not be used.
Water-quality records.--Chemical data: Apr. 1996 to Apr. 1998. Biochemical data: Apr. 1996 to Apr. 1998. Sediment data: Apr. 1996 to Apr. 1998.

GAGE.--Water-stage recorder. Datum of gage is 231.80 ft above sea level. July 1915 to Sept. 1922, and Oct. 1951 to Sept. 1952, 0.2 mi downstream, datum not known. Mar. 1977 to Sept. 1996, 1.2 mi upstream at Gonzales hydroelectric plant at National Weather Service datum. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Since water year 1964, at least 10% of contributing drainage area has been regulated. Some water is diverted for irrigation and municipal use (amounts unknown).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 29, 1929, reached a stage of 38.3 ft, National Weather Service datum.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	323	528	3810	2030	2890	2380	2100	1550	1300	862	788	11000
2	280	598	2460	1870	2690	2500	2340	1730	1150	944	e547	3400
3	185	879	2250	1700	2660	2650	1880	1800	1160	1330	e565	2930
4	323	6760	2250	1840	2580	3700	1620	1310	1150	853	e686	2150
5	242	8330	2230	1750	2550	4040	1760	1700	973	928	e615	2270
6	234	4370	2180	1660	2530	3220	1760	1630	1070	939	610	3880
7	309	5800	2110	1570	2530	2890	1820	1620	1150	833	508	4460
8	341	4050	2080	1360	2500	2710	1920	1730	1000	741	589	2290
9	622	3150	2060	1440	2460	2630	2090	2140	978	984	450	3050
10	518	4080	2050	1270	2410	2580	2010	1960	1090	814	516	5000
11	478	3690	2000	3930	2350	2560	1990	1920	996	752	483	2180
12	373	3280	1950	4690	2300	2500	2000	1900	1180	761	442	1910
13	367	3600	2070	2960	2200	2360	1610	1710	1040	729	466	1900
14	382	3750	2280	2330	2310	3100	1480	1600	936	790	475	1990
15	395	4090	2510	2210	2450	4480	1600	1320	943	822	359	1990
16	308	4730	2290	2220	2340	3940	1790	1370	942	781	398	2040
17	474	4840	2070	2300	2580	3130	1410	1650	848	883	494	1340
18	438	5560	2030	2540	2660	2900	1540	1490	950	816	688	1270
19	378	7300	1920	3300	2640	2740	1550	1330	990	777	509	1750
20	391	6670	1980	4720	2180	2750	1680	1510	906	622	465	1830
21	406	5350	1960	3160	2210	2730	1250	1420	829	668	454	1870
22	486	5070	1890	2600	2310	2630	1240	1650	869	478	387	1880
23	727	4870	1840	2210	2440	2590	1380	1850	782	708	491	2220
24	928	5960	1670	2000	2480	2540	1610	1790	1180	732	469	2880
25	650	9230	1780	1760	2450	2540	2100	1840	1460	753	448	2120
26	713	5770	1880	2050	2550	2480	1980	1580	1040	730	397	1920
27	609	4380	3260	2160	2450	2430	2050	1520	931	691	769	1650
28	547	3870	3740	2150	2410	2450	2110	1330	932	424	666	1350
29	543	4080	2820	2480	---	2470	1930	1260	903	741	751	1370
30	455	4080	2320	3950	---	2470	1630	1280	865	660	888	1230
31	507	---	2130	3210	---	2280	---	1160	---	675	7050	---
TOTAL	13932	138715	69870	75420	69110	87370	53230	49650	30543	24221	23423	77120
MEAN	449	4624	2254	2433	2468	2818	1774	1602	1018	781	756	2571
MAX	928	9230	3810	4720	2890	4480	2340	2140	1460	1330	7050	11000
MIN	185	528	1670	1270	2180	2280	1240	1160	782	424	359	1230
AC-FT	27630	275100	138600	149600	137100	173300	105600	98480	60580	48040	46460	153000

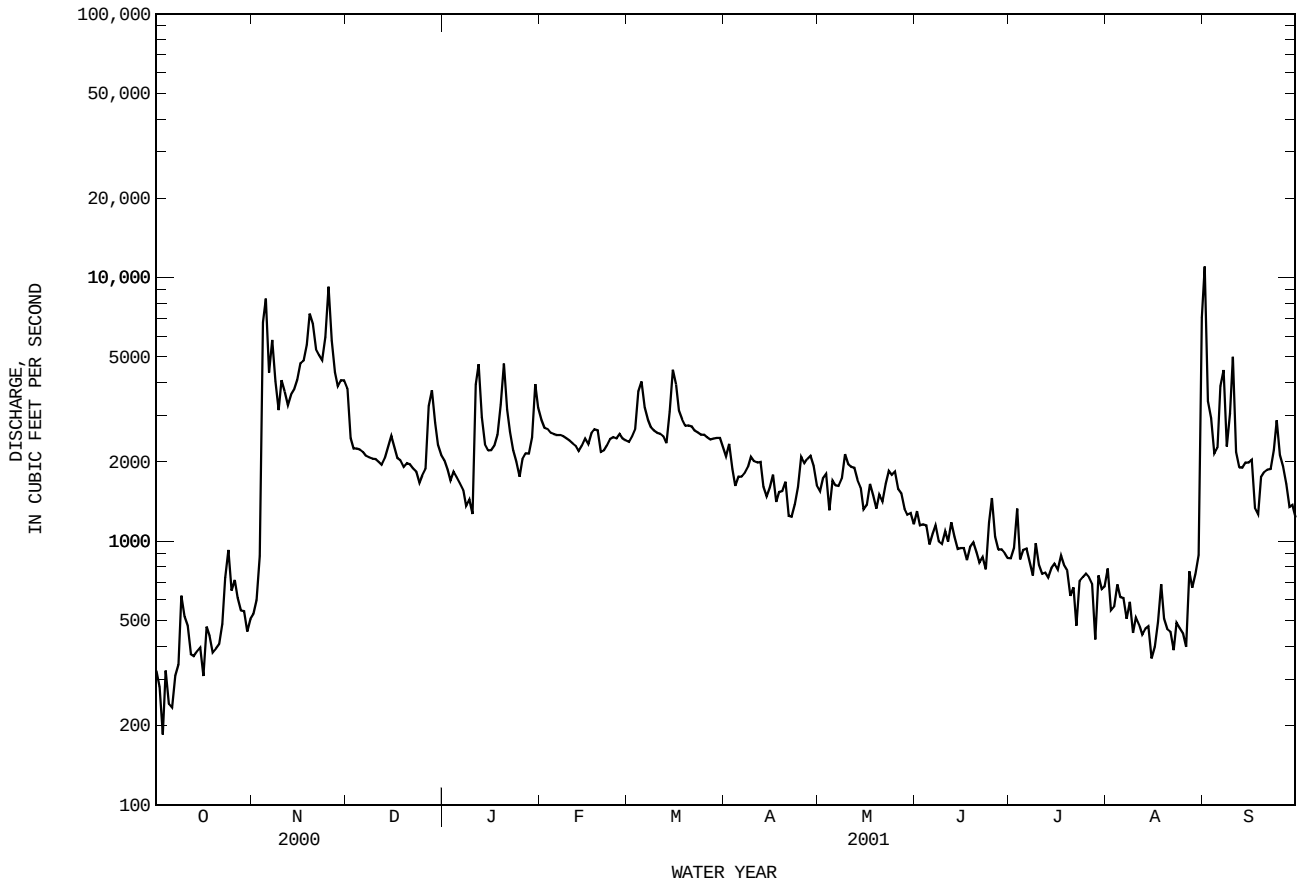
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2001, BY WATER YEAR (WY)

MEAN	4242	2286	1689	1326	1473	1833	1674	1266	1884	1759	934	1123
MAX	18950	5006	4148	2433	2468	3098	3269	2206	5623	6153	2331	2571
(WY)	1999	1999	1999	2001	2001	1998	1997	1997	1997	1997	1997	2001
MIN	352	430	508	520	563	585	493	553	667	330	242	224
(WY)	1997	1997	1997	1997	2000	2000	2000	2000	1998	2000	2000	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1997 - 2001	
ANNUAL TOTAL	357792		712604			
ANNUAL MEAN	978		1952		1794	
HIGHEST ANNUAL MEAN					3182	1999
LOWEST ANNUAL MEAN					501	2000
HIGHEST DAILY MEAN	9230	Nov 25	11000	Sep 1	188000	Oct 19 1998
LOWEST DAILY MEAN	111	Aug 12	185	Oct 3	111	Aug 12 2000
ANNUAL SEVEN-DAY MINIMUM	185	Sep 4	271	Oct 1	185	Sep 4 2000
MAXIMUM PEAK FLOW			12900	Sep 1	i340000	Oct 19 1998
MAXIMUM PEAK STAGE			30.45	Sep 1	a50.44	Oct 19 1998
ANNUAL RUNOFF (AC-FT)	709700		1413000		1299000	
10 PERCENT EXCEEDS	2300		3740		3900	
50 PERCENT EXCEEDS	518		1800		950	
90 PERCENT EXCEEDS	232		489		397	

e Estimated.
i From indirect measurement of peak flow.
a From floodmark.

08173900 Guadalupe River at Gonzales, TX--Continued



08174600 Peach Creek below Dilworth, TX

LOCATION.--Lat 29°28'26", long 97°18'59", Gonzales County, Hydrologic Unit 12100202, on right bank at downstream side of bridge on U.S. Highway 90-A, 1.3 mi downstream from Mitchell Creek, 3.1 mi southwest of Dilworth, 6.4 mi upstream from mouth, and 8.5 mi southeast of Gonzales.

DRAINAGE AREA.--460 mi^2.

PERIOD OF RECORD.--Apr. 1959 to Sept. 1979, Oct. 2000 to current year.
Water quality records.--Chemical data: Apr. 1962 to Sept. 1979.

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 213.53 ft above sea level. Prior to Feb. 11, 1960 nonrecording gage at same site and datum. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. No known regulation or diversions above station. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1840, 35.3 ft in June 1940; flood of June 30, 1936 reached a stage of 32.8 ft, but may have been affected by backwater from the Guadalupe River, from information by local residents.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.5	e27	e6.7	73	8.6	16	4.1	3.2	1.5	1.2	4690
2	1.7	1.5	e17	e6.8	37	78	15	4.1	23	1.6	1.1	2620
3	1.6	1.6	e11	e6.9	23	465	14	4.0	19	1.7	.98	755
4	1.6	11	7.9	e7.2	16	1230	14	3.9	9.6	1.8	.88	218
5	1.6	63	6.7	e7.5	13	1080	13	6.7	5.1	1.7	.87	312
6	1.6	123	6.8	e7.7	12	348	12	6.0	3.3	1.6	.94	1030
7	1.7	203	7.9	e8.3	11	107	11	4.4	2.5	2.1	.94	1180
8	2.5	217	8.5	9.3	11	55	11	4.0	2.2	1.8	.85	328
9	2.8	225	8.5	8.2	11	120	10	5.8	2.3	1.6	.77	277
10	2.8	244	9.3	9.1	10	125	9.9	14	2.2	1.5	.84	427
11	2.4	300	8.9	228	9.4	48	9.3	10	2.1	1.5	.88	256
12	1.9	376	6.0	305	9.1	35	8.7	7.8	1.9	1.4	.87	86
13	1.7	522	7.2	128	8.7	26	8.4	6.2	1.7	1.5	.83	38
14	1.6	623	8.3	61	8.8	660	8.1	4.3	1.6	1.5	.82	23
15	1.6	751	e8.4	42	9.5	2420	7.7	3.6	1.8	1.5	.87	15
16	1.5	871	e7.9	33	12	2030	7.8	3.7	2.6	1.5	1.1	12
17	1.5	1020	e7.8	120	47	872	7.3	3.4	2.0	1.5	1.1	9.8
18	1.8	1160	e7.7	276	69	171	6.4	3.1	2.0	1.5	.98	8.5
19	1.9	1390	e7.6	636	36	83	6.0	2.8	1.8	1.5	.95	7.2
20	1.9	1420	e7.5	706	22	54	6.1	2.6	1.7	1.5	.99	6.3
21	1.8	e428	e7.4	342	15	42	5.9	2.4	1.7	1.4	1.1	5.6
22	1.8	e54	e7.3	106	12	34	5.8	2.0	1.8	1.4	1.1	104
23	2.0	e29	e7.2	50	10	28	5.6	1.9	1.7	1.3	1.0	518
24	2.0	e23	e6.2	33	9.9	24	5.8	2.5	1.7	1.3	.92	386
25	1.8	e21	e6.0	23	10	21	5.3	4.0	2.2	1.3	.88	70
26	1.7	e20	e6.4	18	10	18	5.0	25	1.8	1.2	.86	25
27	1.7	e141	e7.4	15	9.5	17	4.8	4.7	2.3	1.2	.87	14
28	1.6	e190	e8.4	14	9.4	17	4.7	3.0	2.0	1.2	1.0	8.8
29	1.6	e81	e7.6	76	---	17	4.4	2.9	1.7	1.3	2.0	6.0
30	1.5	e59	e6.6	334	---	17	4.3	2.4	1.5	1.3	4.7	4.5
31	1.5	---	e6.6	190	---	17	---	2.5	---	1.2	3720	---
TOTAL	56.4	10569.6	265.0	3813.7	534.3	10267.6	253.3	157.8	110.0	45.9	3753.19	13440.7
MEAN	1.82	352	8.55	123	19.1	331	8.44	5.09	3.67	1.48	121	448
MAX	2.8	1420	27	706	73	2420	16	25	23	2.1	3720	4690
MIN	1.5	1.5	6.0	6.7	8.7	8.6	4.3	1.9	1.5	1.2	.77	4.5
AC-FT	112	20960	526	7560	1060	20370	502	313	218	91	7440	26660

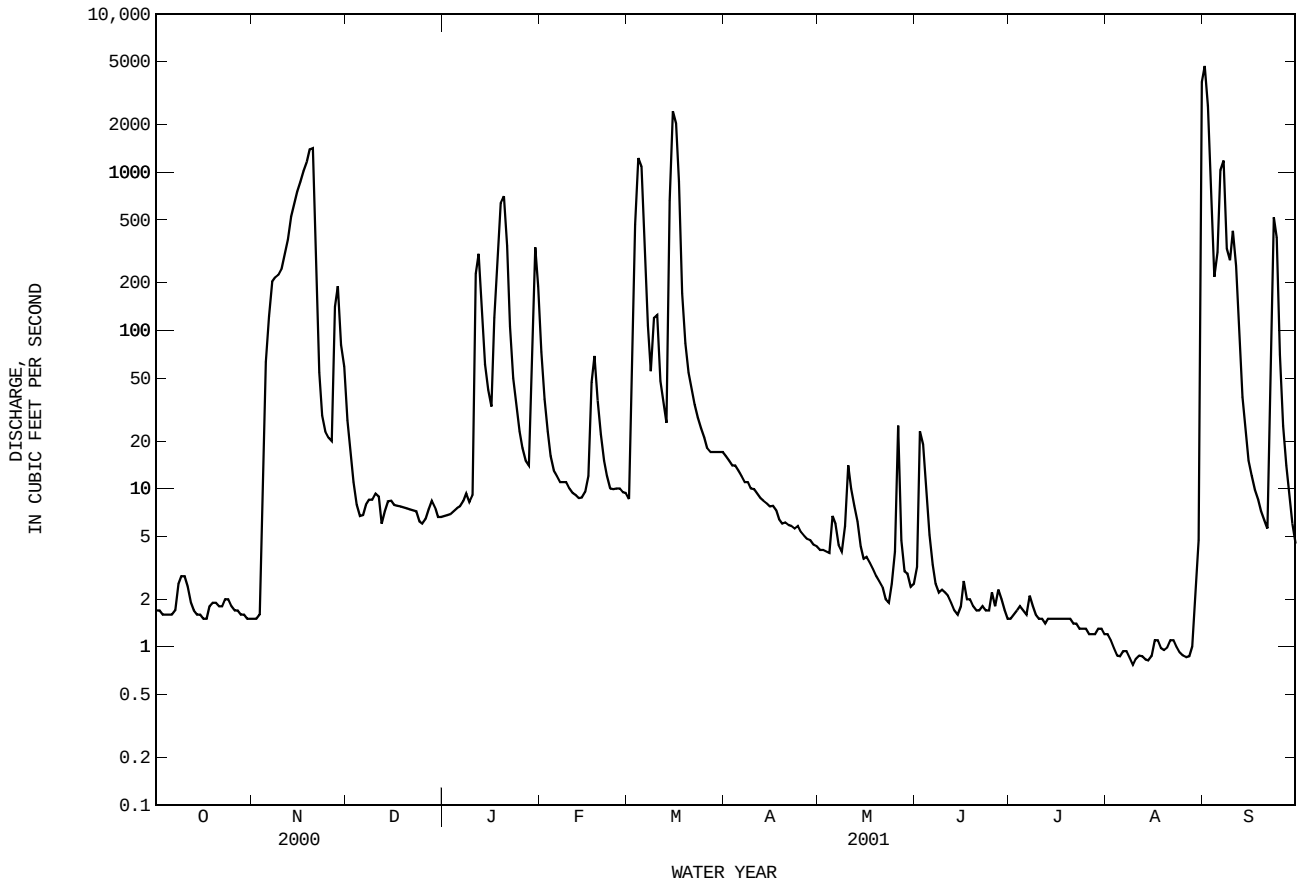
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2001h, BY WATER YEAR (WY)

MEAN	185	150	119	164	161	106	315	314	326	29.3	12.0	147
MAX	1720	730	1114	1149	727	584	3062	1690	1867	364	121	742
(WY)	1961	1966	1977	1974	1969	1969	1977	1972	1968	1961	2001	1961
MIN	.000	.000	.000	.000	.22	.023	.40	.000	.000	.000	.000	.000
(WY)	1964	1965	1965	1967	1967	1967	1963	1963	1963	1963	1962	1960

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1959 - 2001h	
ANNUAL TOTAL			43267.49			
ANNUAL MEAN			119		169	
HIGHEST ANNUAL MEAN					503	1977
LOWEST ANNUAL MEAN					7.83	1963
HIGHEST DAILY MEAN	1420	Nov 20	4690	Sep 1	28700	Apr 20 1977
LOWEST DAILY MEAN	1.5	Oct 16	.77	Aug 9	.00	Aug 1 1959
ANNUAL SEVEN-DAY MINIMUM	1.5	Oct 28	.84	Aug 8	.00	Aug 1 1959
MAXIMUM PEAK FLOW			6660	Aug 31	76800	Apr 20 1977
MAXIMUM PEAK STAGE			27.61	Aug 31	33.11	Apr 20 1977
ANNUAL RUNOFF (AC-FT)			85820		122400	
10 PERCENT EXCEEDS	412		276		158	
50 PERCENT EXCEEDS	7.4		7.3		5.6	
90 PERCENT EXCEEDS	1.6		1.3		.00	

e Estimated
h See PERIOD OF RECORD paragraph.

08174600 Peach Creek below Dilworth, TX--Continued



08175000 Sandies Creek near Westhoff, TX

LOCATION.--Lat 29°12'54", long 97°26'57", De Witt County, Hydrologic Unit 12100202, on left bank 100 ft downstream from bridge on county highway, 1.9 mi upstream from Birds Creek, 2.0 mi northeast of Westhoff, and 20.4 mi upstream from mouth.

DRAINAGE AREA.--549 mi^2.

PERIOD OF RECORD.--Mar. 1930 to Nov. 1934, Aug. 1959 to current year.
Water-quality records.--Chemical data: Apr. 1962 to Sept. 1999. Sediment data: Nov. 1965 to May 1966. Pesticide data: Oct. 1992 to July 1999.

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 178.27 ft above sea level. Prior to Nov. 9, 1934, water-stage recorder at site 150 ft upstream at datum 0.86 ft higher. Aug. 10, 1959, to Feb. 2, 1960, nonrecording gage at present site and datum. Satellite telemeter at station.

REMARKS.--Records good. No known regulation or diversions. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1864, 92,700 ft^3/s July 2, 1936 (gage height, 33.1 ft, from floodmarks), on basis of computation of peak flow, at present site and datum. Flood in Oct. 1913 reached a stage of 26.0 ft, present site and datum, from information by local residents.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	6.8	43	50	51	15	21	8.8	5.0	2.7	1.0	25900
2	2.3	6.5	31	36	38	e187	20	7.7	4.1	2.2	.96	10400
3	2.3	20	24	28	28	340	19	6.8	3.8	2.0	.97	3380
4	2.3	458	22	23	23	e845	18	6.3	3.9	2.1	.91	2710
5	2.3	830	21	20	20	1030	17	40	3.4	2.2	.85	1620
6	2.5	1260	21	18	19	679	17	39	2.9	2.1	.80	1870
7	2.5	1280	22	17	18	257	16	95	2.5	1.9	.74	4020
8	2.8	912	21	17	18	130	16	221	2.5	1.8	.76	3000
9	4.2	514	20	16	18	179	16	228	2.7	1.7	.74	1320
10	7.8	155	17	29	17	276	15	112	2.8	1.8	.73	414
11	12	73	14	418	17	163	14	97	2.7	1.7	.75	671
12	13	43	12	661	17	103	14	39	2.6	1.6	.75	376
13	9.3	108	22	604	17	69	14	21	2.5	1.5	.75	149
14	6.6	237	20	274	17	263	14	15	2.3	1.3	.65	82
15	5.2	86	43	141	17	1120	14	12	2.2	1.2	.39	56
16	4.8	35	57	97	19	2340	14	9.1	2.3	1.1	.40	44
17	4.6	23	46	93	21	2200	14	7.5	2.0	1.0	.45	37
18	5.5	405	38	122	21	869	12	6.8	1.9	.95	.46	32
19	4.7	2060	27	375	20	220	11	5.5	2.0	.91	.45	27
20	8.0	4040	22	742	19	124	9.2	4.6	2.2	.91	.52	24
21	8.6	2760	19	762	18	83	9.3	4.3	2.2	.89	.55	21
22	6.5	798	16	397	17	59	9.8	4.1	22	.84	.54	19
23	6.7	166	14	160	17	46	12	4.1	12	.81	.54	18
24	14	390	15	96	16	37	26	4.4	21	.74	.55	17
25	20	1010	21	65	16	31	27	4.1	27	.78	.55	16
26	17	1370	103	48	15	27	30	3.5	41	.90	.52	15
27	13	732	261	38	16	24	25	3.6	24	.99	.53	14
28	12	199	369	32	16	22	17	4.0	14	.93	187	13
29	10	104	320	30	---	22	13	5.9	6.4	.97	77	13
30	7.9	65	155	30	---	22	10	5.2	3.8	.95	174	12
31	6.9	---	82	39	---	22	---	4.9	---	1.0	8300	---
TOTAL	227.6	20146.3	1918	5478	566	11804	484.3	1030.2	229.7	42.47	8755.81	56290
MEAN	7.34	672	61.9	177	20.2	381	16.1	33.2	7.66	1.37	282	1876
MAX	20	4040	369	762	51	2340	30	228	41	2.7	8300	25900
MIN	2.3	6.5	12	16	15	15	9.2	3.5	1.9	.74	.39	12
AC-FT	451	39960	3800	10870	1120	23410	961	2040	456	84	17370	111700
CFSM	.01	1.22	.11	.32	.04	.69	.03	.06	.01	.00	.51	3.42
IN.	.02	1.37	.13	.37	.04	.80	.03	.07	.02	.00	.59	3.81

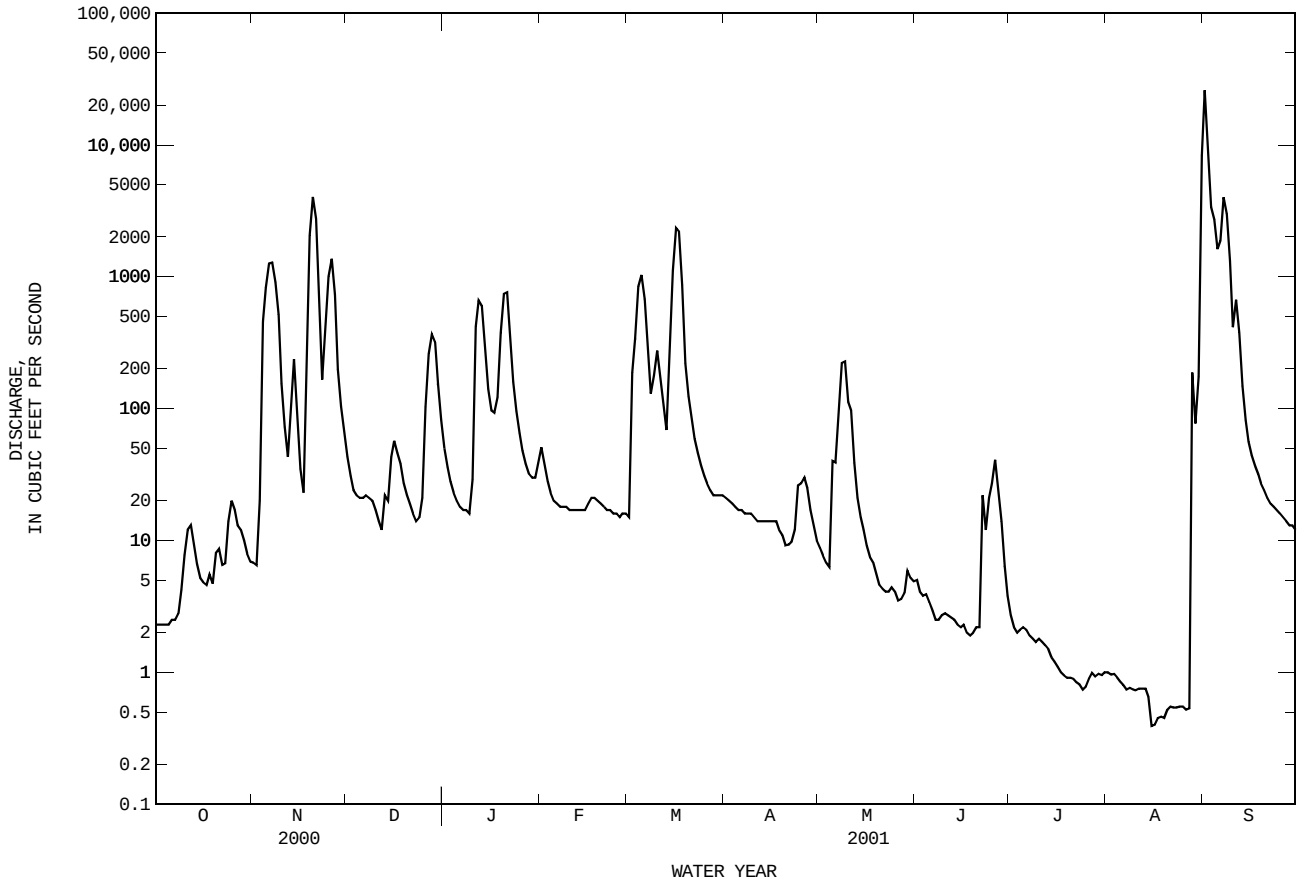
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2001h, BY WATER YEAR (WY)

MEAN	157	90.7	60.5	117	140	76.6	155	243	278	28.0	31.9	233
MAX	2698	732	969	778	1485	418	1361	2062	2820	139	282	4060
(WY)	1999	1999	1977	1974	1992	1969	1977	1972	1987	1961	2001	1967
MIN	.26	1.19	1.85	4.08	4.05	2.66	3.26	.88	.32	.23	.071	.26
(WY)	1964	1932	1989	1967	1967	1967	1963	1963	1934	1964	1962	1959

08175000 Sandies Creek near Westhoff, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1930 - 2001h	
ANNUAL TOTAL	30328.3		106972.38			
ANNUAL MEAN	82.9		293		136	
HIGHEST ANNUAL MEAN					532	1992
LOWEST ANNUAL MEAN					8.71	1988
HIGHEST DAILY MEAN	4040	Nov 20	25900	Sep 1	67900	Sep 22 1967
LOWEST DAILY MEAN	1.0	Aug 20	.39	Aug 15	.00	Aug 11 1932
ANNUAL SEVEN-DAY MINIMUM	1.1	Aug 17	.46	Aug 15	.00	Aug 18 1959
MAXIMUM PEAK FLOW			28500	Sep 1	79700	Sep 22 1967
MAXIMUM PEAK STAGE			27.53	Sep 1	32.34	Sep 22 1967
ANNUAL RUNOFF (AC-FT)	60160		212200		98480	
ANNUAL RUNOFF (CFSM)	.15		.53		.25	
ANNUAL RUNOFF (INCHES)	2.06		7.25		3.36	
10 PERCENT EXCEEDS	157		416		126	
50 PERCENT EXCEEDS	7.8		17		9.1	
90 PERCENT EXCEEDS	1.8		.97		1.4	

e Estimated
h See PERIOD OF RECORD paragraph.



08175800 Guadalupe River at Cuero, TX

LOCATION.--Lat 29°03'57", long 97°19'16", De Witt County, Hydrologic Unit 12100204, on left bank at downstream side of bridge on U.S. Highways 77A, 87, and 183, 2.1 mi upstream from Gohlke Creek, 2.4 mi southwest of Cuero, 4.2 mi downstream from mouth of Sandies Creek, and at river mile 100.6.

DRAINAGE AREA.--4,934 mi^2 of which 1,432 mi^2 is above Canyon Dam.

PERIOD OF RECORD.--Jan. 1903 to Dec. 1906, Sept. 1916 to Apr. 1919, Sept. 1920 to Nov. 1935, and Jan. 1964 to current year. Published in WSP 1312 as "near Cuero" Jan. 1903 to Dec. 1906, and as "below Cuero" Sept. 1920 to Apr. 1935. Gage-height records collected 7.1 mi upstream from 1941 to 1966 and published in National Weather Service reports.
Water-quality records.--Chemical data: Mar. 1968 to Sept. 1985.

REVISED RECORDS.--WRD TX-68-1, TX-69-1: Drainage areas at all sites.

GAGE.--Water-stage recorder. Datum of gage is 128.64 ft above sea level. From Dec. 26, 1902, to June 1903, nonrecording gage at site 7.1 mi upstream at different datum (gage heights adjusted to site 3.3 mi upstream from present site before computation); from July 1903 to Dec. 1906, nonrecording gage 3.3 mi upstream at different datum; and Aug. 19, 1916, to Dec. 16, 1935, water-stage recorder at site 5.0 mi downstream at datum 3.19 ft lower. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since water year 1928, at least 10% of contributing drainage area has been regulated. Flow is affected at times by discharge from the flood-detention pools of 53 floodwater-retarding structures. These structures control runoff from 302 mi^2 in the Comal, San Marcos, and Plum Creek drainage basins. Many small diversions above station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--10 years (water years 1904-06, 1917-18, 1921-27) 1,220 ft^3/s (839,900 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1904-06, 1917-18, 1921-27).--Maximum stage since at least 1900 probably occurred on Mar. 1, 1903, at 43.0 ft (at different site and datum), but discharge was not determined.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900 probably occurred July 2, 1936, 44.33 ft, present site and datum, from information by Texas Department of Transportation. Other floods at this station occurred Oct. 4, 1913, 37.57 ft, at different site and datum; Dec. 6, 1913, 34.57 ft (at different site and datum); Oct. 20, 1919, 32.2 ft (site and datum then in use), and June 21, 1961, 37.0 ft at present site and datum

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	295	539	3940	2230	3290	2190	2210	1770	1220	945	716	37700
2	293	521	3650	2120	2850	2400	2070	1670	1270	870	701	39800
3	295	539	2630	2000	2600	3110	2200	1730	1180	869	605	29200
4	289	1480	2320	1850	2530	4520	1980	1810	1200	1210	768	11900
5	287	6380	2270	1930	2430	5530	1740	1540	1180	922	613	6340
6	287	10000	2240	1880	2390	5530	1820	1940	1030	946	675	5620
7	296	6950	2230	1800	2360	3680	1820	1790	1050	840	733	7020
8	303	7090	2150	1690	2340	2860	1840	1780	1120	834	715	9050
9	441	5060	2110	1660	2320	2740	1900	1900	1080	782	579	7080
10	661	3450	2090	1630	2260	2770	2020	2190	971	905	658	6730
11	695	3800	2080	1700	2210	2650	1970	2020	1080	874	625	6050
12	473	3550	2040	4380	2160	2470	1950	1950	992	768	631	3490
13	437	3330	2020	5370	2100	2370	1970	1890	1140	753	611	2410
14	470	3600	2070	3510	2010	2370	1730	1760	1020	764	597	2130
15	478	3680	2320	2620	2040	6860	1570	1660	943	770	618	2110
16	493	3860	2500	2350	2190	8090	1680	1460	927	818	596	2070
17	515	4390	2350	2320	2110	7960	1790	1440	940	799	583	2080
18	501	5600	2130	2480	2290	5870	1600	1640	854	882	584	1640
19	501	10400	2070	3050	2420	3410	1590	1550	902	851	737	1430
20	501	12000	2000	4610	2370	2770	1650	1300	941	808	748	1770
21	499	12700	2010	5820	2090	2650	1730	1460	906	721	651	1890
22	484	9240	2000	4140	2080	2590	1470	1480	865	661	640	1890
23	457	5760	1960	2930	2140	2500	1300	1580	857	624	623	2420
24	665	6560	1930	2400	2190	2430	1560	1760	829	640	613	2780
25	953	9090	1830	2130	2220	2400	1670	1690	1030	757	620	3050
26	768	11800	1900	1890	2200	2360	2040	1760	1360	776	633	2320
27	802	9890	2250	2060	2210	2310	1970	1620	1140	809	622	2020
28	755	5170	3870	2130	2210	2300	2010	1550	953	706	819	1780
29	591	4040	4330	2130	---	2300	2060	1370	977	e677	1030	1540
30	582	4010	3220	2480	---	2320	1950	1290	978	e716	1140	1460
31	573	---	2510	3840	---	2320	---	1290	---	704	17900	---
TOTAL	15640	174479	75020	83130	64610	106630	54860	51640	30935	25001	38384	206770
MEAN	505	5816	2420	2682	2308	3440	1829	1666	1031	806	1238	6892
MAX	953	12700	4330	5820	3290	8090	2210	2190	1360	1210	17900	39800
MIN	287	521	1830	1630	2010	2190	1300	1290	829	624	579	1430
AC-FT	31020	346100	148800	164900	128200	211500	108800	102400	61360	49590	76130	410100

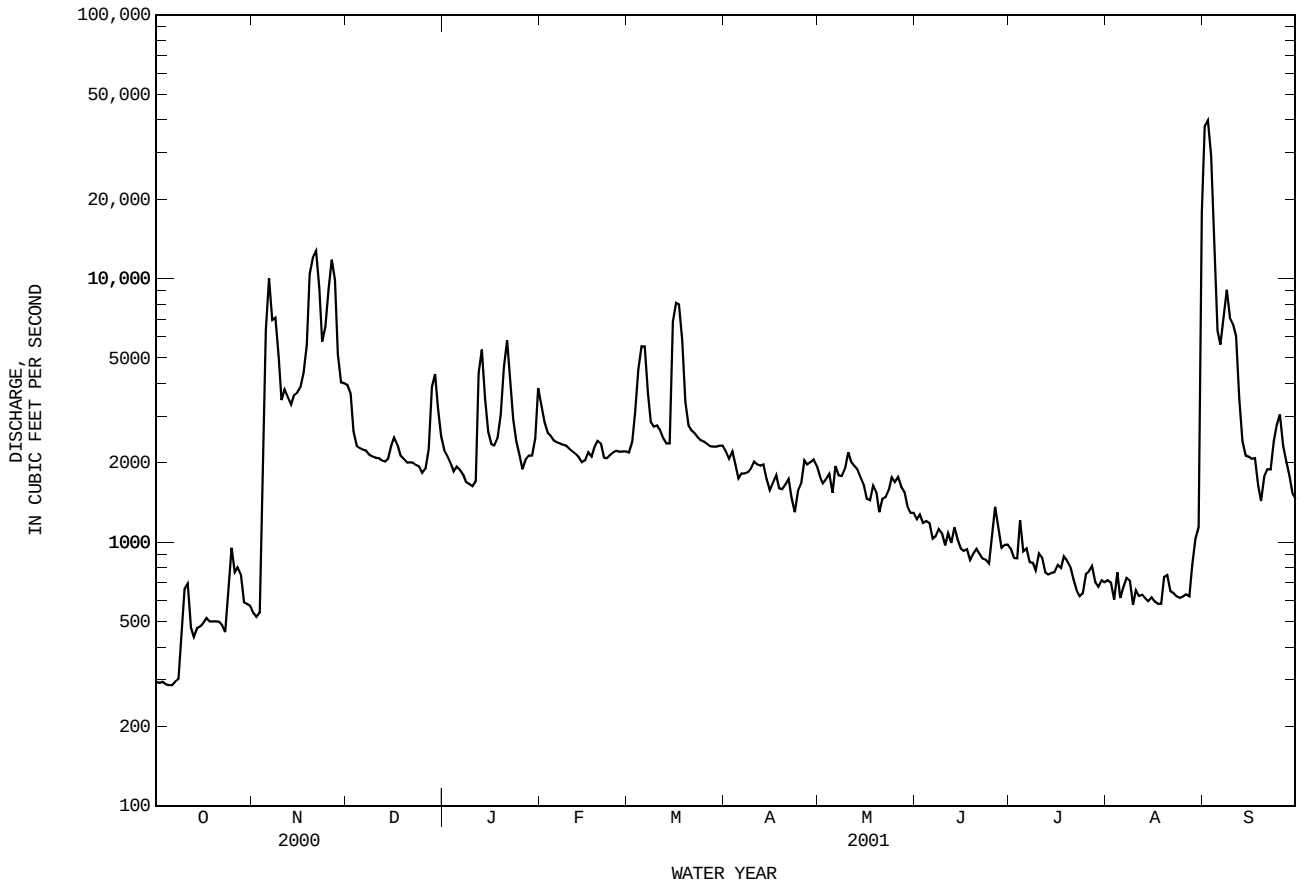
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2001hz, BY WATER YEAR (WY)

MEAN	2199	1800	1786	1878	2147	1872	2223	2969	3238	1480	1145	1811
MAX	30990	8725	10500	10830	16740	10370	11100	12270	21470	6559	4149	11210
(WY)	1999	1999	1992	1992	1992	1992	1977	1972	1987	1997	1987	1981
MIN	242	411	432	397	403	504	381	309	242	95.7	112	124
(WY)	1990	1990	1990	1990	1990	1967	1971	1984	1984	1984	1984	1984

08175800 Guadalupe River at Cuero, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1964 - 2001hz	
ANNUAL TOTAL	437765		927099			
ANNUAL MEAN	1196		2540		2073	
HIGHEST ANNUAL MEAN					6885	1992
LOWEST ANNUAL MEAN					435	1984
HIGHEST DAILY MEAN	12700	Nov 21	39800	Sep 2	338000	Oct 20 1998
LOWEST DAILY MEAN	135	Sep 13	287	Oct 5	28	Jul 22 1984
ANNUAL SEVEN-DAY MINIMUM	211	Sep 12	292	Oct 1	45	Jul 18 1984
MAXIMUM PEAK FLOW			41000	Sep 2	i473000	Oct 20 1998
MAXIMUM PEAK STAGE			32.66	Sep 2	a50.35	Oct 20 1998
ANNUAL RUNOFF (AC-FT)	868300		1839000		1502000	
10 PERCENT EXCEEDS	2610		4790		3720	
50 PERCENT EXCEEDS	573		1890		1050	
90 PERCENT EXCEEDS	288		616		460	

e Estimated
h See PERIOD OF RECORD paragraph.
z Period of regulated streamflow.
i From indirect measurement of peak flow.
a From floodmark.



08176500 Guadalupe River at Victoria, TX

LOCATION.--Lat 28°47'34", long 97°00'46", Victoria County, Hydrologic Unit 12100204, on left bank near left downstream corner of downstream bridge of two bridges on U.S. Highway 59 in Victoria, 1,200 ft upstream from Southern Pacific Railroad Co. bridge, 15 mi upstream from Coleto Creek, and at mile 50.7.

DRAINAGE AREA.--5,198 mi^2, of which 1,432 mi^2 is above Canyon Dam.

PERIOD OF RECORD.--Nov. 1934 to current year. Gage-height records collected in this vicinity since 1904 are contained in reports of the National Weather Service.
Water-quality records.--Chemical data: Aug. 1945 to Aug. 1994. Biochemical data: Jan. 1968 to Aug. 1994. Pesticide data: Feb. 1974 to Aug. 1981. Sediment data: Apr. 1959, Aug. 1973 to Aug. 1994. Specific conductance: Oct. 1945 to Sept. 1981. Water temperature: Nov. 1950 to Sept. 1981.

REVISED RECORDS.--WSP 2123: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 29.15 ft above sea level. Nov. 1, 1934, to July 27, 1992, at site just upstream from pier on left bank of upstream bridge at same datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. Since installation of gage in Nov. 1934, at least 10% of contributing drainage area has been regulated. There are many diversions above station. Records provided by the city of Victoria show that during the current year about 8,380 acre-ft of wastewater effluent was released into the river below this station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1929, reached a stage of 30.2 ft, present site and datum, maximum stage since at least 1833, that of July 3, 1936.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	271	573	4100	2360	3720	2110	2320	1860	1320	956	668	22300
2	277	547	3930	2150	3050	2180	2190	1750	1200	931	666	29100
3	281	524	3410	2030	2690	2670	2120	1650	1260	894	653	35800
4	281	684	2520	1880	2490	3450	2210	1760	1190	917	563	32300
5	278	2330	2340	1830	2410	4760	1930	2010	1190	1180	699	13900
6	278	7380	2270	1860	2330	5490	1830	2150	1160	908	563	7350
7	276	8040	2210	1800	2300	4800	1870	2060	1040	947	610	6160
8	291	6280	2190	1740	2280	3310	1870	1800	1100	817	681	8040
9	306	6140	2100	1600	2250	2780	1880	1760	1140	829	630	8010
10	382	4230	2070	1710	2210	2730	1940	1980	1050	769	511	7650
11	597	3440	2050	2300	2160	2750	2000	2080	1010	913	579	6540
12	593	3720	2010	2370	2120	2560	1980	1980	1070	832	546	5360
13	441	3300	1970	5140	2070	2410	1990	1910	1040	758	552	3460
14	393	3340	1970	4660	2010	2390	1940	1840	1120	746	530	2710
15	433	3570	2030	3150	1900	3540	1680	1720	1040	741	507	2450
16	441	3610	2330	2520	2080	7050	1680	1630	958	761	524	2330
17	475	3960	2390	2430	2080	7410	1730	1430	953	796	503	2260
18	591	4650	2190	2510	2030	6950	1810	1510	951	781	486	2150
19	518	7450	2040	3030	2280	4820	1550	1630	877	850	484	1710
20	500	9650	1980	3680	2290	3140	1660	1450	925	814	626	1630
21	502	10600	1920	5120	2200	2760	1690	1320	963	773	632	1950
22	511	10500	1940	5230	1970	2650	1690	1500	954	684	545	1950
23	541	7640	1910	3670	2040	2580	1410	1480	872	640	528	2030
24	486	5950	1900	2720	2060	2490	1420	1600	859	598	508	2610
25	682	7100	1860	2280	2110	2440	1600	1720	836	622	483	3070
26	923	8800	1910	2000	2120	2410	1790	1710	1110	725	485	2680
27	723	10300	2050	1920	2100	2350	1970	1710	1310	743	504	2260
28	892	7760	2690	2050	2130	2390	1950	1560	1080	752	541	1950
29	705	4750	4200	2100	---	2360	1990	1490	952	683	759	1700
30	595	4120	3960	2110	---	2340	2000	1360	985	597	1050	1500
31	583	---	2910	2890	---	2340	---	1310	---	615	10100	---
TOTAL	15046	160938	75350	82840	63480	104410	55690	52720	31515	24572	27716	222910
MEAN	485	5365	2431	2672	2267	3368	1856	1701	1050	793	894	7430
MAX	923	10600	4200	5230	3720	7410	2320	2150	1320	1180	10100	35800
MIN	271	524	1860	1600	1900	2110	1410	1310	836	597	483	1500
AC-FT	29840	319200	149500	164300	125900	207100	110500	104600	62510	48740	54970	442100

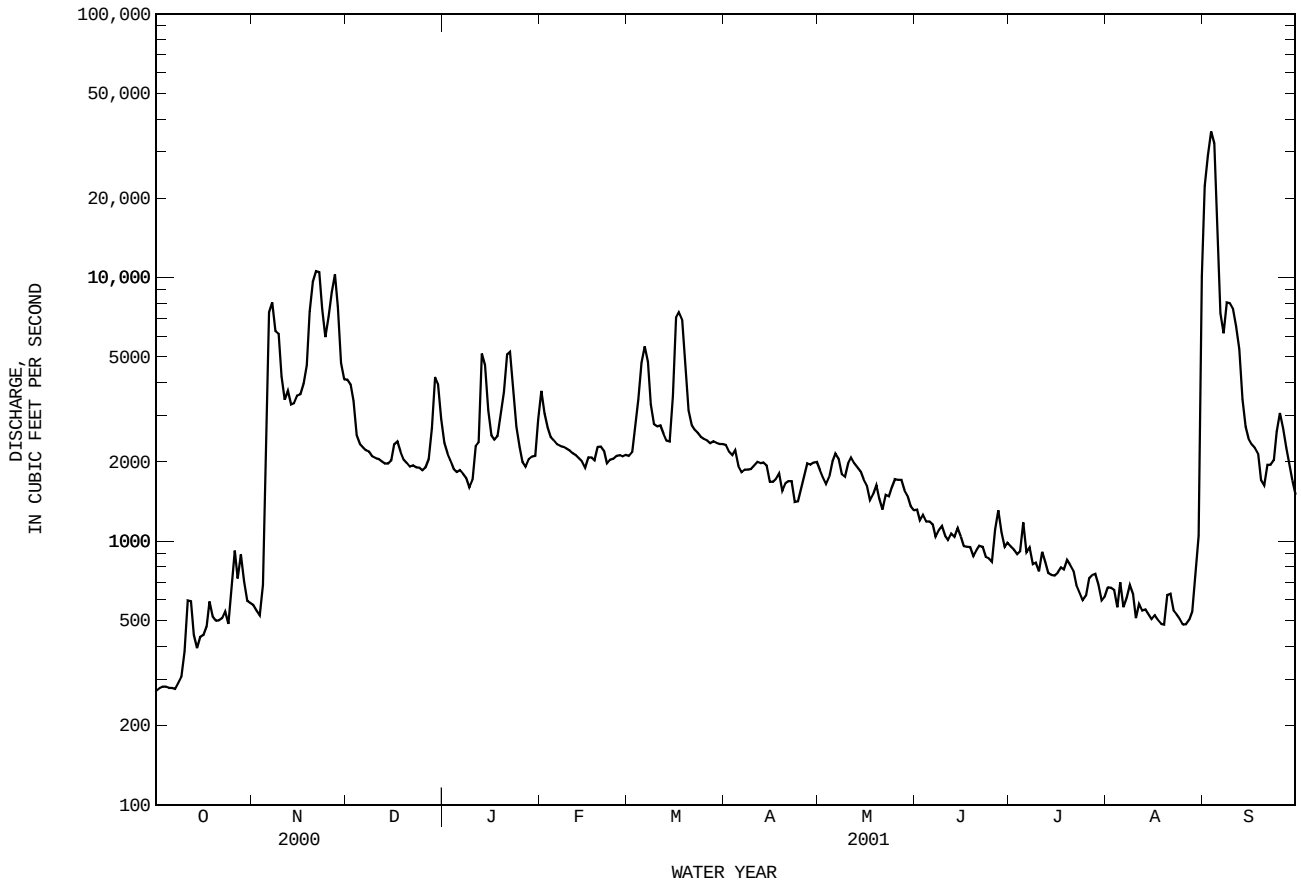
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2001, BY WATER YEAR (WY)

MEAN	2066	1710	1594	1699	1962	1746	2106	2850	2851	1743	968	1736
MAX	30420	9440	9753	10650	17250	10600	10320	12990	23750	18430	4473	11340
(WY)	1999	1999	1992	1992	1992	1992	1977	1941	1987	1936	1987	1981
MIN	100	59.6	183	118	255	158	157	224	59.7	53.9	37.6	51.6
(WY)	1956	1957	1956	1957	1956	1956	1956	1956	1956	1956	1956	1956

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1935 - 2001	
ANNUAL TOTAL	434427		917187			
ANNUAL MEAN	1187		2513		1902	
HIGHEST ANNUAL MEAN					6993	1992
LOWEST ANNUAL MEAN					132	1956
HIGHEST DAILY MEAN	10600	Nov 21	35800	Sep 3	307000	Oct 20 1998
LOWEST DAILY MEAN	165	Sep 16	271	Oct 1	14	Aug 20 1956
ANNUAL SEVEN-DAY MINIMUM	225	Sep 14	277	Oct 1	22	Sep 29 1956
MAXIMUM PEAK FLOW			39300	Sep 3	i466000	Oct 20 1998
MAXIMUM PEAK STAGE			29.36	Sep 3	a34.04	Oct 20 1998
ANNUAL RUNOFF (AC-FT)	861700		1819000		1378000	
10 PERCENT EXCEEDS	2760		4780		3540	
50 PERCENT EXCEEDS	607		1910		985	
90 PERCENT EXCEEDS	289		546		366	

i From indirect measurement of peak flow.
a From floodmark.

08176500 Guadalupe River at Victoria, TX--Continued



08176550 Fifteenmile Creek near Weser, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 28°53'51", long 97°21'17", De Witt County, Hydrologic Unit 12100204, at De Witt-Goliad County line, on right downstream end of bridge on U.S. Highway 183, and 2.4 mi northeast of Weser.

DRAINAGE AREA.--167 mi^2.

PERIOD OF RECORD.--Oct. 1984 to Sept. 1989 (daily mean discharge), Oct. 1989 to current year (peak discharges greater than base discharge).

GAGE.--Water-stage recorder. Datum of gage is 158.40 ft above sea level. Satellite telemeter at station.

REMARKS.--Records fair. No known regulation or diversions.

AVERAGE DISCHARGE.--5 years (water years 1985-89), 18.7 ft^3/s (13,550 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,400 ft^3/s June 22, 1997 (gage height, 26.68 ft), from rating curve extended above 2,840 ft^3/s; minimum discharge, no flow for several days in 1989.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 4	1800	1,330	12.54	Sept. 1	0230	15,400	26.61

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08176900 Coleto Creek at Arnold Road Crossing near Schroeder, TX

LOCATION.--Lat 28°51'41", long 97°13'34", Goliad County, Hydrologic Unit 12100204, on right bank at downstream side of Arnold Road Crossing, 0.7 mi downstream from confluence of Twelvemile and Fifteenmile Creeks, 3.2 mi north of Schroeder, 12.8 mi upstream from Coleto Creek Reservoir, and 26.0 mi upstream from mouth.

DRAINAGE AREA.--357 mi^2.

PERIOD OF RECORD.--Oct. 1978 to current year. Records equivalent for Jan. 1930 to Dec. 1933 and Oct. 1952 to Sept. 1979, published as "near Schroeder" (discontinued station 08177000).

GAGE.--Water-stage recorder. Datum of gage is 100.43 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. No known regulation or diversions. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharges since at least 1872 at site 3.5 mi downstream, 122,000 ft^3/s Sept. 21, 1967 (slope-area measurement of peak flow), 63,700 ft^3/s Oct. 16, 1946, and 46,700 ft^3/s in Oct. 1925, from information by local resident.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	24	9.5	12	7.8	7.6	3.5	1.2	.04	.00	13500
2	.00	.00	20	9.1	12	9.3	7.2	3.4	1.0	.02	.00	2310
3	.00	.00	18	8.7	11	9.8	7.0	3.2	.93	.07	.00	570
4	.00	.00	16	8.7	11	13	6.9	3.2	.83	.55	.00	546
5	.00	477	15	8.6	11	19	6.7	31	.71	.49	.00	935
6	.00	337	14	8.2	11	19	6.4	552	.69	.21	.00	483
7	.00	252	14	8.1	10	14	6.2	64	.66	.09	.00	314
8	.00	67	13	8.0	10	12	6.0	32	.65	.03	.00	125
9	.00	25	13	8.1	10	11	5.9	17	.67	.00	.00	137
10	.00	14	12	18	9.9	11	5.7	10	.69	.00	.00	303
11	.00	9.3	12	105	9.7	10	5.7	6.8	.60	.00	.00	155
12	.00	7.0	11	148	9.9	9.2	5.7	5.0	.48	.00	.00	62
13	.00	6.0	10	68	9.9	8.2	5.4	4.1	.38	.00	.00	43
14	.00	4.4	9.8	40	9.8	8.2	5.2	3.3	.33	.00	.00	37
15	.00	3.7	9.6	e29	9.4	8.8	5.1	2.8	.30	.00	.00	33
16	.00	3.1	9.5	e24	9.6	10	4.9	2.4	.26	.00	.00	30
17	.00	3.3	9.2	22	9.2	26	4.9	2.1	.23	.00	.00	28
18	.00	89	9.0	28	8.9	20	4.9	1.8	.23	.00	.00	26
19	.00	1260	8.7	106	8.7	16	4.8	1.7	.18	.00	.00	25
20	.00	504	8.4	94	8.5	12	4.8	1.5	.14	.00	.00	25
21	.00	154	8.3	51	8.5	10	4.6	1.4	.13	.00	.00	26
22	.00	76	8.1	34	8.5	9.3	4.5	1.3	.18	.00	.00	26
23	.00	51	8.3	25	8.4	8.5	4.5	1.2	.26	.00	.00	28
24	.00	380	8.6	20	8.3	7.9	4.5	1.1	.45	.00	.00	81
25	.00	498	9.0	18	7.9	7.4	4.3	1.0	.43	.00	.00	49
26	.00	204	11	16	7.8	7.0	4.0	1.0	.53	.00	.00	36
27	.00	82	11	16	7.8	6.8	4.0	1.9	.44	.00	.00	32
28	.00	51	9.9	15	7.9	8.9	3.9	2.7	.42	.00	.00	30
29	.00	37	9.6	15	---	9.4	3.6	1.9	.23	.00	.00	28
30	.00	29	9.6	13	---	9.3	3.5	1.4	.11	.00	477	26
31	.00	---	9.4	12	---	8.2	---	1.3	---	.00	18200	---
TOTAL	0.00	4623.80	359.0	994.0	266.6	347.0	158.4	767.0	14.34	1.50	18677.00	20049
MEAN	.000	154	11.6	32.1	9.52	11.2	5.28	24.7	.48	.048	602	668
MAX	.00	1260	24	148	12	26	7.6	552	1.2	.55	18200	13500
MIN	.00	.00	8.1	8.0	7.8	6.8	3.5	1.0	.11	.00	.00	25
AC-FT	.00	9170	712	1970	529	688	314	1520	28	3.0	37050	39770

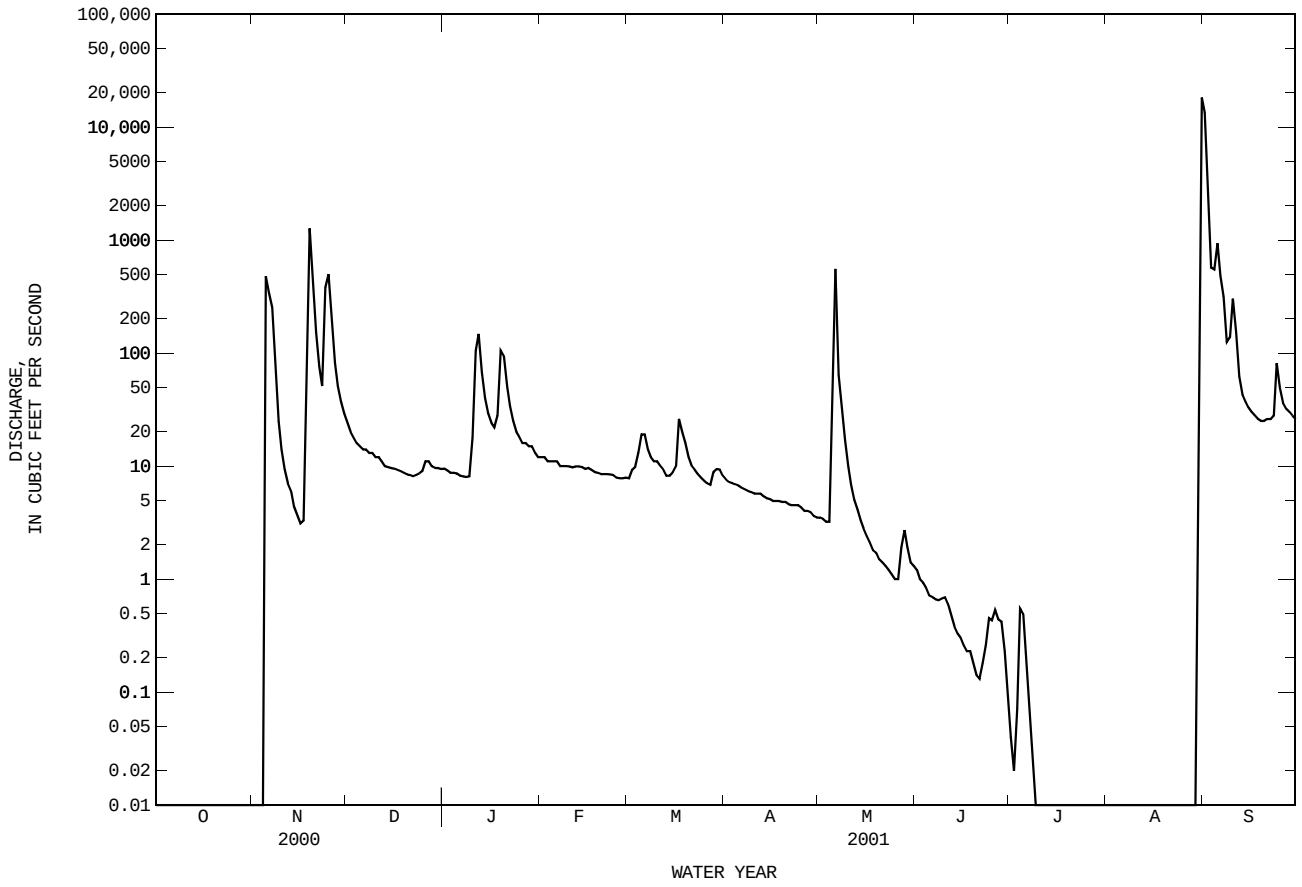
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2001, BY WATER YEAR (WY)

MEAN	111	69.9	38.6	52.1	67.0	55.5	126	113	168	24.8	48.2	90.8
MAX	895	651	301	400	486	265	1021	608	1191	114	602	920
(WY)	1999	1999	1987	1979	1992	1997	1997	1979	1997	1990	2001	1998
MIN	.000	.049	.94	2.62	2.71	2.78	1.56	.29	.48	.048	.000	.000
(WY)	2001	1990	1990	1990	1996	1996	1996	1996	2001	2001	1996	1989

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1979 - 2001	
ANNUAL TOTAL	7880.06		46257.64			
ANNUAL MEAN	21.5		127		80.2	
HIGHEST ANNUAL MEAN					222	1997
LOWEST ANNUAL MEAN					2.47	1989
HIGHEST DAILY MEAN	1260	Nov 19	18200	Aug 31	24600	Jun 22 1997
LOWEST DAILY MEAN	.00	Jul 19	.00	Oct 1	.00	Aug 20 1989
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 19	.00	Oct 1	.00	Aug 20 1989
MAXIMUM PEAK FLOW			c31300	Aug 31	c44500	Jun 22 1997
MAXIMUM PEAK STAGE			27.44	Aug 31	31.17	Jun 22 1997
ANNUAL RUNOFF (AC-FT)	15630		91750		58070	
10 PERCENT EXCEEDS	28		51		63	
50 PERCENT EXCEEDS	4.9		6.9		11	
90 PERCENT EXCEEDS	.00		.00		.67	

e Estimated
c From rating curve extended above measurement of 26,600 ft^3/s.

08176900 Coleto Creek at Arnold Road Crossing near Schroeder, TX--Continued



08177300 Perdido Creek at Farm to Market Road 622 near Fannin, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 28°45'05", long 97°19'01", Goliad County, Hydrologic Unit 12100204, at right downstream end of bridge on Farm Road 622, 1.2 mi downstream from Farmer Creek, 3.1 mi upstream from Kilgore Creek, and 6.1 mi northwest of Fannin.

DRAINAGE AREA.--28.0 mi^2.

PERIOD OF RECORD.--June 1978 to Sept. 1991 (daily mean discharge), Oct. 1991 to current year (peak discharges greater than base discharge).

GAGE.--Water-stage recorder. Datum of gage is 134.66 ft above sea level. Satellite telemeter at station.

REMARKS.--Records fair. No known regulation or diversions.

AVERAGE DISCHARGE.--13 years (water years 1979-91), 5.05 ft^3/s (2.45 in/yr), 3,660 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,500 ft^3/s Apr. 4, 1997 (gage height, 17.89 ft), from rating curve extended above 22,700 ft^3/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 20, 1976, reached a stage of 26.28 ft, and flood of Sept. 15, 16, 1967, reached a stage of 26.08 ft, from information by the Texas Department of Transportation.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug. 31	1315	c23,100	17.09	No other peak greater than base discharge.			

c From rating curve extended above 22,700 ft^3/s.

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08177400 Coleto Creek Reservoir near Victoria, TX

LOCATION.--Lat 28°43'51", long 97°09'53", Victoria County, Hydrologic Unit 12100204, on right upstream end of spillway of dam on Coleto Creek, 1.6 mi upstream from U.S. Highway 59, 11.6 mi west of Victoria, and 12.8 mi upstream from mouth.

DRAINAGE AREA.--494 mi^2.

PERIOD OF RECORD.--Feb. 1980 to current year.

REVISED RECORDS.--From Feb. 1980 to Sept. 2000, total daily contents of the main reservoir, the Turkey Creek Arm, and the Sulphur Creek Arm published as station 08177400. Revised daily contents for Turkey Creek Arm are stored as station 08177240 Turkey Creek Arm of Coleto Creek Reservoir near Schroeder and revised daily contents for Sulphur Creek Arm are stored as station 08177380 Sulphur Creek Arm of Coleto Creek Reservoir near Fannin. Revised Daily contents not presented in this report.

GAGE.--Water-stage recorder. Datum of gage sea level. Satellite telemeter at station.

REMARKS.--Records fair. The reservoir system consists of the main reservoir, Turkey Creek Arm, and Sulphur Creek Arm. Figures shown below are the contents of the main reservoir only. As of July 1999, the Turkey Creek Arm and Sulphur Creek Arm stations are operated by the Guadalupe-Blanco River Authority. Cooling water is diverted from the main reservoir through the Central Power and Light coal-fired generating plant, through a canal to the Sulphur Creek Arm, and then through a canal to Turkey Creek Arm, where it is released back into the main reservoir. The system was built for the Guadalupe-Blanco River Authority, and storage began in Feb. 1980. Conservation pool storage is 35,080 acre-ft.

The main reservoir is formed by a compacted earthfill dam 20,800 ft long, including a 2,000-foot uncontrolled spillway and a 403-foot wide concrete outlet structure with seven 40- x 28-foot spillway gates. Low-flow releases are made through the dam by a controlled 8-inch pipe. Turkey Creek Arm is formed by a compacted earthfill dam 2,250 ft long, including a 186-ft wide concrete outlet structure with two 40- x 11-foot spillway gates. Sulphur Creek Arm is formed by a compacted earthfill dam 1,030 ft long, including a 186-foot wide concrete outlet structure with two 40- by 11-foot spillway gates. Data regarding the dams are given in the following table:

	Coleto Creek Reservoir Elevation (feet)	Turkey Creek Arm Elevation (feet)	Sulphur Creek Arm Elevation (feet)
Top of dam	119.0	107.0	107.0
Emergency spillway	107.3	--	--
Top of spillway gates	99.4	102.9	102.9
Crest of spillway	71.0	91.9	91.9

COOPERATION.--Elevations and capacity tables were provided by Forrest and Cotton Engineers, Consulting Engineers for the Guadalupe-Blanco River Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 36,680 acre-ft, Aug. 31, 2001, elevation, 99.94 ft; minimum since reservoir was first filled in May 1980, 20,330 acre-ft, Aug. 20, 21, 1996, elevation, 93.27 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 36,680 acre-ft, Aug. 31, elevation, 99.94 ft; minimum contents, 23,500 acre-ft, Nov. 3, 4, elevation, 94.79 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23890	23580	31330	30960	31560	31150	31570	30170	30670	28570	26290	32400
2	23840	23560	31280	30920	31550	31280	31560	30120	30580	28580	26200	31850
3	23800	23520	31210	30870	31530	31380	31570	30060	30450	28620	26100	31530
4	23760	23570	31170	30850	31530	31380	31570	30010	30350	28600	26040	31560
5	23730	23880	31140	30840	31520	31340	31560	30730	30300	28540	25970	31570
6	23730	24950	31130	30830	31500	31330	31530	32320	30260	28390	25890	31440
7	23740	25550	31090	30840	31490	31330	31510	31360	30180	28290	25780	31450
8	23750	25840	31070	30810	31460	31330	31490	31530	29980	28220	25620	31360
9	23810	25910	31050	30760	31460	31350	31460	31590	29830	28140	25490	31510
10	23860	25940	31040	31020	e31430	31310	31420	31510	29740	28030	25410	31590
11	23820	25800	31060	31780	e31400	31360	31370	31440	29690	27950	25320	31510
12	23790	25610	30990	31570	e31380	31420	31280	31400	29640	27870	25260	31400
13	23770	25600	30950	31620	31350	31380	31220	31400	29600	27800	25200	31340
14	23750	25470	30900	31530	31360	31550	31180	31390	29560	27720	25160	31460
15	23740	25420	30900	31500	31360	31600	31190	31360	29540	27630	25120	31610
16	23730	25440	30900	31610	31420	31510	31660	31320	29520	27540	25040	31760
17	23760	25490	30830	31620	31340	31470	32410	31300	29490	27450	24960	31860
18	23900	25740	30800	31650	31290	31470	31810	31260	29450	27280	24870	31890
19	23870	27490	30720	31670	31270	31490	31260	31230	29350	27160	24800	31820
20	23830	28900	30680	31650	31260	31450	30960	31200	29240	27070	24720	31840
21	23810	29250	30670	31660	31260	31420	30800	31170	29140	26990	24640	31850
22	23800	29300	30590	31520	31270	31400	30670	31050	29090	26920	24590	31750
23	23750	29330	30570	31530	31230	31380	30610	30860	29020	26840	24530	31750
24	23790	29780	30580	31530	31240	31380	30560	30750	28970	26760	24470	31850
25	23770	30630	30610	31520	31240	31340	30470	30680	28950	26700	24410	31920
26	23740	31140	30760	31530	31180	31280	30410	30620	28940	26630	24350	31940
27	23730	31250	31000	31530	31190	31260	30350	30560	28900	26600	24360	31950
28	23720	31300	31010	31540	31200	31420	30300	30530	28790	26570	24530	31970
29	23690	31330	31000	31590	---	31560	30250	30540	28700	26510	24770	31970
30	23660	31320	30960	31600	---	31590	30210	30560	28630	26440	25680	31970
31	23610	---	30950	31600	---	31590	---	30630	---	26360	33210	---

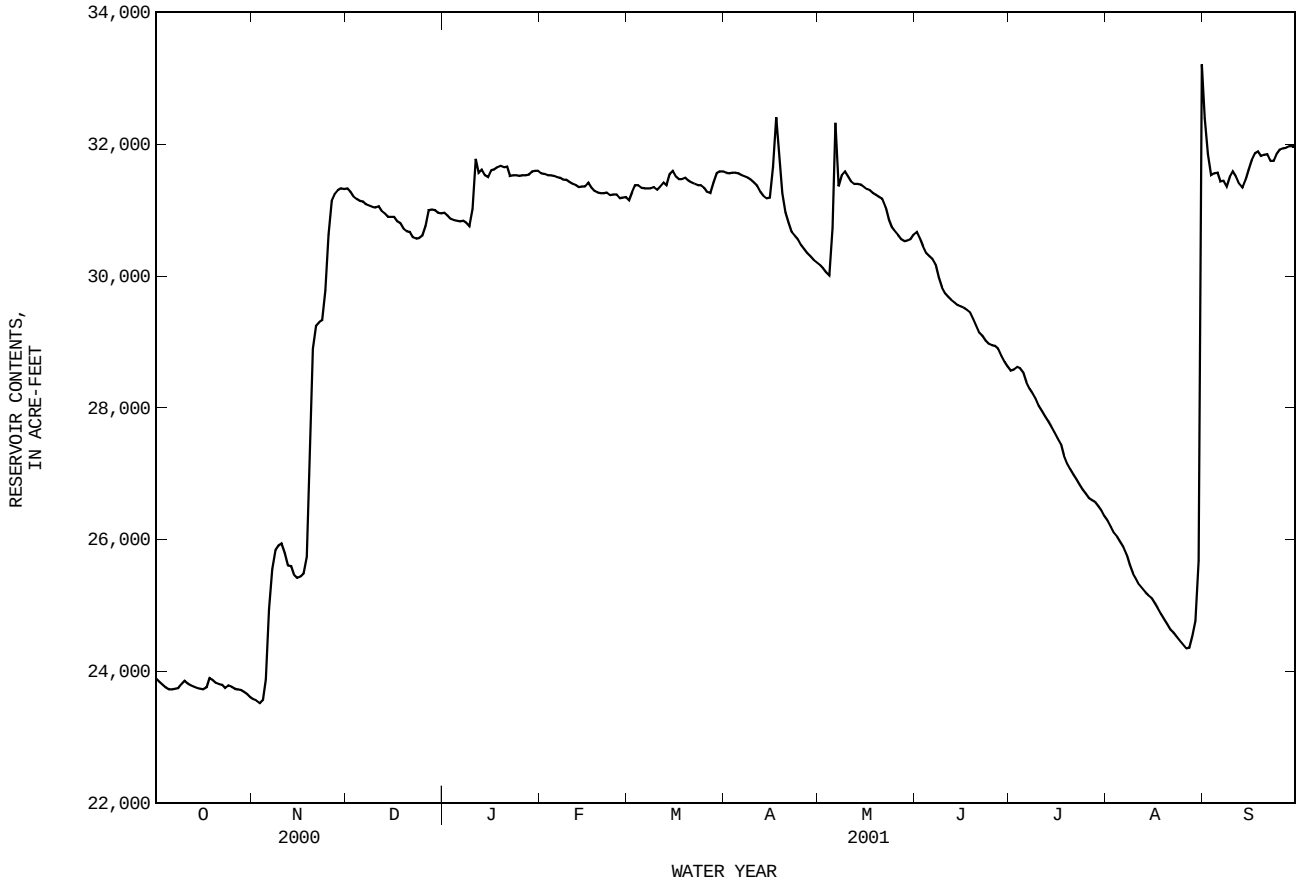
08177400 Coleto Creek Reservoir near Victoria, TX--Continued

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	23900	31330	31330	31780	31560	31600	32410	32320	30670	28620	33210	32400
MIN	23610	23520	30570	30760	31180	31150	30210	30010	28630	26360	24350	31340
(+)	94.84	98.01	97.87	98.12	97.97	98.12	97.59	97.75	96.98	96.04	98.69	98.25
(@)	-4260	+7710	-370	+650	-400	+390	-1380	+420	-2000	-2270	+6850	-1240

CAL YR 2000 MAX 32210 MIN 23520 (@) +7550
WTR YR 2001 MAX 32410 MIN 23520 (@) +8030

e Estimated

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



08177500 Coleto Creek near Victoria, TX

LOCATION.--Lat 28°43'51", long 97°08'18", Victoria County, Hydrologic Unit 12100204, on left bank at downstream side of westbound bridge on U.S. Highway 59, 1.6 mi downstream from Coleto Creek dam, 9.0 mi southwest of Victoria, and 11.2 mi upstream from mouth.

DRAINAGE AREA.--514 mi^2.

PERIOD OF RECORD.--June 1939 to Sept. 1954, June 1978 to current year.

REVISED RECORDS.--WSP 1562: 1939-40. WSP 1732: 1941.

GAGE.--Water-stage recorder. Datum of gage is 44.18 ft above sea level. Prior to Jan. 17, 1955, at datum 5.0 ft higher. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Since Feb. 21, 1980 at least 10% of contributing drainage area has been regulated. Beginning on Mar. 6, 1980, water diverted from the Guadalupe River basin to the Coleto Creek basin upstream from Coleto Creek Reservoir for industrial use. There are no other large diversions above station. No flow at times.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--16 years (water years 1940-54, 1979-80), 92.7 ft^3/s (67,160 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1939-54, 1979-80).--Maximum discharge, 89,000 ft^3/s Oct. 16, 1946 (gage height, 36.64 ft, present datum, from floodmark), on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1875, 236,000 ft^3/s Sept. 22, 1967 (gage height, 42.0 ft, from floodmark), present site and datum, on basis of slope-area measurement of peak flow. Flood of Apr. 20, 1976, reached a stage of 37.85 ft, at site 0.2 mi upstream at present datum. Flood of July 1, 1936, reached a stage of 32.2 ft, present site and datum, from information by railroad company.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.8	2.1	2.3	2.0	2.5	6.0	2.8	.17	.00	.00	15300
2	2.0	1.8	2.1	2.2	2.0	3.1	6.1	2.4	.13	.02	.00	4430
3	1.9	1.8	2.1	2.0	2.0	3.0	6.2	1.9	.09	.02	.00	1810
4	1.9	2.1	25	2.0	1.9	2.7	6.2	1.5	.06	.01	.00	2560
5	1.8	2.7	4.9	2.0	4.4	19	6.1	405	.05	.00	.00	2460
6	1.9	9.4	2.5	2.0	3.0	4.8	6.0	4130	.04	.00	.00	1750
7	2.1	3.3	2.2	2.0	2.3	3.4	6.1	291	e.03	.00	.00	1330
8	2.4	2.4	2.2	6.1	2.3	3.2	6.1	25	.44	.00	.00	857
9	2.7	2.1	2.2	3.7	2.3	3.1	6.2	11	.07	.00	.01	1560
10	5.4	1.9	2.2	9.0	2.2	3.1	6.2	6.5	.03	.00	.01	1350
11	2.9	1.8	2.2	665	2.2	5.0	6.4	4.5	.03	.00	.02	1310
12	2.0	2.0	2.2	311	2.2	5.6	14	4.3	.02	.00	.02	646
13	1.7	2.3	2.4	7.9	2.3	4.0	8.8	4.0	.02	.00	.02	316
14	1.7	1.9	2.3	219	2.3	113	6.9	2.4	.02	.00	.02	33
15	1.7	1.8	2.2	6.1	2.3	377	6.6	1.6	.02	.00	.03	28
16	1.7	1.9	2.2	257	2.4	13	6.5	e.89	.02	.17	.03	26
17	2.1	2.0	2.2	211	2.3	5.1	6.8	e.76	.01	.02	.03	25
18	2.9	4.3	2.2	192	2.4	4.1	6.7	e.64	.01	.01	.03	24
19	1.8	5.7	2.1	325	2.4	3.9	6.5	e.55	.00	.00	.03	23
20	1.7	2.9	2.2	216	2.3	3.8	6.6	e.47	.00	.00	.05	23
21	1.8	2.1	2.2	151	2.3	3.8	6.6	e.41	.00	.00	.07	22
22	2.0	2.0	2.1	40	2.3	4.0	6.5	.37	.01	.00	.09	22
23	2.0	2.0	2.2	3.3	2.3	4.3	6.6	.35	.00	.00	.11	24
24	2.0	2.8	2.2	2.4	2.4	4.5	6.6	.33	.00	.00	.14	25
25	1.9	2.1	2.3	2.2	2.2	4.7	6.8	.31	.00	.00	.17	21
26	1.8	2.0	2.6	2.1	2.2	4.8	6.0	.29	.01	.00	.20	20
27	1.9	2.0	2.7	2.0	2.3	5.1	5.2	.27	.01	.01	.23	20
28	1.9	2.0	2.3	2.1	2.3	6.5	4.5	.24	.00	.01	.32	20
29	1.8	2.0	2.2	2.1	---	6.8	3.9	.20	.00	.00	.36	20
30	1.8	2.1	2.2	2.0	---	6.0	3.3	.17	.00	.00	66	20
31	1.8	---	2.2	2.0	---	5.9	---	.20	---	.00	11400	---
TOTAL	65.0	77.0	94.9	2654.5	65.8	638.8	193.0	4900.35	1.29	0.27	11467.99	36075
MEAN	2.10	2.57	3.06	85.6	2.35	20.6	6.43	158	.043	.009	370	1202
MAX	5.4	9.4	25	665	4.4	377	14	4130	.44	.17	11400	15300
MIN	1.7	1.8	2.1	2.0	1.9	2.5	3.3	.17	.00	.00	.00	20
AC-FT	129	153	188	5270	131	1270	383	9720	2.6	.5	22750	71550

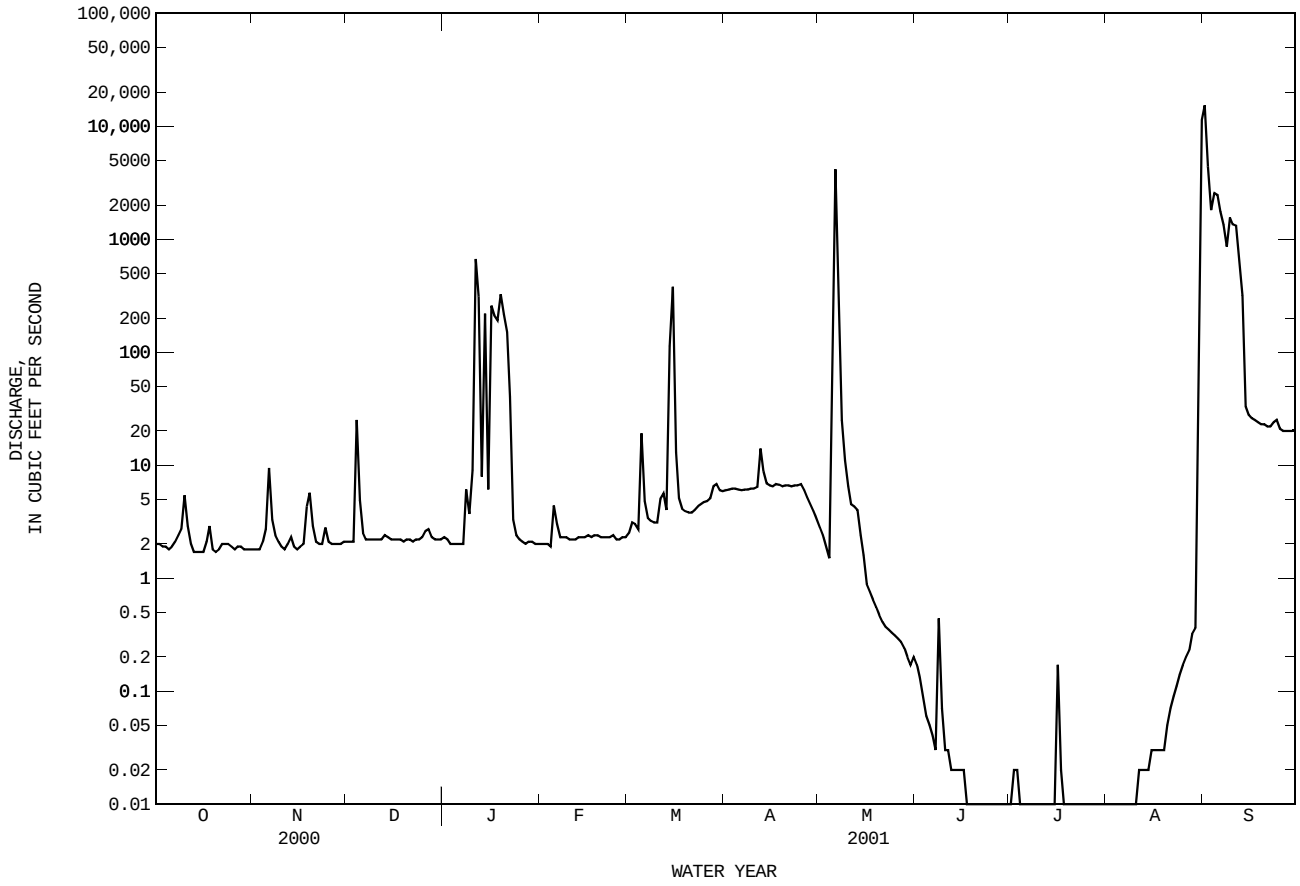
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2001z, BY WATER YEAR (WY)

MEAN	194	86.7	44.2	37.8	106	92.2	193	141	249	51.9	26.4	119
MAX	1313	949	434	347	961	545	1817	940	1426	397	370	1202
(WY)	1999	1999	1992	1992	1992	1997	1997	1993	1993	1990	2001	2001
MIN	1.61	1.90	2.01	1.93	1.98	2.05	2.07	2.09	.043	.009	1.06	1.56
(WY)	1996	1997	1997	1996	1996	1996	1996	1996	2001	2001	1989	1989

08177500 Coleto Creek near Victoria, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1981 - 2001z	
ANNUAL TOTAL	3357.3		56233.90			
ANNUAL MEAN	9.17		154		111	
HIGHEST ANNUAL MEAN					302	1997
LOWEST ANNUAL MEAN					1.98	1996
HIGHEST DAILY MEAN	363	Jun 12	15300	Sep 1	27500	Apr 4 1997
LOWEST DAILY MEAN	1.5	Sep 1	.00	Jun 19	.00	May 6 1981
ANNUAL SEVEN-DAY MINIMUM	1.5	Aug 31	.00	Jul 5	.00	Jul 5 2001
MAXIMUM PEAK FLOW			20200	Sep 1	c50100	Apr 4 1997
MAXIMUM PEAK STAGE			22.39	Sep 1	a32.05	Apr 4 1997
ANNUAL RUNOFF (AC-FT)	6660		111500		80670	
10 PERCENT EXCEEDS	17		25		25	
50 PERCENT EXCEEDS	3.8		2.2		5.0	
90 PERCENT EXCEEDS	1.8		.00		2.0	

e Estimated
z Period of regulated streamflow.
c From rating curve extended above discharge measurements of 32,200 ft^3/s and 36,300 ft^3/s.
a From floodmark.



08177520 Guadalupe River near Bloomington, TX

LOCATION.--Lat 28°39'43", long 96°57'55", Victoria County, Hydrologic Unit 12100204, on left bank at Dupont pump station, 1.8 mi upstream from Dalton Bridge, about 10.5 mi west of Bloomington, and at mile 28.2.

DRAINAGE AREA.--5,816 mi^2.

PERIOD OF RECORD.--Feb. 1999 to current year (daily mean stage).

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

REMARKS.--Records fair. Interruptions in the record were due to malfunction of the instrument. Since installation of gage in Jan. 1999, at least 10% of contributing drainage area has been regulated. There are many diversions above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 26.94 ft, Sept. 4, 2001; minimum gage height, 8.52 ft, Aug. 3-5, 7-9, 11, 2000.

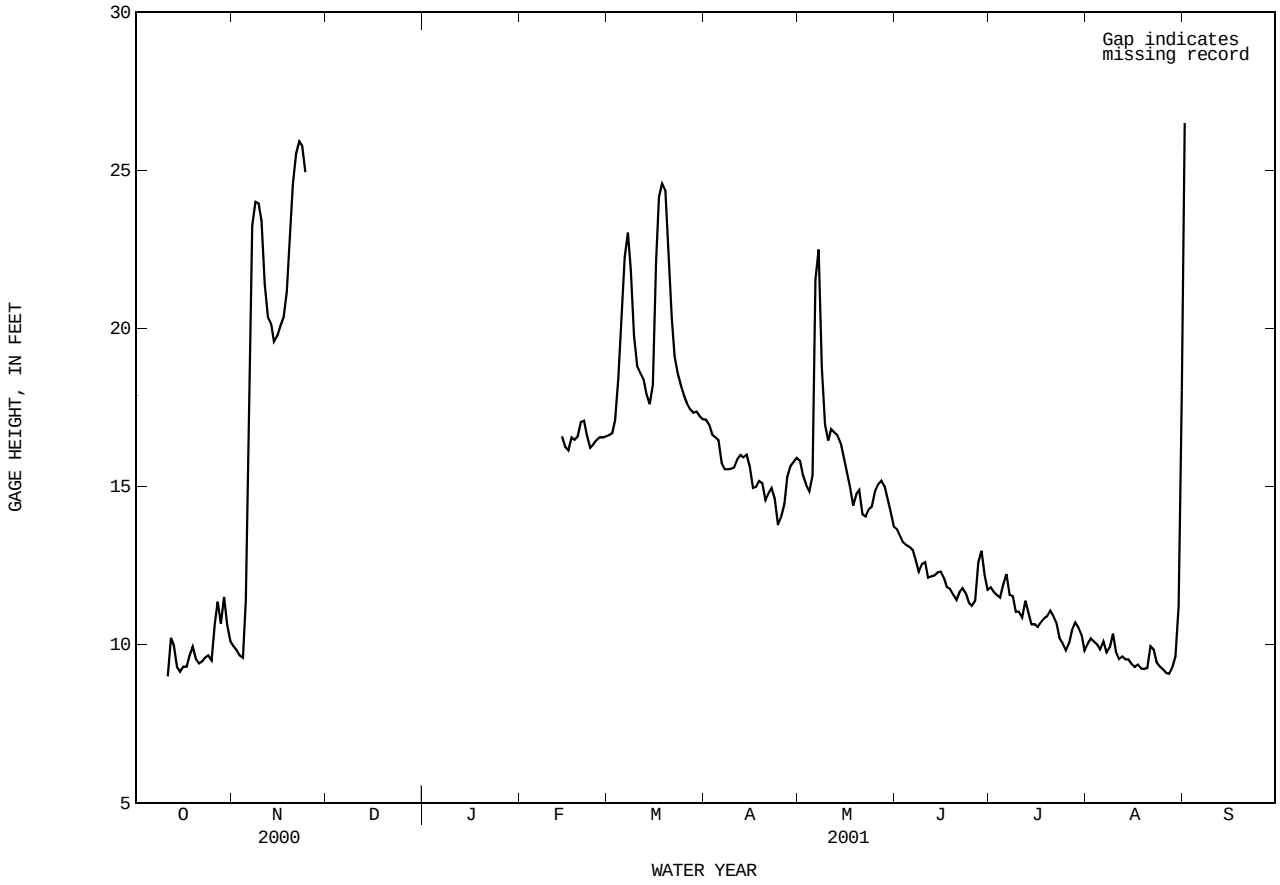
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 20, 1998, reached a stage of 33.92 ft, from National Weather Service floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 26.94 ft, Sept. 4; minimum gage height, 8.55 ft, Oct. 11.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	9.96	---	---	---	16.62	17.12	15.81	13.66	11.82	10.03	26.49
2	---	9.83	---	---	---	16.68	16.96	15.36	13.47	11.66	10.20	---
3	---	9.66	---	---	---	17.10	16.63	15.06	13.24	11.56	10.10	---
4	---	9.59	---	---	---	18.42	16.56	14.85	13.15	11.49	10.00	---
5	---	11.41	---	---	---	20.42	16.47	15.36	13.09	11.91	9.85	---
6	---	18.68	---	---	---	22.26	15.75	21.55	13.00	12.23	10.10	---
7	---	23.25	---	---	---	23.03	15.55	22.49	12.69	11.57	9.75	---
8	---	24.00	---	---	---	21.85	15.55	18.75	12.30	11.53	9.91	---
9	---	23.95	---	---	---	19.78	15.56	16.96	12.54	11.05	10.35	---
10	---	23.40	---	---	---	18.82	15.60	16.45	12.61	11.05	9.79	---
11	9.00	21.41	---	---	---	18.59	15.85	16.81	12.12	10.86	9.55	---
12	10.22	20.37	---	---	---	18.39	15.99	16.71	12.16	11.39	9.63	---
13	9.98	20.15	---	---	---	17.92	15.92	16.62	12.19	11.05	9.54	---
14	9.30	19.58	---	---	16.58	17.60	16.00	16.38	12.29	10.64	9.54	---
15	9.14	19.75	---	---	16.26	18.22	15.62	15.96	12.31	10.65	9.40	---
16	9.31	20.07	---	---	16.15	22.11	14.95	15.50	12.13	10.56	9.30	---
17	9.31	20.35	---	---	16.55	24.15	14.99	14.99	11.82	10.71	9.37	---
18	9.65	21.16	---	---	16.48	24.58	15.17	14.40	11.77	10.82	9.25	---
19	9.93	22.80	---	---	16.58	24.37	15.10	14.76	11.58	10.90	9.24	---
20	9.55	24.56	---	---	17.04	22.65	14.57	14.88	11.42	11.08	9.27	---
21	9.41	25.52	---	---	17.08	20.34	14.79	14.12	11.65	10.91	9.95	---
22	9.47	25.91	---	---	16.61	19.11	14.94	14.05	11.79	10.70	9.85	---
23	9.59	25.78	---	---	16.23	18.56	14.61	14.28	11.62	10.21	9.45	---
24	9.66	24.94	---	---	16.33	18.18	13.79	14.37	11.32	10.05	9.32	---
25	9.51	---	---	---	16.47	17.86	14.04	14.84	11.23	9.82	9.23	---
26	10.66	---	---	---	16.56	17.62	14.45	15.06	11.38	10.06	9.11	---
27	11.36	---	---	---	16.55	17.44	15.31	15.19	12.61	10.46	9.08	---
28	10.67	---	---	---	16.58	17.33	15.64	15.01	12.97	10.70	9.28	---
29	11.51	---	---	---	---	17.37	15.77	14.62	12.19	10.55	9.62	---
30	10.61	---	---	---	---	17.22	15.90	14.20	11.73	10.31	11.22	---
31	10.11	---	---	---	---	17.13	---	13.74	---	9.81	18.03	---
MEAN	9.90	19.84	---	---	16.54	19.41	15.51	15.78	12.27	10.91	9.95	26.49
MAX	11.51	25.91	---	---	17.08	24.58	17.12	22.49	13.66	12.23	18.03	26.49
MIN	9.00	9.59	---	---	16.15	16.62	13.79	13.74	11.23	9.81	9.08	26.49

08177520 Guadalupe River near Bloomington, TX--Continued



08177700 Olmos Creek at Dresden Drive, San Antonio, TX

LOCATION.--Lat 29°29'56", long 98°30'36", Bexar County, Hydrologic Unit 12100301, on right bank 30 ft downstream from low-water bridge on Dresden Drive at San Antonio, 0.15 mi west of intersection of Blanco Road and Dresden Drive, and 4.0 mi upstream from Olmos Dam.

DRAINAGE AREA.--21.2 mi^2.

PERIOD OF RECORD.--June 1968 to Sept. 1981 (daily mean discharge), Oct. 1982 to July 2001 (peak discharges greater than base discharge), Aug. 2001 to current year (daily mean discharge).
Water-quality records.--Chemical data: Nov. 1968 to Apr. 1995, Oct. 1997 to June 1999. Biochemical data: Nov. 1968 to Apr. 1995, Oct. 1997 to June 1999. Pesticide data: Nov. 1968 to Apr. 1995, Oct. 1997 to June 1999. Sediment data: Oct. 1972 to Sept. 1973.

GAGE.--Water-stage recorder. Datum of gage is 720.00 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. No known regulation or diversions.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in Sept. and Nov. 1947 reached a stage of 8.5 ft, from information by local resident. Maximum stage since 1935, that of Sept. 13, 1978.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	106
2	---	---	---	---	---	---	---	---	---	---	---	51
3	---	---	---	---	---	---	---	---	---	---	---	1.4
4	---	---	---	---	---	---	---	---	---	---	---	.12
5	---	---	---	---	---	---	---	---	---	---	---	121
6	---	---	---	---	---	---	---	---	---	---	---	34
7	---	---	---	---	---	---	---	---	---	---	---	.95
8	---	---	---	---	---	---	---	---	---	---	---	.27
9	---	---	---	---	---	---	---	---	---	---	---	2.0
10	---	---	---	---	---	---	---	---	---	---	---	2.4
11	---	---	---	---	---	---	---	---	---	---	---	1.8
12	---	---	---	---	---	---	---	---	---	---	---	1.1
13	---	---	---	---	---	---	---	---	---	---	---	1.1
14	---	---	---	---	---	---	---	---	---	---	---	1.3
15	---	---	---	---	---	---	---	---	---	---	.00	1.6
16	---	---	---	---	---	---	---	---	---	---	.00	1.9
17	---	---	---	---	---	---	---	---	---	---	.00	1.8
18	---	---	---	---	---	---	---	---	---	---	.00	1.5
19	---	---	---	---	---	---	---	---	---	---	.35	1.1
20	---	---	---	---	---	---	---	---	---	---	.00	.77
21	---	---	---	---	---	---	---	---	---	---	.00	.39
22	---	---	---	---	---	---	---	---	---	---	.00	12
23	---	---	---	---	---	---	---	---	---	---	.00	.34
24	---	---	---	---	---	---	---	---	---	---	.00	.00
25	---	---	---	---	---	---	---	---	---	---	.01	.00
26	---	---	---	---	---	---	---	---	---	---	1.2	.00
27	---	---	---	---	---	---	---	---	---	---	24	.00
28	---	---	---	---	---	---	---	---	---	---	3.8	.00
29	---	---	---	---	---	---	---	---	---	---	287	.00
30	---	---	---	---	---	---	---	---	---	---	410	.00
31	---	---	---	---	---	---	---	---	---	---	469	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	345.84
MEAN	---	---	---	---	---	---	---	---	---	---	---	11.5
MAX	---	---	---	---	---	---	---	---	---	---	---	121
MIN	---	---	---	---	---	---	---	---	---	---	---	.00
AC-FT	---	---	---	---	---	---	---	---	---	---	---	686

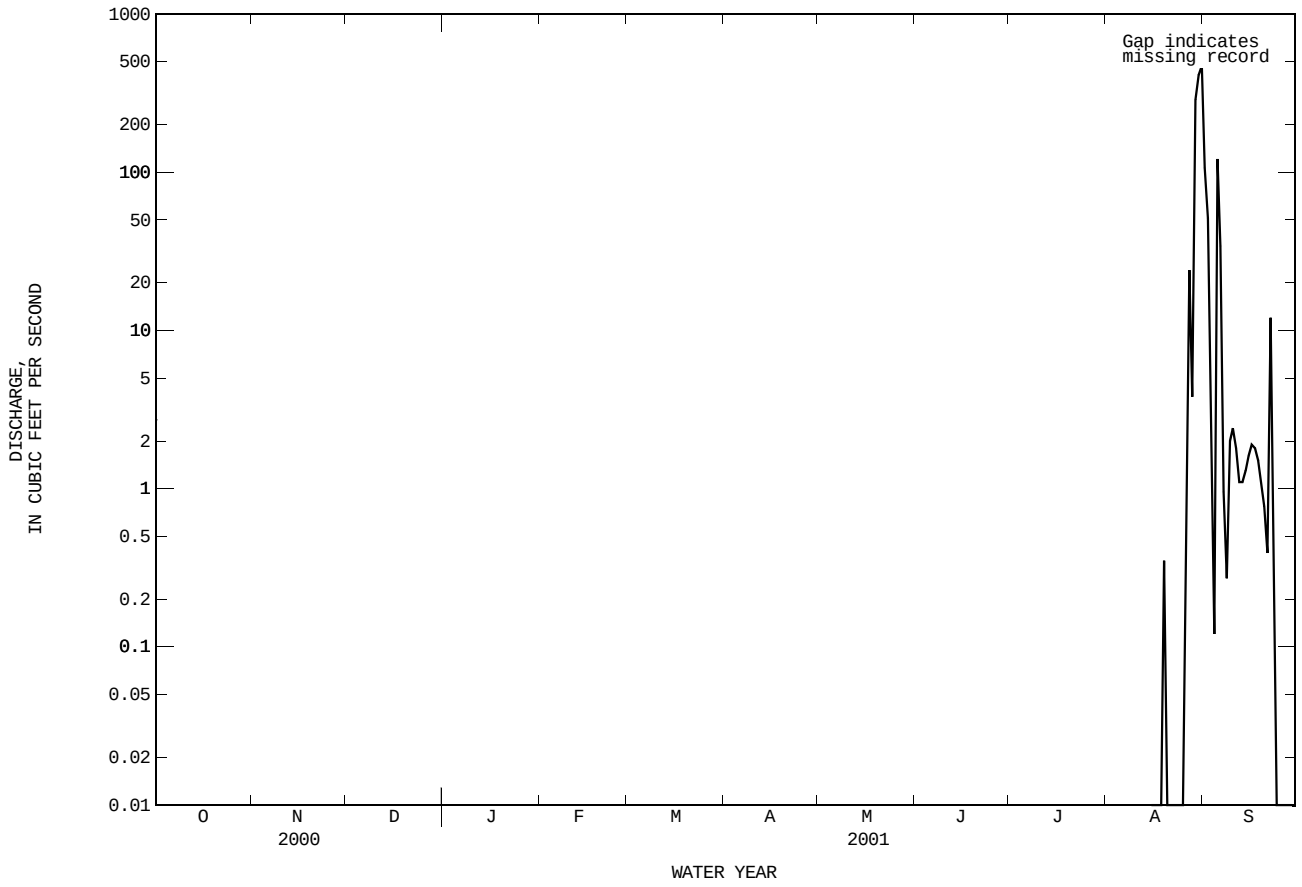
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2001h, BY WATER YEAR (WY)

MEAN	4.71	3.79	1.42	1.49	1.69	1.19	5.76	10.9	6.29	1.87	3.41	8.89
MAX	24.0	20.7	3.86	6.30	8.96	5.18	17.1	52.8	28.4	12.3	23.5	56.8
(WY)	1977	1978	1972	1979	1975	1979	1973	1972	1973	1973	1974	1973
MIN	.063	.046	.038	.027	.023	.030	.46	.50	.042	.024	.020	.083
(WY)	1969	1976	1978	1971	1976	1976	1971	1971	1980	1974	1977	1975

SUMMARY STATISTICS	FOR 2001 WATER YEAR		WATER YEARS 1968 - 2001h	
ANNUAL MEAN			4.35	
HIGHEST ANNUAL MEAN			10.8	1973
LOWEST ANNUAL MEAN			1.03	1971
HIGHEST DAILY MEAN	469	Aug 31	1350	May 7 1972
LOWEST DAILY MEAN	.00	Aug 15	.00	Jun 14 1968
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 24	.00	Oct 17 1968
MAXIMUM PEAK FLOW	5770	Nov 2	19700	Apr 5 1991
MAXIMUM PEAK STAGE	8.75	Nov 2	a14.38	Apr 5 1991
ANNUAL RUNOFF (AC-FT)			3150	
10 PERCENT EXCEEDS	109		3.3	
50 PERCENT EXCEEDS	.95		.23	
90 PERCENT EXCEEDS	.00		.02	

h See PERIOD OF RECORD paragraph.
a From floodmark.

08177700 Olmos Creek at Dresden Drive, San Antonio, TX--Continued



08178000 San Antonio River at San Antonio, TX

LOCATION.--Lat 29°24'34", long 98°29'41", Bexar County, Hydrologic Unit 12100301, on right bank 50 ft downstream from South Alamo Street Bridge in San Antonio, 2.1 mi upstream from San Pedro Creek, and 230.6 mi upstream from mouth.

DRAINAGE AREA.--41.8 mi^2. Flow of river comes from intermittent spring flow and from artesian wells; drainage area of streams not applicable.

PERIOD OF RECORD.--Dec. 1895 to June 1906 (periodic discharge measurements), Jan. 1915 to Nov. 1929, Feb. 1939 to Sept. 1997 (daily mean discharge), Oct. 1997 to Sept. 1999 (annual peak discharge), Oct. 1999 to current year (daily mean stage).
Water-quality records.--Chemical data: Dec. 1991 to Aug. 1992, Jan. 1996 to Aug. 1996. Biochemical data: Dec. 1991 to Aug. 1992, Jan. 1996 to Aug. 1996. Pesticide data: Dec. 1991 to Aug. 1992, Jan. 1996 to Aug. 1996.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 605.26 ft above sea level. Jan. 26, 1915, to Feb. 27, 1916, nonrecording gage at site 1.3 mi upstream at different datum. Feb. 28, 1916, to Apr. 7, 1920, nonrecording gage at site 1.1 mi upstream at different datum. Apr. 8, 1920, to Nov. 16, 1929, Feb. 15, 1939, to Apr. 25, 1967, water-stage recorder in vicinity of South Alamo Street Bridge at datum 7.00 ft higher. Apr. 25, 1967, to May 13, 1969, water-stage recorder at site 307 ft downstream at same datum. May 14, 1969, to Apr. 26, 2000, site on left bank, 193 ft downstream from South Alamo Street bridge.

REMARKS.--Records fair. Since 1926, at least 10% of contributing drainage area has been regulated. Springs emerge intermittently from the Edwards and associated limestones along the Balcones Fault Zone upstream from station. Ground-water discharge into river is discussed by Petit and George, Texas Board of Water Engineers Bulletin 5608, vol. 1 (1956, p. 45).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1915-26).--Maximum discharge, 15,300 ft^3/s Sept. 10, 1921 (gage height 20.14 ft) at former site and datum, from rating curve extended above 2,000 ft^3/s on the basis of slope-area measurement of peak flow; minimum discharge, 5.10 ft^3/s July 12, 1925.

EXTREMES FOR PERIOD OF REGULATED FLOW.--Maximum discharge, 6,610 ft^3/s Oct. 17, 1998 (gage height 16.50 ft, from floodmark) at former site; prior to Oct. 1997, no flow at times due to regulation.

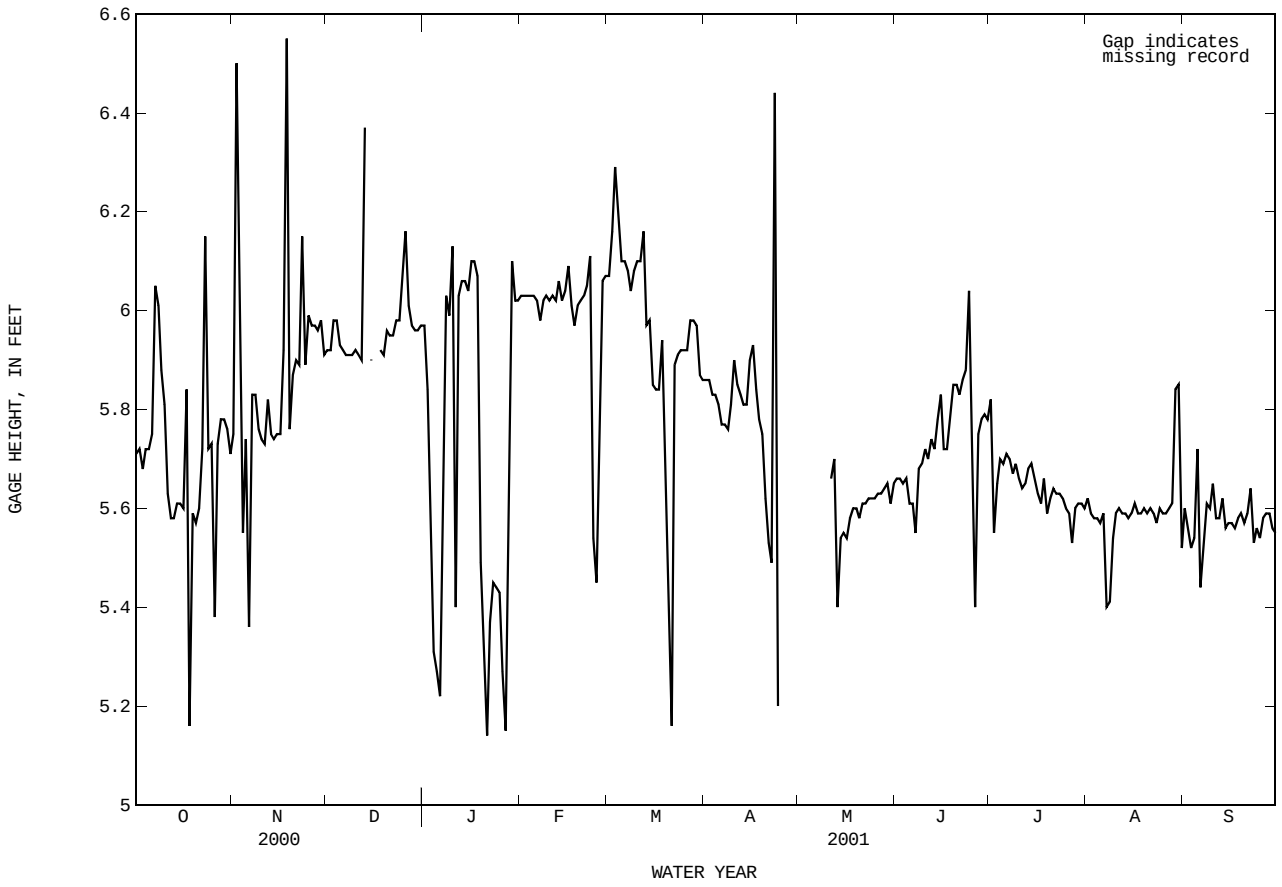
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 5, 1819, equaled or exceeded that of Sept. 10, 1921, from San Fernando Cathedral archives and old spanish records.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 12.10 ft, Apr. 23; minimum gage height, 4.52 ft, May 14.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.71	5.75	5.92	5.97	6.03	6.07	5.86	---	5.66	5.82	5.62	5.60
2	5.72	6.50	5.92	5.84	6.03	6.16	5.86	---	5.66	5.55	5.59	5.56
3	5.68	6.06	5.98	5.53	6.03	6.29	5.83	---	5.65	5.65	5.58	5.52
4	5.72	5.55	5.98	5.31	6.03	6.19	5.83	---	5.66	5.70	5.58	5.54
5	5.72	5.74	5.93	5.27	6.03	6.10	5.81	---	5.61	5.69	5.57	5.72
6	5.75	5.36	5.92	5.22	6.02	6.10	5.77	---	5.61	5.71	5.59	5.44
7	6.05	5.83	5.91	5.77	5.98	6.08	5.77	---	5.55	5.70	5.40	5.53
8	6.01	5.83	5.91	6.03	6.02	6.04	5.76	---	5.68	5.67	5.41	5.61
9	5.88	5.76	5.91	5.99	6.03	6.08	5.81	---	5.69	5.69	5.54	5.60
10	5.81	5.74	5.92	6.13	6.02	6.10	5.90	---	5.72	5.66	5.59	5.65
11	5.63	5.73	5.91	5.40	6.03	6.10	5.85	5.66	5.70	5.64	5.60	5.58
12	5.58	5.82	5.90	6.03	6.02	6.16	5.83	5.70	5.74	5.65	5.59	5.58
13	5.58	5.75	6.37	6.06	6.06	5.97	5.81	5.40	5.72	5.68	5.59	5.62
14	5.61	5.74	---	6.06	6.02	5.98	5.81	5.54	5.78	5.69	5.58	5.56
15	5.61	5.75	5.90	6.04	6.04	5.85	5.90	5.55	5.83	5.66	5.59	5.57
16	5.60	5.75	---	6.10	6.09	5.84	5.93	5.54	5.72	5.63	5.61	5.57
17	5.84	5.92	---	6.10	6.01	5.84	5.84	5.58	5.72	5.61	5.59	5.56
18	5.16	6.55	5.92	6.07	5.97	5.94	5.78	5.60	5.79	5.66	5.59	5.58
19	5.59	5.76	5.91	5.49	6.01	5.73	5.75	5.60	5.85	5.59	5.60	5.59
20	5.57	5.87	5.96	5.35	6.02	5.37	5.62	5.58	5.85	5.62	5.59	5.57
21	5.60	5.90	5.95	5.14	6.03	5.16	5.53	5.61	5.83	5.64	5.60	5.59
22	5.72	5.89	5.95	5.37	6.05	5.89	5.49	5.61	5.86	5.63	5.59	5.64
23	6.15	6.15	5.98	5.45	6.11	5.91	6.44	5.62	5.88	5.63	5.57	5.53
24	5.72	5.89	5.98	5.44	5.54	5.92	5.20	5.62	6.04	5.62	5.60	5.56
25	5.73	5.99	6.06	5.43	5.45	5.92	---	5.62	5.81	5.60	5.59	5.54
26	5.38	5.97	6.16	5.27	5.83	5.92	---	5.63	5.40	5.59	5.59	5.58
27	5.73	5.97	6.01	5.15	6.06	5.98	---	5.63	5.75	5.53	5.60	5.59
28	5.78	5.96	5.97	5.84	6.07	5.98	---	5.64	5.78	5.60	5.61	5.59
29	5.78	5.98	5.96	6.10	---	5.97	---	5.65	5.79	5.61	5.84	5.56
30	5.76	5.91	5.96	6.02	---	5.87	---	5.61	5.78	5.61	5.85	5.55
31	5.71	---	5.97	6.02	---	5.86	---	5.65	---	5.60	5.52	---
MEAN	5.71	5.88	5.97	5.71	5.99	5.95	5.79	5.60	5.74	5.64	5.59	5.58
MAX	6.15	6.55	6.37	6.13	6.11	6.29	6.44	5.70	6.04	5.82	5.85	5.72
MIN	5.16	5.36	5.90	5.14	5.45	5.16	5.20	5.40	5.40	5.53	5.40	5.44

08178000 San Antonio River at San Antonio, TX--Continued



08178050 San Antonio River at Mitchell Street, San Antonio, TX

LOCATION.--Lat 29°23'34", long 98°29'40", Bexar County, Hydrologic Unit 12100301, on left bank 15 ft upstream from Mitchell Street Bridge in San Antonio, 0.2 mi upstream from San Pedro Creek, and 228.7 mi upstream from mouth.

DRAINAGE AREA.--42.4 mi^2. At low-flow, flow of river comes from intermittent spring flow and from artesian wells.

PERIOD OF RECORD.--Oct. 1992 to current year.
Water-quality records.--Chemical data: Dec. 1991 to June 1999. Biochemical data: Dec. 1991 to June 1999. Pesticide data: Dec. 1991 to June 1999.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 585.07 ft above sea level. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Since installation of gage in Oct. 1992, at least 10% of contributing drainage area has been regulated. Springs emerge intermittently from the Edwards and associated limestones along the Balcones Fault Zone upstream from station. Ground-water discharge into river is discussed by Petit and George, Texas Board of Water Engineers Bulletin 5608, vol. 1 (1956, p. 45).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 5, 1819, equaled or exceeded that of Sept. 10, 1921, from San Fernando Cathedral archives and old spanish records.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	e15	52	59	86	76	96	62	27	87	19	866
2	16	e1200	49	63	87	101	97	63	20	11	16	548
3	17	e743	64	64	84	177	96	61	17	19	15	46
4	16	967	64	54	84	113	e118	72	13	14	18	18
5	16	432	52	50	83	86	e88	224	24	14	17	236
6	19	729	50	41	82	85	e88	81	19	16	44	488
7	156	58	50	32	78	85	87	126	7.8	14	9.4	32
8	257	60	49	62	82	82	88	81	10	11	8.6	36
9	299	41	50	58	86	79	80	71	7.1	16	12	42
10	83	36	51	159	83	81	77	72	11	11	13	40
11	22	34	49	93	82	84	70	71	12	9.6	16	36
12	17	58	48	71	80	102	74	114	10	11	16	35
13	16	35	e220	e68	85	86	78	76	6.6	12	16	41
14	19	32	e42	e71	67	141	77	81	2.1	12	18	35
15	19	32	44	e62	79	103	74	79	236	16	12	38
16	16	31	49	e87	125	89	78	72	8.2	14	16	38
17	e400	54	48	122	77	90	76	68	7.8	11	14	33
18	e21	709	44	105	72	136	79	66	9.8	12	15	37
19	17	65	46	119	77	113	81	66	12	15	16	34
20	17	41	48	94	77	106	85	62	11	12	14	29
21	20	40	47	84	76	72	74	58	6.0	12	15	30
22	34	38	46	93	75	73	72	55	6.4	11	17	272
23	253	199	52	90	84	97	177	50	12	15	14	57
24	215	535	53	88	92	98	133	48	706	20	16	40
25	39	57	84	86	79	99	66	44	105	17	14	32
26	12	52	131	82	72	98	65	40	13	24	15	35
27	8.4	51	68	67	77	106	67	e43	12	12	46	33
28	17	50	59	107	76	113	67	e44	10	17	84	32
29	17	55	57	131	---	105	66	e45	14	15	898	33
30	12	50	56	85	---	99	67	e39	14	16	1310	32
31	e11	---	60	83	---	97	---	34	---	14	945	---
TOTAL	2098.4	6499	1882	2530	2287	3072	2541	2168	1369.8	510.6	3699.0	3304
MEAN	67.7	217	60.7	81.6	81.7	99.1	84.7	69.9	45.7	16.5	119	110
MAX	400	1200	220	159	125	177	177	224	706	87	1310	866
MIN	8.4	15	42	32	67	72	65	34	2.1	9.6	8.6	18
AC-FT	4160	12890	3730	5020	4540	6090	5040	4300	2720	1010	7340	6550

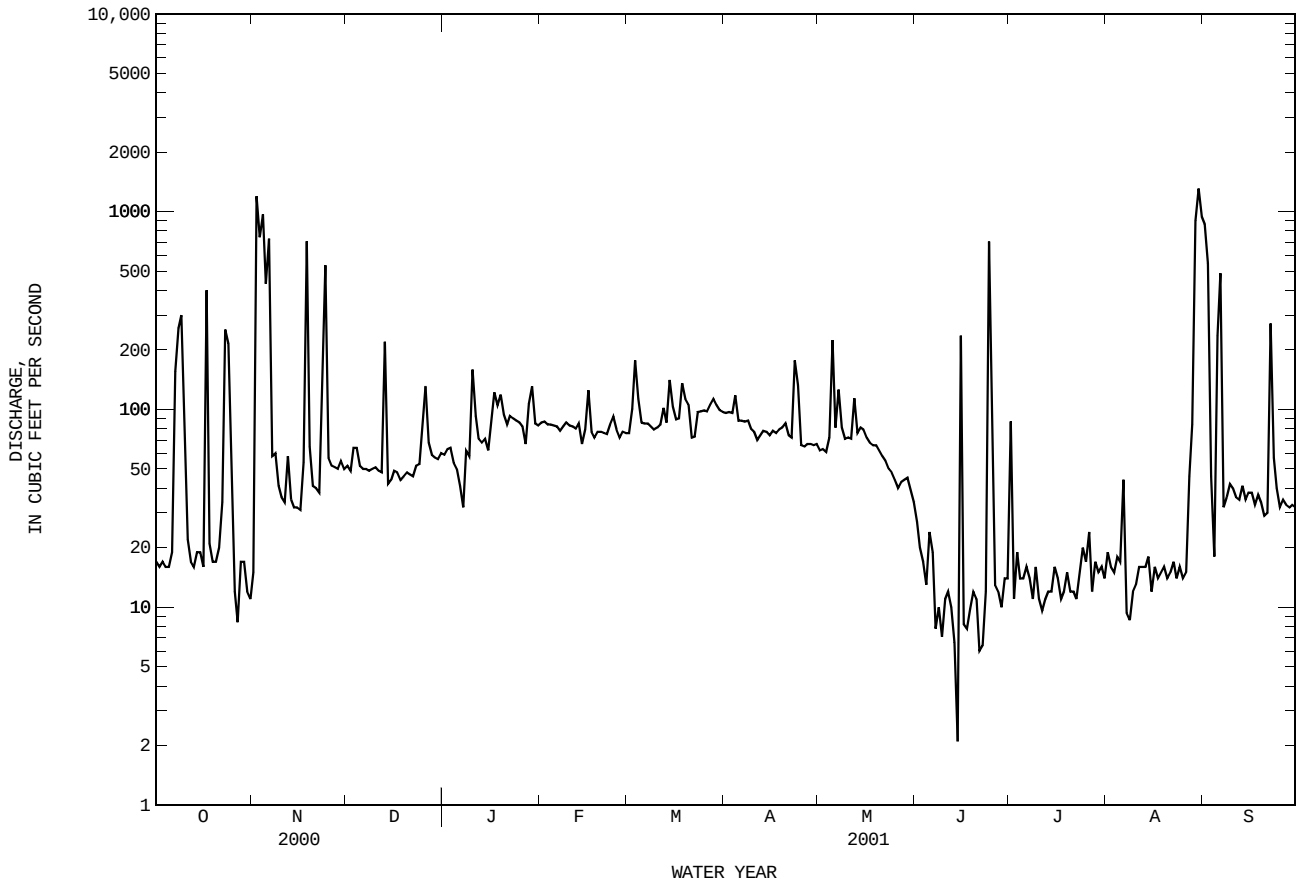
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2001, BY WATER YEAR (WY)

MEAN	84.1	85.7	66.9	64.8	66.3	72.8	58.0	94.1	79.7	29.7	40.3	40.9
MAX	229	217	209	185	209	172	149	369	228	115	119	110
(WY)	1999	2001	1993	1993	1993	1993	1993	1993	1993	1993	2001	2001
MIN	4.96	10.9	13.5	6.41	19.0	12.8	14.0	8.96	12.0	9.04	5.82	12.5
(WY)	1997	2000	1997	1997	1996	1996	1996	1998	1998	1998	1997	1999

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1993 - 2001	
ANNUAL TOTAL	20832.5		31960.8			
ANNUAL MEAN	56.9		87.6		65.2	
HIGHEST ANNUAL MEAN					172	1993
LOWEST ANNUAL MEAN					16.4	1996
HIGHEST DAILY MEAN	1200	Nov 2	1310	Aug 30	2750	Oct 17 1998
LOWEST DAILY MEAN	1.2	Jul 18	2.1	Jun 14	.61	Nov 8 1997
ANNUAL SEVEN-DAY MINIMUM	8.8	Jan 9	8.4	Jun 8	3.0	Jan 1 1997
MAXIMUM PEAK FLOW			9720	Nov 2	i14300	Oct 17 1998
MAXIMUM PEAK STAGE			10.76	Nov 2	a12.94	Oct 17 1998
ANNUAL RUNOFF (AC-FT)	41320		63390		47270	
10 PERCENT EXCEEDS	91		123		160	
50 PERCENT EXCEEDS	17		55		23	
90 PERCENT EXCEEDS	13		12		7.2	

e Estimated
i From indirect measurement of peak flow.
a From floodmark.

08178050 San Antonio River at Mitchell Street, San Antonio, TX--Continued



08178565 San Antonio River at Loop 410 at San Antonio, TX

LOCATION.--Lat 29°19'19", long 98°27'00", Bexar County, Hydrologic Unit 12100301, on right bank between westbound bridges on Interstate Highway 410 in San Antonio, 4.5 mi upstream from Salado Creek, and 222.3 mi upstream from mouth.

DRAINAGE AREA.--125 mi^2. At low-flow, flow of river comes from intermittent springflow and from artesian wells.

PERIOD OF RECORD.--Oct. 1986 to current year.
Water-quality records.--Chemical data: Dec. 1986 to Sept. 2000. Biochemical data: Mar. 1987 to Sept. 1998. Pesticide data: Dec. 1992 to Sept. 1998. Specific conductance: Dec. 1986 to Aug. 1988, Mar. 1993 to Sept. 2000. pH: Dec. 1986 to Aug. 1988, Mar. 1993 to Sept. 2000. Water temperature: Dec. 1986 to Aug. 1988, Mar. 1993 to Sept. 2000. Dissolved oxygen: Dec. 1986 to Aug. 1988, Mar. 1993 to Sept. 2000.

GAGE.--Water-stage recorder. Datum of gage is 488.11 ft above sea level. Dec. 20, 1986, to Aug. 15, 1989, at site 0.2 mi downstream at Camino Coahuilteca crossing at same datum. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Since installation of gage in water year 1987, at least 10% of contributing drainage area has been regulated.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e17	16	76	65	85	80	101	96	74	71	23	792
2	e16	2430	71	65	88	129	99	99	42	51	22	836
3	e15	1820	100	91	83	490	97	96	46	35	18	167
4	e14	723	114	57	83	151	95	102	38	24	27	76
5	e13	688	79	52	84	91	91	919	47	21	20	524
6	e12	859	72	54	83	86	87	137	32	28	21	827
7	e200	158	69	32	83	85	86	287	24	25	27	96
8	e300	166	66	60	85	140	85	117	25	24	11	78
9	e400	105	75	57	99	78	81	115	28	23	12	126
10	e150	94	84	895	83	85	79	113	30	23	13	87
11	e50	75	72	200	82	88	72	110	34	18	14	72
12	e30	115	64	99	82	115	82	215	26	21	18	72
13	e25	87	337	93	86	96	95	150	22	21	17	72
14	e25	68	60	96	76	368	94	115	16	20	10	69
15	e30	68	62	75	83	135	90	113	323	28	2.7	72
16	e30	69	69	149	240	93	92	108	29	18	5.0	70
17	e500	162	60	140	84	92	88	103	19	17	14	67
18	e30	1030	57	120	76	281	89	98	20	27	13	69
19	e25	155	56	182	76	138	87	97	18	24	14	68
20	e25	70	58	121	79	136	93	95	20	17	14	60
21	e30	59	55	78	81	95	85	90	14	21	14	58
22	e70	55	54	90	76	66	82	87	14	22	13	309
23	e400	236	64	82	98	103	2040	80	22	21	13	138
24	e300	845	65	82	110	104	395	79	554	28	11	88
25	e80	104	109	80	80	104	111	76	165	26	13	49
26	e20	86	253	79	73	103	105	73	27	20	13	50
27	13	81	93	121	80	110	105	68	19	23	40	49
28	29	78	69	213	81	127	103	65	18	25	142	45
29	29	81	66	306	---	115	101	60	23	25	1300	49
30	24	76	66	95	---	107	100	57	22	24	2290	47
31	16	---	66	87	---	104	---	88	---	22	1060	---
TOTAL	2918	10659	2661	4016	2499	4095	5010	4108	1791	793	5224.7	5182
MEAN	94.1	355	85.8	130	89.2	132	167	133	59.7	25.6	169	173
MAX	500	2430	337	895	240	490	2040	919	554	71	2290	836
MIN	12	16	54	32	73	66	72	57	14	17	2.7	45
AC-FT	5790	21140	5280	7970	4960	8120	9940	8150	3550	1570	10360	10280

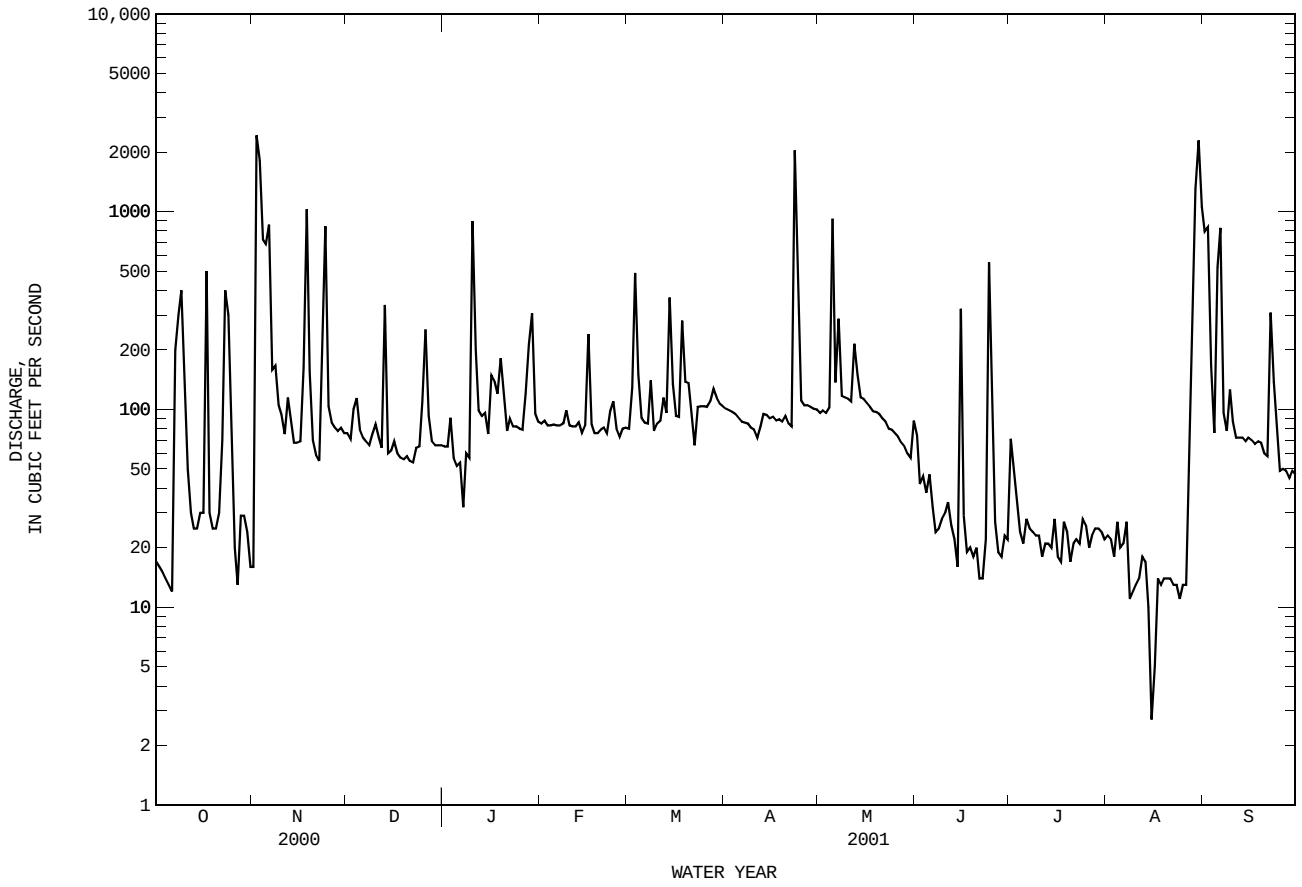
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2001, BY WATER YEAR (WY)

MEAN	156	108	132	107	130	124	122	214	177	120	78.9	88.5
MAX	1041	355	479	263	483	420	345	937	622	692	263	262
(WY)	1999	2001	1992	1993	1992	1992	1992	1992	1987	1990	1992	1992
MIN	10.5	15.2	19.6	12.2	29.3	18.2	25.8	12.5	15.6	12.0	15.1	25.6
(WY)	1997	2000	1991	1997	1996	1996	1996	1998	1998	1998	2000	1989

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1987 - 2001	
ANNUAL TOTAL	31635.6		48956.7			
ANNUAL MEAN	86.4		134		130	
HIGHEST ANNUAL MEAN					353	1992
LOWEST ANNUAL MEAN					30.6	1996
HIGHEST DAILY MEAN	2430	Nov 2	2430	Nov 2	16900	Oct 17 1998
LOWEST DAILY MEAN	1.8	Jul 19	2.7	Aug 15	1.8	Jul 19 2000
ANNUAL SEVEN-DAY MINIMUM	8.6	Jul 19	10	Aug 14	4.8	Jul 16 1996
MAXIMUM PEAK FLOW			26500	Nov 2	i79400	Oct 17 1998
MAXIMUM PEAK STAGE			24.64	Nov 2	a32.57	Oct 17 1998
ANNUAL RUNOFF (AC-FT)	62750		97110		94080	
10 PERCENT EXCEEDS	168		214		258	
50 PERCENT EXCEEDS	25		78		42	
90 PERCENT EXCEEDS	13		18		14	

e Estimated
i From indirect measurement of peak flow.
a From floodmark.

08178565 San Antonio River at Loop 410 at San Antonio, TX--Continued



08178585 Salado Creek at Wilderness Road at San Antonio, TX

LOCATION.--Lat 29°37'50", long 98°33'55", Bexar County, Hydrologic Unit 12100301, on right bank, upstream side of Wilderness Road, within Camp Bullis Military Reservation, 3.1 mi upstream of State Highway 1604.

DRAINAGE AREA.--23.0 mi^2. Since installation of the gage in Oct. 1997, the upper 17.0 mi^2 of drainage area is above Salado Creek flood control structures #1 and #2 and contributes runoff only during larger storm events.

PERIOD OF RECORD.--Oct. 1997 to current year.
Water-quality records.--Chemical data: Feb. 1998 to Sept. 1999. Biochemical data: Feb. 1998 to Sept. 1999. Pesticide data: Feb. 1998 to Sept. 1999.

GAGE.--Water-stage recorder. Elevation of gage is 1,030 ft above sea level, from topographic map. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. No known diversions. Since installation of gage in Oct. 1997, at least 10% of contributing drainage area has been regulated. No flow at times.

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

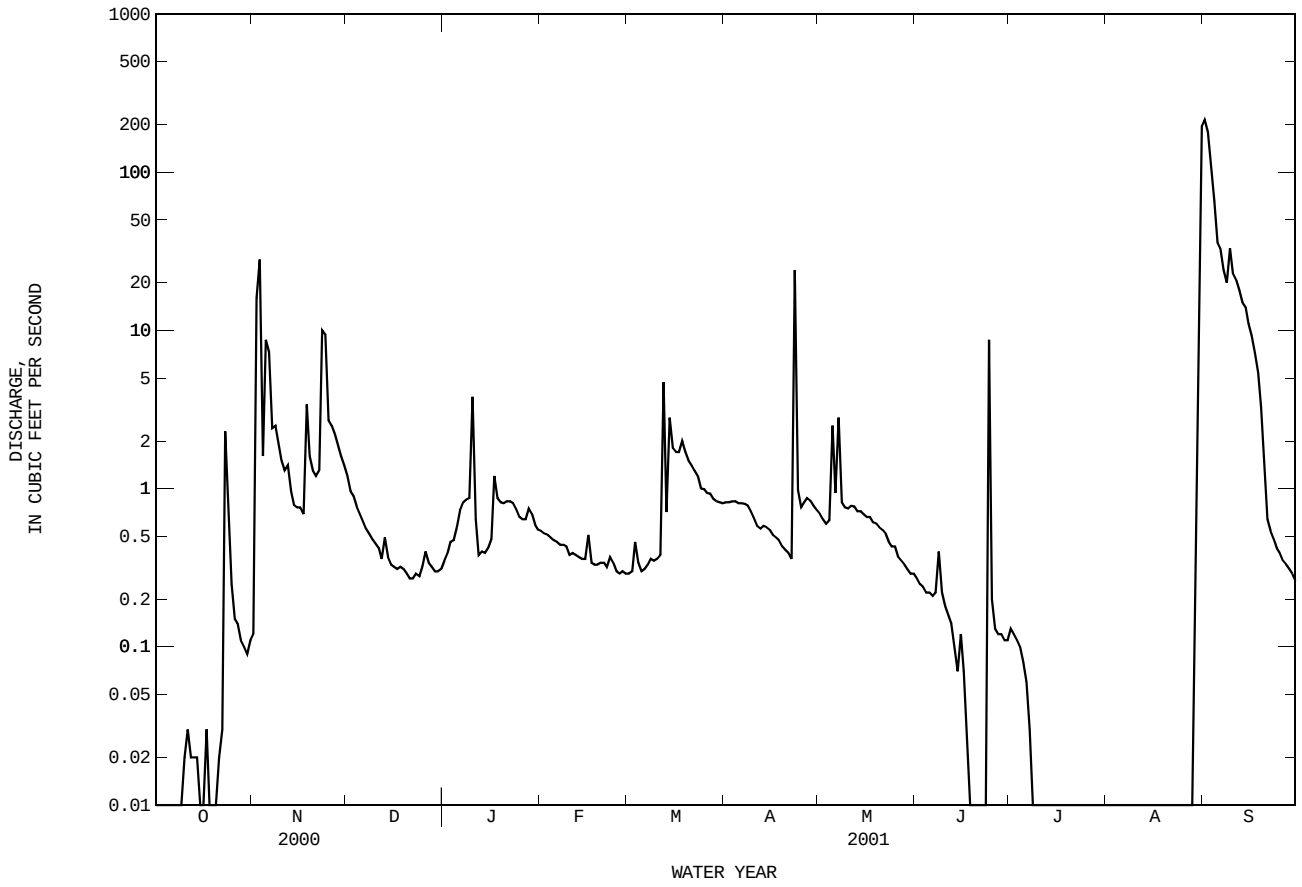
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.12	1.2	.35	.54	.29	.82	.69	.27	.13	.00	214
2	.00	16	.96	.39	.52	.30	.82	.64	.25	.12	.00	179
3	.00	28	.90	.46	.51	.46	.83	.60	.24	.11	.00	105
4	.00	1.6	.77	.47	.49	.34	.83	.63	.22	.10	.00	66
5	.00	8.7	.69	.57	.47	.30	.81	2.5	.22	.08	.00	36
6	.00	7.3	.62	.73	.46	.31	.81	.94	.21	.06	.00	33
7	.00	2.4	.56	.82	.44	.33	.80	2.8	.22	.03	.00	24
8	.00	2.5	.52	.85	.44	.36	.78	.82	.40	.00	.00	20
9	.00	1.9	.48	.87	.43	.35	.72	.76	.22	.00	.00	33
10	.02	1.5	.45	3.8	.38	.36	.65	.75	.18	.00	.00	23
11	.03	1.3	.42	.64	.39	.38	.58	.78	.16	.00	.00	21
12	.02	1.4	.36	.38	.38	4.7	.56	.77	.14	.00	.00	18
13	.02	.96	.49	.40	.37	.71	.58	.72	.10	.00	.00	15
14	.02	.79	.37	.39	.36	2.8	.57	.72	.07	.00	.00	14
15	.01	.76	.33	.42	.36	1.8	.55	.69	.12	.00	.00	11
16	.00	.76	.32	.48	.51	1.7	.51	.66	.07	.00	.00	9.2
17	.03	.69	.31	1.2	.34	1.7	.49	.66	.03	.00	.00	7.2
18	.00	3.4	.32	.87	.33	2.0	.47	.61	.00	.00	.00	5.4
19	.00	1.6	.31	.82	.33	1.7	.43	.60	.00	.00	.00	3.3
20	.00	1.3	.29	.81	.34	1.5	.41	.57	.00	.00	.00	1.5
21	.02	1.2	.27	.83	.34	1.4	.39	.55	.00	.00	.00	.64
22	.03	1.3	.27	.83	.32	1.3	.36	.52	.00	.00	.00	.54
23	2.3	10	.29	.81	.37	1.2	24	.46	.00	.00	.00	.48
24	.70	9.4	.28	.74	.34	1.0	.98	.43	8.7	.00	.00	.42
25	.25	2.7	.32	.66	.30	.99	.76	.43	.20	.00	.00	.39
26	.15	2.5	.40	.64	.29	.94	.82	.37	.13	.00	.00	.35
27	.14	2.2	.34	.64	.30	.93	.87	.35	.12	.00	.00	.33
28	.11	1.9	.32	.75	.29	.86	.84	.33	.12	.00	.00	.31
29	.10	1.6	.30	.69	---	.83	.78	.31	.11	.00	3.6	.29
30	.09	1.4	.30	.59	---	.82	.73	.29	.11	.00	28	.26
31	.11	---	.31	.55	---	.81	---	.29	---	.00	195	---
TOTAL	4.15	117.18	14.07	23.45	10.94	33.47	43.55	22.24	12.61	0.63	226.60	842.61
MEAN	.13	3.91	.45	.76	.39	1.08	1.45	.72	.42	.020	7.31	28.1
MAX	2.3	28	1.2	3.8	.54	4.7	24	2.8	8.7	.13	195	214
MIN	.00	.12	.27	.35	.29	.29	.36	.29	.00	.00	.00	.26
AC-FT	8.2	232	28	47	22	66	86	44	25	1.2	449	1670

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

MEAN	38.7	4.96	.12	.26	.21	.94	.40	.18	.11	.007	1.83	7.04
MAX	116	11.0	.45	.76	.45	2.66	1.45	.72	.42	.020	7.31	28.1
(WY)	1999	1999	2001	2001	1998	1998	2001	2001	2001	2001	2001	2001
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	2000	2000	1998	1999	1999	1999	1999	1999	1998	1998	1998	1998

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1998 - 2001	
ANNUAL TOTAL	137.21		1351.50			
ANNUAL MEAN	.37		3.70		4.81	
HIGHEST ANNUAL MEAN					10.7	1999
LOWEST ANNUAL MEAN					.005	2000
HIGHEST DAILY MEAN	28	Nov 3	214	Sep 1	653	Oct 18 1998
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Dec 1 1997
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Dec 1 1997
MAXIMUM PEAK FLOW			921	Aug 31	5000	Oct 18 1998
MAXIMUM PEAK STAGE			10.85	Aug 31	13.55	Oct 18 1998
ANNUAL RUNOFF (AC-FT)	272		2680		3490	
10 PERCENT EXCEEDS	.69		2.6		.83	
50 PERCENT EXCEEDS	.00		.40		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

08178585 Salado Creek at Wilderness Road at San Antonio, TX--Continued



08178625 Elm Waterhole Creek at Evans Road near San Antonio, TX

LOCATION.--Lat 29°38'52", long 98°24'40", Bexar County, Hydrologic Unit 12100301, at Evans Road, 0.8 mi east of Bulverde Road, and 3.2 mi north of State Highway 1604.

DRAINAGE.--6.74 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Nov. 2000 (discontinued).
BIOCHEMICAL DATA: Nov. 2000 (discontinued).
PESTICIDE DATA: Nov. 2000 (discontinued).

REMARKS.--Water-quality samples were collected for selected storm events.

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

DATE	TIME	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
NOV													
02...	1155	7.1	130	.078	.613	.621	.008	.089	.029	20	44	14000	6

DATE	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	CYANIDE TOTAL (MG/L AS CN) (00720)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)
NOV													
02...	E.03	9.9	<.06	<.04	<.8	.21	1.3	<.01	<.08	1.8	.2	.49	<1.0

DATE	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR-DANE, TECH-NICAL TOTAL (UG/L) (39350)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	LINDANE TOTAL (UG/L) (39340)	PHENOLS TOTAL (UG/L) (32730)	TOX-APHENE, TOTAL (UG/L) (39400)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)
NOV												
02...	<1	<1	<.001	<.1	<.002	<.002	<.002	<.002	<.001	<16	<1	.09

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08178627 Elm Waterhole Creek Tributary at San Antonio, TX

LOCATION.--Lat 29°38'47", long 98°24'23", Bexar County, Hydrologic Unit 12100301, on right bank upstream side of Evans Road, 0.4 mi upstream of Elm Waterhole Creek, 5.21 mi upstream of State Highway 1604.

PERIOD OF RECORD.--
CHEMICAL DATA: Apr. 2001.
BIOCHEMICAL DATA: Apr. 2001.
PESTICIDE DATA: Apr. 2001.

INSTRUMENTATION.--Water-stage recorder. Discharge-activated automatic sampler. Tipping bucket raingage at site. Satellite telemeter at station.

REMARKS.--Water-quality samples and associated discharge were collected for selected storm events.

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

DATE	TIME	STORM WATER FLOW (MGD) (81395)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOSPHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	PHOSPHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	ALUMINUM, DIS-SOLVED (UG/L AS AL) (01106)
APR 23-23	0900	1.4	.136	.684	.734	.050	.156	.051	34	85	11000	64000	12

DATE	ANTIMONY, DIS-SOLVED (UG/L AS SB) (01095)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYLLIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	CYANIDE TOTAL (MG/L AS CN) (00720)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)
APR 23-23	.11	9.8	<.06	<.04	<.8	.83	2.3	<.01	.13	9	21.2	.3	1.19

DATE	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)	ALDRIN, TOTAL (UG/L) (39330)	CHLORDANE, TECHNICAL TOTAL (UG/L) (39350)	DIELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	HEPTACHLOR EPOXIDE TOTAL (UG/L) (39420)	HEPTACHLOR, TOTAL (UG/L) (39410)	LINDANE TOTAL (UG/L) (39340)	PHENOLS TOTAL (UG/L) (32730)	TOXAPHENE, TOTAL (UG/L) (39400)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)
APR 23-23	<1.0	4	<1	<.001	<.1	<.001	<.002	<.001	<.002	<.001	<16	<1	.07

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08178700 Salado Creek at Loop 410 at San Antonio, TX

LOCATION.--Lat 29°30'57", long 98°25'51", Bexar County, Hydrologic Unit 12100301, on right bank at downstream side of eastbound bridge on Interstate Highway 410 in San Antonio, 1.0 mi west of Northeast School, 1.1 mi upstream from Perrin-Beitel Creek, and 2.7 mi east of San Antonio International Airport.

DRAINAGE AREA.--137 mi^2.

PERIOD OF RECORD.--Sept. 1960 to current year. Prior to Oct. 2000, published as "(Upper Station) at San Antonio".
Water-quality records.--Chemical data: Nov. 1968 to May 1999. Biochemical data: Nov. 1968 to May 1999. Pesticide data: Nov. 1971 to Sept. 1973.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 684.60 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good. Since water year 1973, at least 10% of contributing drainage area has been affected at times by discharge from the flood-detention pools of eleven floodwater-retarding structures. These structures control runoff from 74.6 mi^2 above this station. Some diversions for irrigation upstream from gage. No flow at times.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--12 years (water years 1961-72), 7.21 ft^3/s (5,220 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1961-72).--Maximum discharge, 24,900 ft^3/s May 12, 1972 (gage height, 15.22 ft), from rating curve extended above 8,000 ft^3/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1853, 23 to 24 ft in Oct. 1913. Flood in Sept. 1921 reached a stage of 18 ft, and flood of Sept. 27, 1946, reached a stage of 18.2 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.35	.15	.28	.17	.11	.18	.06	.51	.00	659
2	.00	259	.22	.14	.18	.28	.15	.17	.06	.16	.00	304
3	.02	1220	.36	.15	.20	16	.16	.17	.00	.13	.00	80
4	.02	50	.32	.16	.16	4.9	.17	1.3	.00	.12	.00	18
5	.00	69	.32	.14	.14	.80	.30	76	.00	.10	.00	27
6	.01	423	.24	.14	.14	.27	.39	24	.00	.10	.00	157
7	.25	19	.22	.14	.14	.18	.32	4.0	.00	.08	.00	12
8	9.3	6.8	.41	.14	.16	.16	.28	3.5	.00	.08	.00	2.5
9	20	1.8	.29	.14	.15	.13	.24	18	.00	.06	.00	1.4
10	10	.92	.24	150	.13	.13	.24	1.8	.00	.06	.00	.98
11	.41	.62	.23	37	.14	.14	.18	.54	.00	.04	.00	.73
12	.09	.43	.19	4.4	.14	.14	.14	.29	.00	.04	.00	.82
13	.04	.27	9.6	1.7	.15	.14	.14	.21	.00	.01	.00	.83
14	.03	.22	1.7	1.8	.17	11	.14	.18	.00	.01	.00	.66
15	.03	.21	.48	.61	.16	4.3	.14	.17	80	.05	.00	.48
16	.00	.34	.25	.57	3.5	.52	.13	.16	.89	.02	.00	.46
17	53	.44	.17	1.3	.63	.17	.11	.16	.13	.00	.00	.42
18	23	56	.25	1.2	.19	5.6	.11	.15	.08	.00	.00	.37
19	.69	33	.24	3.2	.15	3.7	.11	.16	.08	.00	.00	.38
20	.11	3.6	.24	.95	.14	.54	.11	.14	.07	.00	.00	.34
21	.09	1.0	.26	.50	.12	.22	.16	.16	.05	.00	.00	.35
22	1.4	.57	.24	.31	.12	.16	.18	.12	.02	.00	.00	e.29
23	1.9	24	.23	.24	.12	.14	91	.11	.00	.00	.00	.65
24	2.7	123	.25	.21	.14	.13	35	.10	415	.00	.00	2.5
25	.69	12	1.7	.17	.13	.13	3.2	.16	11	.00	.00	.79
26	.10	2.3	17	.16	.13	.16	.81	.11	.75	.00	.00	.37
27	.12	1.0	3.8	.18	.15	.16	.42	.10	.20	.00	.00	.40
28	.05	.67	.68	3.2	.16	.15	.28	.08	.14	.00	.02	.36
29	.01	.46	.32	12	---	.13	.22	.05	.14	.00	217	.33
30	.00	.36	.19	1.5	---	.12	.19	.01	.12	.00	1010	.25
31	.00	---	.16	.45	---	.13	---	.14	---	.00	306	---
TOTAL	124.06	2310.01	41.15	222.95	8.12	50.90	135.13	132.42	508.79	1.57	1533.02	1273.66
MEAN	4.00	77.0	1.33	7.19	.29	1.64	4.50	4.27	17.0	.051	49.5	42.5
MAX	53	1220	17	150	3.5	16	91	76	415	.51	1010	659
MIN	.00	.00	.16	.14	.12	.12	.11	.01	.00	.00	.00	.25
AC-FT	246	4580	82	442	16	101	268	263	1010	3.1	3040	2530

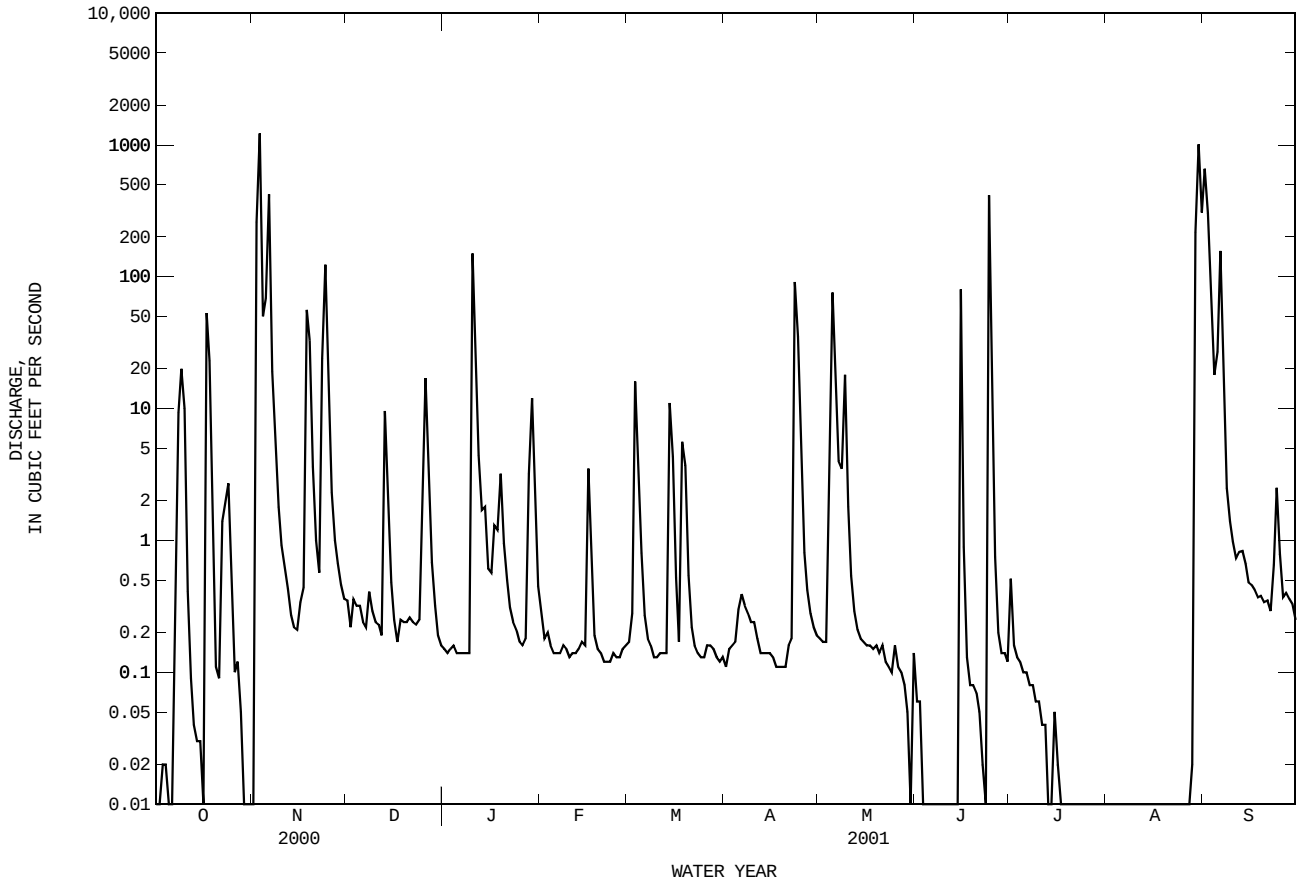
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2001z, BY WATER YEAR (WY)

MEAN	34.0	8.94	8.01	4.20	6.56	6.93	12.1	34.4	26.6	10.7	4.66	16.2
MAX	771	77.0	155	38.8	71.0	93.7	116	576	151	153	49.5	187
(WY)	1999	2001	1992	1992	1992	1992	1991	1993	1987	1973	2001	1973
MIN	.001	.006	.006	.000	.013	.007	.000	.006	.006	.000	.000	.011
(WY)	1992	2000	1996	1996	1996	2000	1984	1998	1984	1984	1986	1999

08178700 Salado Creek at Loop 410 at San Antonio, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1973 - 2001z	
ANNUAL TOTAL	3056.93		6341.78			
ANNUAL MEAN	8.35		17.4		14.5	
HIGHEST ANNUAL MEAN					66.9	1999
LOWEST ANNUAL MEAN					.52	1984
HIGHEST DAILY MEAN	1220	Nov 3	1220	Nov 3	11600	Oct 17 1998
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	May 30 1973
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 13	.00	Jun 3	.00	Mar 12 1976
MAXIMUM PEAK FLOW			7660	Nov 3	i64400	Oct 17 1998
MAXIMUM PEAK STAGE			10.30	Nov 3	a22.40	Oct 17 1998
ANNUAL RUNOFF (AC-FT)	6060		12580		10500	
10 PERCENT EXCEEDS	2.9		11		9.7	
50 PERCENT EXCEEDS	.00		.17		.60	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated
z Period of regulated flow.
i From indirect measurement of peak flow.
a From floodmark.



08178800 Salado Creek at Loop 13 at San Antonio, TX

LOCATION.--Lat 29°21′25", long 98°24′45", Bexar County, Hydrologic Unit 12100301, on right bank at upstream side of bridge on Loop 13 at San Antonio, 1.4 mi east of Brooks Air Force Base, and 3.3 mi upstream from Rosillo Creek.

DRAINAGE AREA.--189 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Sept. 1960 to current year. Prior to Oct. 2000, published as "(Lower Station) at San Antonio".

GAGE.--Water-stage recorder. Datum of gage is 526.95 ft above sea level. Satellite telemeter at station.

REMARKS.--Records fair. Since water year 1973, at least 10% of contributing drainage area has been regulated by eleven Natural Resource Conservation Service floodwater-retarding structures. Several small diversions above station. Most of low flow comes from artesian wells and springs within the city of San Antonio.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--12 years (water years 1961-72), 30.6 ft^3/s (22,170 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1961-72).--Maximum discharge, 7,120 ft^3/s May 12, 1972 (gage height, 24.53 ft); no flow Aug. 13, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Sept. 27, 1946, and Aug. 15, 1960, were about equal magnitude. Flood of Aug. 15, 1960, reached a stage of 26.8 ft, from floodmarks.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	4.4	13	11	14	11	13	12	13	7.8	1.4	1110
2	.85	e92	12	9.4	12	18	12	12	9.8	59	1.6	378
3	.55	e1660	11	8.8	11	122	12	11	6.8	23	1.8	253
4	.46	e331	18	8.7	10	124	12	11	5.5	10	1.5	77
5	.37	e115	15	8.7	11	37	12	275	5.3	8.4	2.9	63
6	.24	e510	12	8.3	11	21	12	117	5.8	6.7	2.3	671
7	4.3	115	13	8.5	10	16	11	46	5.8	6.4	1.3	83
8	127	97	13	8.1	10	17	12	26	8.7	5.3	1.6	40
9	194	61	13	7.7	11	44	12	18	7.1	5.9	1.5	28
10	123	25	13	242	11	16	11	23	6.2	5.1	1.4	19
11	30	17	12	305	9.6	15	10	18	5.5	4.9	1.2	16
12	9.5	14	12	50	10	17	11	21	4.3	4.9	1.3	14
13	6.2	35	81	24	10	18	12	107	3.9	4.5	1.0	12
14	4.6	20	55	20	10	50	12	20	4.5	4.4	1.0	11
15	3.9	12	21	17	10	132	11	14	e463	3.7	1.0	10
16	3.5	11	16	26	30	38	10	12	96	3.7	1.6	10
17	56	15	13	32	39	22	9.9	10	16	3.7	1.3	10
18	239	340	9.6	34	16	29	10	11	9.3	3.8	.95	9.9
19	35	263	9.0	54	11	87	9.6	9.7	7.3	3.5	.90	9.8
20	11	54	8.7	33	11	38	11	9.7	6.8	3.4	.99	9.3
21	7.2	23	8.2	16	10	23	11	9.7	6.3	3.0	1.4	9.6
22	9.0	14	7.9	12	11	18	11	8.9	5.3	3.6	.82	46
23	44	16	8.2	11	11	15	176	8.2	4.8	5.6	1.3	83
24	71	378	8.6	11	11	14	243	8.6	e556	7.1	1.1	27
25	22	91	14	12	11	13	60	9.2	110	3.3	1.2	15
26	10	35	145	9.6	9.6	12	29	8.2	34	2.5	1.1	10
27	6.8	21	107	9.6	10	13	19	7.7	16	1.8	1.5	8.6
28	5.0	17	30	17	11	18	15	7.2	12	2.1	2.1	8.3
29	4.1	15	16	144	---	16	14	6.6	9.5	3.0	302	7.8
30	3.6	13	12	59	---	15	13	7.1	8.4	2.7	1430	7.2
31	4.1	---	10	21	---	14	---	7.5	---	1.5	1590	---
TOTAL	1037.37	4414.4	737.2	1238.4	352.2	1043	816.5	872.3	1452.9	214.3	3361.06	3056.5
MEAN	33.5	147	23.8	39.9	12.6	33.6	27.2	28.1	48.4	6.91	108	102
MAX	239	1660	145	305	39	132	243	275	556	59	1590	1110
MIN	.24	4.4	7.9	7.7	9.6	11	9.6	6.6	3.9	1.5	.82	7.2
AC-FT	2060	8760	1460	2460	699	2070	1620	1730	2880	425	6670	6060

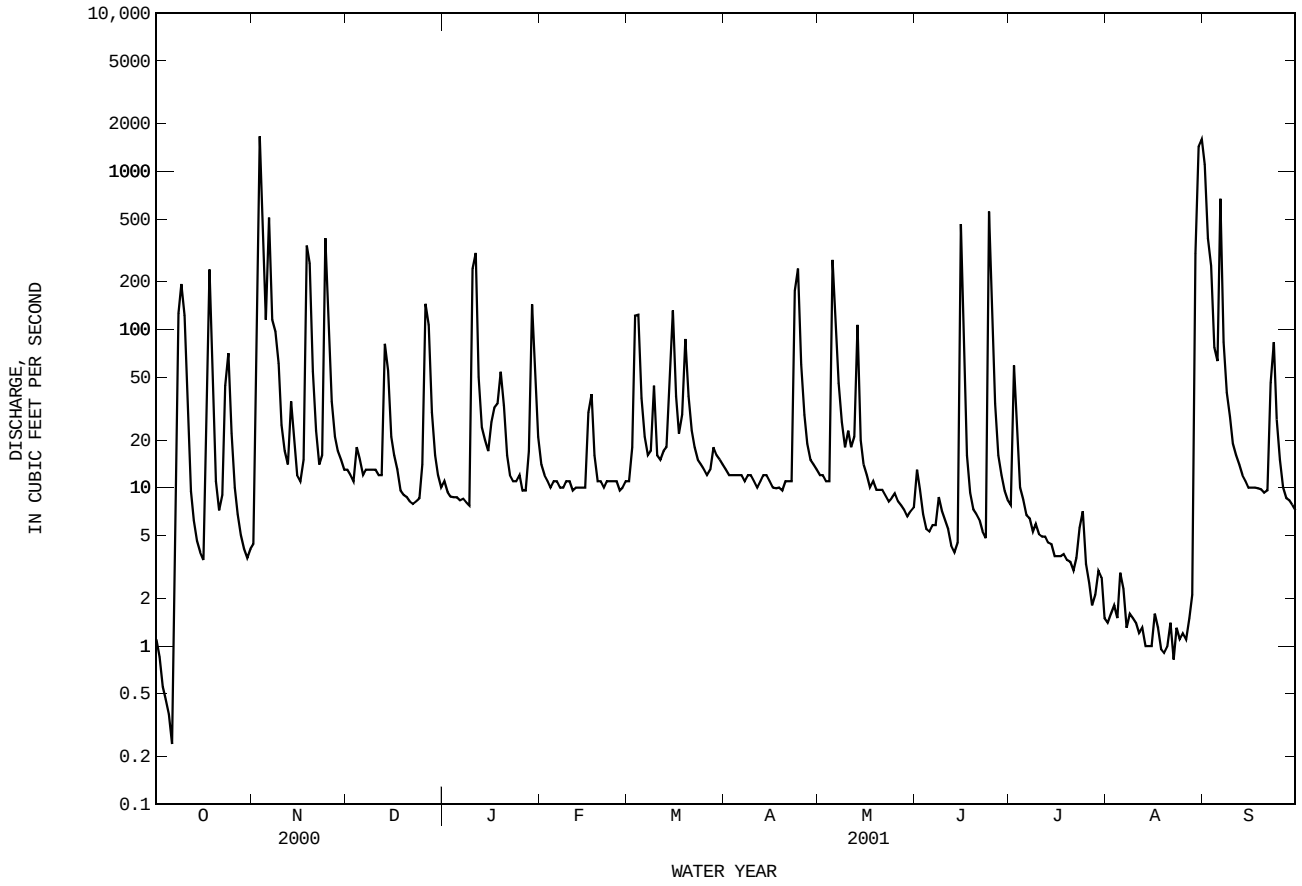
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2001z, BY WATER YEAR (WY)

MEAN	80.5	43.7	44.6	36.3	43.2	39.7	49.4	78.0	85.7	39.3	31.3	51.1
MAX	1161	147	376	136	285	206	188	337	349	234	176	400
(WY)	1999	2001	1992	1992	1992	1992	1977	1993	1987	1973	1974	1973
MIN	2.86	3.76	6.11	3.88	5.27	7.70	7.80	3.88	1.66	.55	.56	2.32
(WY)	1997	2000	2000	1997	1996	1996	1984	1998	1998	1998	2000	1999

08178800 Salado Creek at Loop 13 at San Antonio, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1973 - 2001z	
ANNUAL TOTAL	11026.90		18596.13			
ANNUAL MEAN	30.1		50.9		51.9	
HIGHEST ANNUAL MEAN					149	1992
LOWEST ANNUAL MEAN					9.96	1996
HIGHEST DAILY MEAN	1660	Nov 3	e1660	Nov 3	16900	Oct 18 1998
LOWEST DAILY MEAN	.21	Jul 20	.24	Oct 6	.02	Jul 29 1998
ANNUAL SEVEN-DAY MINIMUM	.24	Sep 1	1.1	Aug 18	.03	Jul 29 1998
MAXIMUM PEAK FLOW			4960	Aug 31	i47800	Oct 17 1998
MAXIMUM PEAK STAGE			20.23	Aug 31	a34.07	Oct 17 1998
ANNUAL RUNOFF (AC-FT)	21870		36890		37610	
10 PERCENT EXCEEDS	56		96		64	
50 PERCENT EXCEEDS	4.3		11		21	
90 PERCENT EXCEEDS	.30		2.4		5.1	

e Estimated
z Period of regulated streamflow.
i From indirect measurement of peak flow.
a From floodmark.



08178800 Salado Creek at Loop 13 at San Antonio, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Nov. 1968 to current year.
BIOCHEMICAL DATA: Nov. 1968 to Sept. 1998, Nov. 2000 to current year.
BIOLOGICAL DATA: May 1989 to Sept. 1995.
PESTICIDE DATA: Nov. 1968 to Sept. 1998, Nov. 2000 to current year.
SEDIMENT DATA: Oct. 1968 to Sept. 1973, Apr. 1996 to Sept. 1997, Nov. 2000 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Jan. 1987 to July 2000.
pH: Jan. 1987 to July 2000.
WATER TEMPERATURE: Jan. 1987 to July 2000.
DISSOLVED OXYGEN: Jan. 1987 to July 2000.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,290 microsiemens/cm, Aug. 23, 1994; minimum, 39 microsiemens/cm, Nov. 9, 1990.
pH: Maximum, 9.0 units, Apr. 26, 27, 1997; minimum, 7.0 units, Aug. 24, 1999.
WATER TEMPERATURE: Maximum, 31.0°C, July 17-20, 1988, July 30, 1993, July 17, 19, 1996; minimum, 0.0°C, Dec. 24, 1989.
DISSOLVED OXYGEN: Maximum, 16.7 mg/L, Jan. 27, 1988, Mar. 11, 1996; minimum, 0.6 mg/L, July 27, 1996.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
NOV													
28...	1130	17	8.7	87.6	6.9	600	16.5	51	223	73.9	9.37	4.20	1.11
JAN													
04...	1330	8.7	10.2	86.0	6.4	760	8.6	55	264	86.2	11.7	3.47	1.39
31...	1200	20	7.7	72.7	7.9	530	13.5	21	187	61.4	8.12	3.51	1.04
FEB													
27...	0915	10	6.7	71.8	8.2	920	19.5	24	292	87.6	17.9	7.31	1.63
APR													
03...	1130	13	6.5	71.2	7.8	980	20.5	39	325	103	16.4	3.34	1.62
MAY													
03...	1010	11	5.3	60.3	7.9	820	22.5	32	280	90.6	13.1	4.52	1.46
23...	1030	7.9	6.2	71.3	7.1	865	23.0	27	295	94.0	14.6	3.98	1.66
JUN													
27...	1200	16	5.5	68.4	7.5	460	26.0	15	165	55.1	6.61	4.60	.848
JUL													
18...	1100	3.7	--	--	7.8	760	28.5	4.9	248	80.3	11.6	3.42	1.62
AUG													
14...	1010	1.4	2.5	33.1	7.5	870	28.0	--	239	72.1	14.3	3.81	2.43
SEP													
25...	1330	15	5.1	60.8	7.6	570	23.0	24	216	69.5	10.3	3.76	.994

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
NOV													
28...	38.2	26.7	170	39.5	.2	12.1	59.0	365	342	<.041	.28	.38	.579
JAN													
04...	51.9	29.6	210	57.9	.3	9.9	75.0	459	425	E.022	.27	.34	.666
31...	32.6	27.1	170	35.1	.2	7.3	55.3	323	306	.053	.36	.49	.598
FEB													
27...	64.2	31.7	270	85.8	.5	11.9	78.3	540	555	.508	1.2	1.3	8.32
APR													
03...	67.0	30.7	290	70.5	.3	9.9	90.4	567	535	E.024	.27	.36	.661
MAY													
03...	56.2	30.0	250	60.9	.3	13.5	73.9	508	465	<.041	.30	.44	.626
23...	65.4	32.2	270	67.4	.3	14.7	79.2	537	503	E.040	.28	.39	.513
JUN													
27...	25.0	24.2	150	26.1	.2	10.9	37.4	279	258	<.040	.37	.48	.471
JUL													
18...	58.6	33.6	240	50.4	.2	11.0	54.5	456	417	<.040	.20	.32	--
AUG													
14...	86.2	43.5	250	82.1	.3	14.7	74.0	480	496	<.040	.15	.38	--
SEP													
25...	33.5	24.9	190	39.3	.3	10.3	50.6	344	335	<.040	.34	.93	.492

08178800 Salado Creek at Loop 13 at San Antonio, TX--Continued

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

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
NOV													
28...	.590	.011	--	--	.967	.178	.073	.058	.096	20	26.6	<.002	<.004
JAN													
04...	.673	.007	--	--	1.01	.067	.019	.022	.036	<10	30.3	<.002	<.004
31...	.612	.014	.308	.442	1.11	.089	.039	.029	.065	M	23.7	<.002	<.004
FEB													
27...	8.46	.139	.657	.790	9.76	2.09	.665	.680	.731	20	9.1	<.002	<.004
APR													
03...	.669	.008	--	--	1.03	.067	.031	.022	.042	<10	25.4	<.002	<.004
MAY													
03...	.639	.013	--	--	1.08	.169	.082	.055	.098	M	27.6	<.002	<.004
23...	.520	.007	--	--	.910	.205	.084	.067	.111	<10	21.4	<.002	<.004
JUN													
27...	.485	.014	--	--	.962	.187	.109	.061	.137	M	14.3	<.002	<.004
JUL													
18...	.125	E.003	--	--	.444	.064	.035	.021	.042	M	12.6	<.002	<.004
AUG													
14...	E.037	<.006	--	--	--	--	.025	E.013	.041	<10	24.4	<.002	<.004
SEP													
25...	.501	.009	--	--	1.43	.123	.068	.040	.089	M	17.8	<.002	<.004

DATE	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)
NOV													
28...	<.002	<.005	.219	<.010	<.002	E.010	<.020	<.005	<.018	<.003	E.013	.093	<.005
JAN													
04...	<.002	<.005	.075	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.015	E.019	<.005
31...	<.002	<.005	.076	<.010	<.002	<.041	<.020	<.005	<.018	<.003	E.009	.021	<.005
FEB													
27...	<.002	<.005	.069	<.010	<.002	<.041	<.020	<.005	<.018	<.003	E.011	.006	<.005
APR													
03...	<.010	<.005	.470	<.010	<.002	E.299	<.020	<.005	<.018	<.003	E.029	.052	<.005
MAY													
03...	<.002	<.005	.670	<.010	<.002	E.154	<.020	E.004	<.018	<.003	E.038	.086	<.005
23...	<.007	<.005	.112	<.010	<.002	E.043	<.050	<.005	<.018	<.003	E.018	.022	<.005
JUN													
27...	<.002	<.005	.222	<.010	<.002	E.022	<.020	<.005	<.018	<.003	E.007	.146	<.005
JUL													
18...	<.002	<.005	.026	<.010	<.002	<.041	<.020	<.005	<.018	<.003	E.005	.008	<.005
AUG													
14...	<.002	<.005	.008	<.010	<.002	<.041	<.020	<.005	<.018	<.003	E.009	<.005	<.005
SEP													
25...	<.002	<.005	.025	<.010	<.002	E.029	<.020	<.005	<.018	<.003	<.006	.042	<.005

DATE	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)
NOV													
28...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.030
JAN													
04...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002
31...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002
FEB													
27...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	E.005	<.006	<.002
APR													
03...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002
MAY													
03...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	E.002	<.006	<.002
23...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002
JUN													
27...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	E.005	<.050	<.006	<.013	<.006	<.002
JUL													
18...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	E.006	<.050	<.006	<.013	<.006	<.002
AUG													
14...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002
SEP													
25...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002

08178800 Salado Creek at Loop 13 at San Antonio, TX--Continued

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

DATE	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
NOV													
28...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	.018	<.004	<.010	<.011	<.023	.018
JAN													
04...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	.138	<.004	<.010	<.011	<.023	E.010
31...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	.018	<.004	<.010	<.011	<.023	.058
FEB													
27...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	.029	<.004	<.010	<.011	<.023	E.006
APR													
03...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	.045	<.004	<.010	<.011	<.023	E.007
MAY													
03...	<.007	<.003	<.007	<.002	E.012	<.006	<.011	.040	<.004	<.010	<.011	<.023	E.005
23...	<.007	<.003	<.007	<.002	E.015	<.006	<.011	E.048	<.004	<.010	<.011	<.023	<.011
JUN													
27...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	.019	<.004	<.010	<.011	<.023	<.011
JUL													
18...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	.032	<.004	<.010	<.011	<.023	<.011
AUG													
14...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	.050	<.004	<.010	<.011	<.023	<.011
SEP													
25...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	.052	<.004	<.010	<.011	<.023	<.011

DATE	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
NOV								
28...	.091	<.034	<.017	<.005	<.002	<.009	9	.41
JAN								
04...	.162	<.034	<.017	<.005	<.002	<.009	9	.21
31...	.060	<.034	<.017	<.005	<.002	<.009	13	.70
FEB								
27...	.142	<.034	<.017	<.005	<.002	<.009	48	1.3
APR								
03...	.227	<.034	<.017	<.005	<.002	<.009	52	1.8
MAY								
03...	.853	<.034	<.017	<.005	<.002	<.009	41	1.2
23...	3.32	<.034	<.017	<.005	<.002	<.009	57	1.2
JUN								
27...	.047	<.034	<.017	<.005	<.002	<.009	14	.60
JUL								
18...	.160	<.034	<.017	<.005	<.002	<.009	83	.83
AUG								
14...	.296	<.034	<.017	<.005	<.002	<.009	53	.20
SEP								
25...	.202	<.034	<.017	<.005	<.002	<.009	11	.45

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08178880 Medina River at Bandera, TX

LOCATION.--Lat 29°43'25", long 99°04'11", Bandera County, Hydrologic Unit 12100302, on left bank, 40 ft downstream from centerline of State Highway 173 at Bandera, 1.9 mi upstream from Bandera Creek, and 5.6 mi downstream from Indian Creek.

DRAINAGE AREA.--427 mi^2.

PERIOD OF RECORD.--Oct. 1982 to current year.
Water-quality records.--Chemical data: Jan. 1983 to Sept. 1993. Biochemical data: Jan. 1983 to Sept. 1993. Pesticide data: Jan. 1983 to Sept. 1993.

GAGE.--Water-stage recorder. Datum of gage is 1,189.46 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. No known regulation. There are several small diversions upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1880, 46.62 ft Aug. 2, 1978.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	205	283	179	248	244	242	185	151	52	15	46
2	1.6	196	268	174	239	241	238	180	143	52	15	42
3	1.5	2080	262	171	234	282	233	174	135	61	14	35
4	1.5	3590	264	167	230	315	225	187	127	75	14	32
5	1.4	1150	253	164	225	297	219	839	121	64	14	63
6	2.5	2820	246	162	223	285	215	472	120	55	12	1750
7	5.8	1150	232	163	218	280	207	373	116	51	11	517
8	11	967	226	158	217	280	203	331	113	49	11	259
9	18	774	218	152	214	281	196	307	112	46	11	189
10	21	661	213	333	202	271	190	288	113	43	11	157
11	19	584	208	344	200	268	185	272	107	40	10	137
12	17	535	196	289	200	448	181	261	102	39	10	123
13	15	478	199	282	209	368	178	331	97	37	9.1	114
14	14	441	191	276	216	366	179	295	94	36	8.7	105
15	14	422	190	263	206	351	177	268	93	34	8.5	98
16	14	407	183	263	547	329	185	255	92	33	8.0	94
17	25	383	172	292	339	320	203	242	90	31	7.9	90
18	47	458	170	288	295	321	215	234	84	30	8.3	87
19	58	488	162	277	283	321	190	226	80	28	11	83
20	51	e440	161	269	276	309	181	222	77	28	12	80
21	84	e400	157	264	272	300	175	239	73	27	10	77
22	62	377	152	257	268	292	170	213	72	25	8.6	86
23	6250	385	150	255	273	287	338	198	80	24	8.0	87
24	2750	380	147	252	279	283	370	189	85	22	7.7	81
25	748	350	150	249	259	273	287	185	83	21	7.6	75
26	e570	333	241	248	249	265	252	181	73	21	8.2	71
27	e430	321	260	244	250	271	230	181	67	20	18	69
28	329	313	221	248	252	279	214	174	60	19	26	67
29	282	303	199	286	---	265	201	168	57	18	42	65
30	251	293	188	277	---	255	191	161	54	17	39	63
31	225	---	183	258	---	248	---	155	---	16	62	---
TOTAL	12321.0	21684	6345	7504	7123	9195	6470	7986	2871	1114	458.6	4842
MEAN	397	723	205	242	254	297	216	258	95.7	35.9	14.8	161
MAX	6250	3590	283	344	547	448	370	839	151	75	62	1750
MIN	1.4	196	147	152	200	241	170	155	54	16	7.6	32
AC-FT	24440	43010	12590	14880	14130	18240	12830	15840	5690	2210	910	9600

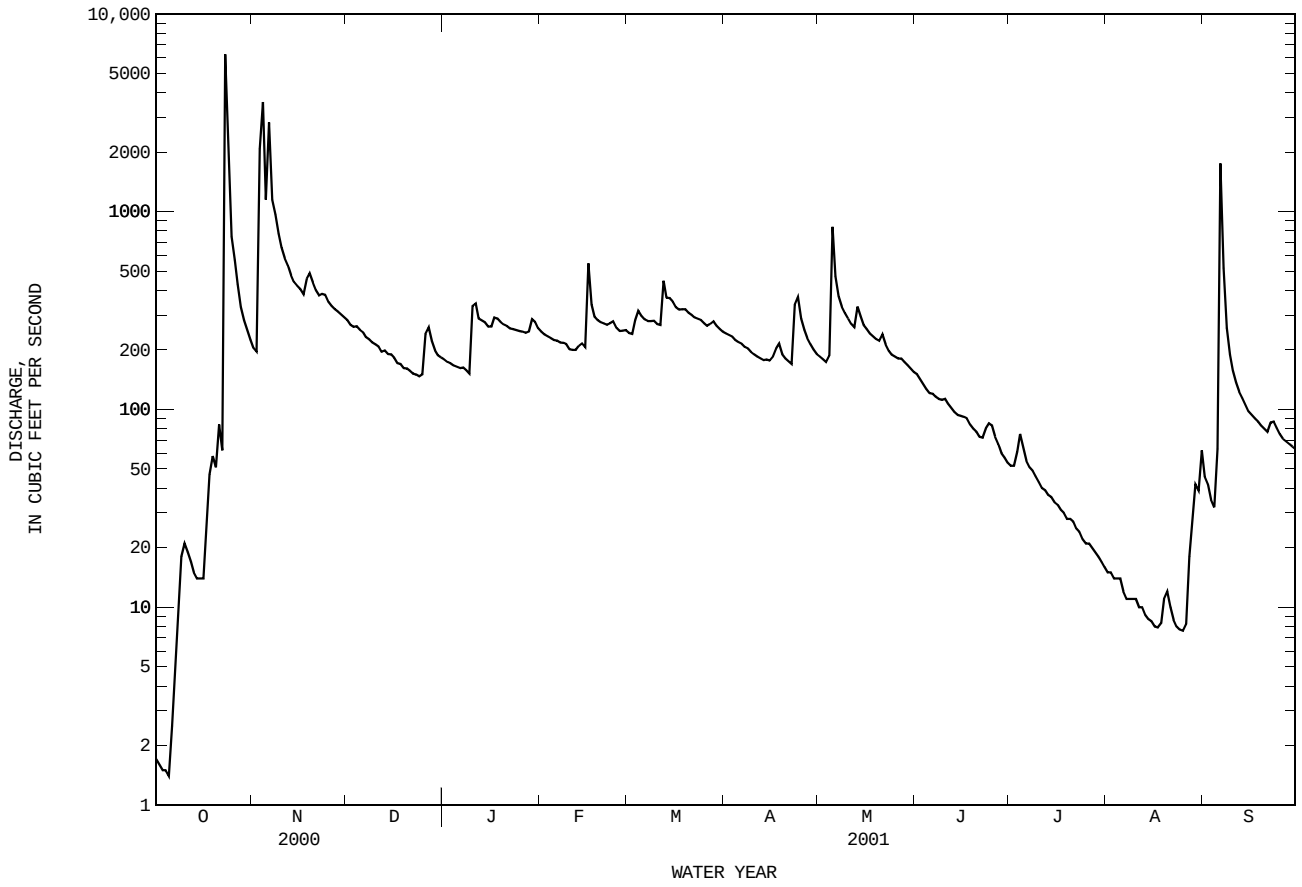
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2001, BY WATER YEAR (WY)

MEAN	118	127	161	133	138	165	130	166	317	119	56.3	72.3
MAX	630	723	1278	638	922	985	547	696	2785	440	221	249
(WY)	1987	2001	1992	1992	1992	1992	1992	1987	1987	1988	1998	1986
MIN	25.7	27.2	27.0	28.4	27.0	24.3	17.7	14.6	8.77	2.36	2.00	1.28
(WY)	1985	2000	1994	1990	2000	2000	2000	1996	1996	1996	1996	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1983 - 2001	
ANNUAL TOTAL	45006.81		87913.6			
ANNUAL MEAN	123		241		142	
HIGHEST ANNUAL MEAN					560	1987
LOWEST ANNUAL MEAN					20.3	2000
HIGHEST DAILY MEAN	6250	Oct 23	6250	Oct 23	16800	Jun 22 1997
LOWEST DAILY MEAN	.33	Sep 10	1.4	Oct 5	.00	Aug 4 1996
ANNUAL SEVEN-DAY MINIMUM	.38	Sep 6	2.3	Oct 1	.00	Aug 4 1996
MAXIMUM PEAK FLOW			c36200	Oct 23	c55800	Jun 3 1987
MAXIMUM PEAK STAGE			22.23	Oct 23	24.90	Jun 3 1987
ANNUAL RUNOFF (AC-FT)	89270		174400		102700	
10 PERCENT EXCEEDS	272		367		271	
50 PERCENT EXCEEDS	23		189		61	
90 PERCENT EXCEEDS	1.5		15		17	

e Estimated
c From rating curve extended above current-meter discharge measurement of 27,000 ft^3/s.

08178880 Medina River at Bandera, TX--Continued



08179500 Medina Lake near San Antonio, TX

LOCATION.--Lat 29°32'24", long 98°56'01", Medina County, Hydrologic Unit 12100302, at gate-operating platform, 576 ft from the left end of Medina Dam on Medina River, 4.2 mi upstream from Medina diversion dam, 13 mi north of Castroville, 28 mi west of San Antonio, and 70.4 mi from mouth.

DRAINAGE AREA.--634 mi^2.

PERIOD OF RECORD.--May. 1913 to Sept. 1994, Aug. 1997 to current year. Prior to Oct. 1965, end of month contents only from records provided by Bexar-Medina-Atascosa Counties Water Control and Improvement District No. 1.
Water-quality records.--Chemical data: Oct. 1969 to Sept. 1984.

REVISED RECORDS.--WSP 1923: 1953(M), Drainage area.

GAGE.--Water stage recorder. Datum of the gage is sea level. Prior to Oct. 1999, datum of gage was 7.81 ft higher. Satellite telemeter at station.

REMARKS.--Records fair. The lake is formed by a gravity-type concrete dam, 1,580 ft long. The dam was completed and storage began May 7, 1913. The uncontrolled spillway is a cut through natural rock 880 ft long, with a 3-foot wide cutoff wall, located near right end of dam. The dam and lake are owned and operated by Bexar-Medina-Atascosa Counties Water Control and Improvement District No. 1. Water is released downstream to Medina Diversion Lake where it is diverted into Medina Canal by the Water District. Capacity table based on survey made by the Texas Water Development Board, July 1995. Conservation pool storage is 254,843 acre-ft. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam	1,076.2
Crest of spillways	1,064.2
Water-supply outlet pipe (invert)	958.7
Lowest gated outlet (invert)	912.2

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 289,900 acre-ft May 29, 1987, elevation, 1070.4 ft; minimum contents, 780 acre-ft Apr. 11, 1948, elevation, 936.2 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 255,900 acre-ft, May 29, 30, 31, elevation, 1,064.37 ft; minimum contents, 103,400 acre-ft, Oct. 16, 17, elevation, 1,031.59 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

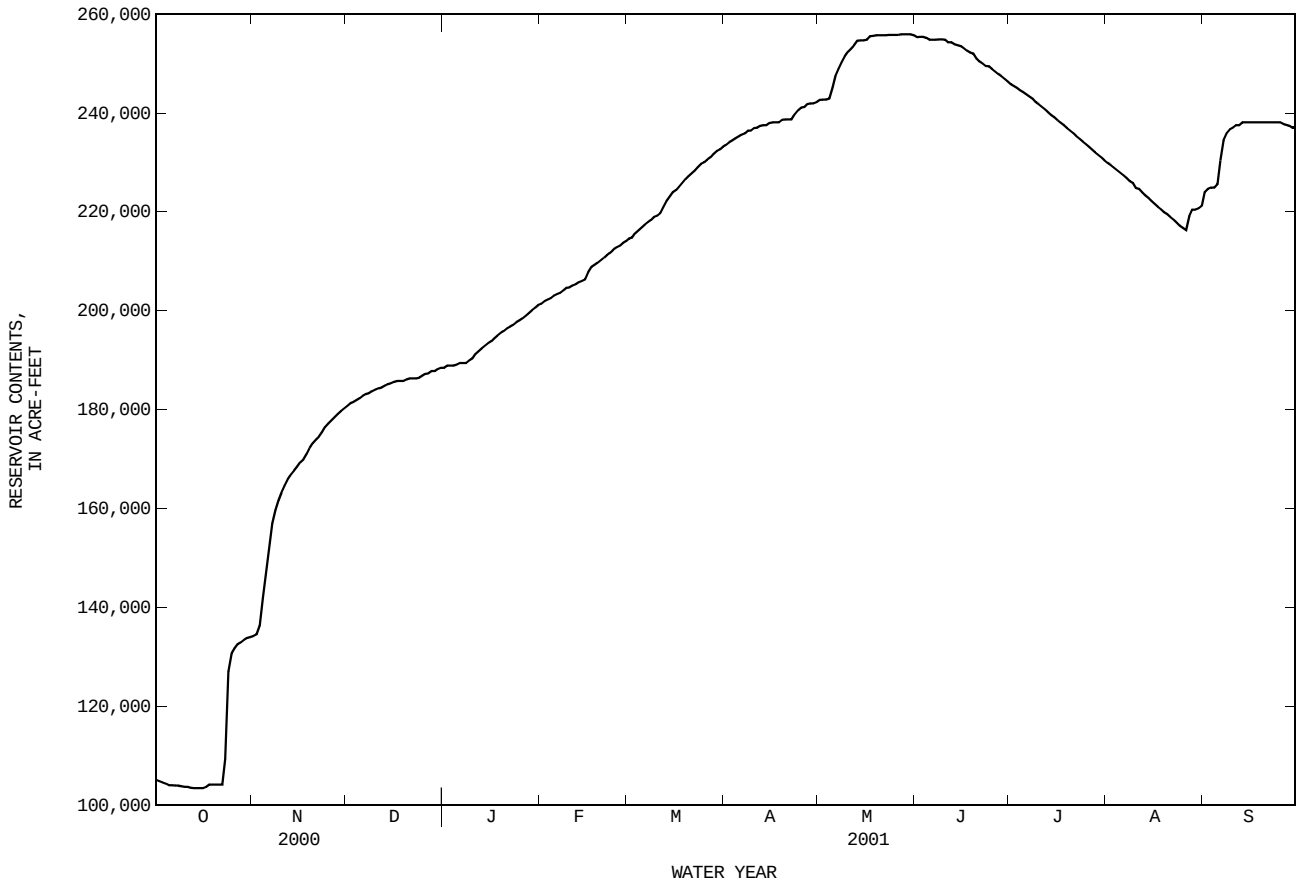
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105000	134200	180700	188400	201400	214600	233500	242600	255300	245800	229900	224000
2	104800	134500	181300	188900	201900	214800	234000	242700	255400	245400	229400	224600
3	104500	136300	181500	188900	202200	215600	234400	242700	255400	245000	228900	224900
4	104300	142000	181900	188900	202500	216200	234800	242900	255200	244600	228400	224900
5	104000	146400	182300	189100	203000	216800	235200	245100	254800	244200	227900	225600
6	e104000	152000	182800	189400	203300	217400	235600	247400	254800	243700	227400	230400
7	e103900	156900	183100	189400	203600	217900	235800	248900	254800	243300	226800	234500
8	e103900	159600	183300	189400	204100	218300	236400	250300	254900	242800	226200	235900
9	e103800	161700	183700	189900	204600	218900	236400	251500	254900	242200	225800	236700
10	e103700	163200	184000	190300	204700	219200	236900	252400	254800	241700	224800	237000
11	103700	164600	184300	191300	205100	219700	237000	253000	254300	241200	224600	237500
12	103500	165900	184400	191800	205300	221000	237400	253700	254300	240700	223900	237500
13	103400	166900	184800	192400	205700	222100	237500	254600	253900	240100	223300	238100
14	103400	167600	185100	192900	206000	223000	237500	254700	253700	239500	222800	238100
15	103400	168400	185300	193400	206300	223900	238000	254700	253500	239100	222200	238100
16	103400	169300	185600	193800	207800	224400	238100	254800	253100	238500	221600	238100
17	103700	169900	185800	194400	208800	225000	238100	255500	252600	238000	221000	238100
18	104100	171000	185800	195000	209200	225800	238100	255600	252200	237500	220500	238100
19	104100	172200	185800	195500	209700	226600	238600	255700	252000	236900	219900	238100
20	104100	173200	186100	195900	210200	227200	238700	255700	251000	236400	219500	238100
21	104100	173900	186300	196400	210700	227800	238700	255700	250400	235900	218900	238100
22	104100	174600	186300	196700	211200	228300	238700	255700	250000	235300	218400	238100
23	109300	175400	186300	197100	211700	229000	239700	255800	249500	234800	217800	238100
24	127000	176500	186400	197600	212300	229700	240500	255800	249400	234200	217200	238100
25	130600	177200	186800	198000	212800	230000	241100	255800	248900	233700	216700	238100
26	131700	177900	187200	198400	213100	230500	241200	255800	248400	233100	216300	237800
27	132500	178500	187300	198900	213600	231000	241800	255900	247900	232600	219100	237600
28	132900	179100	187800	199500	214000	231700	241900	255900	247400	232000	220400	237400
29	133400	179700	187800	200100	---	232300	241900	255900	246900	231500	220400	237000
30	133800	180200	188200	200600	---	232600	242200	255900	246400	231000	220700	237000
31	134000	---	188400	201100	---	233100	---	255700	---	230400	221200	---
TOTAL	3452100	4948800	5736400	6013400	5804800	6944400	7139700	7828400	7566100	7391100	6901900	7055600
MEAN	111400	165000	185000	194000	207300	224000	238000	252500	252200	238400	222600	235200
MAX	134000	180200	188400	201100	214000	233100	242200	255900	255400	245800	229900	238100
MIN	103400	134200	180700	188400	201400	214600	233500	242600	246400	230400	216300	224000
(+)	1040.4	1050.7	1052.3	1054.7	1057.1	1060.5	1062.1	1064.3	1062.8	1060.1	1058.4	1061.2
(@)	+28600	+46200	+8200	+12700	+12900	+19100	+9100	+13500	-9300	-16000	-9200	+15800

CAL YR 2000 MAX 200000 MIN 103400 (@) -11900
WTR YR 2001 MAX 255900 MIN 103400 (@) +131600

e Estimated

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

08179500 Medina Lake near San Antonio, TX--Continued



08180000 Medina Canal near Riomedina, TX

LOCATION.--Lat 29°30'19", long 98°54'11", Medina County, Hydrologic Unit 12100302, on left bank of canal, 350 ft downstream from county highway bridge, 1,900 ft downstream from head of canal and Medina Diversion Dam, 4.6 mi downstream from Medina Dam, 4.7 mi north of Riomedina, and 25.0 mi northwest of San Antonio.

PERIOD OF RECORD.--Mar. 1922 to May 1934, July 1957 to Sept. 1993, Feb. 2001 to current year.

REVISED RECORDS.--WSP 568: 1922. WSP 1712: 1922(M), 1924, 1926.

GAGE.--Water-stage recorder. Datum of gage is 910 ft above sea level. Satellite telemeter at station.

REMARKS.--Records fair. Station is above all diversions from canal. Canal diverts water from right end of Medina Diversion Dam 1,900 ft upstream from gage. Water is used for irrigation downstream near LaCoste and Natalia. Prior to Nov. 1984, double-barrel flume 54 ft downstream from gage. No flow at times.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	.00	.00	.00	116	167	143	.00
2	---	---	---	---	---	.00	.00	.00	115	169	161	.00
3	---	---	---	---	---	.00	.00	.00	114	160	151	.00
4	---	---	---	---	---	.00	22	.00	111	141	141	.00
5	---	---	---	---	---	.00	36	.00	123	146	133	.00
6	---	---	---	---	---	e.00	35	.00	130	154	133	.00
7	---	---	---	---	---	e.00	34	.00	143	165	141	.00
8	---	---	---	---	---	e.00	34	.00	144	165	149	.00
9	---	---	---	---	---	e.00	34	.00	126	164	148	.00
10	---	---	---	---	---	e.00	33	.00	114	166	149	.00
11	---	---	---	---	---	e.00	33	.00	119	166	148	.00
12	---	---	---	---	---	e.00	32	.00	129	165	147	.00
13	---	---	---	---	---	e.00	32	.00	136	165	151	.00
14	---	---	---	---	---	e.00	33	.00	150	165	155	.00
15	---	---	---	---	---	.00	33	.00	167	163	150	.00
16	---	---	---	---	---	.00	33	22	166	156	153	.00
17	---	---	---	---	---	.00	34	36	168	156	149	.00
18	---	---	---	---	---	.00	32	35	166	156	147	8.1
19	---	---	---	---	---	.00	32	35	164	154	153	21
20	---	---	---	---	---	.00	31	35	162	153	157	21
21	---	---	---	---	---	.00	32	48	163	150	157	21
22	---	---	---	---	---	.00	31	70	164	107	160	21
23	---	---	---	---	---	.00	22	99	164	41	143	21
24	---	---	---	---	---	.00	.00	122	166	21	131	32
25	---	---	---	---	---	.00	.00	107	166	7.2	124	61
26	---	---	---	---	e.00	.00	.00	89	169	.15	133	86
27	---	---	---	---	.00	.00	.00	89	168	2.0	146	86
28	---	---	---	---	.00	.00	.00	89	169	1.2	110	87
29	---	---	---	---	---	.00	.00	99	169	.00	39	86
30	---	---	---	---	---	.00	.00	111	170	80	.00	85
31	---	---	---	---	---	.00	---	115	---	122	.00	---
TOTAL	---	---	---	---	---	0.00	638.00	1201.00	4431	3727.55	4102.00	636.10
MEAN	---	---	---	---	---	.000	21.3	38.7	148	120	132	21.2
MAX	---	---	---	---	---	.00	36	122	170	169	161	87
MIN	---	---	---	---	---	.00	.00	.00	111	.00	.00	.00
AC-FT	---	---	---	---	---	.00	1270	2380	8790	7390	8140	1260

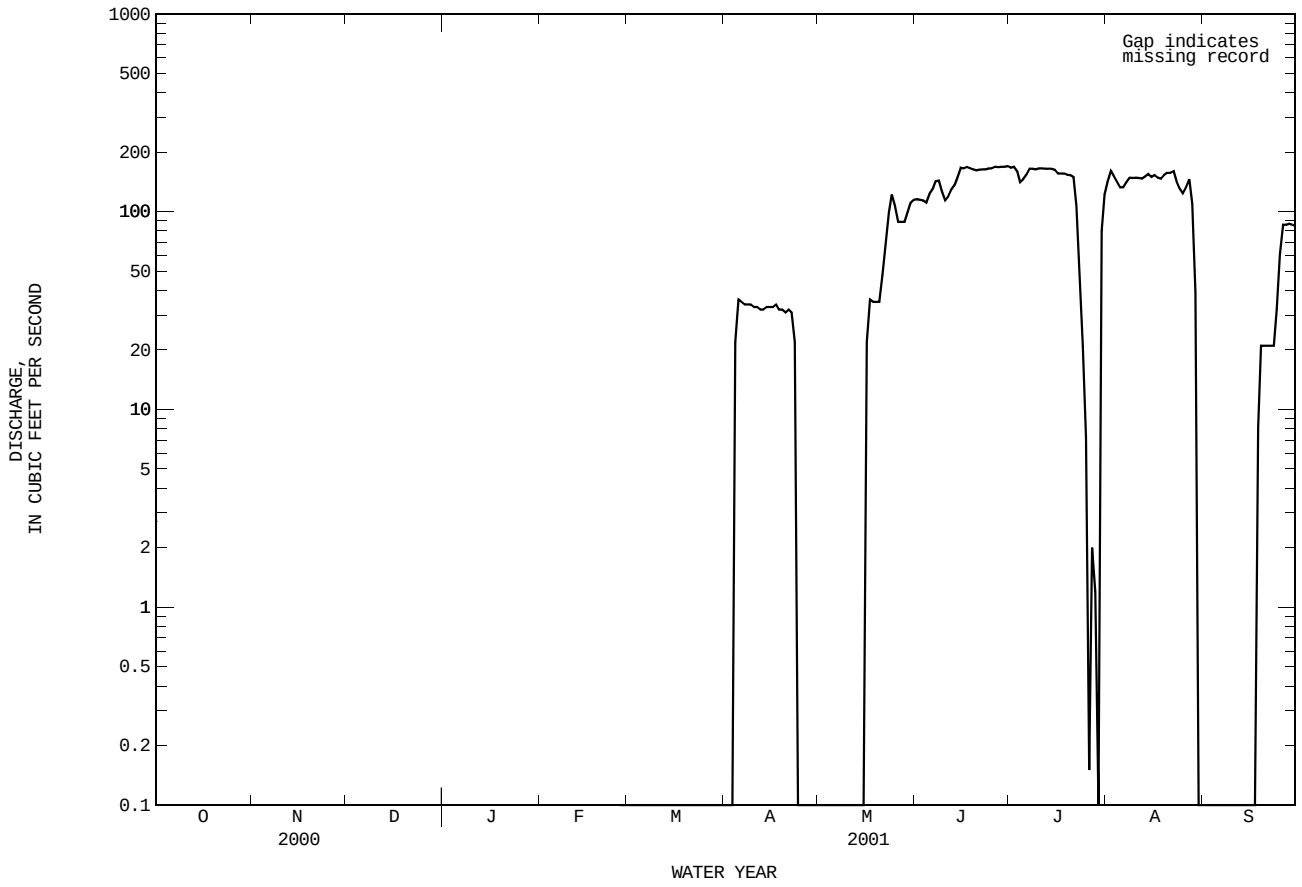
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2001h, BY WATER YEAR (WY)

MEAN	38.5	23.6	19.4	18.0	20.0	34.8	43.7	51.7	81.3	80.8	76.7	47.6
MAX	105	65.3	61.5	65.6	83.0	95.4	131	157	163	179	149	132
(WY)	1990	1989	1989	1971	1971	1971	1972	1971	1990	1978	1989	1989
MIN	1.77	.000	.000	.000	2.04	.000	2.82	3.33	14.2	19.6	16.8	.000
(WY)	1974	1990	1985	1985	1968	2001	1992	1975	1986	1973	1971	1925

SUMMARY STATISTICS	FOR 2001 WATER YEAR		WATER YEARS 1922 - 2001h		
ANNUAL MEAN			44.9		
HIGHEST ANNUAL MEAN			95.2		1989
LOWEST ANNUAL MEAN			14.8		1926
HIGHEST DAILY MEAN	170	Jun 30	216	May 6	1971
LOWEST DAILY MEAN	.00	Feb 26	.00	Nov 1	1922
ANNUAL SEVEN-DAY MINIMUM	.00	Feb 26	.00	Nov 1	1922
ANNUAL RUNOFF (AC-FT)	32540				
10 PERCENT EXCEEDS	164		112		
50 PERCENT EXCEEDS	34		33		
90 PERCENT EXCEEDS	.00		.00		

e Estimated
h See PERIOD OF RECORD paragraph.

08180000 Medina Canal near Riomedina, TX--Continued



08180500 Medina River at Riomedina, TX

LOCATION.--Lat 29°29'49", long 98°54'20", Medina County, Hydrologic Unit 12100302, on left bank at bridge at Haby's Crossing, 0.9 mi downstream from Bexar-Medina-Atascosa Counties Water Control and Improvement District No. 1 Diversion Dam, 4.2 mi northwest of Riomedina, 10.0 mi north of Castroville, 10.4 mi upstream from San Geronimo Creek, and 66.4 mi upstream from mouth.

DRAINAGE AREA.--650 mi^2, of which 634 mi^2 is above dam forming Medina Lake.

PERIOD OF RECORD.--Jan. 1922 to Sept. 1934 (daily record of flow over dam and monthly or annual record of seepage under dam), Jan. 1953 to Sept. 1973, Jan. 2001 to current year.

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 858.28 ft above sea level. Prior to Sept. 30, 1934, water-stage recorder at upstream side of Medina Diversion Dam 0.9 mi upstream at different datum. Jan. 1953 to July 15, 1973, water-stage recorder on left bank 233 ft upstream from bridge at Haby's Crossing at different datum. July 27, 1973 to Sept. 30, 1973, nonrecording gage on left bank 233 ft upstream from bridge at Haby's Crossing at different datum. Satellite telemeter at station.

REMARKS.--Records fair. Since installation of gage in water year 1922, at least 10% of contributing drainage area has been regulated. A large part of the streamflow is lost into the Edwards and associated limestones where the Balcones Fault crosses the basin between the upstream end of Medina Lake and about 5 mi downstream from Medina Dam, or 0.9 mi downstream from Medina Diversion Dam. There are several small diversions below Medina Diversion Lake.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	78	74	80	92	42	40	32	177
2	---	---	---	---	77	77	76	92	42	40	32	168
3	---	---	---	---	77	82	75	93	43	40	32	157
4	---	---	---	---	81	80	60	102	43	39	34	142
5	---	---	---	---	82	77	39	116	43	38	38	232
6	---	---	---	---	85	77	39	108	42	37	33	226
7	---	---	---	---	87	74	41	114	41	37	32	189
8	---	---	---	---	88	73	41	134	40	37	33	181
9	---	---	---	---	87	73	42	118	39	38	33	171
10	---	---	---	---	81	73	41	113	38	38	33	165
11	---	---	---	---	82	75	42	112	37	37	33	158
12	---	---	---	---	84	80	38	110	35	37	37	144
13	---	---	---	---	87	76	40	110	34	38	43	139
14	---	---	---	---	86	83	41	107	35	38	44	138
15	---	---	---	---	88	81	48	110	37	38	44	136
16	---	---	---	---	96	75	50	95	38	39	42	135
17	---	---	---	---	81	75	51	82	37	39	33	133
18	---	---	---	---	83	82	43	102	39	39	31	128
19	---	---	---	e76	85	82	46	129	38	38	31	112
20	---	---	---	74	86	83	48	148	36	39	31	111
21	---	---	---	77	86	84	47	165	37	39	31	111
22	---	---	---	78	83	82	46	146	39	40	31	112
23	---	---	---	78	85	82	69	112	38	41	30	111
24	---	---	---	85	87	80	90	74	40	42	30	99
25	---	---	---	79	84	75	88	75	38	41	33	76
26	---	---	---	81	80	76	89	97	39	41	44	46
27	---	---	---	81	78	78	90	92	39	37	47	47
28	---	---	---	85	78	78	93	80	39	33	48	46
29	---	---	---	79	---	80	93	65	40	e31	47	45
30	---	---	---	79	---	80	92	45	40	e35	58	44
31	---	---	---	77	---	81	---	43	---	32	192	---
TOTAL	---	---	---	---	2342	2428	1778	3181	1168	1178	1292	3879
MEAN	---	---	---	---	83.6	78.3	59.3	103	38.9	38.0	41.7	129
MAX	---	---	---	---	96	84	93	165	43	42	192	232
MIN	---	---	---	---	77	73	38	43	34	31	30	44
AC-FT	---	---	---	---	4650	4820	3530	6310	2320	2340	2560	7690

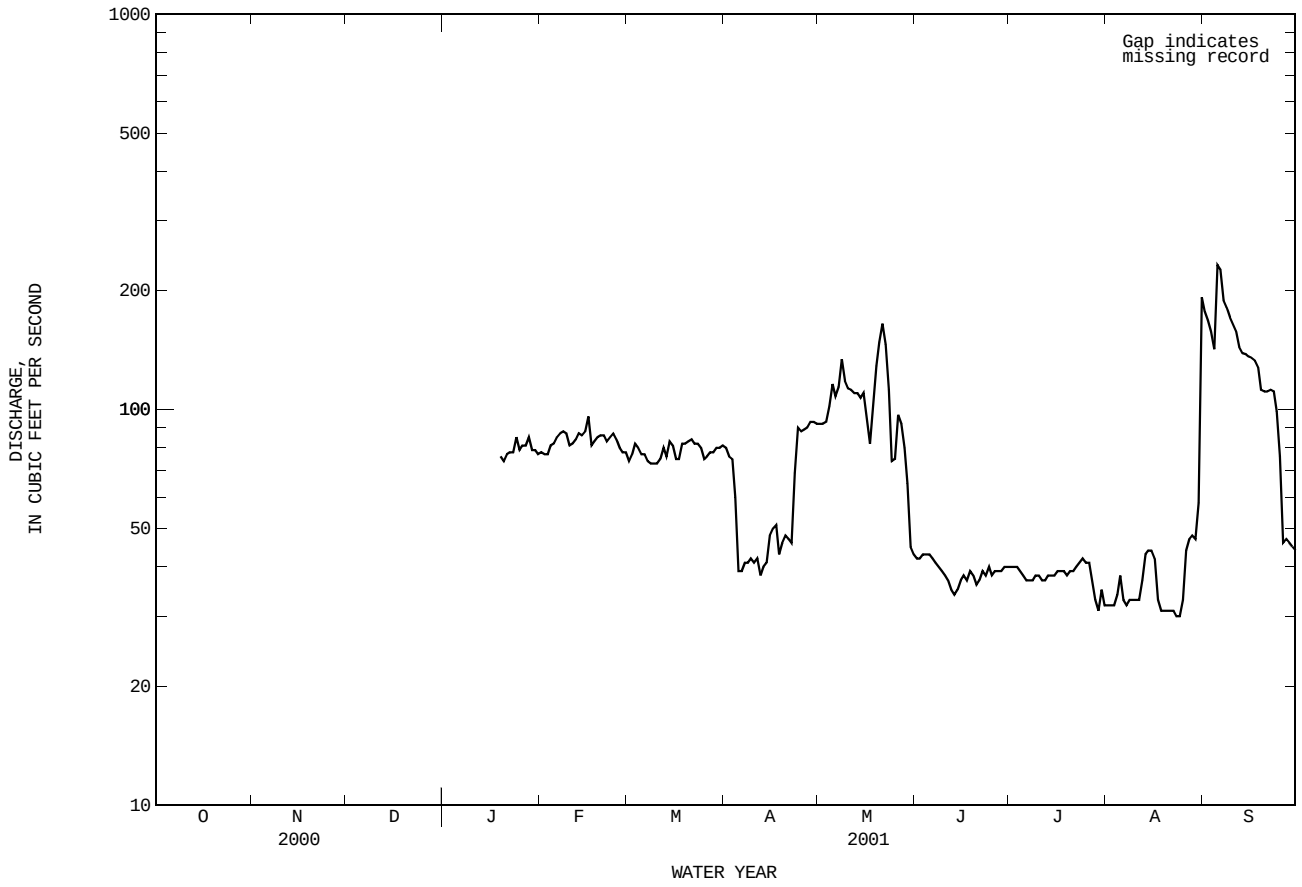
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2001h, BY WATER YEAR (WY)

MEAN	88.2	67.0	41.9	38.3	52.1	34.1	24.9	50.7	52.1	164	50.5	67.3
MAX	877	582	197	281	567	232	98.9	550	213	3067	427	565
(WY)	1972	1959	1961	1961	1961	1961	1973	1972	1973	1973	1973	1973
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1956	1954	1954	1954	1953	1955	1954	1954	1954	1954	1953	1955

SUMMARY STATISTICS	FOR 2001 WATER YEAR		WATER YEARS 1953 - 2001h	
ANNUAL MEAN			62.7	
HIGHEST ANNUAL MEAN			406	1973
LOWEST ANNUAL MEAN			.000	1956
HIGHEST DAILY MEAN	232	Sep 5	24700	Jul 16 1973
LOWEST DAILY MEAN	30	Aug 23	.00	Feb 1 1953
ANNUAL SEVEN-DAY MINIMUM	31	Aug 18	.00	Feb 1 1953
MAXIMUM PEAK FLOW	885	Sep 5	i28600	Jul 15 1973
MAXIMUM PEAK STAGE	3.60	Sep 5	a22.52	Jul 15 1973
ANNUAL RUNOFF (AC-FT)			45430	
10 PERCENT EXCEEDS	117		80	
50 PERCENT EXCEEDS	75		23	
90 PERCENT EXCEEDS	35		.00	

e Estimated
h See PERIOD OF RECORD paragraph.
i From indirect measurement of peak flow.
a From floodmark.

08180500 Medina River at Riomedina, TX--Continued



08180640 Medina River at La Coste, TX

LOCATION.--Lat 29°19'26", long 98°48'46", Medina County, Hydrologic Unit 12100302, at downstream side of bridge on Farm Road 471, 1.0 mi north of La Coste, 5.0 mi downstream from Sherer Creek and 27.4 mi upstream from mouth.

DRAINAGE AREA.--805 mi^2, of which 634 mi^2 is above dam forming Medina Lake.

PERIOD OF RECORD.--
CHEMICAL DATA: Jan. 1987 to Sept. 1995, Apr. 1996 to Sept. 30, 2001 (discontinued).
BIOCHEMICAL DATA: Feb. 1987 to Aug. 1995, Apr. 1996 to Aug. 2000.
PESTICIDE DATA: Apr. 1971 to Sept. 1981, Apr. 1996 to Aug. 2000.
SEDIMENT DATA: Apr. 1996 to Aug. 2000.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Jan. 1987 to Sept. 1995, Mar. 1996 to Sept. 30, 2001 (discontinued).
pH: Jan. 1987 to Sept. 1995, Mar. 1996 to Sept. 30, 2001 (discontinued).
WATER TEMPERATURE: Jan. 1987 to Sept. 1995, Mar. 1996 to Sept. 30, 2001 (discontinued).
DISSOLVED OXYGEN: Jan. 1987 to Sept. 1995, Mar. 1996 to Sept. 30, 2001 (discontinued).

INSTRUMENTATION.--Water-quality monitor, Jan. 1987 to Sept. 1995, Mar. 1996 to Sept. 30, 2001 (discontinued).

REMARKS.--Records fair. Interruptions in the record were caused by malfunction of the instrument. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed for previous years using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. The computation of the selected chemical constituent loads might include estimated discharge or specific conductance data. Regression equations developed for this station may be obtained from the U.S. Geological Survey Texas District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 720 microsiemens/cm, Sept. 3, 4, 1987; minimum, 122 microsiemens/cm, Oct. 23, 2000.
pH: Maximum, 8.7 units, June 20, 1989; minimum, 6.8 units, Aug. 4, 5, 1989.
WATER TEMPERATURE: Maximum, 30.5°C, June 24, 26, 27, 1990; minimum, 2.5°C, Dec. 24, 1989.
DISSOLVED OXYGEN: Maximum, 13.6 mg/L, Jan. 18, 2000; minimum, 3.7 mg/L, May 23, 1992.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 552 microsiemens/cm, Apr. 26; minimum, 122 microsiemens/cm, Oct. 23.
pH: Maximum, 8.0 units, on many days; minimum, 7.4 units, Dec. 30, 31.
WATER TEMPERATURE: Maximum, 28.9°C, July 20, 21, 29, 30, Aug. 16; minimum, 10.0°C, Jan. 22.
DISSOLVED OXYGEN: Maximum, 10.8 mg/L, Dec. 22; minimum, 4.1 mg/L, Oct. 31, Aug. 23, 24.

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	496	490	492	502	437	498	521	519	520	---	---	e525
2	498	495	497	505	405	492	521	519	520	---	---	e520
3	502	498	500	454	328	411	521	516	520	---	---	e515
4	504	501	502	498	447	486	520	517	518	---	---	e510
5	506	502	504	508	463	494	519	517	518	---	---	e512
6	506	491	500	486	406	455	518	517	518	---	---	e510
7	495	485	490	461	415	445	518	515	516	---	---	e505
8	486	477	481	498	435	479	517	515	516	---	---	e501
9	481	456	468	485	436	450	517	515	516	---	---	e500
10	471	460	465	490	451	474	517	516	516	---	---	e330
11	467	455	462	496	490	493	517	516	517	453	400	429
12	483	467	475	499	495	497	517	513	516	447	381	400
13	483	479	480	502	498	500	515	512	513	461	398	442
14	486	481	483	508	502	504	516	512	514	448	438	442
15	491	486	489	510	506	508	517	516	516	482	448	470
16	493	491	492	512	509	511	518	515	517	484	482	483
17	496	464	490	511	509	510	518	514	516	484	469	478
18	479	392	428	509	464	489	519	516	517	483	474	480
19	427	300	356	484	402	467	519	515	517	485	479	482
20	349	295	316	488	474	483	519	517	518	485	483	484
21	395	349	368	490	476	482	519	517	518	486	484	485
22	403	395	400	496	490	494	518	515	517	485	483	484
23	395	122	243	504	459	496	519	517	518	486	484	485
24	311	158	240	468	352	422	519	511	518	486	484	485
25	372	311	346	478	407	458	519	517	518	487	484	485
26	429	372	391	448	385	409	---	---	e518	487	486	487
27	477	403	443	492	448	470	521	518	519	488	486	487
28	488	459	474	513	488	506	532	521	527	489	486	487
29	488	467	482	516	513	515	535	532	534	488	485	486
30	489	467	480	519	516	517	540	535	538	489	485	487
31	504	458	485	---	---	---	---	---	e530	490	486	488
MONTH	506	122	443	519	328	480	---	---	519	---	---	479

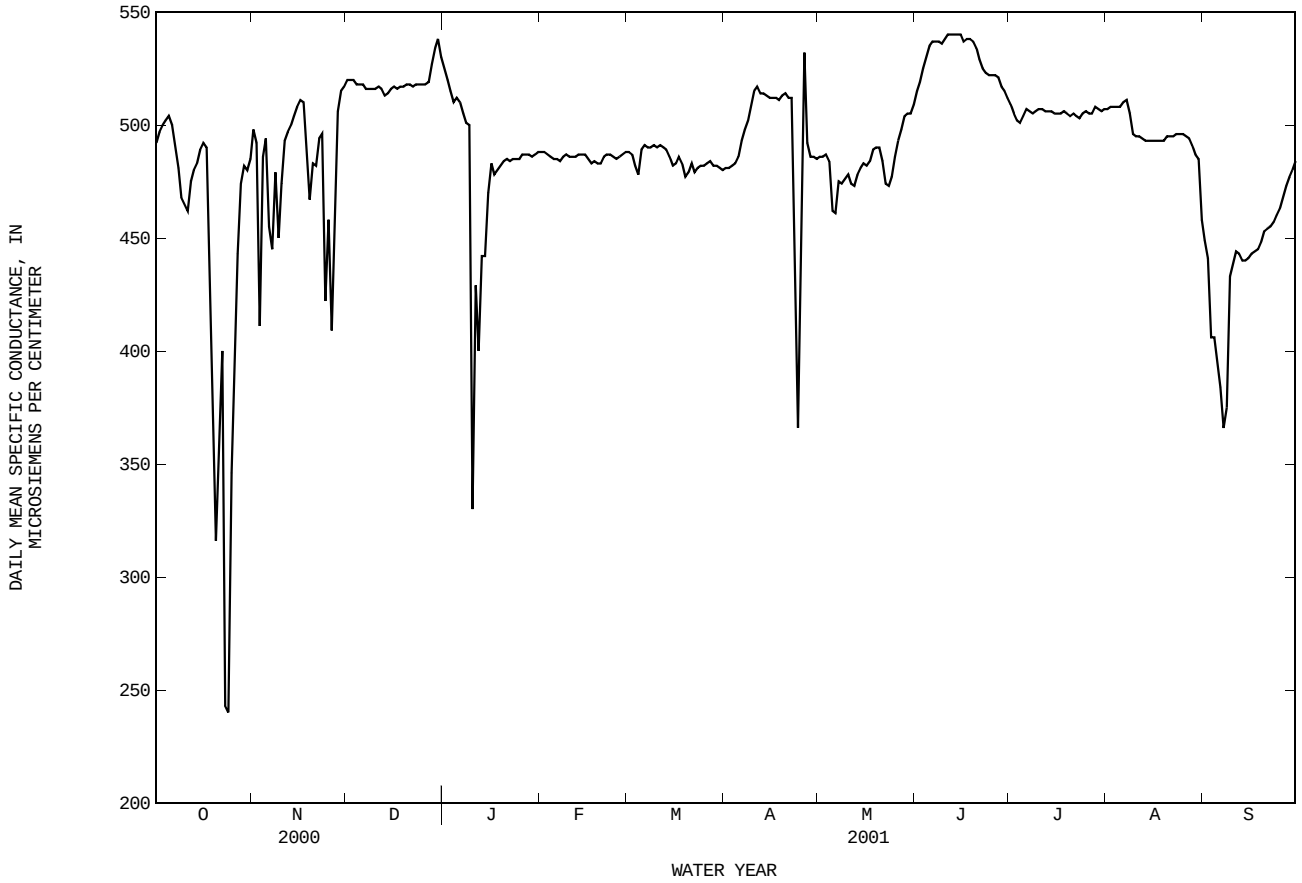
08180640 Medina River at La Coste, TX--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	490	486	488	489	487	488	482	479	481	487	484	486
2	488	487	488	489	485	487	483	480	481	487	484	486
3	488	485	487	486	472	482	483	481	482	488	485	487
4	488	485	486	481	472	478	484	482	483	488	473	484
5	487	483	485	503	481	489	489	484	486	473	440	462
6	486	483	485	492	490	491	495	489	493	473	453	461
7	486	483	484	491	487	490	499	494	498	479	469	475
8	487	484	486	491	489	490	504	498	502	478	471	474
9	489	485	487	492	489	491	511	503	508	477	475	476
10	488	484	486	492	489	490	518	510	515	479	476	478
11	488	484	486	492	490	491	518	514	517	478	471	474
12	489	484	486	491	489	490	516	512	514	478	470	473
13	487	485	487	491	487	489	516	512	514	481	476	478
14	487	486	487	490	480	486	514	511	513	483	479	481
15	488	486	487	486	473	482	513	510	512	484	479	483
16	488	479	485	484	482	483	514	511	512	484	480	482
17	485	478	483	487	484	486	513	510	512	489	481	484
18	486	481	484	486	478	483	512	509	511	491	488	489
19	485	481	483	481	469	477	516	510	513	491	489	490
20	517	478	483	482	476	479	515	513	514	492	489	490
21	488	483	486	484	480	483	513	511	512	490	477	484
22	489	486	487	481	477	479	513	510	512	477	472	474
23	488	486	487	483	478	481	512	323	458	474	471	473
24	---	---	e486	483	480	482	398	338	366	482	473	477
25	---	---	e485	484	481	482	512	356	435	492	481	486
26	---	---	e486	484	482	483	552	508	532	496	491	493
27	---	---	e487	485	483	484	508	485	492	502	495	498
28	---	---	e488	484	482	482	488	483	486	506	502	504
29	---	---	---	483	480	482	487	483	486	507	504	505
30	---	---	---	482	480	481	487	483	485	506	503	505
31	---	---	---	481	478	480	---	---	---	511	505	509
MONTH	---	---	486	503	469	485	552	323	494	511	440	484

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	518	510	515	513	505	509	511	503	507	469	422	449
2	522	514	519	509	503	505	511	504	508	451	421	441
3	527	521	525	506	499	502	511	505	508	421	373	406
4	534	526	530	503	498	501	511	504	508	426	371	406
5	537	531	535	511	496	504	512	504	508	422	327	395
6	539	534	537	510	505	507	514	505	510	412	325	384
7	538	535	537	508	502	506	516	507	511	408	334	366
8	538	535	537	509	501	505	516	493	505	412	341	375
9	539	533	536	510	502	506	500	491	496	439	412	433
10	541	535	538	510	503	507	499	491	495	443	430	438
11	542	537	540	510	503	507	498	491	495	447	439	444
12	542	538	540	509	502	506	497	489	494	444	440	443
13	542	537	540	509	502	506	496	488	493	443	438	440
14	543	537	540	509	502	506	496	488	493	441	436	440
15	543	538	540	509	500	505	496	488	493	442	434	441
16	540	534	537	508	501	505	496	488	493	445	442	443
17	541	536	538	508	502	505	496	488	493	445	443	444
18	540	536	538	509	502	506	496	489	493	447	438	445
19	539	534	537	508	501	505	496	490	493	450	446	448
20	538	531	534	507	500	504	496	492	495	454	450	453
21	532	527	529	508	501	505	498	492	495	456	453	454
22	528	521	525	508	499	504	499	491	495	460	450	455
23	525	520	523	506	499	503	499	493	496	462	446	457
24	524	518	522	510	501	505	498	492	496	463	455	460
25	526	519	522	510	501	506	499	492	496	467	460	463
26	524	519	522	508	501	505	498	490	495	469	466	468
27	523	517	521	509	500	505	498	491	494	477	467	473
28	522	486	517	512	505	508	494	489	491	479	474	477
29	519	511	515	511	502	507	491	482	487	483	476	480
30	516	509	512	509	502	506	487	479	485	488	481	484
31	---	---	---	510	502	507	479	431	458	---	---	---
MONTH	543	486	530	513	496	505	516	431	496	488	325	440

e Estimated



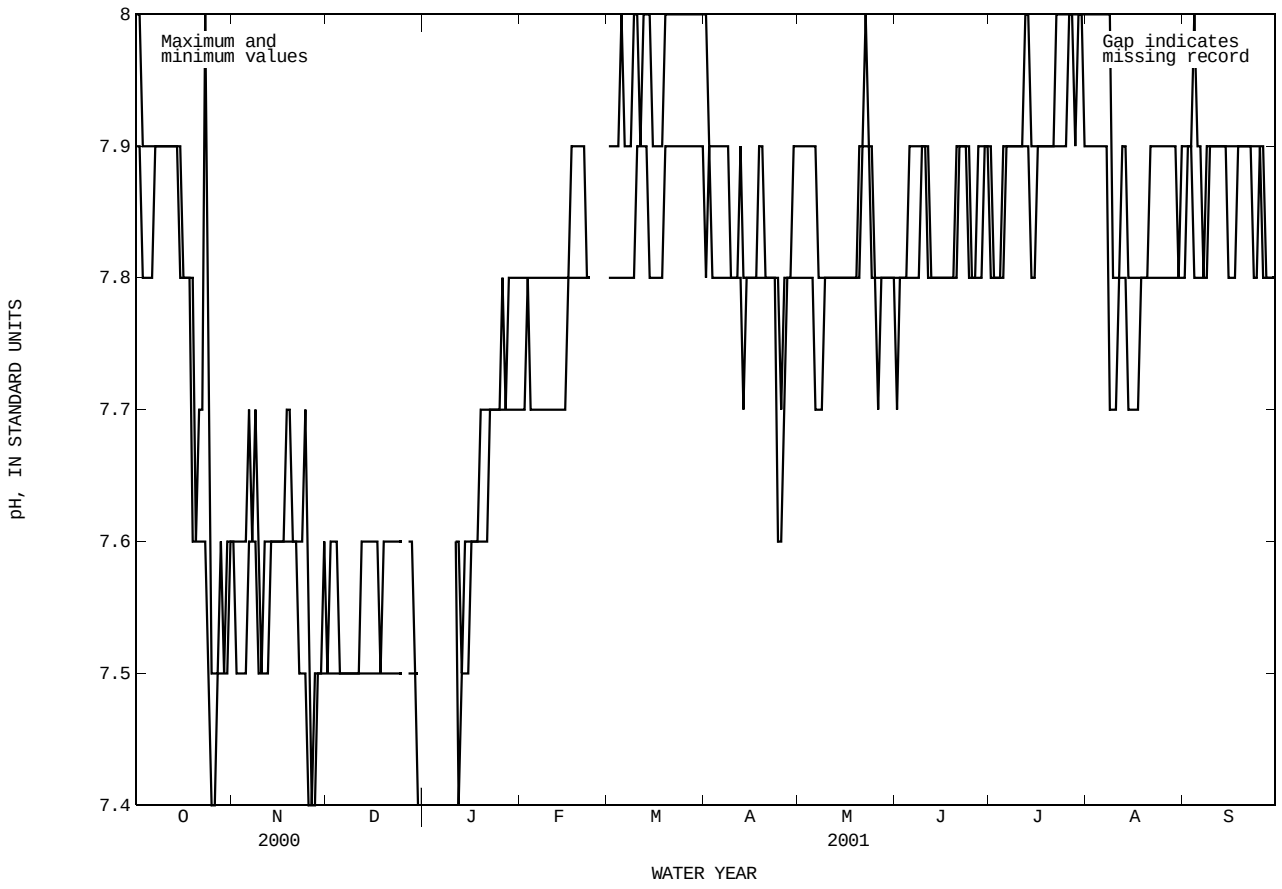
PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.0	7.9	7.6	7.6	7.5	7.5	---	---	7.8	7.7	7.9	7.8
2	8.0	7.9	7.6	7.5	7.6	7.5	---	---	7.8	7.7	7.9	7.8
3	7.9	7.8	7.6	7.5	7.6	7.5	---	---	7.8	7.8	7.9	7.8
4	7.9	7.8	7.6	7.5	7.6	7.5	---	---	7.8	7.7	7.9	7.8
5	7.9	7.8	7.6	7.5	7.5	7.5	---	---	7.8	7.7	8.0	7.8
6	7.9	7.8	7.7	7.6	7.5	7.5	---	---	7.8	7.7	7.9	7.8
7	7.9	7.9	7.6	7.6	7.5	7.5	---	---	7.8	7.7	7.9	7.8
8	7.9	7.9	7.7	7.6	7.5	7.5	---	---	7.8	7.7	7.9	7.8
9	7.9	7.9	7.6	7.5	7.5	7.5	---	---	7.8	7.7	8.0	7.8
10	7.9	7.9	7.5	7.5	7.5	7.5	---	---	7.8	7.7	8.0	7.9
11	7.9	7.9	7.6	7.5	7.5	7.5	7.6	7.6	7.8	7.7	7.9	7.9
12	7.9	7.9	7.6	7.5	7.6	7.5	7.6	7.4	7.8	7.7	8.0	7.9
13	7.9	7.9	7.6	7.6	7.6	7.5	7.5	7.5	7.8	7.7	8.0	7.9
14	7.9	7.9	7.6	7.6	7.6	7.5	7.6	7.5	7.8	7.7	8.0	7.8
15	7.9	7.8	7.6	7.6	7.6	7.5	7.6	7.5	7.8	7.7	7.9	7.8
16	7.8	7.8	7.6	7.6	7.6	7.5	7.6	7.6	7.8	7.8	7.9	7.8
17	7.8	7.8	7.6	7.6	7.6	7.5	7.6	7.6	7.9	7.8	7.9	7.8
18	7.8	7.8	7.7	7.6	7.5	7.5	7.6	7.6	7.9	7.8	7.9	7.8
19	7.8	7.6	7.7	7.6	7.6	7.5	7.7	7.6	7.9	7.8	8.0	7.9
20	7.6	7.6	7.6	7.6	7.6	7.5	7.7	7.6	7.9	7.8	8.0	7.9
21	7.7	7.6	7.6	7.6	7.6	7.5	7.7	7.6	7.9	7.8	8.0	7.9
22	7.7	7.6	7.6	7.5	7.6	7.5	7.7	7.7	7.8	7.8	8.0	7.9
23	8.0	7.6	7.6	7.5	7.6	7.5	7.7	7.7	7.8	7.8	8.0	7.9
24	7.7	7.5	7.7	7.5	7.6	7.5	7.7	7.7	---	---	8.0	7.9
25	7.5	7.4	7.5	7.4	7.6	7.5	7.7	7.7	---	---	8.0	7.9
26	7.5	7.4	7.4	7.4	---	---	7.8	7.7	---	---	8.0	7.9
27	7.5	7.5	7.5	7.4	7.6	7.5	7.7	7.7	---	---	8.0	7.9
28	7.6	7.5	7.5	7.5	7.6	7.5	7.8	7.7	---	---	8.0	7.9
29	7.5	7.5	7.5	7.5	7.5	7.5	7.8	7.7	---	---	8.0	7.9
30	7.6	7.5	7.6	7.5	7.5	7.4	7.8	7.7	---	---	8.0	7.9
31	7.6	7.6	---	---	---	---	7.8	7.7	---	---	8.0	7.9
MONTH	8.0	7.4	7.7	7.4	---	---	---	---	---	---	8.0	7.8

08180640 Medina River at La Coste, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.0	7.8	7.9	7.8	7.8	7.7	7.9	7.8	8.0	7.9	7.9	7.8
2	7.9	7.9	7.9	7.8	7.8	7.8	7.8	7.8	8.0	7.9	7.9	7.9
3	7.9	7.8	7.9	7.8	7.8	7.8	7.8	7.8	8.0	7.9	7.9	7.9
4	7.9	7.8	7.9	7.8	7.8	7.8	7.8	7.8	8.0	7.9	8.0	7.8
5	7.9	7.8	7.9	7.8	7.9	7.8	7.9	7.8	8.0	7.9	7.9	7.8
6	7.9	7.8	7.9	7.7	7.9	7.8	7.9	7.9	8.0	7.9	7.9	7.8
7	7.9	7.8	7.8	7.7	7.9	7.8	7.9	7.9	8.0	7.9	7.8	7.8
8	7.9	7.8	7.8	7.7	7.9	7.8	7.9	7.9	8.0	7.7	7.9	7.8
9	7.8	7.8	7.8	7.8	7.9	7.9	7.9	7.9	7.8	7.7	7.9	7.9
10	7.8	7.8	7.8	7.8	7.9	7.9	7.9	7.9	7.8	7.7	7.9	7.9
11	7.8	7.8	7.8	7.8	7.9	7.8	7.9	7.9	7.8	7.8	7.9	7.9
12	7.9	7.8	7.8	7.8	7.8	7.8	8.0	7.9	7.9	7.8	7.9	7.9
13	7.8	7.7	7.8	7.8	7.8	7.8	8.0	7.9	7.9	7.8	7.9	7.9
14	7.8	7.8	7.8	7.8	7.8	7.8	7.9	7.8	7.8	7.7	7.9	7.9
15	7.8	7.8	7.8	7.8	7.8	7.8	7.9	7.8	7.8	7.7	7.9	7.8
16	7.8	7.8	7.8	7.8	7.8	7.8	7.9	7.9	7.8	7.7	7.9	7.8
17	7.8	7.8	7.8	7.8	7.8	7.8	7.9	7.9	7.8	7.7	7.9	7.8
18	7.9	7.8	7.8	7.8	7.8	7.8	7.9	7.9	7.8	7.8	7.9	7.9
19	7.9	7.8	7.8	7.8	7.8	7.8	7.9	7.9	7.8	7.8	7.9	7.9
20	7.8	7.8	7.9	7.8	7.9	7.8	7.9	7.9	7.8	7.8	7.9	7.9
21	7.8	7.8	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.8	7.9	7.9
22	7.8	7.8	8.0	7.9	7.9	7.9	8.0	7.9	7.9	7.8	7.9	7.9
23	7.8	7.8	7.9	7.9	7.9	7.9	8.0	7.9	7.9	7.8	7.9	7.8
24	7.8	7.6	7.9	7.8	7.9	7.8	8.0	7.9	7.9	7.8	7.9	7.8
25	7.7	7.6	7.8	7.8	7.8	7.8	8.0	7.9	7.9	7.8	7.9	7.9
26	7.8	7.7	7.8	7.7	7.8	7.8	8.0	8.0	7.9	7.8	7.9	7.8
27	7.8	7.8	7.8	7.8	7.9	7.8	8.0	8.0	7.9	7.8	7.8	7.8
28	7.8	7.8	7.8	7.8	7.9	7.8	8.0	7.9	7.9	7.8	7.8	7.8
29	7.9	7.8	7.8	7.8	7.9	7.9	8.0	8.0	7.9	7.8	7.8	7.8
30	7.9	7.8	7.8	7.8	7.9	7.9	8.0	8.0	7.8	7.8	7.8	7.8
31	---	---	7.8	7.8	---	---	8.0	7.9	7.9	7.8	---	---
MONTH	8.0	7.6	8.0	7.7	7.9	7.7	8.0	7.8	8.0	7.7	8.0	7.8



08180640 Medina River at La Coste, TX--Continued

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

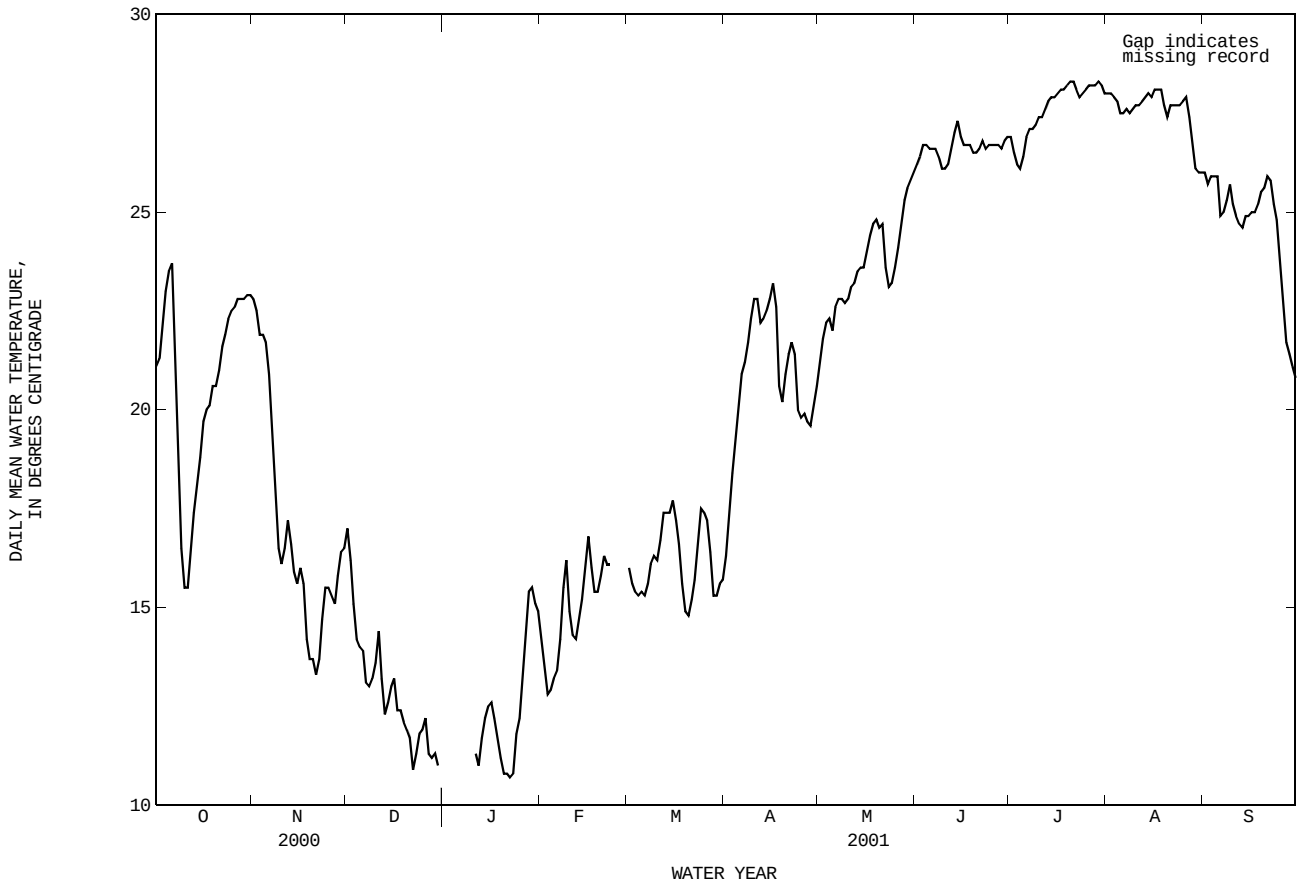
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	21.8	20.3	21.1	22.9	22.6	22.8	17.3	16.7	17.0	---	---	---
2	22.2	20.6	21.3	22.7	22.2	22.5	17.0	15.8	16.2	---	---	---
3	23.1	21.5	22.2	22.2	21.4	21.9	15.8	14.5	15.1	---	---	---
4	23.7	22.4	23.0	22.0	21.8	21.9	14.5	14.0	14.2	---	---	---
5	24.0	23.0	23.5	21.9	21.5	21.7	14.2	13.9	14.0	---	---	---
6	24.1	23.2	23.7	21.5	20.2	20.9	14.1	13.7	13.9	---	---	---
7	23.2	20.3	21.8	20.2	19.1	19.6	13.7	12.7	13.1	---	---	---
8	20.3	17.8	19.0	19.1	17.2	18.1	13.5	12.4	13.0	---	---	---
9	17.8	15.7	16.5	17.2	16.3	16.5	13.6	12.7	13.2	---	---	---
10	15.7	15.4	15.5	16.4	15.7	16.1	14.1	13.2	13.6	---	---	---
11	15.9	15.3	15.5	16.9	16.1	16.5	14.8	14.1	14.4	11.8	10.9	11.3
12	17.0	15.9	16.4	17.6	16.8	17.2	14.4	12.3	13.2	11.6	10.9	11.0
13	17.9	16.9	17.4	17.4	16.3	16.6	12.6	12.0	12.3	12.0	11.0	11.7
14	18.6	17.6	18.1	16.3	15.5	15.9	13.0	12.2	12.6	12.7	11.7	12.2
15	19.3	18.3	18.8	15.9	15.3	15.6	13.1	12.8	13.0	12.7	12.2	12.5
16	20.3	19.2	19.7	16.4	15.7	16.0	13.5	12.9	13.2	12.7	12.4	12.6
17	20.3	19.9	20.0	16.4	15.0	15.6	13.2	11.9	12.4	12.5	12.1	12.2
18	20.8	19.4	20.1	15.0	13.4	14.2	12.9	11.8	12.4	12.1	11.3	11.7
19	20.8	20.4	20.6	13.9	13.2	13.7	12.7	11.6	12.1	11.5	11.0	11.2
20	20.9	20.4	20.6	13.9	13.3	13.7	12.3	11.3	11.9	11.2	10.3	10.8
21	21.4	20.7	21.0	13.8	13.0	13.3	12.3	11.3	11.7	11.2	10.1	10.8
22	22.0	21.2	21.6	14.2	13.2	13.7	11.6	10.4	10.9	11.1	10.0	10.7
23	22.2	21.6	21.9	15.5	14.2	14.7	11.8	11.0	11.3	11.4	10.2	10.8
24	22.5	21.9	22.3	15.8	15.1	15.5	11.9	11.7	11.8	12.3	11.2	11.8
25	22.7	22.3	22.5	15.6	15.3	15.5	12.1	11.7	11.9	12.6	11.7	12.2
26	22.8	22.4	22.6	15.4	15.0	15.3	12.2	12.1	12.2	13.9	12.6	13.2
27	23.0	22.6	22.8	15.5	14.6	15.1	11.4	11.1	11.3	14.9	13.7	14.3
28	22.9	22.7	22.8	16.3	15.3	15.8	11.5	10.7	11.2	16.0	14.9	15.4
29	23.0	22.7	22.8	16.7	16.0	16.4	11.5	11.1	11.3	15.9	15.1	15.5
30	23.1	22.7	22.9	16.8	16.1	16.5	11.4	10.7	11.0	15.6	14.5	15.1
31	23.1	22.7	22.9	---	---	---	---	---	---	15.4	14.3	14.9
MONTH	24.1	15.3	20.7	22.9	13.0	17.0	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	14.9	14.0	14.3	16.1	15.8	16.0	16.8	15.8	16.3	21.6	20.8	21.2
2	14.1	13.3	13.6	15.8	15.5	15.6	18.1	16.8	17.4	22.2	21.3	21.8
3	13.3	12.2	12.8	15.6	15.2	15.4	18.8	18.1	18.4	22.3	22.0	22.2
4	13.5	12.1	12.9	15.8	14.6	15.3	19.5	18.7	19.1	22.5	22.2	22.3
5	13.7	12.3	13.2	16.0	14.5	15.4	20.7	19.5	20.0	22.4	21.8	22.0
6	14.2	12.6	13.4	15.7	14.7	15.3	21.3	20.5	20.9	23.0	22.2	22.6
7	14.9	13.6	14.2	16.1	15.0	15.6	21.4	21.0	21.2	23.1	22.5	22.8
8	16.3	14.9	15.5	16.5	15.8	16.1	22.2	21.3	21.7	23.1	22.7	22.8
9	16.5	16.0	16.2	16.7	15.6	16.3	22.7	21.9	22.3	23.0	22.3	22.7
10	16.0	14.5	14.9	16.6	15.6	16.2	23.2	22.4	22.8	23.1	22.6	22.8
11	14.5	14.0	14.3	17.1	16.2	16.7	23.2	22.5	22.8	23.3	22.8	23.1
12	14.6	13.9	14.2	17.9	16.8	17.4	22.5	21.9	22.2	23.5	22.9	23.2
13	15.0	14.4	14.7	17.8	16.7	17.4	22.4	22.2	22.3	23.8	23.0	23.5
14	15.7	14.8	15.2	17.7	17.1	17.4	22.8	22.2	22.5	23.8	23.3	23.6
15	16.9	15.4	16.0	18.2	17.1	17.7	23.2	22.5	22.8	23.9	23.2	23.6
16	17.1	16.4	16.8	17.9	16.6	17.2	23.5	22.8	23.2	24.5	23.5	24.0
17	16.8	15.6	16.0	17.3	16.1	16.6	23.5	21.4	22.6	24.8	24.1	24.4
18	15.9	14.7	15.4	16.1	15.0	15.6	21.4	20.3	20.6	25.2	24.2	24.7
19	16.0	14.6	15.4	15.3	14.5	14.9	20.5	20.1	20.2	25.1	24.7	24.8
20	16.4	15.1	15.8	15.3	14.1	14.8	21.3	20.5	20.9	25.0	24.3	24.6
21	16.5	16.0	16.3	15.7	14.5	15.2	21.7	21.2	21.4	25.0	24.4	24.7
22	16.3	15.9	16.1	16.6	14.9	15.7	22.1	21.4	21.7	24.4	23.3	23.6
23	16.9	15.7	16.1	17.1	16.2	16.6	22.1	20.4	21.4	23.6	22.6	23.1
24	---	---	---	17.9	17.0	17.5	20.5	19.8	20.0	23.7	22.8	23.2
25	---	---	---	17.7	17.0	17.4	20.2	19.3	19.8	24.0	23.3	23.6
26	---	---	---	17.6	16.9	17.2	20.2	19.6	19.9	24.7	23.6	24.1
27	---	---	---	16.9	15.7	16.4	20.0	19.4	19.7	25.3	24.2	24.7
28	---	---	---	15.7	15.2	15.3	19.9	19.2	19.6	25.7	24.9	25.3
29	---	---	---	15.8	14.8	15.3	20.5	19.6	20.1	26.0	25.2	25.6
30	---	---	---	15.8	15.3	15.6	21.0	20.2	20.6	26.2	25.5	25.8
31	---	---	---	16.1	15.3	15.7	---	---	---	26.4	25.6	26.0
MONTH	---	---	---	18.2	14.1	16.2	23.5	15.8	20.8	26.4	20.8	23.6

08180640 Medina River at La Coste, TX--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	26.5	25.9	26.2	27.2	26.5	26.9	28.7	27.6	28.0	26.4	25.8	26.0
2	26.7	26.1	26.4	26.8	26.3	26.5	28.7	27.6	28.0	25.9	25.3	25.7
3	26.9	26.4	26.7	26.5	25.9	26.2	28.4	27.5	27.9	26.5	25.5	25.9
4	26.9	26.5	26.7	26.3	25.8	26.1	28.4	27.3	27.8	26.3	25.5	25.9
5	26.8	26.3	26.6	26.9	26.1	26.4	28.2	27.0	27.5	26.2	25.0	25.9
6	26.7	26.3	26.6	27.5	26.5	26.9	28.2	26.9	27.5	25.4	24.6	24.9
7	26.8	26.5	26.6	27.6	26.8	27.1	28.3	27.1	27.6	25.3	24.6	25.0
8	26.7	26.1	26.4	27.6	26.8	27.1	28.2	27.1	27.5	25.8	24.9	25.3
9	26.3	25.9	26.1	27.7	26.9	27.2	28.4	27.1	27.6	25.9	25.6	25.7
10	26.4	26.0	26.1	27.9	27.0	27.4	28.3	27.2	27.7	25.7	24.9	25.2
11	26.5	26.0	26.2	27.9	27.0	27.4	28.5	27.1	27.7	25.3	24.7	24.9
12	26.9	26.1	26.6	28.2	27.1	27.6	28.5	27.2	27.8	25.0	24.5	24.7
13	27.4	26.6	27.0	28.4	27.4	27.8	28.7	27.3	27.9	24.9	24.4	24.6
14	27.5	27.1	27.3	28.4	27.5	27.9	28.7	27.4	28.0	25.1	24.7	24.9
15	27.1	26.6	26.9	28.4	27.5	27.9	28.6	27.3	27.9	25.1	24.7	24.9
16	26.9	26.5	26.7	28.6	27.6	28.0	28.9	27.5	28.1	25.1	24.8	25.0
17	27.0	26.5	26.7	28.6	27.7	28.1	28.8	27.5	28.1	25.3	24.8	25.0
18	26.9	26.4	26.7	28.7	27.8	28.1	28.8	27.5	28.1	25.5	24.9	25.2
19	26.7	26.3	26.5	28.8	27.7	28.2	28.0	27.3	27.7	25.8	25.2	25.5
20	26.8	26.3	26.5	28.9	27.8	28.3	28.0	26.9	27.4	25.9	25.3	25.6
21	27.0	26.4	26.6	28.9	27.8	28.3	28.2	27.3	27.7	26.1	25.5	25.9
22	27.2	26.5	26.8	28.7	27.7	28.1	28.4	27.3	27.7	26.1	25.5	25.8
23	26.9	26.4	26.6	28.6	27.4	27.9	28.3	27.3	27.7	25.5	24.9	25.2
24	27.0	26.5	26.7	28.7	27.5	28.0	28.3	27.2	27.7	25.3	24.4	24.8
25	27.0	26.5	26.7	28.8	27.6	28.1	28.5	27.3	27.8	24.4	23.2	23.7
26	27.0	26.5	26.7	28.7	27.7	28.2	28.5	27.4	27.9	23.3	22.1	22.6
27	27.0	26.4	26.7	28.8	27.8	28.2	27.9	27.0	27.4	22.4	21.4	21.7
28	26.9	26.4	26.6	28.8	27.8	28.2	27.2	26.4	26.8	21.6	21.1	21.4
29	27.2	26.4	26.8	28.9	27.8	28.3	26.4	25.9	26.1	21.4	20.9	21.1
30	27.3	26.7	26.9	28.9	27.8	28.2	26.3	25.9	26.0	21.1	20.6	20.8
31	---	---	---	28.6	27.6	28.0	26.5	25.6	26.0	---	---	---
MONTH	27.5	25.9	26.6	28.9	25.8	27.6	28.9	25.6	27.6	26.5	20.6	24.6



08180640 Medina River at La Coste, TX--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

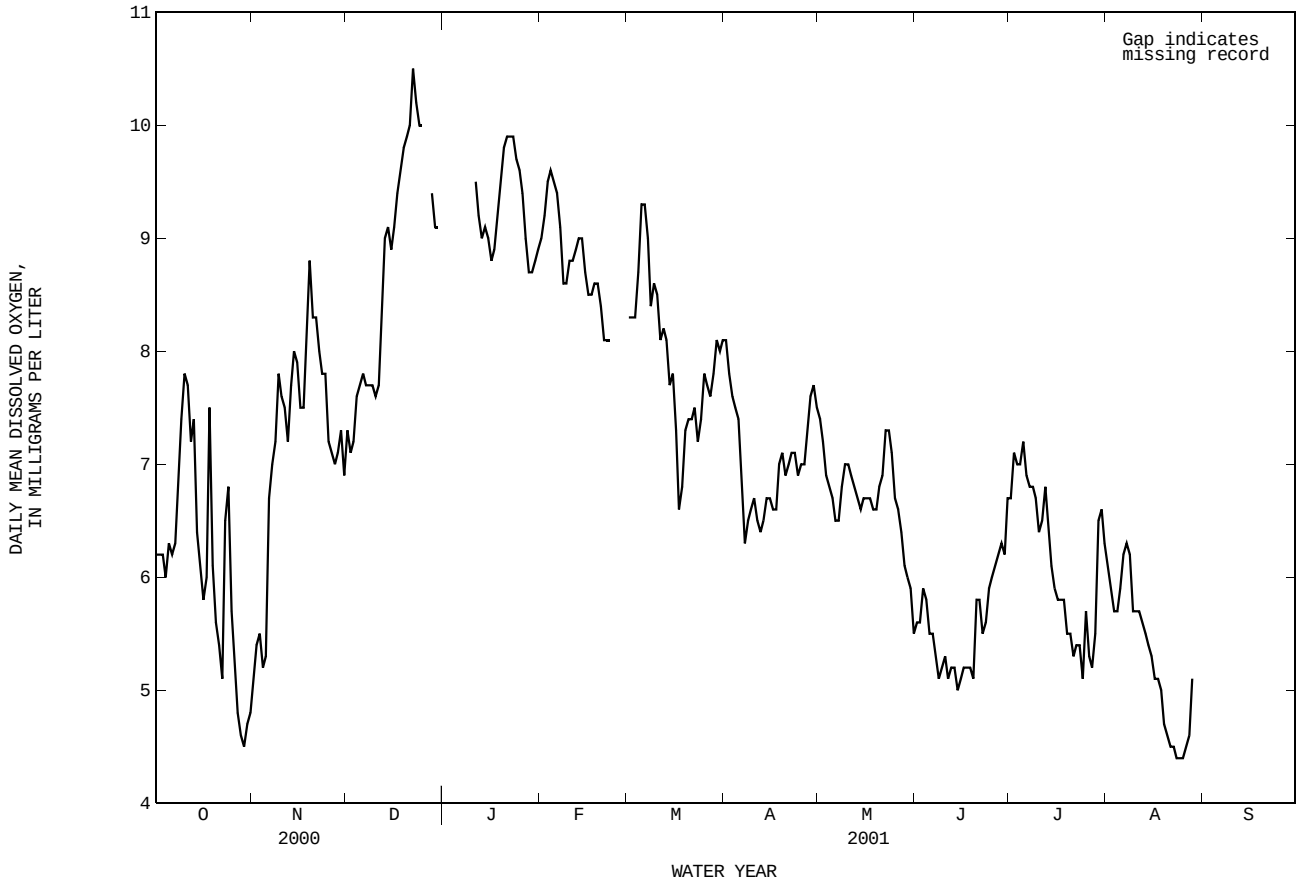
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	6.5	6.0	6.2	5.5	4.8	5.1	7.7	7.1	7.3	---	---	---
2	6.4	6.0	6.2	6.4	4.9	5.4	7.3	6.8	7.1	---	---	---
3	6.5	5.9	6.2	6.4	4.9	5.5	7.3	7.0	7.2	---	---	---
4	6.4	5.8	6.0	5.5	5.0	5.2	7.8	7.2	7.6	---	---	---
5	6.6	6.0	6.3	5.9	5.0	5.3	8.0	7.5	7.7	---	---	---
6	6.6	5.9	6.2	7.2	5.8	6.7	8.0	7.5	7.8	---	---	---
7	6.5	6.1	6.3	7.3	6.6	7.0	8.0	7.5	7.7	---	---	---
8	7.3	6.4	6.8	7.6	6.8	7.2	8.0	7.5	7.7	---	---	---
9	7.7	7.0	7.4	8.0	7.4	7.8	8.0	7.5	7.7	---	---	---
10	8.0	7.2	7.8	7.8	7.2	7.6	7.7	7.4	7.6	---	---	---
11	7.9	7.5	7.7	7.8	7.1	7.5	8.1	7.4	7.7	9.6	9.2	9.5
12	7.7	6.7	7.2	7.5	6.9	7.2	8.7	7.8	8.2	9.3	9.2	9.2
13	7.7	6.5	7.4	8.0	7.0	7.7	9.3	8.5	9.0	9.2	9.0	9.0
14	7.4	6.1	6.4	8.2	7.7	8.0	9.5	8.9	9.1	9.2	8.9	9.1
15	6.3	5.8	6.1	8.1	7.6	7.9	9.2	8.6	8.9	9.1	8.9	9.0
16	6.2	5.5	5.8	7.8	7.1	7.5	9.4	8.7	9.1	8.9	8.8	8.8
17	7.3	5.5	6.0	7.8	7.3	7.5	9.8	9.0	9.4	9.2	8.8	8.9
18	7.9	6.8	7.5	8.9	7.5	8.1	9.9	9.2	9.6	9.4	8.9	9.2
19	6.8	5.7	6.1	9.0	8.3	8.8	10.1	9.3	9.8	9.8	9.1	9.5
20	5.8	5.5	5.6	8.6	8.1	8.3	10.2	9.5	9.9	10.0	9.5	9.8
21	5.6	5.1	5.4	8.5	8.1	8.3	10.5	9.4	10.0	10.1	9.6	9.9
22	5.3	4.9	5.1	8.3	7.8	8.0	10.8	9.9	10.5	10.2	9.6	9.9
23	7.9	4.9	6.5	8.5	7.5	7.8	10.5	10.0	10.2	10.2	9.6	9.9
24	7.3	6.0	6.8	8.5	7.0	7.8	10.3	9.6	10.0	9.9	9.4	9.7
25	6.3	5.3	5.7	7.5	7.0	7.2	10.1	9.6	10.0	9.9	9.3	9.6
26	5.5	4.7	5.2	7.4	6.9	7.1	---	---	---	9.8	9.1	9.4
27	5.1	4.6	4.8	7.2	6.9	7.0	---	---	---	9.3	8.8	9.0
28	4.7	4.3	4.6	7.4	6.7	7.1	9.8	9.0	9.4	9.0	8.5	8.7
29	4.8	4.2	4.5	7.6	6.8	7.3	9.3	8.7	9.1	9.1	8.3	8.7
30	5.3	4.3	4.7	7.2	6.7	6.9	9.5	8.7	9.1	9.1	8.3	8.8
31	5.2	4.1	4.8	---	---	---	---	---	---	9.4	8.4	8.9
MONTH	8.0	4.1	6.1	9.0	4.8	7.2	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	9.3	8.6	9.0	8.4	8.1	8.3	8.4	7.8	8.1	7.7	7.2	7.4
2	9.6	8.8	9.2	8.5	7.9	8.3	8.0	7.6	7.8	7.5	6.9	7.2
3	9.9	9.0	9.5	8.7	8.0	8.3	7.9	7.3	7.6	7.1	6.7	6.9
4	10.0	9.2	9.6	9.4	8.2	8.7	7.7	7.2	7.5	6.9	6.6	6.8
5	10.0	9.1	9.5	10.4	8.3	9.3	7.7	7.0	7.4	6.8	6.6	6.7
6	9.8	9.0	9.4	9.7	8.8	9.3	7.4	6.5	6.9	6.7	6.2	6.5
7	9.4	8.8	9.1	9.4	8.4	9.0	6.6	6.1	6.3	7.0	6.1	6.5
8	8.9	8.4	8.6	8.7	8.2	8.4	6.8	6.1	6.5	7.0	6.6	6.8
9	9.0	8.1	8.6	9.1	8.1	8.6	6.8	6.2	6.6	7.3	6.6	7.0
10	9.3	8.3	8.8	8.9	8.1	8.5	7.1	6.2	6.7	7.3	6.8	7.0
11	9.1	8.5	8.8	8.4	7.9	8.1	6.9	5.9	6.5	7.1	6.7	6.9
12	9.4	8.5	8.9	8.8	7.8	8.2	6.9	6.0	6.4	7.0	6.6	6.8
13	9.3	8.7	9.0	8.5	7.7	8.1	6.7	6.2	6.5	6.9	6.6	6.7
14	9.3	8.7	9.0	8.0	7.6	7.7	7.1	6.3	6.7	6.7	6.4	6.6
15	9.1	8.5	8.7	8.2	7.4	7.8	7.1	6.2	6.7	6.9	6.4	6.7
16	9.1	8.0	8.5	7.9	6.8	7.3	6.9	6.2	6.6	6.9	6.5	6.7
17	9.8	7.8	8.5	6.9	6.4	6.6	6.9	6.3	6.6	7.0	6.5	6.7
18	9.4	8.1	8.6	7.1	6.5	6.8	7.4	6.4	7.0	7.0	6.2	6.6
19	9.3	8.0	8.6	7.7	6.8	7.3	7.3	6.9	7.1	6.7	6.3	6.6
20	9.1	7.9	8.4	7.7	6.9	7.4	7.2	6.5	6.9	7.1	6.5	6.8
21	8.4	7.9	8.1	7.9	6.9	7.4	7.5	6.5	7.0	7.1	6.7	6.9
22	8.4	7.7	8.1	7.8	6.9	7.5	7.3	6.9	7.1	7.5	6.9	7.3
23	8.4	7.9	8.1	7.5	6.9	7.2	7.4	6.7	7.1	7.5	7.1	7.3
24	---	---	---	8.0	6.7	7.4	7.3	6.7	6.9	7.3	6.9	7.1
25	---	---	---	8.2	7.1	7.8	7.2	6.7	7.0	7.0	6.5	6.7
26	---	---	---	8.0	7.2	7.7	7.2	6.8	7.0	6.8	6.3	6.6
27	---	---	---	7.8	7.4	7.6	7.6	6.9	7.3	6.5	6.2	6.4
28	---	---	---	8.1	7.5	7.8	7.9	7.4	7.6	6.3	5.7	6.1
29	---	---	---	8.5	7.7	8.1	8.0	7.4	7.7	6.2	5.7	6.0
30	---	---	---	8.4	7.7	8.0	7.8	7.3	7.5	6.1	5.6	5.9
31	---	---	---	8.5	7.8	8.1	---	---	---	5.9	5.3	5.5
MONTH	---	---	---	10.4	6.4	8.0	8.4	5.9	7.0	7.7	5.3	6.7

08180640 Medina River at La Coste, TX--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	5.9	5.2	5.6	7.1	6.3	6.7	6.8	5.7	6.1	---	---	---
2	6.0	5.2	5.6	7.4	6.5	7.1	6.4	5.4	5.9	---	---	---
3	6.2	5.5	5.9	7.5	6.6	7.0	6.1	5.2	5.7	---	---	---
4	6.0	5.5	5.8	7.6	6.7	7.0	6.5	5.3	5.7	---	---	---
5	5.7	5.3	5.5	8.2	6.6	7.2	6.4	5.2	5.9	---	---	---
6	5.7	5.3	5.5	7.2	6.5	6.9	7.1	5.8	6.2	---	---	---
7	5.4	4.9	5.3	7.1	6.5	6.8	7.1	5.7	6.3	---	---	---
8	5.3	4.9	5.1	7.0	6.5	6.8	6.9	5.5	6.2	---	---	---
9	5.5	4.7	5.2	7.2	5.9	6.7	6.2	5.5	5.7	---	---	---
10	5.7	5.0	5.3	7.0	5.9	6.4	6.2	5.4	5.7	---	---	---
11	5.4	5.0	5.1	7.0	5.8	6.5	6.1	5.3	5.7	---	---	---
12	5.7	5.1	5.2	7.1	6.5	6.8	6.1	5.3	5.6	---	---	---
13	5.4	5.0	5.2	6.9	6.0	6.5	5.9	5.0	5.5	---	---	---
14	5.3	4.7	5.0	6.8	5.6	6.1	5.9	5.0	5.4	---	---	---
15	5.3	4.7	5.1	6.7	5.2	5.9	5.8	4.9	5.3	---	---	---
16	5.3	5.0	5.2	6.5	5.2	5.8	5.6	4.8	5.1	---	---	---
17	5.5	5.1	5.2	6.7	5.2	5.8	5.6	4.7	5.1	---	---	---
18	5.5	5.1	5.2	6.5	5.1	5.8	5.5	4.7	5.0	---	---	---
19	5.3	4.9	5.1	6.0	5.2	5.5	4.9	4.4	4.7	---	---	---
20	6.7	4.9	5.8	6.1	4.7	5.5	4.9	4.4	4.6	---	---	---
21	6.4	5.3	5.8	5.8	4.8	5.3	4.8	4.3	4.5	---	---	---
22	5.7	5.4	5.5	6.0	4.9	5.4	4.8	4.2	4.5	---	---	---
23	5.8	5.5	5.6	6.2	4.8	5.4	4.7	4.1	4.4	---	---	---
24	6.0	5.7	5.9	5.6	4.9	5.1	4.8	4.1	4.4	---	---	---
25	6.1	5.8	6.0	6.2	5.1	5.7	4.8	4.2	4.4	---	---	---
26	6.3	5.9	6.1	6.1	4.8	5.3	4.9	4.3	4.5	---	---	---
27	6.5	5.9	6.2	5.7	4.8	5.2	4.9	4.4	4.6	---	---	---
28	6.6	5.8	6.3	6.2	4.6	5.5	5.4	4.7	5.1	---	---	---
29	6.6	5.9	6.2	7.2	5.7	6.5	---	---	---	---	---	---
30	7.6	6.0	6.7	7.2	5.9	6.6	---	---	---	---	---	---
31	---	---	---	7.2	5.7	6.3	---	---	---	---	---	---
MONTH	7.6	4.7	5.6	8.2	4.6	6.2	---	---	---	---	---	---



08180700 Medina River near Macdona, TX

LOCATION.--Lat 29°20'05", long 98°41'22", Bexar County, Hydrologic Unit 12100302, at downstream side of Loop 1604 bridge, 0.1 mi downstream from Polecat Creek, 0.7 mi north of Macdona, 2.2 mi downstream from Potranca Creek, and 21.2 mi upstream from mouth.

DRAINAGE AREA.--885 mi^2, of which 634 mi^2 is above dam forming Medina Lake.

PERIOD OF RECORD.--Jan. 1981 to Sept. 1995, May 1997 to current year.
Water-quality records.--Chemical data: July 1998 to Sept. 2000. Biochemical data: July 1998 to Sept. 2000. Pesticide data: July 1998 to Sept. 2000. Sediment data: July 1998 to Sept. 2000.

GAGE.--Water-stage recorder. Datum of gage is 589.86 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Since installation of gage in water year 1981, at least 10% of contributing drainage area has been regulated. A large part of the streamflow is lost into the Edwards and associated limestones where the Balcones Fault crosses the basin between the upstream end of Medina Lake and about 5 mi downstream from Medina Dam, or 0.9 mi downstream from the Medina Diversion Dam. There are several small diversions below Medina Diversion Dam.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	122	141	98	129	122	130	139	82	62	50	183
2	38	210	139	112	127	120	130	137	78	62	50	200
3	38	1480	139	113	127	141	131	136	75	65	50	180
4	37	229	140	113	127	144	131	141	73	65	51	177
5	36	176	138	113	127	131	126	198	72	63	50	210
6	36	485	137	111	126	123	92	182	72	62	49	894
7	38	223	136	111	128	122	79	218	72	60	48	295
8	51	204	133	109	130	121	76	173	70	59	47	219
9	62	184	134	107	130	121	75	171	70	58	48	205
10	60	155	134	175	129	121	73	167	68	58	47	194
11	46	147	135	311	121	121	72	155	66	57	46	184
12	41	142	133	177	125	123	74	152	63	56	46	177
13	39	137	148	154	127	128	72	149	61	56	47	172
14	37	132	142	148	128	133	72	146	60	56	47	168
15	36	129	137	142	128	141	72	144	63	55	47	165
16	e36	130	134	138	135	132	70	144	69	54	47	162
17	e38	131	134	149	141	125	67	143	65	54	46	160
18	e122	269	129	162	127	129	65	121	65	54	46	158
19	e184	286	132	157	126	143	64	132	64	54	46	156
20	e89	178	127	149	126	140	63	154	65	53	49	140
21	e62	155	127	139	125	136	65	169	65	55	49	133
22	e46	145	129	136	125	135	64	181	65	54	47	130
23	1790	146	125	132	124	133	798	177	66	54	46	137
24	3310	707	126	132	125	132	831	e165	67	53	46	128
25	388	218	131	132	124	131	202	e154	66	54	44	123
26	240	167	134	131	120	133	158	e146	66	53	44	109
27	196	153	130	132	124	132	146	e142	65	53	46	89
28	172	148	101	136	122	135	139	e138	64	53	68	81
29	154	147	83	143	---	136	137	e127	63	52	70	78
30	142	144	77	138	---	133	137	112	62	51	72	76
31	131	---	74	131	---	131	---	93	---	50	81	---
TOTAL	7733	7279	3959	4331	3553	4048	4411	4706	2022	1745	1570	5483
MEAN	249	243	128	140	127	131	147	152	67.4	56.3	50.6	183
MAX	3310	1480	148	311	141	144	831	218	82	65	81	894
MIN	36	122	74	98	120	120	63	93	60	50	44	76
AC-FT	15340	14440	7850	8590	7050	8030	8750	9330	4010	3460	3110	10880

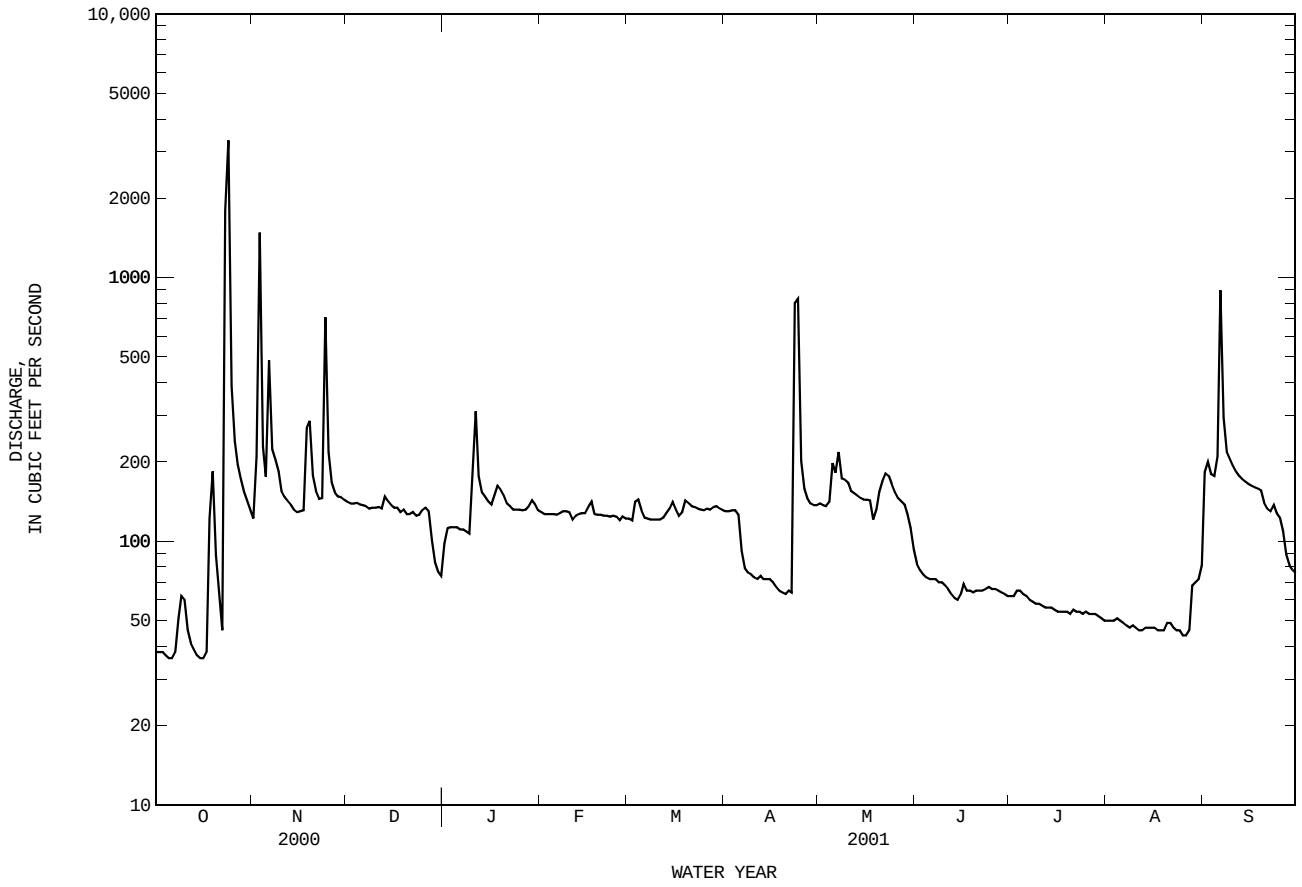
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2001h, BY WATER YEAR (WY)

MEAN	135	104	117	137	206	209	146	236	635	170	72.0	65.5
MAX	575	511	432	698	2333	2097	1302	1636	5726	765	280	183
(WY)	1999	1999	1992	1992	1992	1992	1992	1992	1987	1987	1992	2001
MIN	32.3	25.7	18.0	22.1	34.2	39.0	34.1	29.6	25.1	27.4	25.1	27.8
(WY)	1992	1985	1985	1985	1985	1990	1986	1989	1990	1989	1989	1989

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1981 - 2001h	
ANNUAL TOTAL	32454		50840			
ANNUAL MEAN	88.7		139		173	
HIGHEST ANNUAL MEAN					954	1992
LOWEST ANNUAL MEAN					38.1	1989
HIGHEST DAILY MEAN	3310	Oct 24	3310	Oct 24	22300	Jun 5 1987
LOWEST DAILY MEAN	30	Sep 6	36	Oct 5	14	Jan 11 1985
ANNUAL SEVEN-DAY MINIMUM	32	Sep 2	37	Oct 1	16	Jan 7 1985
MAXIMUM PEAK FLOW			6590	Oct 24	c36800	May 30 1987
MAXIMUM PEAK STAGE			13.59	Oct 24	20.58	May 30 1987
ANNUAL RUNOFF (AC-FT)	64370		100800		125400	
10 PERCENT EXCEEDS	142		177		266	
50 PERCENT EXCEEDS	48		127		54	
90 PERCENT EXCEEDS	37		49		33	

e Estimated
h See PERIOD OF RECORD paragraph.
c From rating curve extended above discharge measurement of 24,400 ft^3/s.

08180700 Medina River near Macdona, TX--Continued



08180800 Medina River near Somerset, TX

LOCATION.--Lat 29°15'43", long 98°34'52", Bexar County, Hydrologic Unit 12100302, on left bank at downstream side of downstream bridge on State Highway 16, 2.0 mi upstream from Elm Creek, 5.0 mi downstream from Medio Creek, 5.2 mi northeast of Somerset, and 14.0 mi upstream from mouth.

DRAINAGE AREA.--967 mi^2, of which 634 mi^2 is above dam forming Medina Lake.

PERIOD OF RECORD.--Oct. 1970 to Sept. 1995, Sept. 1997 to current year.
Water-quality records.--Chemical data: July 1998 to Aug. 2000. Biochemical data: July 1998 to Aug. 2000. Pesticide data: July 1998 to Aug. 2000. Sediment data: July 1998 to Aug. 2000.

GAGE.--Water-stage recorder. Datum of gage is 493.56 ft above sea level. Prior to June 16, 1993, at site 300 ft upstream at same datum. Satellite telemeter at station.

REMARKS.--Records fair. Since installation of gage in water year 1971, at least 10% of contributing drainage area has been regulated. A large part of the streamflow is lost into the Edwards and associated limestones where the Balcones Fault crosses the basin between the upstream end of Medina Lake and about 5 mi downstream from Medina Dam, or 0.9 mi downstream from the Medina Diversion Dam. There are several small diversions below Medina Diversion Dam.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	150	168	96	148	137	e155	e156	111	61	40	155
2	37	221	162	108	145	137	e154	e157	106	62	40	169
3	34	2640	160	108	143	146	e152	e158	102	61	40	144
4	31	593	159	108	142	166	e151	e170	99	67	42	139
5	28	295	157	107	143	153	e150	e220	96	64	40	150
6	28	784	154	104	142	142	e145	e230	92	60	38	1140
7	31	394	151	104	141	138	e140	e259	91	57	37	454
8	56	259	150	102	142	140	e135	e213	88	56	37	219
9	75	250	145	103	142	138	e130	e185	89	59	37	183
10	89	210	143	145	141	137	e125	e194	87	55	36	171
11	66	193	143	377	139	e150	e120	173	84	55	35	165
12	51	182	141	223	138	e150	e115	165	80	53	34	156
13	46	173	148	158	139	e154	e110	163	77	51	34	146
14	42	165	148	149	140	e158	e108	159	76	53	34	139
15	40	159	144	142	139	e168	e107	157	77	51	31	136
16	40	157	137	138	141	e158	e104	155	77	50	33	133
17	40	156	134	141	144	e150	e103	154	79	48	34	131
18	95	245	133	164	139	e157	e102	143	74	51	33	130
19	174	488	129	159	136	e170	e102	140	73	48	34	128
20	84	260	129	155	142	e165	e102	153	74	47	34	123
21	60	200	124	146	139	e163	e101	165	78	47	35	116
22	52	181	124	140	140	e160	e170	171	74	46	34	114
23	627	175	122	138	140	e158	e1020	179	71	46	33	118
24	3710	759	121	137	138	e156	e1050	169	74	45	32	116
25	931	412	123	136	139	e154	e430	150	70	45	33	112
26	328	232	127	138	137	e153	e214	133	67	46	32	106
27	242	200	128	140	138	e153	e170	135	66	45	34	97
28	208	186	119	152	137	e157	e160	141	64	44	39	83
29	183	178	103	171	---	e158	e155	133	62	43	58	78
30	168	172	98	163	---	e158	e155	128	61	44	86	77
31	158	---	94	149	---	e156	---	122	---	40	137	---
TOTAL	7792	10669	4218	4501	3934	4740	6135	5130	2419	1600	1276	5328
MEAN	251	356	136	145	140	153	204	165	80.6	51.6	41.2	178
MAX	3710	2640	168	377	148	170	1050	259	111	67	137	1140
MIN	28	150	94	96	136	137	101	122	61	40	31	77
AC-FT	15460	21160	8370	8930	7800	9400	12170	10180	4800	3170	2530	10570

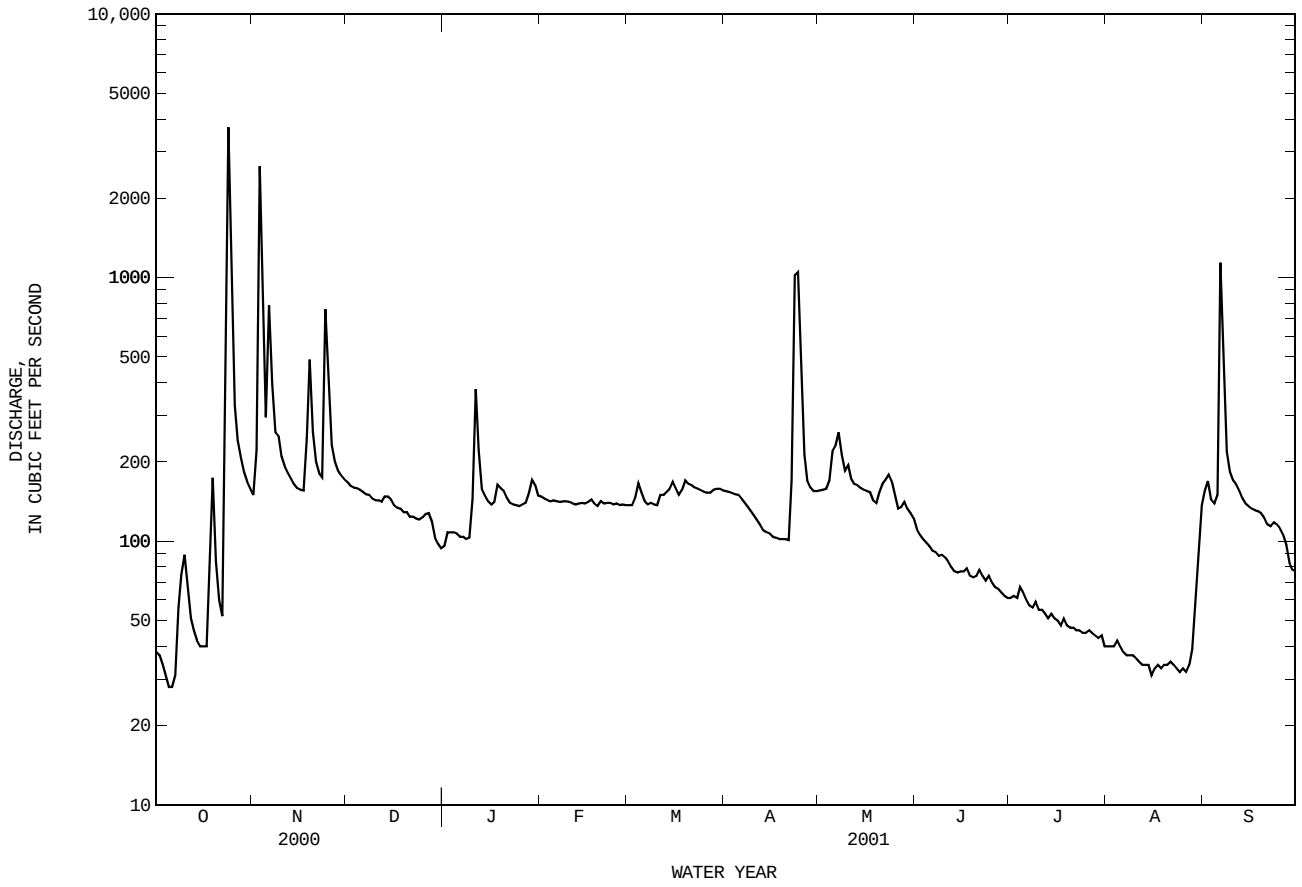
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2001h, BY WATER YEAR (WY)

MEAN	212	172	150	165	247	225	201	283	542	254	160	131
MAX	1284	648	549	751	2449	2326	1480	1663	6432	2875	1222	868
(WY)	1974	1977	1977	1992	1992	1992	1992	1992	1987	1973	1978	1973
MIN	41.2	40.2	33.5	37.2	33.4	34.4	35.6	31.1	27.4	22.3	24.5	22.7
(WY)	1989	1985	1985	1985	1971	1971	1971	1971	1990	1984	1984	1984

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1971 - 2001h	
ANNUAL TOTAL	37998		57742			
ANNUAL MEAN	104		158		228	
HIGHEST ANNUAL MEAN					1033	1992
LOWEST ANNUAL MEAN					40.0	1984
HIGHEST DAILY MEAN	3710	Oct 24	3710	Oct 24	24800	Jul 17 1973
LOWEST DAILY MEAN	27	Sep 2	28	Oct 5	16	Sep 19 1984
ANNUAL SEVEN-DAY MINIMUM	28	Sep 2	32	Oct 1	19	Sep 17 1984
MAXIMUM PEAK FLOW			4490	Oct 23	c30500	Jul 17 1973
MAXIMUM PEAK STAGE			17.18	Oct 23	29.39	Jul 17 1973
ANNUAL RUNOFF (AC-FT)	75370		114500		165500	
10 PERCENT EXCEEDS	166		196		457	
50 PERCENT EXCEEDS	58		138		78	
90 PERCENT EXCEEDS	36		40		41	

e Estimated
h See PERIOD OF RECORD paragraph.
c From rating curve extended above current meter measurement of 30,100 ft^3/s.

08180800 Medina River near Somerset, TX--Continued



08180941 Government Canyon Creek Site 2 near Helotes, TX

LOCATION.-- Lat 29°32′20", long 98°45′04", Bexar County, Hydrologic Unit 12100302, on right bank of low water crossing, 0.50 mi upstream side of entrance to Government Canyon State Natural Area at Galm Road, 6.21 mi upstream of State Highway 1604.

DRAINAGE AREA.--12.4 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Dec. 1999 to current year.
BIOCHEMICAL DATA: Dec. 1999 to current year.
PESTICIDE DATA: Dec. 1999 to current year.

INSTURMENTATION.--Water stage recorder. Tipping bucket raingage. Satellite telemeter at station.

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
OCT													
23...	1050	1170	--	--	--	--	--	90	33.3	1.75	2.69	.1	1.8
23...	1405	430	7.9	105	7.3	204	29.0	100	36.8	1.85	2.31	.1	1.9

DATE	SODIUM PERCENT (00932)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
OCT													
23...	4	3.7	<.2	6.4	4.4	748	135	E.022	.70	4.8	1.38	1.39	.010
23...	4	3.9	<.2	7.5	5.2	222	144	<.041	.61	1.7	.833	.844	.011

DATE	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)
OCT													
23...	6.2	.011	<.018	.534	130	.34	<20.0	M	17	<3.2	E.08	9	E26
23...	2.5	.009	<.018	.178	66	E.11	<20.0	<10	5	<3.2	<.14	4	<31

DATE	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)
OCT													
23...	2	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003
23...	<1	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003

DATE	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)
OCT													
23...	<.006	E.005	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006
23...	<.006	E.005	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006

08180941 Government Canyon Creek Site 2 near Helotes, TX--Continued

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

DATE	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (82664)	PRO-METON, WATER, DISS, REC (04037)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (82676)	PROPA-CHLOR, WATER, DISS, REC (04024)
OCT													
23...	<.013	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010
23...	<.013	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010

DATE	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
OCT									
23...	<.011	<.023	<.011	<.016	<.034	<.017	<.005	<.002	<.009
23...	<.011	<.023	<.011	<.016	<.034	<.017	<.005	<.002	<.009

08180945 Leon Creek at Scenic Loop Road near Leon Springs, TX

LOCATION.--LAT 29°40'32", long 98°40'33", Bexar County, Hydrologic Unit 12100301, on right bank, upstream side of Scenic Loop Road, 2.97 mi upstream of Interstate Highway 10.

DRAINAGE AREA.-- 10.0 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Jan. 2001.
BIOCHEMICAL DATA: Jan. 2001.
PESTICIDE DATA: Jan. 2001.

INSTRUMENTATION.--Water stage recorder. Discharge-activated automatic sampler. Tipping bucket raingage. Satellite telemeter at station.

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events.

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

DATE	TIME	STORM WATER FLOW (MGD) (81395)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)
JAN 12...	1350	40.0	8.0	520	13.0	.005	.544	.545	.001	E.006	2.3	<10	310

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	CYANIDE TOTAL (MG/L AS CN) (00720)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JAN 12...	190	130	1	E.04	18.0	<.06	<.04	<.8	.19	.9	<.01	E.08	1.0

DATE	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR-DANE, TECH-NICAL TOTAL (UG/L) (39350)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	LINDANE TOTAL (UG/L) (39340)	PHENOLS TOTAL (UG/L) (32730)
JAN 12...	.7	.48	<1.0	1	<1	<.001	<.1	<.003	<.002	<.003	<.002	<.001	<16

DATE	TOX-APHENE, TOTAL (UG/L) (39400)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)
JAN 12...	<1	.80

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08180947 Leon Creek at Hausman Road at San Antonio, TX

LOCATION.--Lat 29° 34′ 19", Long 98°37′08", Bexar County, Hydrologic Unit 12100302, on right bank downstream side of Hausman Road, 1.45 mi downstream of State Highway 1604.

DRAINAGE AREA.--42.5 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Jan. to Mar. 2001.
BIOCHEMICAL DATA: Jan. to Mar. 2001.
PESTICIDE DATA: Jan. to Mar. 2001.

INSTRUMENTATION.--Discharge-activated automatic sampler.

REMARKS.-- Water-quality samples were collected for selected storm events.

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

DATE	TIME	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
JAN													
10-10	1030	7.0	111	.034	.297	.306	.009	.224	.073	6.9	<10	4800	7600
MAR													
14-14	1240	--	--	.024	.210	.220	.010	.141	.046	6.9	21	3900	4900

DATE	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	CYANIDE TOTAL (MG/L AS CN) (00720)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JAN													
10-10	26000	5	1.46	11.7	<.06	<.04	E.4	.10	1.5	<.01	E.06	--	3.1
MAR													
14-14	41000	7	1.55	14.1	<.06	E.02	5.5	.14	2.1	<.01	.30	4	4.2

DATE	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR-DANE, TECH-NICAL TOTAL (UG/L) (39350)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	LINDANE TOTAL (UG/L) (39340)	PHENOLS TOTAL (UG/L) (32730)
JAN													
10-10	.6	.24	<1.0	3	<1	<.001	<.1	<.003	<.002	<.002	<.002	<.001	<16
MAR													
14-14	.3	.47	<1.0	55	<1	<.001	<.1	<.001	<.002	<.001	<.002	<.001	<16

DATE	TOX-APHENE, TOTAL (UG/L) (39400)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)
JAN		
10-10	<1	.10
MAR		
14-14	<1	.07

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08181050 Leon Creek at Prue Road at San Antonio, TX

LOCATION.--Lat 29°32'29", long 98°37'53", Bexar County, Hydrologic Unit 12100302, on left bank on upstream side of Prue Road, 5.22 mi downstream of State Highway 1604.

DRAINAGE AREA.--58.20 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Dec. 2000 to Mar. 2001.
BIOCHEMICAL DATA: Dec. 2000 to Mar. 2001.
PESTICIDE: Dec. 2000 to Mar. 2001.

INSTRUMENTATION.--Water stage recorder. Discharge-activated automatic sampler. Tipping bucket raingage. Satellite telemeter at station.

REMARKS.--Water-quality samples and associated discharge data were collected for selected storm events.

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

DATE	TIME	STORM WATER FLOW (MGD) (81395)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)
NOV													
18-18	1100	--	8.1	335	.015	1.11	1.12	.013	.141	.046	5.2	<10	e1800
JAN													
10-10	1030	4.8	8.0	168	.086	.558	.574	.016	.435	.142	11	22	e1000
MAR													
14-14	1300	.90	--	--	.207	.687	.724	.037	.383	.125	15	34	6600

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	CYANIDE TOTAL (MG/L AS CN) (00720)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)
NOV													
18-18	4000	--	2	.14	26.5	<.06	<.04	E.4	.18	1.8	<.01	<.08	--
JAN													
10-10	4300	9200	5	.17	11.6	<.06	<.04	E.5	.17	1.9	<.01	E.05	--
MAR													
14-14	e8500	46000	9	.20	13.3	<.06	E.02	E.4	.41	2.3	<.01	.09	4

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR-DANE, TECH-NICAL TOTAL (UG/L) (39350)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	LINDANE TOTAL (UG/L) (39340)
NOV													
18-18	.7	.6	.59	<1.0	3	<1	<.001	<.1	<.001	<.002	<.001	<.002	<.001
JAN													
10-10	4.6	.6	.36	<1.0	3	<1	<.001	<.1	<.003	<.002	<.002	<.002	<.001
MAR													
14-14	8.7	.5	.79	<1.0	4	<1	<.001	<.1	<.001	<.002	<.001	<.002	<.001

DATE	PHENOLS TOTAL (UG/L) (32730)	TOX-APHENE, TOTAL (UG/L) (39400)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)
NOV			
18-18	<16	<1	.44
JAN			
10-10	<16	<1	.12
MAR			
14-14	<16	<1	.11

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08181400 Helotes Creek at Helotes, TX

LOCATION.--Lat 29°34'42", long 98°41'29", Bexar County, Hydrologic Unit 12100302, 42 ft to left and 44 ft downstream from centerline of bridge on State Highway 16, 0.1 mi northwest of Helotes, and 8.6 mi upstream from mouth.

DRAINAGE AREA.--15.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1968 to current year.

REVISED RECORDS.--WRD TX-73-1: 1972(M).

GAGE.--Water-stage recorder. Datum of gage is 1,014.82 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation. An undetermined amount of flow is diverted for domestic use above station, and some streamflow enters the Edwards and associated limestones through the Balcones Fault Zone in the vicinity of the gage. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1923, 13.7 ft in 1927, from information by local resident.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.65	16	.71	16	2.5	5.2	1.7	.23	.00	.00	34
2	.00	5.4	14	.67	14	2.7	4.4	1.5	.01	.00	.00	12
3	.00	56	14	.63	14	8.1	3.8	1.3	.00	.00	.00	1.3
4	.00	54	13	.56	13	7.7	3.2	2.0	.00	.00	.00	.00
5	.00	66	12	.52	12	6.4	2.9	10	.00	.00	.00	19
6	.30	92	9.5	.45	11	6.0	2.5	5.5	.00	.00	.00	65
7	.00	67	8.0	.37	10	5.9	2.2	5.9	.00	.00	.00	50
8	.03	67	6.7	.27	8.7	5.8	2.0	4.3	.00	.00	.00	27
9	.10	51	5.6	.20	7.1	5.2	1.7	4.1	.00	.00	.00	16
10	.00	39	4.8	18	5.9	4.9	1.6	3.6	.00	.00	.00	10
11	.00	29	4.0	23	5.5	4.9	1.5	4.1	.00	.00	.00	4.4
12	.00	23	3.3	26	5.2	15	1.3	4.0	.00	.00	.00	1.7
13	.00	17	4.7	23	4.9	15	1.3	4.2	.00	.00	.00	.18
14	.00	15	3.1	19	3.9	19	1.2	3.2	.00	.00	.00	.00
15	.00	13	2.6	17	3.7	20	1.1	2.9	2.3	.00	.00	.00
16	.00	10	2.1	15	11	20	.90	2.7	.00	.00	.00	.00
17	.06	6.6	1.7	16	6.1	19	.78	2.5	.00	.00	.00	.00
18	.00	16	1.6	15	5.2	22	.72	2.4	.00	.00	.00	.00
19	.00	19	1.3	14	4.7	19	.62	2.0	.00	.00	.00	.00
20	.00	18	1.2	13	4.1	19	.60	2.0	.00	.00	.00	.00
21	.00	16	.86	13	3.7	17	.44	1.8	.00	.00	.00	.00
22	.00	15	.64	12	3.3	17	.36	1.5	.00	.00	.00	.00
23	350	32	.54	11	4.0	15	21	1.2	.00	.00	.00	.00
24	91	68	.47	9.8	3.6	14	12	1.1	.01	.00	.00	.00
25	49	56	1.7	8.2	2.7	13	6.6	1.1	.00	.00	.00	.00
26	23	43	2.5	7.5	2.5	12	4.1	.95	.00	.00	.38	.00
27	13	34	1.8	7.8	2.3	12	3.2	.81	.00	.00	.09	.00
28	6.9	27	1.4	12	2.2	11	2.4	.66	.00	.00	.00	.00
29	3.3	23	1.0	15	---	9.0	2.1	.51	.00	.00	1.1	.00
30	1.9	19	.79	16	---	7.3	1.8	.15	.00	.00	11	.00
31	1.2	---	.69	16	---	6.4	---	.30	---	.00	21	---
TOTAL	539.79	997.65	141.59	331.68	190.3	361.8	93.52	79.98	2.55	0.00	33.57	240.58
MEAN	17.4	33.3	4.57	10.7	6.80	11.7	3.12	2.58	.085	.000	1.08	8.02
MAX	350	92	16	26	16	22	21	10	2.3	.00	21	65
MIN	.00	.65	.47	.20	2.2	2.5	.36	.15	.00	.00	.00	.00
AC-FT	1070	1980	281	658	377	718	185	159	5.1	.00	67	477
CFSM	1.16	2.22	.30	.71	.45	.78	.21	.17	.01	.00	.07	.53
IN.	1.34	2.47	.35	.82	.47	.90	.23	.20	.01	.00	.08	.60

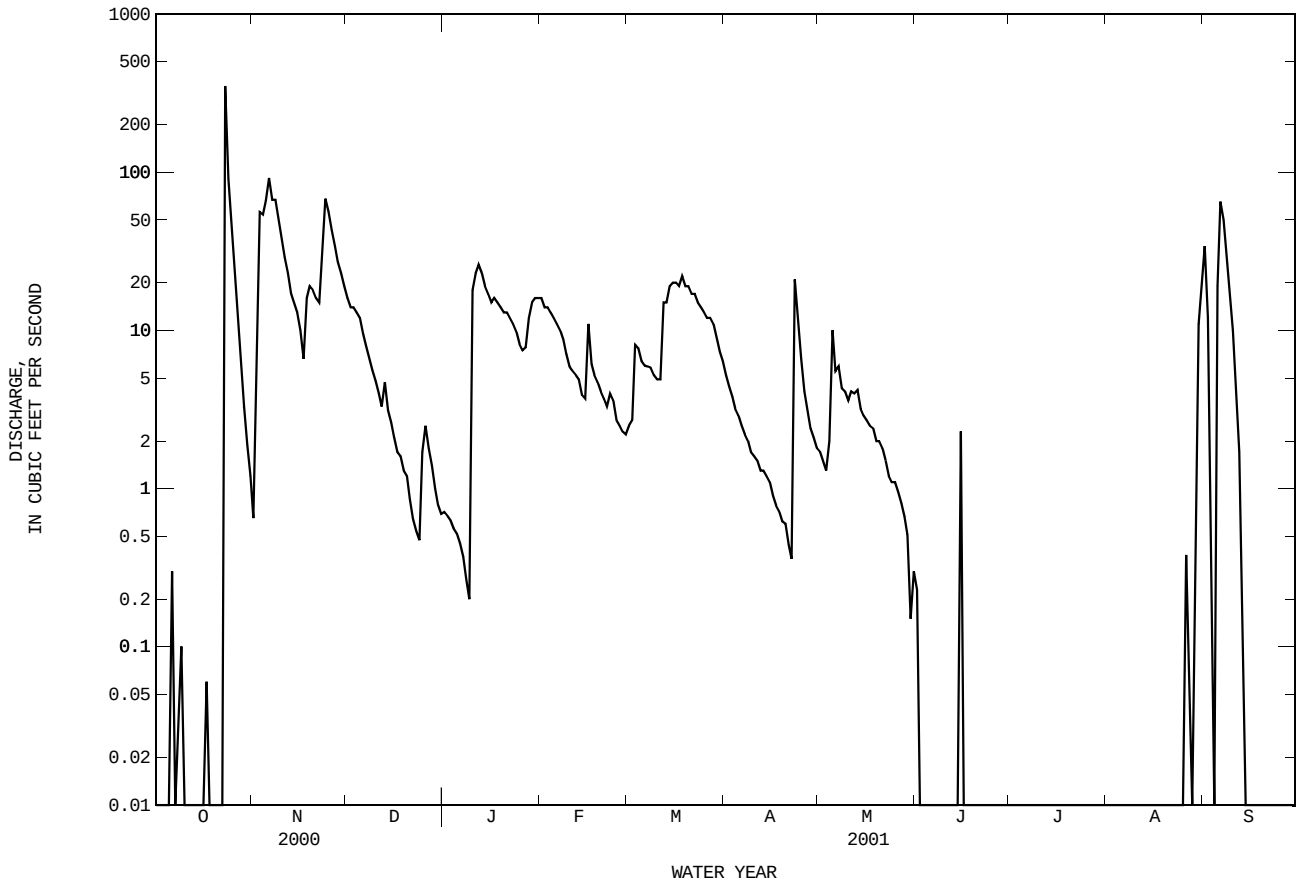
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2001, BY WATER YEAR (WY)

MEAN	7.49	3.33	3.77	2.06	3.62	3.91	3.17	6.79	14.6	3.69	.86	1.82
MAX	93.6	33.3	79.0	31.0	66.3	32.3	40.0	66.6	142	84.4	13.5	36.1
(WY)	1999	2001	1992	1992	1992	1985	1973	1992	1987	1973	1971	1973
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1979	1971	1971	1969	1971	1971	1983	1989	1980	1969	1968	1969

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1968 - 2001	
ANNUAL TOTAL	1682.74		3013.01			
ANNUAL MEAN	4.60		8.25		4.63	
HIGHEST ANNUAL MEAN					28.3	1992
LOWEST ANNUAL MEAN					.003	1984
HIGHEST DAILY MEAN	350	Oct 23	350	Oct 23	1350	Oct 18 1998
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Jun 30 1968
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 9	.00	Oct 10	.00	Jul 4 1968
MAXIMUM PEAK FLOW			1980	Oct 23	c12600	Oct 18 1998
MAXIMUM PEAK STAGE			5.51	Oct 23	a15.21	Oct 18 1998
ANNUAL RUNOFF (AC-FT)	3340		5980		3360	
ANNUAL RUNOFF (CFSM)	.31		.55		.31	
ANNUAL RUNOFF (INCHES)	4.17		7.47		4.20	
10 PERCENT EXCEEDS	11		19		7.0	
50 PERCENT EXCEEDS	.00		1.7		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

c From rating curve extended above discharge measurement of 4,960 ft^3/s.
a From floodmark.

08181400 Helotes Creek at Helotes, TX--Continued



08181400 Helotes Creek at Helotes, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: May 1969 to current year.
BIOCHEMICAL DATA: May 1969 to current year.
PESTICIDE DATA: May 1969 to June 1981, Oct. 1984 to current year.
SEDIMENT DATA: Oct. 1968 to Sept. 1973.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR-BID-ITY (NTU) (00076)	TURBID-ITY LAB HACH 2100AN (NTU) (99872)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT													
23...	0940	1100	300	540	5.3	61	7.0	203	21.5	94	31.5	3.69	2.84
NOV													
03...	0130	122	--	--	--	--	8.0	378	--	--	--	--	--
23...	2230	206	--	--	--	--	6.5	450	--	--	--	--	--

DATE	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
OCT													
23...	.1	2.5	5	5.0	<.2	5.8	10.8	133	114	.032	.827	.834	.007
NOV													
03...	--	--	--	--	--	--	--	--	--	<.002	.447	.452	.005
23...	--	--	--	--	--	--	--	--	--	.022	.590	.591	.001

DATE	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)
OCT													
23...	.046	.015	33	75	--	--	3	.08	<2.0	10.1	<.06	25	<.04
NOV													
03...	.058	.019	9.7	16	--	41000	2	.06	--	20.5	<.06	--	<.04
23...	--	E.005	7.4	21	1700	E5500	--	.07	--	29.8	.09	--	.05

DATE	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	CYANIDE TOTAL (MG/L AS CN) (00720)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	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)
OCT													
23...	E.7	.21	.7	<.01	20	E.05	<3.9	1.6	.4	.74	<2.4	<1.0	52.6
NOV													
03...	<.8	.17	.7	E.01	--	<.08	--	.3	.7	.30	--	<1.0	--
23...	E.5	.68	2.4	--	--	2.76	--	61.1	.3	1.17	--	<1.0	--

DATE	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR-DANE, TECH-NICAL TOTAL (UG/L) (39350)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	LINDANE TOTAL (UG/L) (39340)	PHENOLS TOTAL (UG/L) (32730)	TOX-APHENE, TOTAL (UG/L) (39400)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)
OCT													
23...	<8.0	1	1	<.001	<.1	<.003	<.002	<.002	<.002	<.001	<16	<1	.15
NOV													
03...	--	2	<1	<.001	<.1	<.003	<.002	<.002	<.002	<.001	<16	<1	.53
23...	--	8	<1	<.001	<.1	<.001	<.002	<.001	<.002	<.001	<16	<1	.69

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08181480 Leon Creek at Interstate Highway 35 at San Antonio, TX

LOCATION.--Lat 29°19'47", long 98°35'02", Bexar County, Hydrologic Unit 12100302, on left bank between bridges on Interstate Highway 35 in San Antonio, 1.7 mi northeast of the intersection of Interstate Highway 35 and Loop 410, and 11.8 mi upstream from mouth.

DRAINAGE AREA.--219 mi^2.

PERIOD OF RECORD.--Oct. 1984 to current year.
Water-quality records.--Chemical data: July 1984 to Sept. 2000. Biochemical data: July 1984 to Oct. 1997. Pesticide data: Aug. 1995 to Oct. 1997. Specific conductance: Sept. 1984 to Sept. 2000. pH: Apr. 1989 to Sept. 2000. Water temperature: Sept. 1984 to Sept. 2000. Dissolved oxygen: Apr. 1989 to Sept. 2000.

GAGE.--Water-stage recorder. Datum of gage is 573.49 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good. No known regulation or diversions.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	14	20	15	14	9.4	7.9	21	16	4.0	1.8	714
2	2.4	293	19	15	13	11	7.8	20	13	4.5	1.8	161
3	2.5	2850	20	16	12	35	7.8	20	12	4.5	1.8	26
4	2.5	370	21	15	12	19	7.6	22	10	4.3	4.3	16
5	2.7	127	19	16	11	12	7.5	149	9.2	3.4	1.7	45
6	3.2	444	19	16	11	11	7.3	83	7.5	2.6	1.5	e754
7	17	159	18	15	11	11	7.0	97	7.0	2.5	2.8	e121
8	56	46	18	15	11	10	6.9	75	7.9	3.1	2.2	19
9	104	26	18	15	11	10	7.5	42	9.0	2.9	1.5	14
10	70	20	18	197	11	9.7	6.5	36	6.7	2.0	1.4	16
11	41	17	18	114	10	9.5	6.8	27	6.6	1.6	1.4	14
12	19	15	17	40	10	9.8	6.9	24	7.1	3.2	1.4	9.4
13	9.4	13	42	20	10	9.4	7.2	22	7.5	2.1	1.4	6.8
14	5.3	12	22	16	10	28	7.4	24	6.9	2.1	1.5	5.9
15	4.2	12	18	15	10	17	7.1	22	29	2.1	1.5	5.0
16	3.8	12	18	16	14	13	6.8	20	10	2.0	1.4	4.6
17	122	15	18	16	12	11	6.5	19	6.7	2.1	1.8	4.7
18	70	210	18	16	11	15	6.5	18	6.0	2.1	1.7	5.4
19	44	116	17	18	10	14	6.4	17	6.5	2.1	1.8	5.4
20	24	35	19	15	10	12	6.6	17	5.2	1.8	2.2	6.3
21	17	21	17	14	9.9	11	6.7	17	4.6	1.7	2.1	6.7
22	14	18	17	13	10	9.8	6.0	16	4.5	1.6	2.3	11
23	1500	34	16	13	11	9.4	749	15	4.5	1.5	1.2	11
24	2160	237	17	12	11	9.1	419	16	9.3	1.8	1.1	7.9
25	170	58	17	12	9.8	8.8	58	16	39	1.9	1.5	7.3
26	59	28	23	12	9.7	8.4	32	16	22	1.6	1.3	7.6
27	36	22	23	12	9.7	8.7	27	13	12	1.8	1.4	7.7
28	26	21	18	31	9.6	9.7	25	13	7.9	1.9	3.6	7.5
29	20	21	17	26	---	9.3	23	12	5.8	1.7	64	6.7
30	18	20	16	18	---	8.6	22	15	4.6	1.2	139	5.9
31	16	---	16	15	---	8.3	---	20	---	1.7	2450	---
TOTAL	4641.4	5286	594	799	304.7	377.9	1509.7	944	304.0	73.4	2704.4	2032.8
MEAN	150	176	19.2	25.8	10.9	12.2	50.3	30.5	10.1	2.37	87.2	67.8
MAX	2160	2850	42	197	14	35	749	149	39	4.5	2450	754
MIN	2.4	12	16	12	9.6	8.3	6.0	12	4.5	1.2	1.1	4.6
AC-FT	9210	10480	1180	1580	604	750	2990	1870	603	146	5360	4030

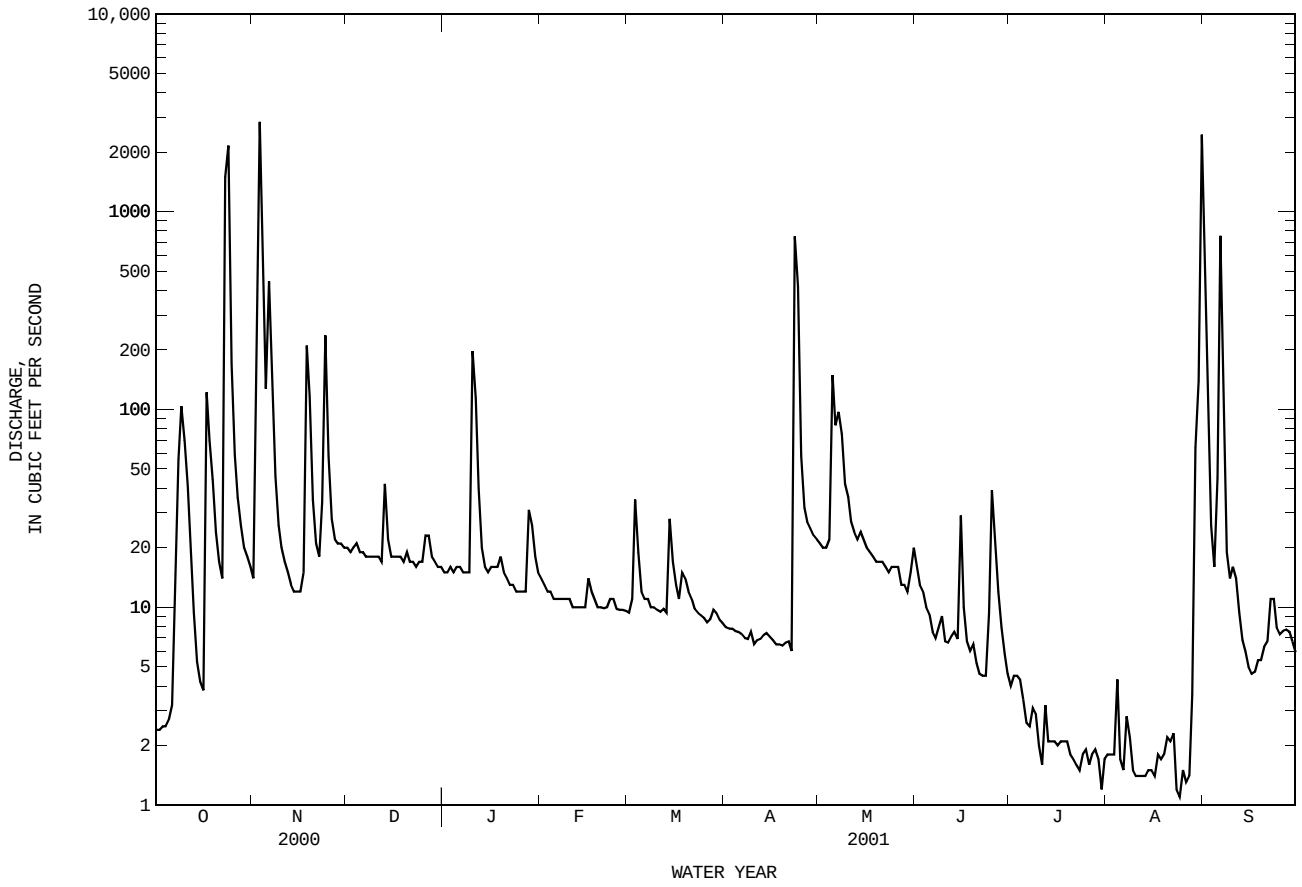
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2001, BY WATER YEAR (WY)

MEAN	83.2	21.9	44.1	18.9	35.9	27.6	22.2	60.0	131	18.8	16.0	16.2
MAX	942	176	575	116	355	192	82.6	356	824	144	87.2	67.8
(WY)	1999	2001	1992	1992	1992	1992	1991	1992	1987	1990	2001	2001
MIN	2.80	3.18	2.89	3.76	5.93	5.11	3.69	2.14	2.72	2.37	1.94	1.97
(WY)	1997	2000	2000	1997	1989	1996	1995	1996	1996	2001	1989	1989

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1985 - 2001	
ANNUAL TOTAL	12851.7		19571.3			
ANNUAL MEAN	35.1		53.6		41.3	
HIGHEST ANNUAL MEAN					156	1992
LOWEST ANNUAL MEAN					6.22	1996
HIGHEST DAILY MEAN	2850	Nov 3	2850	Nov 3	19800	Oct 18 1998
LOWEST DAILY MEAN	1.5	Jul 17	1.1	Aug 24	.52	Sep 15 1997
ANNUAL SEVEN-DAY MINIMUM	1.6	Jul 15	1.4	Aug 10	.78	Aug 1 1996
MAXIMUM PEAK FLOW			7450	Nov 3	i93300	Oct 17 1998
MAXIMUM PEAK STAGE			17.69	Nov 3	a29.31	Oct 17 1998
ANNUAL RUNOFF (AC-FT)	25490		38820		29910	
10 PERCENT EXCEEDS	35		45		36	
50 PERCENT EXCEEDS	4.6		12		7.6	
90 PERCENT EXCEEDS	2.1		2.1		2.7	

e Estimated
i From indirect measurement of peak flow.
a From floodmark.

08181480 Leon Creek at Interstate Highway 35 at San Antonio, TX--Continued



08181500 Medina River at San Antonio, TX

LOCATION.--Lat 29°15'14", long 98°28'20", Bexar County, Hydrologic Unit 12100302, near right bank at upstream side of pier of upstream bridge of two bridges on U.S. Highway 281 in San Antonio, and 6.8 mi upstream from mouth.

DRAINAGE AREA.--1,317 mi^2, of which 634 mi^2 is above dam forming Medina Lake.

PERIOD OF RECORD.--Oct. 1929 to Dec. 1930, July 1939 to current year. Oct. 1929 to Dec. 1930, records below about 50 ft^3/s in connection with seepage investigation, published as "at Losoya". Published as "near San Antonio" July 1939 to Sept. 1970.
Water-quality records.--Chemical data: June 1965 to Sept. 2000. Biochemical data: June 1965 to Sept. 2000. Pesticide data: Apr. 1971 to Sept. 1981, Dec. 1992 to Mar. 1998. Specific conductance: Jan. 1987 to Sept. 2000. pH: Jan. 1987 to Sept. 2000. Water temperature: Jan. 1987 to Sept. 2000. Dissolved oxygen: Jan. 1987 to Sept. 2000.

REVISED RECORDS.--WSP 1562: 1957. WSP 1923: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 439.03 ft above sea level (levels by U.S. Army Corps of Engineers). Oct. 1929 to Dec. 1930, nonrecording gage at Losoya 1.5 mi downstream at different datum. July 27, 1939 to Sept. 30, 1987, at site near left bank at downstream side of pier of upstream bridge of two bridges at same datum. Satellite telemeter at station.

REMARKS.--Records fair. Since installation of gage in water year 1939, at least 10% of contributing drainage area has been regulated. Streamflow is lost into the Edwards and associated limestones in the Balcones Fault Zone that cross the basin between the upstream end of Medina Lake and about 5 mi downstream from Medina Dam, or 0.9 mi downstream from the Medina Diversion Dam. Several small diversions below Medina Diversion Lake. Records furnished by the city of San Antonio show that during the current year, wastewater effluent in the amount of 49,850 acre-ft from the Mitchell Lake, Leon Creek, and Medio Creek plants was discharged into the Medina River above this station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 55 ft, prior to construction of Medina Dam in 1913, from information by Texas Department of Transportation.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109	251	e283	222	259	211	210	e220	166	120	102	1720
2	112	322	e281	232	252	216	210	e230	156	117	101	408
3	93	5530	283	236	248	241	207	e235	151	112	104	275
4	90	2690	286	236	245	276	207	e230	150	114	103	230
5	87	e613	280	236	244	252	206	e270	146	115	103	214
6	95	e1560	277	233	241	230	201	e315	141	110	100	1610
7	98	863	273	230	239	221	187	e305	138	106	96	958
8	169	488	273	231	239	221	182	e360	137	98	97	377
9	222	433	266	228	238	222	181	305	137	103	96	299
10	245	383	264	335	234	216	182	285	136	100	96	277
11	201	342	266	625	231	214	179	257	133	96	95	268
12	159	319	262	443	230	217	174	239	130	84	93	247
13	141	302	289	328	230	216	176	231	127	84	94	230
14	129	293	283	300	230	228	175	226	129	74	92	218
15	122	282	274	286	230	268	173	220	140	76	93	210
16	123	276	266	280	237	242	171	214	135	84	99	203
17	141	280	261	281	236	229	171	211	131	109	109	200
18	243	e490	260	307	230	225	169	202	130	109	99	197
19	293	e1000	254	309	223	243	172	193	126	102	99	192
20	196	e460	253	300	226	237	171	198	128	75	100	188
21	158	387	259	282	222	231	172	209	130	76	96	180
22	147	342	255	272	221	224	171	209	132	85	96	184
23	373	321	249	266	222	221	e800	216	130	94	96	197
24	5080	1030	246	261	223	218	e2400	209	138	93	91	183
25	2030	761	246	257	217	215	e2500	197	154	86	89	174
26	523	427	256	256	216	214	e500	180	151	88	90	169
27	398	e338	268	256	214	213	e300	174	136	89	100	160
28	341	e312	259	276	213	217	e235	179	128	86	111	152
29	301	e298	237	317	---	219	e220	175	125	88	157	147
30	278	e290	230	291	---	215	e220	173	124	93	188	145
31	264	---	225	271	---	212	---	174	---	105	910	---
TOTAL	12961	21683	8164	8883	6490	7024	11222	7041	4115	2971	3995	10212
MEAN	418	723	263	287	232	227	374	227	137	95.8	129	340
MAX	5080	5530	289	625	259	276	2500	360	166	120	910	1720
MIN	87	251	225	222	213	211	169	173	124	74	89	145
AC-FT	25710	43010	16190	17620	12870	13930	22260	13970	8160	5890	7920	20260

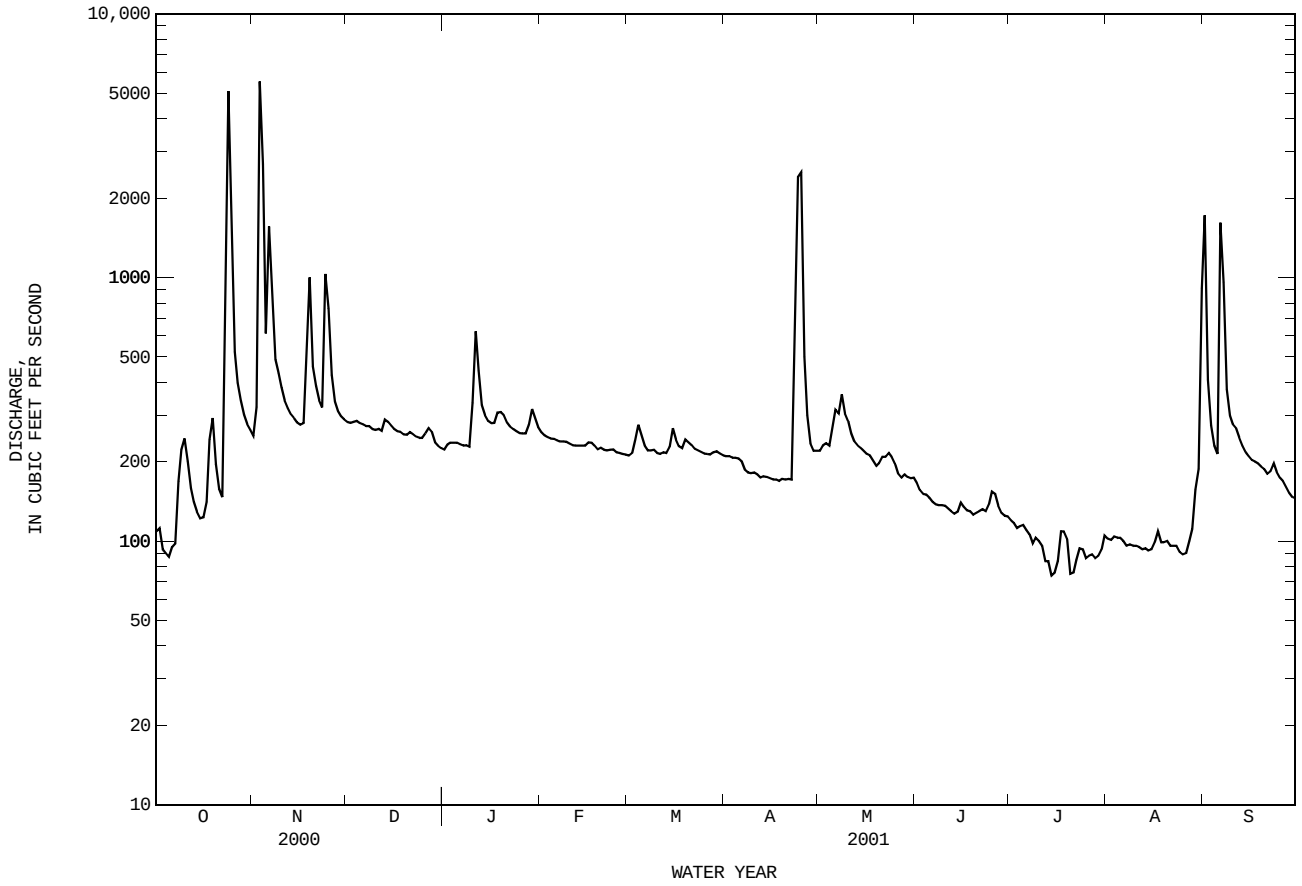
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2001h, BY WATER YEAR (WY)

MEAN	230	169	155	169	222	181	193	261	396	203	150	183
MAX	2151	835	961	979	2923	2558	1620	2018	7006	3261	1175	1427
(WY)	1999	1977	1992	1968	1992	1992	1992	1992	1987	1973	1978	1973
MIN	7.60	8.50	12.7	5.58	12.7	9.77	6.63	8.71	6.52	6.13	6.40	8.24
(WY)	1956	1956	1955	1957	1953	1956	1956	1953	1956	1954	1952	1954

08181500 Medina River at San Antonio, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1939 - 2001h	
ANNUAL TOTAL	79194		104761			
ANNUAL MEAN	216		287		209	
HIGHEST ANNUAL MEAN					1218	1992
LOWEST ANNUAL MEAN					14.3	1956
HIGHEST DAILY MEAN	5530	Nov 3	5530	Nov 3	31300	Oct 18 1998
LOWEST DAILY MEAN	57	Sep 7	74	Jul 14	3.3	Apr 18 1956
ANNUAL SEVEN-DAY MINIMUM	65	Sep 6	85	Jul 20	4.0	Jan 21 1957
MAXIMUM PEAK FLOW			8410	Nov 3	42400	Oct 18 1998
MAXIMUM PEAK STAGE			25.50	Nov 3	49.47	Oct 18 1998
ANNUAL RUNOFF (AC-FT)	157100		207800		151600	
10 PERCENT EXCEEDS	294		339		361	
50 PERCENT EXCEEDS	140		219		97	
90 PERCENT EXCEEDS	86		98		19	

e Estimated
h See PERIOD OF RECORD paragraph.



08181800 San Antonio River near Elmendorf, TX

LOCATION.--Lat 29°13'19", long 98°21'20", Bexar County, Hydrologic Unit 12100301, at downstream side of bridge on Farm Road 1604, 2.7 mi southwest of Elmendorf, 3.3 mi downstream from Braunig Plant Lake, and 203.0 mi upstream from mouth.

DRAINAGE AREA.--1,743 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Sept. 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 380.00 ft above sea level. Sept. 12, 1962 to Dec. 19, 1980, at site 2.5 mi upstream at different datum; Dec. 19, 1980 to Dec. 23, 1986, at current site and datum; Dec. 24, 1986 to June 15, 1993, at site 2.8 mi upstream at different datum. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Since installation of gage in water year 1962, at least 10% of contributing drainage area has been regulated. Additional regulation since 1973 by eleven Soil Conservation Service floodwater-retarding structures. Water is diverted above station from Medina River for irrigation in the vicinity of Devine and Lytle, with some water diverted for irrigation near San Antonio. During the current year, the city of San Antonio discharged 147,500 acre-ft of wastewater effluent into the San Antonio River above the station from their Leon Creek, Medio Creek, Salado Creek, Dos Rios, and Mitchell plants. The San Antonio City Public Service Board diverted 5,170 acre-ft into Braunig Lake and 14,100 acre-ft into Calaveras Lake upstream from this station and released 513 acre-ft from Braunig Lake and 792 acre-ft from Calaveras Lake upstream from this station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 61 ft in 1946. Second highest stage was 53 ft in 1913, from information by local residents at site and datum in use prior to Dec. 19, 1980.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	211	359	e552	e434	469	390	322	531	391	136	108	5690
2	219	364	e523	e435	454	425	332	509	340	233	109	2920
3	212	e5810	e505	e441	438	730	326	503	325	197	109	1580
4	198	e10500	e498	e540	438	862	323	485	281	163	111	774
5	197	e7280	488	e437	441	551	321	2150	207	152	114	506
6	196	e4810	468	e442	437	462	319	1090	203	144	110	5050
7	199	e4890	448	e427	432	434	291	882	193	139	120	3070
8	619	e2950	448	e442	430	427	290	753	174	130	109	775
9	874	e957	435	e437	438	496	326	604	192	143	126	568
10	839	e934	436	e437	423	426	338	557	183	147	145	557
11	384	e919	e400	e1200	419	417	356	520	186	128	143	484
12	291	e765	e416	e800	425	434	367	477	178	125	147	456
13	265	e644	763	595	424	433	367	682	166	118	155	429
14	241	555	599	557	429	534	370	493	162	112	149	419
15	235	510	469	502	421	803	368	471	604	110	140	398
16	236	493	452	543	548	470	361	458	593	114	137	391
17	448	525	439	550	466	410	365	448	317	107	150	395
18	1170	2050	441	573	433	419	351	447	292	100	152	385
19	424	e3720	425	669	416	597	355	e446	234	99	146	369
20	336	e1400	422	612	422	487	361	e442	195	80	154	373
21	273	720	422	506	417	413	352	e438	170	67	148	368
22	273	609	425	490	413	373	350	e434	162	70	147	383
23	1060	564	409	477	412	371	1950	e430	168	82	143	880
24	4850	3100	415	460	442	333	7470	e425	801	86	140	448
25	4390	2020	410	451	413	326	3820	409	1130	86	132	386
26	880	798	637	448	411	332	946	390	396	83	138	363
27	524	642	743	439	405	328	696	375	283	90	130	353
28	449	579	520	557	399	357	619	373	172	99	192	341
29	421	545	459	842	---	352	567	380	154	95	1250	327
30	401	526	e446	655	---	345	552	371	141	102	4220	321
31	381	---	e448	507	---	326	---	370	---	111	7120	---
TOTAL	21696	60538	14961	16905	12115	14063	24131	17343	8993	3648	16394	29759
MEAN	700	2018	483	545	433	454	804	559	300	118	529	992
MAX	4850	10500	763	1200	548	862	7470	2150	1130	233	7120	5690
MIN	196	359	400	427	399	326	290	370	141	67	108	321
AC-FT	43030	120100	29680	33530	24030	27890	47860	34400	17840	7240	32520	59030

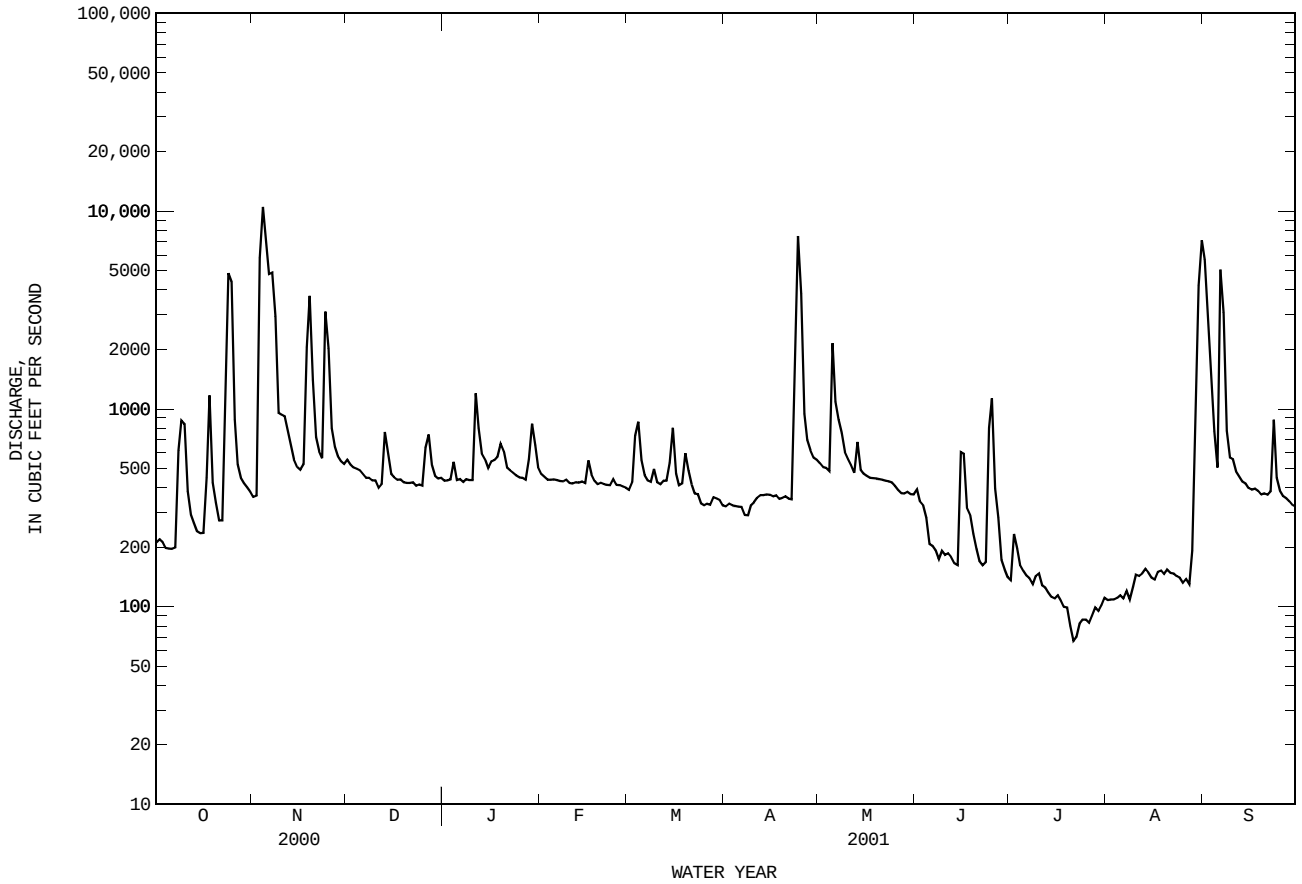
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2001, BY WATER YEAR (WY)

MEAN	585	488	452	489	553	490	516	728	950	481	394	475
MAX	4507	2018	2176	2191	3803	3031	1997	3293	8527	3764	1760	2761
(WY)	1999	2001	1992	1968	1992	1992	1992	1992	1987	1973	1978	1973
MIN	127	153	160	168	146	143	150	130	88.6	81.9	52.8	120
(WY)	1997	1967	1971	1967	1967	1971	1967	1967	1967	1964	1963	1989

08181800 San Antonio River near Elmendorf, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1962 - 2001	
ANNUAL TOTAL	173778		240546			
ANNUAL MEAN	475		659		549	
HIGHEST ANNUAL MEAN					1784	1992
LOWEST ANNUAL MEAN					166	1963
HIGHEST DAILY MEAN	10500	Nov 4	e10500	Nov 4	59100	Oct 18 1998
LOWEST DAILY MEAN	108	Aug 19	67	Jul 21	25	Aug 26 1963
ANNUAL SEVEN-DAY MINIMUM	116	Aug 24	79	Jul 20	42	Aug 21 1963
MAXIMUM PEAK FLOW			10900	Nov 4	75100	Oct 18 1998
MAXIMUM PEAK STAGE			a41.56	Nov 4	64.22	Oct 18 1998
ANNUAL RUNOFF (AC-FT)	344700		477100		398000	
10 PERCENT EXCEEDS	648		880		962	
50 PERCENT EXCEEDS	248		422		314	
90 PERCENT EXCEEDS	132		139		145	

e Estimated
a From floodmark.



08181800 San Antonio River near Elmendorf, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Sept. 1964 to current year.
BIOCHEMICAL DATA: Jan. 1968 to current year.
PESTICIDE DATA: Jan. 1968 to Sept. 1981, Dec. 1992 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Oct. 1966 to current year.
pH: June 1984 to current year.
WATER TEMPERATURE: Oct. 1966 to current year.
DISSOLVED OXYGEN: June 1984 to current year.

INSTRUMENTATION.--Water-quality monitor since June 1984.

REMARKS.--Records fair. Interruptions in the record were caused by malfunctions of the instrument and silting of the monitor probes during periods of high water. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed for previous years using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. The computation of the selected constituent loads might include estimated discharge or specific conductance data. Regression equations developed for this station may be obtained from the U.S. Geological Survey Texas District Office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,240 microsiemens/cm, Jan. 29, 1973, Aug. 8, 1975; minimum, 102 microsiemens/cm, Oct. 17, 1999.
pH: Maximum, 9.0 units, June 16, 17, 1993; minimum, 7.0 units, Oct. 25 and 28, 1988, Jan. 11, 1989.
WATER TEMPERATURE: Maximum, 33.5°C, June 19, 20, Sept. 2, 1996; minimum daily, 5.5°C, Jan. 10, 1973.
DISSOLVED OXYGEN: Maximum, 14.2 mg/L, Nov. 17, 2000; minimum, 0.0 mg/L, Mar. 2, Apr. 14, 15, 1985.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,110 microsiemens/cm, Jan. 5; minimum, 152 microsiemens/cm, Aug. 30.
pH: Maximum, 8.9 units, Sept. 6; minimum, 7.1 units, Mar. 15.
WATER TEMPERATURE: Maximum, 32.2°C, Aug. 1; minimum, 9.4°C, Nov. 15.
DISSOLVED OXYGEN: Maximum, 14.2 mg/L, Nov. 17; minimum, 2.9 mg/L, Oct. 24.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
NOV													
28...	0930	590	11.0	116	8.2	793	18.5	--	256	78.7	14.4	7.17	1.50
JAN													
04...	1030	408	9.3	88.1	8.1	896	13.5	89	299	90.4	17.7	7.09	1.57
31...	0930	520	7.9	79.7	--	830	16.5	52	268	82.1	15.2	7.10	1.58
FEB													
28...	0900	415	8.0	82.4	8.3	900	17.5	100	318	101	16.2	3.50	1.62
APR													
03...	0910	340	7.7	86.8	7.9	860	22.0	73	283	83.9	17.8	6.45	1.61
MAY													
03...	1320	481	--	--	8.1	885	25.5	69	284	84.5	17.7	7.34	1.60
23...	1300	420	7.5	92.6	8.0	828	25.0	71	271	79.9	17.2	6.73	1.49
JUN													
27...	1100	322	6.8	88.6	7.9	840	28.0	74	257	77.7	15.4	8.70	1.75
JUL													
18...	0910	103	--	--	7.6	970	30.0	85	281	82.0	18.5	9.57	2.02
SEP													
25...	0950	394	6.8	83.9	8.1	760	25.0	63	254	76.7	15.2	6.92	1.40

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
NOV													
28...	55.2	31.2	--	71.7	.4	13.5	74.3	485	--	.260	.79	1.3	5.88
JAN													
04...	62.4	30.6	210	81.3	.4	12.6	76.3	551	516	.173	.74	1.0	8.75
31...	59.4	31.9	220	74.2	.4	11.7	78.7	508	490	.438	1.1	1.3	6.34
FEB													
28...	66.5	31.0	210	72.3	.3	7.6	93.5	552	491	<.041	.26	.34	--
APR													
03...	62.2	31.8	210	78.8	.4	11.3	74.3	523	501	.225	.80	.95	8.39
MAY													
03...	62.0	31.5	210	82.9	.5	13.0	80.8	548	511	.100	.77	1.2	6.97
23...	56.4	30.5	200	72.8	.5	13.7	70.0	509	474	E.023	.50	.66	7.93
JUN													
27...	64.4	34.3	180	77.5	.5	13.9	68.7	523	489	<.040	.70	.92	11.1
JUL													
18...	77.9	36.7	200	99.5	.5	13.5	70.8	586	544	.048	.70	1.2	12.2
SEP													
25...	51.2	29.8	190	68.7	.5	13.7	63.2	470	452	<.040	.63	.80	8.73

08181800 San Antonio River near Elmendorf, TX--Continued

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

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
NOV													
28...	5.98	.107	.533	1.06	7.31	2.45	.825	.798	.926	M	6.2	<.002	<.004
JAN													
04...	8.83	.079	.564	.859	9.86	2.51	.843	.819	.920	M	8.9	<.002	<.004
31...	6.56	.220	.649	.870	7.87	1.80	.663	.588	.699	10	11.1	<.002	<.004
FEB													
28...	.446	E.005	--	--	.788	--	.020	<.018	.034	M	36.0	<.002	<.004
APR													
03...	8.50	.107	.575	.728	9.46	2.25	.772	.733	.810	20	6.8	<.002	<.004
MAY													
03...	7.09	.118	.674	1.07	8.26	2.01	.761	.657	.740	M	9.4	<.002	.013
23...	7.94	.013	--	--	8.60	1.95	.643	.637	.676	<10	8.6	<.002	<.004
JUN													
27...	11.1	.034	--	--	12.0	3.29	1.06	1.07	1.20	M	4.8	<.002	<.004
JUL													
18...	12.2	.038	.648	1.12	13.4	--	1.38	E1.04	1.42	10	8.8	<.002	<.004
SEP													
25...	8.74	.011	--	--	9.55	2.70	.857	.882	.920	10	4.9	<.002	<.004

DATE	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)
NOV													
28...	<.002	<.005	.047	<.010	<.002	E.011	<.020	<.005	<.018	<.003	E.013	.028	<.005
JAN													
04...	<.002	<.005	.009	<.010	<.002	<.041	<.020	<.005	<.018	<.003	E.018	E.004	<.005
31...	<.002	<.005	.035	<.010	<.002	<.041	<.020	<.005	<.018	<.003	E.011	.012	<.005
FEB													
28...	<.002	<.005	.041	<.010	<.002	<.041	<.020	<.005	<.018	<.003	E.016	.017	<.005
APR													
03...	<.002	<.005	.077	<.010	<.002	E.018	<.020	<.005	<.018	<.003	E.015	.008	<.005
MAY													
03...	<.002	<.005	.408	<.010	<.002	E.012	<.020	E.004	<.018	<.003	E.031	.033	<.005
23...	<.007	<.005	.086	<.010	<.002	<.041	<.020	<.005	<.018	<.003	E.018	E.003	<.005
JUN													
27...	<.002	<.005	.085	<.010	<.002	E.005	<.020	<.005	<.018	<.003	E.007	.034	<.005
JUL													
18...	<.002	<.005	.033	<.010	<.002	<.041	<.020	<.005	<.018	<.003	E.013	<.020	<.005
SEP													
25...	<.002	<.005	.024	<.010	<.002	<.041	<.020	<.005	<.018	<.003	E.009	.016	<.005

DATE	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)
NOV													
28...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	E.006	<.006	<.030
JAN													
04...	<.021	<.012	<.009	<.005	<.003	.012	<.035	<.027	<.050	<.006	E.003	<.006	<.015
31...	<.021	<.002	<.009	<.005	<.003	.009	<.035	<.027	<.050	<.006	<.013	<.006	<.002
FEB													
28...	<.021	<.006	<.009	<.005	<.003	.012	<.035	<.027	<.050	<.006	E.001	<.006	<.002
APR													
03...	<.021	<.002	<.009	<.005	<.003	.014	<.035	<.027	<.050	<.006	<.013	<.006	<.002
MAY													
03...	<.021	<.002	<.009	<.005	<.003	.011	<.035	<.027	<.050	<.006	E.010	<.006	<.002
23...	<.021	<.002	<.009	<.005	<.003	.008	<.035	<.027	<.050	<.006	E.004	<.006	<.002
JUN													
27...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002
JUL													
18...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002
SEP													
25...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002

08181800 San Antonio River near Elmendorf, TX--Continued

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

DATE	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
NOV													
28...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	E.007	<.004	<.010	<.011	<.023	.011
JAN													
04...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	E.008	<.004	<.010	<.011	<.023	<.011
31...	<.007	<.003	<.007	<.070	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023	<.011
FEB													
28...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	E.007	<.004	<.010	<.011	<.023	<.011
APR													
03...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	E.009	<.004	<.010	<.011	<.023	<.011
MAY													
03...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	E.007	<.004	<.010	<.012	<.023	<.011
23...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	E.008	<.004	<.010	<.011	<.023	<.011
JUN													
27...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	.015	<.004	<.010	<.011	<.023	<.011
JUL													
18...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	E.010	<.004	<.010	<.011	<.023	<.011
SEP													
25...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	E.009	<.004	<.010	<.011	<.023	.112

DATE	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
NOV								
28...	E.015	<.034	<.017	<.005	<.002	<.009	56	89
JAN								
04...	E.015	<.034	<.017	<.005	<.002	<.009	15	17
31...	<.016	<.034	<.017	<.005	<.002	<.009	28	39
FEB								
28...	<.016	<.034	<.017	<.005	<.002	<.009	13	15
APR								
03...	E.016	<.034	<.017	<.005	<.002	<.009	30	28
MAY								
03...	.134	<.034	<.017	<.005	<.002	<.009	36	47
23...	.158	<.034	<.017	<.005	<.002	<.009	22	25
JUN								
27...	.024	<.034	<.017	<.005	<.002	<.009	56	49
JUL								
18...	<.016	<.034	<.017	<.005	<.002	<.009	26	7.2
SEP								
25...	<.016	<.034	<.017	<.005	<.002	<.009	41	44

08181800 San Antonio River near Elmendorf, TX--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	975	923	956	330	306	314	---	---	e785	---	---	e905
2	932	886	915	329	312	317	---	---	e763	1000	---	938
3	931	889	916	---	---	e270	---	---	e755	1050	936	968
4	966	931	951	---	---	e235	---	---	e760	1070	889	977
5	990	946	967	---	---	e260	---	---	e755	1110	1000	1060
6	1010	960	979	---	---	e280	---	---	e740	---	---	e1030
7	976	932	958	---	---	e270	744	701	718	---	---	e1040
8	951	502	639	---	---	e300	742	708	726	---	---	e1020
9	680	367	497	---	---	e310	728	703	716	---	---	e1000
10	508	393	448	---	---	e320	---	---	e714	---	---	e990
11	670	508	586	---	---	e325	---	---	e705	764	---	623
12	782	657	711	---	---	e320	---	---	e695	799	735	780
13	850	766	804	---	---	e350	---	---	e468	931	757	841
14	889	841	856	460	310	382	661	---	e605	992	898	930
15	903	873	882	540	460	495	703	634	657	---	---	e950
16	895	865	887	600	440	534	703	653	671	1030	---	964
17	930	243	841	795	450	529	744	660	703	1000	953	978
18	546	291	448	---	---	e365	741	677	700	1020	966	993
19	744	463	623	---	---	e520	770	678	701	1020	921	962
20	773	697	716	---	---	e640	758	699	715	951	893	919
21	---	---	e800	---	---	e700	773	700	716	---	---	e900
22	---	---	e840	---	---	e750	725	684	705	---	---	e901
23	859	301	615	---	---	e795	716	674	698	---	---	e890
24	453	228	289	---	---	e485	717	681	691	---	---	e880
25	327	265	294	---	---	e570	742	677	688	---	---	e890
26	412	309	351	---	---	e630	695	625	658	---	---	e900
27	722	412	622	---	---	e705	655	597	621	---	---	e902
28	742	326	556	---	---	e793	---	---	e750	---	---	e900
29	406	302	310	---	---	e800	---	---	e820	---	---	e470
30	316	300	309	---	---	e795	890	---	855	---	---	e680
31	318	301	313	---	---	---	945	870	910	---	---	e830
MONTH	---	---	674	---	---	479	---	---	715	---	---	904

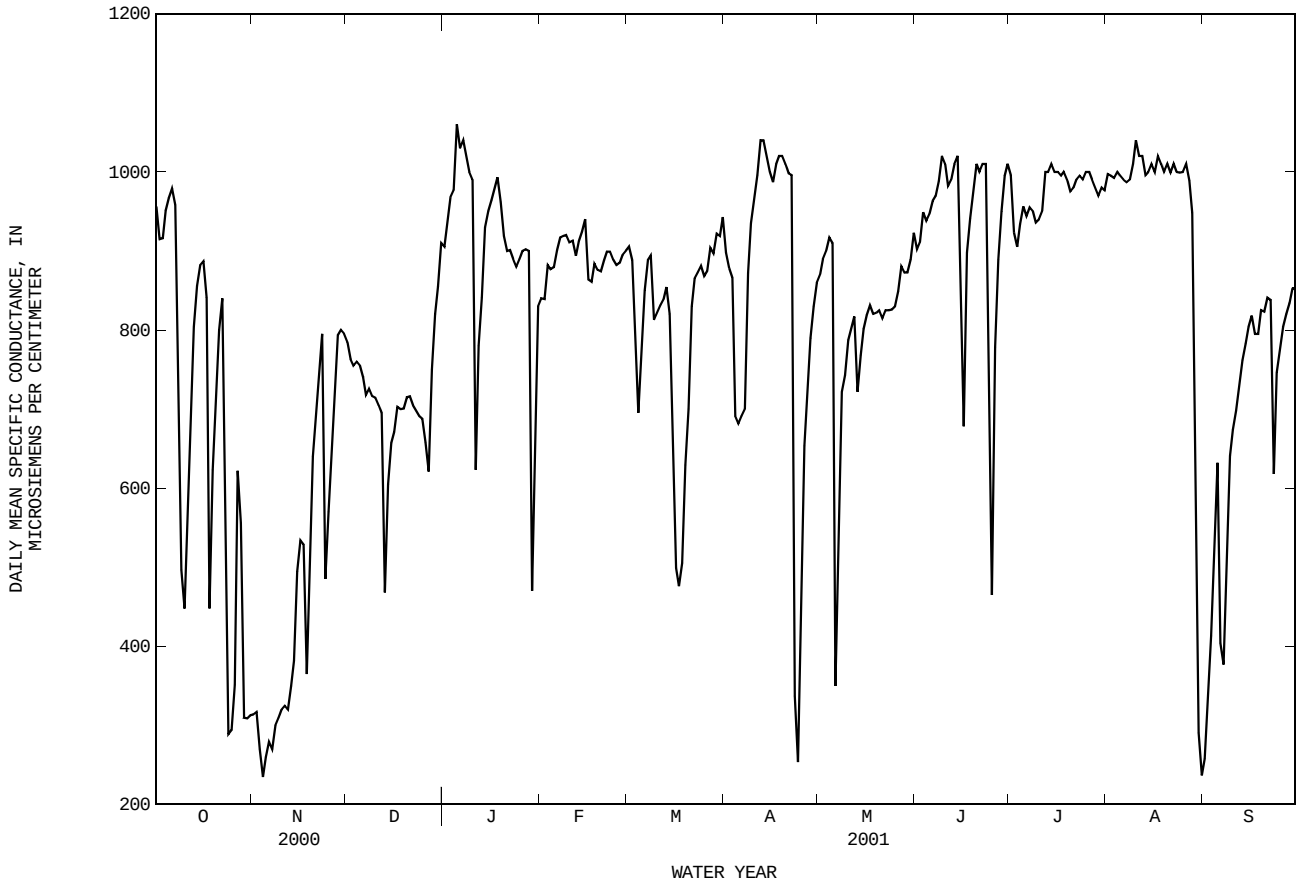
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	e840	930	876	e905	927	870	898	---	---	e870
2	---	---	e839	921	852	888	928	854	878	---	---	e890
3	---	---	e882	880	640	779	919	836	866	937	849	e900
4	---	---	e877	735	629	695	---	---	e691	940	896	917
5	---	---	e879	814	711	771	---	---	e682	---	---	e910
6	938	897	e901	882	802	850	---	---	e691	---	---	e350
7	936	892	917	916	860	888	---	---	e700	712	580	e570
8	951	890	919	911	857	894	931	836	872	752	661	722
9	935	891	920	886	766	813	961	890	935	789	699	743
10	926	897	911	841	800	822	1010	911	964	831	752	787
11	931	880	913	868	803	831	1020	966	996	831	779	801
12	918	864	894	870	815	839	1080	980	1040	849	785	817
13	931	899	912	879	828	854	1070	1010	1040	832	626	722
14	949	905	924	883	600	820	1050	1000	1020	815	718	768
15	952	934	940	768	538	687	1040	982	1000	837	770	801
16	941	754	864	---	---	e499	1010	978	987	854	799	819
17	910	757	861	---	---	e476	1060	967	1010	851	812	831
18	897	865	884	---	---	e505	1060	991	1020	---	---	e820
19	906	851	876	---	---	e629	1060	987	1020	---	---	e822
20	909	849	874	789	752	e700	1050	984	1010	---	---	e825
21	928	869	888	869	779	830	1040	967	998	---	---	e815
22	918	886	899	903	830	865	1020	972	996	---	---	e825
23	933	888	899	911	846	873	---	---	e337	---	---	e825
24	924	860	889	905	859	881	---	---	e254	---	---	e826
25	908	864	882	889	853	868	---	---	e480	881	809	e830
26	911	858	885	911	849	874	---	---	e653	906	818	849
27	---	---	e895	940	872	904	---	---	e725	906	851	881
28	---	---	e900	925	861	897	---	---	e790	902	848	873
29	---	---	---	942	883	922	---	---	e830	918	850	873
30	---	---	---	956	901	919	---	---	e860	923	869	889
31	---	---	---	966	880	943	---	---	---	952	904	923
MONTH	---	---	892	---	---	804	---	---	841	---	---	809

08181800 San Antonio River near Elmendorf, TX--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	949	873	902	1030	980	996	1030	957	997	308	209	258
2	947	881	911	995	848	923	---	---	e995	420	270	346
3	978	935	949	966	828	905	1020	924	992	506	302	413
4	965	923	938	969	904	934	1030	971	1000	574	471	519
5	975	922	947	975	945	956	---	---	e995	695	574	632
6	1020	904	963	966	929	944	---	---	e990	775	175	404
7	1020	934	969	966	946	955	1020	952	987	448	343	377
8	1020	962	988	989	926	950	1020	948	990	597	448	535
9	1070	994	1020	954	924	936	1040	978	1010	678	583	641
10	1040	952	1010	---	---	e940	1040	1030	1040	709	640	674
11	1010	956	982	---	---	e950	1030	1010	1020	736	669	698
12	1010	961	990	---	---	e1000	1020	999	1020	774	696	730
13	1040	991	1010	---	---	e1000	1020	976	996	816	731	762
14	1060	1000	1020	---	---	e1010	1020	952	1000	822	748	783
15	1040	574	809	---	---	e1000	1030	986	1010	857	762	804
16	844	507	678	---	---	e1000	1040	978	1000	856	788	818
17	954	832	898	---	---	e995	1050	966	1020	832	768	795
18	953	933	941	---	---	e1000	1030	988	1010	844	768	795
19	997	950	975	---	---	e990	1010	979	1000	849	804	825
20	1030	947	1010	---	---	e975	1020	982	1010	852	783	823
21	1010	973	1000	---	---	e980	1020	972	999	864	825	841
22	1040	964	1010	---	---	e990	1020	991	1010	865	794	838
23	1040	986	1010	---	---	e995	1020	997	1000	804	465	618
24	1030	400	812	---	---	e990	1010	989	999	768	712	746
25	624	315	465	---	---	e1000	1020	991	1000	816	745	776
26	877	621	778	---	---	e1000	1020	972	1010	857	787	804
27	948	849	889	---	---	e990	1010	960	989	850	805	820
28	990	879	950	---	---	e980	1000	902	948	870	818	834
29	1010	977	995	---	---	e970	911	239	705	880	837	852
30	1020	980	1010	---	---	e980	431	152	291	894	831	852
31	---	---	---	1010	934	977	292	153	237	---	---	---
MONTH	1070	315	928	---	---	975	---	---	944	894	175	687

e Estimated



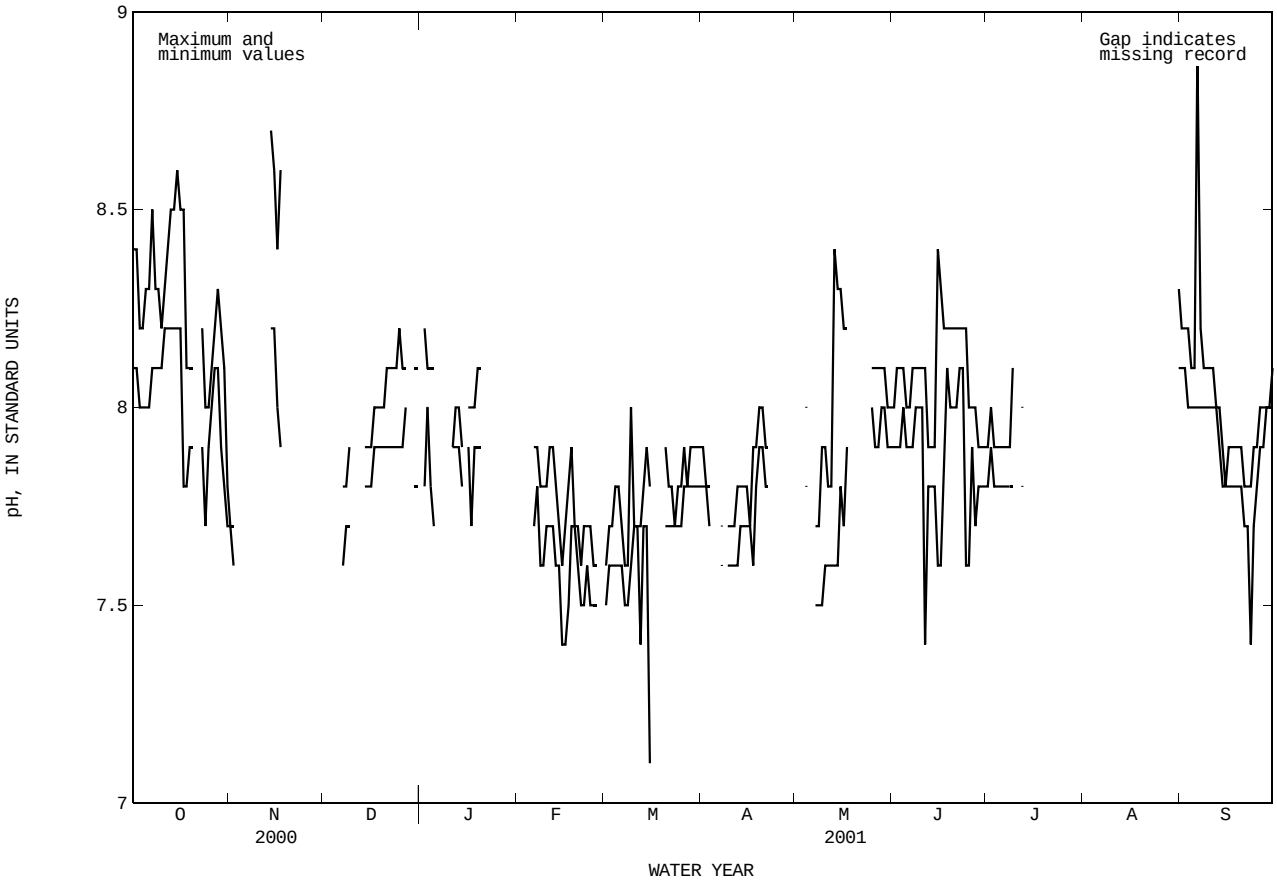
08181800 San Antonio River near Elmendorf, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.4	8.1	7.7	7.7	---	---	---	---	---	---	7.6	7.5
2	8.4	8.1	7.7	7.6	---	---	8.2	7.8	---	---	7.7	7.6
3	8.2	8.0	---	---	---	---	8.1	8.0	---	---	7.7	7.6
4	8.2	8.0	---	---	---	---	8.1	7.8	---	---	7.8	7.6
5	8.3	8.0	---	---	---	---	8.1	7.7	---	---	7.8	7.6
6	8.3	8.0	---	---	---	---	---	---	7.9	7.7	7.7	7.6
7	8.5	8.1	---	---	7.8	7.6	---	---	7.9	7.8	7.6	7.5
8	8.3	8.1	---	---	7.8	7.7	---	---	7.8	7.6	7.6	7.5
9	8.3	8.1	---	---	7.9	7.7	---	---	7.8	7.6	8.0	7.6
10	8.2	8.1	---	---	---	---	---	---	7.8	7.7	7.7	7.7
11	8.3	8.2	---	---	---	---	7.9	7.9	7.9	7.7	7.7	7.7
12	8.4	8.2	---	---	---	---	8.0	7.9	7.9	7.7	7.7	7.4
13	8.5	8.2	---	---	---	---	8.0	7.9	7.8	7.6	7.8	7.7
14	8.5	8.2	8.7	8.2	7.9	7.8	7.9	7.8	7.7	7.6	7.9	7.7
15	8.6	8.2	8.6	8.2	7.9	7.8	---	---	7.6	7.4	7.8	7.1
16	8.5	8.2	8.4	8.0	7.9	7.8	8.0	7.9	7.7	7.4	---	---
17	8.5	7.8	8.6	7.9	8.0	7.9	8.0	7.7	7.8	7.5	---	---
18	8.1	7.8	---	---	8.0	7.9	8.0	7.9	7.9	7.7	---	---
19	8.1	7.9	---	---	8.0	7.9	8.1	7.9	7.7	7.7	---	---
20	8.1	7.9	---	---	8.0	7.9	8.1	7.9	7.7	7.6	7.9	7.7
21	---	---	---	---	8.1	7.9	---	---	7.6	7.5	7.8	7.7
22	---	---	---	---	8.1	7.9	---	---	7.7	7.5	7.8	7.7
23	8.2	7.9	---	---	8.1	7.9	---	---	7.7	7.6	7.7	7.7
24	8.0	7.7	---	---	8.1	7.9	---	---	7.7	7.5	7.8	7.7
25	8.0	7.9	---	---	8.2	7.9	---	---	7.6	7.5	7.8	7.7
26	8.1	8.0	---	---	8.1	7.9	---	---	7.6	7.5	7.9	7.8
27	8.2	8.1	---	---	8.1	8.0	---	---	---	---	7.8	7.8
28	8.3	8.1	---	---	---	---	---	---	---	---	7.9	7.8
29	8.2	7.9	---	---	---	---	---	---	---	---	7.9	7.8
30	8.1	7.8	---	---	8.1	7.8	---	---	---	---	7.9	7.8
31	7.8	7.7	---	---	8.1	7.8	---	---	---	---	7.9	7.8
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.9	7.8	---	---	8.0	7.9	7.9	7.8	---	---	8.2	8.1
2	7.8	7.8	---	---	8.1	7.9	8.0	7.9	---	---	8.2	8.1
3	7.8	7.7	---	---	8.1	7.9	7.9	7.8	---	---	8.2	8.0
4	---	---	8.0	7.8	8.1	8.0	7.9	7.8	---	---	8.1	8.0
5	---	---	---	---	8.0	7.9	7.9	7.8	---	---	8.1	8.0
6	---	---	---	---	8.0	7.9	7.9	7.8	---	---	8.9	8.0
7	7.7	7.6	7.7	7.5	8.1	7.9	7.9	7.8	---	---	8.2	8.0
8	---	---	7.7	7.5	8.1	8.0	7.9	7.8	---	---	8.1	8.0
9	7.7	7.6	7.9	7.5	8.1	8.0	8.1	7.8	---	---	8.1	8.0
10	7.7	7.6	7.9	7.6	8.1	8.0	---	---	---	---	8.1	8.0
11	7.7	7.6	7.8	7.6	8.1	7.4	---	---	---	---	8.1	8.0
12	7.8	7.6	7.8	7.6	7.9	7.8	8.0	7.8	---	---	8.0	8.0
13	7.8	7.7	8.4	7.6	7.9	7.8	---	---	---	---	8.0	7.9
14	7.8	7.7	8.3	7.6	7.9	7.8	---	---	---	---	7.9	7.8
15	7.8	7.7	8.3	7.8	8.4	7.6	---	---	---	---	7.8	7.8
16	7.7	7.7	8.2	7.7	8.3	7.6	---	---	---	---	7.9	7.8
17	7.9	7.6	8.2	7.9	8.2	7.9	---	---	---	---	7.9	7.8
18	7.9	7.8	---	---	8.2	8.1	---	---	---	---	7.9	7.8
19	8.0	7.9	---	---	8.2	8.0	---	---	---	---	7.9	7.8
20	8.0	7.9	---	---	8.2	8.0	---	---	---	---	7.9	7.8
21	7.9	7.8	---	---	8.2	8.0	---	---	---	---	7.8	7.7
22	7.9	7.8	---	---	8.2	8.1	---	---	---	---	7.8	7.7
23	---	---	---	---	8.2	8.1	---	---	---	---	7.8	7.4
24	---	---	---	---	8.2	7.6	---	---	---	---	7.9	7.7
25	---	---	8.1	8.0	8.0	7.6	---	---	---	---	7.9	7.8
26	---	---	8.1	7.9	8.0	7.9	---	---	---	---	8.0	7.9
27	---	---	8.1	7.9	8.0	7.7	---	---	---	---	8.0	7.9
28	---	---	8.1	8.0	7.9	7.8	---	---	---	---	8.0	8.0
29	---	---	8.1	8.0	7.9	7.8	---	---	---	---	8.0	8.0
30	---	---	8.0	7.9	7.9	7.8	---	---	---	---	8.1	8.0
31	---	---	8.0	7.9	---	---	---	---	8.3	8.1	---	---
MONTH	---	---	---	---	8.4	7.4	---	---	---	---	8.9	7.4

08181800 San Antonio River near Elmendorf, TX--Continued



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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	26.3	24.7	25.6	25.4	25.0	25.2	---	---	---	---	---	---
2	27.3	25.5	26.3	25.7	25.0	25.3	---	---	---	13.8	12.2	12.9
3	28.4	26.8	27.6	---	---	---	---	---	---	13.5	12.3	12.9
4	29.1	27.4	28.2	---	---	---	---	---	---	15.0	12.4	13.3
5	29.4	27.8	28.5	---	---	---	---	---	---	15.6	13.5	14.4
6	28.9	26.7	28.2	---	---	---	---	---	---	---	---	---
7	26.7	22.4	24.6	---	---	---	17.3	16.0	16.5	---	---	---
8	23.3	18.2	19.5	---	---	---	17.3	15.6	16.3	---	---	---
9	19.0	15.7	17.1	---	---	---	17.5	15.9	16.6	---	---	---
10	16.8	15.6	16.0	---	---	---	---	---	---	---	---	---
11	19.2	16.8	17.7	---	---	---	---	---	---	12.4	11.1	11.8
12	22.2	19.0	20.2	---	---	---	---	---	---	13.9	12.4	13.2
13	24.0	21.5	22.5	---	---	---	---	---	---	14.7	13.4	14.0
14	24.7	23.3	23.8	20.8	11.6	15.2	15.1	13.3	13.9	16.0	14.2	14.9
15	25.6	24.4	24.9	14.4	9.4	12.1	16.6	15.0	15.5	---	---	---
16	26.3	25.2	25.8	20.4	14.4	16.3	16.6	15.9	16.3	15.5	14.8	15.2
17	26.4	21.9	25.6	18.2	10.0	12.8	16.6	15.0	15.6	15.0	14.2	14.6
18	23.1	21.9	22.6	---	---	---	16.2	14.6	15.5	14.3	13.2	13.7
19	24.1	23.0	23.6	---	---	---	16.1	14.4	15.1	13.4	12.8	13.1
20	24.8	23.3	23.8	---	---	---	16.0	14.3	15.1	13.5	12.3	12.8
21	---	---	---	---	---	---	16.0	14.4	14.9	---	---	---
22	---	---	---	---	---	---	15.2	13.8	14.3	---	---	---
23	26.1	23.7	25.0	---	---	---	15.9	14.5	14.9	---	---	---
24	24.4	23.1	23.6	---	---	---	16.1	15.3	15.5	---	---	---
25	23.8	23.2	23.4	---	---	---	15.7	14.8	15.2	---	---	---
26	24.7	23.8	24.1	---	---	---	15.7	13.5	14.7	---	---	---
27	25.3	24.3	24.6	---	---	---	13.5	12.6	13.0	---	---	---
28	25.2	24.7	24.9	---	---	---	---	---	---	---	---	---
29	25.3	24.7	25.0	---	---	---	---	---	---	---	---	---
30	25.6	24.8	25.2	---	---	---	14.9	14.9	14.0	---	---	---
31	25.5	25.0	25.3	---	---	---	14.8	13.7	14.1	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

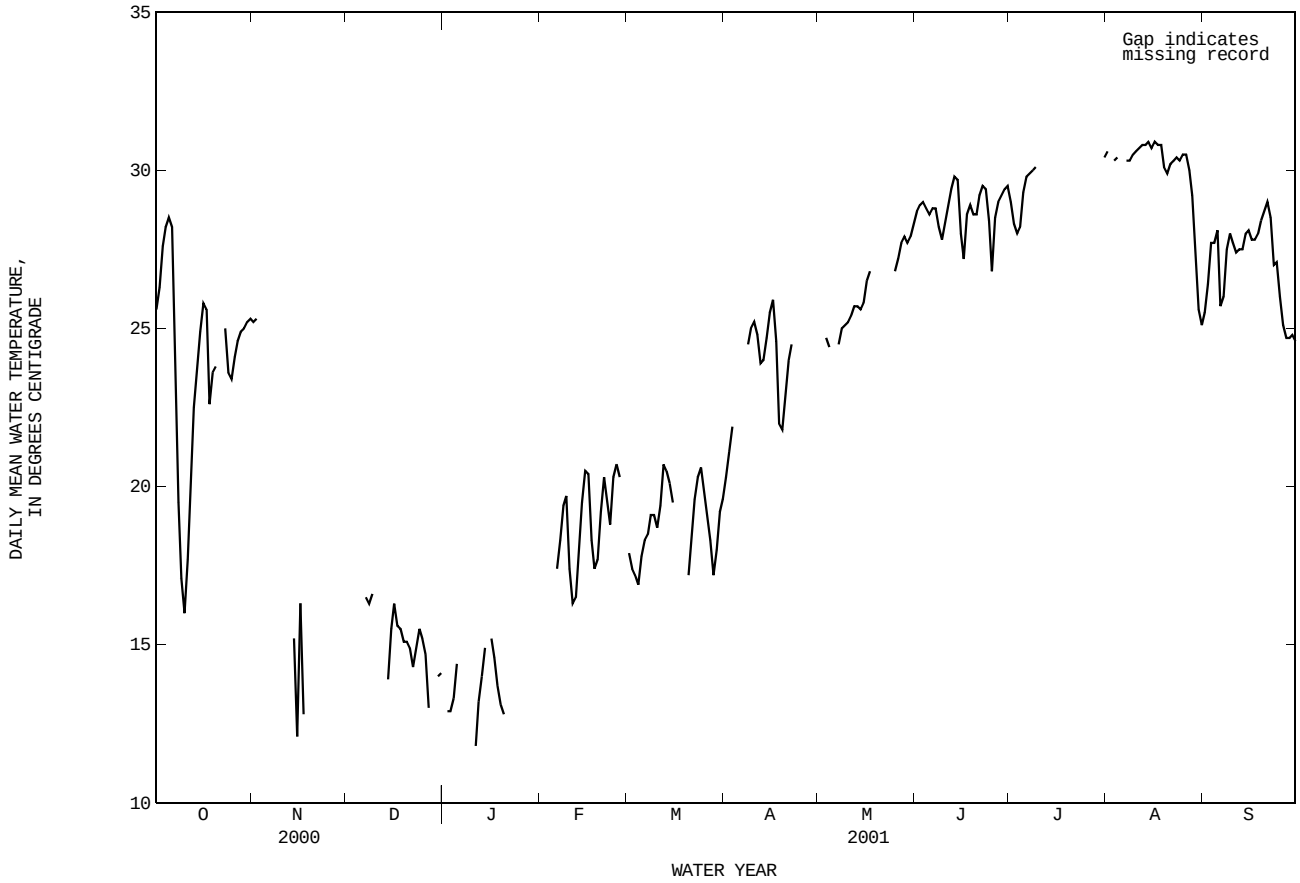
08181800 San Antonio River near Elmendorf, TX--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	19.0	17.4	17.9	21.1	19.4	20.3	---	---	---
2	---	---	---	17.8	17.1	17.4	21.9	20.6	21.1	---	---	---
3	---	---	---	17.5	16.7	17.2	22.5	21.4	21.9	25.2	24.0	24.7
4	---	---	---	17.7	16.2	16.9	---	---	---	25.0	24.1	24.4
5	---	---	---	19.0	16.9	17.8	---	---	---	---	---	---
6	18.8	16.3	17.4	19.0	17.6	18.3	---	---	---	---	---	---
7	19.3	17.5	18.3	19.5	17.8	18.5	---	---	---	---	23.9	24.5
8	20.2	19.0	19.4	19.8	18.7	19.1	25.7	23.5	24.5	25.5	24.6	25.0
9	20.2	19.1	19.7	19.9	18.4	19.1	26.0	24.0	25.0	26.0	24.4	25.1
10	19.1	16.9	17.4	19.4	17.9	18.7	26.1	24.4	25.2	26.1	24.5	25.2
11	17.0	16.0	16.3	20.3	18.8	19.4	25.6	24.2	24.8	26.4	24.6	25.4
12	17.5	15.9	16.5	21.8	19.7	20.7	24.6	23.4	23.9	26.7	24.8	25.7
13	19.1	17.1	17.9	21.2	19.7	20.5	24.5	23.6	24.0	26.3	24.9	25.7
14	20.5	18.7	19.5	20.9	19.2	20.1	25.9	23.9	24.7	26.4	24.7	25.6
15	21.2	20.0	20.5	20.1	19.0	19.5	26.7	24.4	25.5	27.0	24.8	25.8
16	21.2	19.5	20.4	---	---	---	26.9	24.9	25.9	27.7	25.4	26.5
17	19.5	17.7	18.3	---	---	---	26.5	22.8	24.6	27.8	25.9	26.8
18	18.0	16.5	17.4	---	---	---	22.8	21.5	22.0	---	---	---
19	19.1	16.5	17.7	---	---	---	22.7	21.4	21.8	---	---	---
20	20.6	18.0	19.2	18.5	16.2	17.2	24.1	22.3	23.0	---	---	---
21	21.0	19.8	20.3	20.0	17.1	18.5	25.1	23.3	24.0	---	---	---
22	20.9	18.9	19.6	21.0	18.2	19.6	25.4	23.6	24.5	---	---	---
23	19.6	18.4	18.8	21.0	19.4	20.3	---	---	---	---	---	---
24	21.5	19.4	20.3	21.3	19.7	20.6	---	---	---	---	---	---
25	21.2	20.0	20.7	20.6	19.0	19.8	---	---	---	27.9	25.8	26.8
26	20.9	19.8	20.3	19.9	18.5	19.1	---	---	---	28.3	26.3	27.2
27	---	---	---	19.3	17.8	18.3	---	---	---	29.1	26.5	27.7
28	---	---	---	17.8	16.8	17.2	---	---	---	28.8	26.9	27.9
29	---	---	---	19.6	17.0	18.0	---	---	---	28.7	26.8	27.7
30	---	---	---	20.0	18.2	19.2	---	---	---	28.9	27.0	27.9
31	---	---	---	20.5	18.7	19.6	---	---	---	29.5	27.2	28.3
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	29.8	27.7	28.7	30.2	28.3	29.0	32.2	29.3	30.6	26.0	25.0	25.5
2	30.1	27.7	28.9	29.0	27.7	28.3	---	---	---	27.7	25.9	26.4
3	30.0	28.0	29.0	28.4	27.2	28.0	31.3	29.3	30.3	28.6	27.2	27.7
4	29.6	28.0	28.8	29.7	27.1	28.2	31.8	29.1	30.4	28.5	26.9	27.7
5	29.7	27.7	28.6	30.7	28.0	29.3	---	---	---	28.8	27.6	28.1
6	30.3	27.6	28.8	31.1	28.5	29.8	---	---	---	27.8	24.7	25.7
7	29.7	28.2	28.8	30.9	28.7	29.9	31.6	29.1	30.3	26.9	25.4	26.0
8	28.9	27.7	28.2	31.5	28.7	30.0	31.7	29.2	30.3	28.6	26.8	27.5
9	28.7	27.0	27.8	31.6	28.8	30.1	31.8	29.2	30.5	28.4	27.6	28.0
10	29.8	27.2	28.4	---	---	---	31.9	29.4	30.6	28.3	27.0	27.7
11	30.4	27.6	28.9	---	---	---	31.9	29.5	30.7	28.3	26.9	27.4
12	30.8	28.2	29.4	---	---	---	32.0	29.5	30.8	28.4	26.7	27.5
13	31.0	28.7	29.8	---	---	---	32.0	29.5	30.8	28.4	26.6	27.5
14	30.5	28.9	29.7	---	---	---	31.9	29.8	30.9	28.8	27.1	28.0
15	30.1	26.4	28.0	---	---	---	32.0	29.4	30.7	28.8	27.3	28.1
16	28.6	26.0	27.2	---	---	---	32.1	29.7	30.9	28.4	27.0	27.8
17	30.0	27.4	28.6	---	---	---	32.0	29.5	30.8	28.4	27.0	27.8
18	30.1	27.8	28.9	---	---	---	32.1	29.6	30.8	28.8	27.1	28.0
19	29.6	27.6	28.6	---	---	---	31.4	29.6	30.1	29.2	27.6	28.4
20	30.0	27.5	28.6	---	---	---	31.1	29.0	29.9	29.6	27.8	28.7
21	30.7	28.0	29.2	---	---	---	31.2	29.1	30.2	29.7	28.3	29.0
22	30.7	28.3	29.5	---	---	---	31.3	29.3	30.3	29.4	27.9	28.5
23	30.7	28.2	29.4	---	---	---	31.7	29.4	30.4	28.4	26.1	27.0
24	30.0	26.8	28.4	---	---	---	31.6	29.2	30.3	27.7	26.6	27.1
25	28.2	25.9	26.8	---	---	---	31.7	29.4	30.5	27.0	25.3	26.0
26	29.7	27.5	28.5	---	---	---	31.7	29.5	30.5	25.9	24.2	25.1
27	30.1	27.9	29.0	---	---	---	31.0	29.3	30.0	25.6	23.6	24.7
28	30.5	28.0	29.2	---	---	---	29.8	28.8	29.2	25.6	23.6	24.7
29	30.3	28.5	29.4	---	---	---	29.2	25.1	27.3	25.6	23.9	24.8
30	30.7	28.5	29.5	---	---	---	26.2	24.9	25.6	25.5	23.8	24.6
31	---	---	---	31.7	29.3	30.4	25.9	24.5	25.1	---	---	---
MONTH	31.0	25.9	28.8	---	---	---	---	---	---	29.7	23.6	27.0

08181800 San Antonio River near Elmendorf, TX--Continued



OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.0	6.5	6.8	---	---	---	---	---	---	---	---	---
2	6.9	6.4	6.7	---	---	---	---	---	---	---	---	---
3	6.7	6.3	6.5	---	---	---	---	---	---	10.3	9.7	10.0
4	6.6	6.0	6.3	---	---	---	---	---	---	10.2	9.3	10.0
5	6.6	5.8	6.2	---	---	---	---	---	---	9.6	7.2	8.9
6	6.8	5.8	6.3	---	---	---	---	---	---	9.7	7.9	9.1
7	7.2	6.3	6.6	---	---	---	8.9	7.9	8.4	11.9	7.8	9.3
8	8.2	7.0	7.8	---	---	---	9.0	8.1	8.5	---	---	---
9	8.9	7.9	8.5	---	---	---	9.0	8.4	8.6	---	---	---
10	8.9	8.4	8.7	---	---	---	---	---	---	---	---	---
11	8.5	7.7	8.1	---	---	---	---	---	---	12.8	11.6	12.3
12	7.8	7.2	7.6	---	---	---	---	---	---	11.8	10.9	11.2
13	7.3	7.0	7.2	---	---	---	---	---	---	11.3	10.6	10.9
14	7.2	6.8	7.0	13.1	9.3	11.1	9.9	9.2	9.6	10.7	9.3	10.3
15	7.1	6.8	6.9	14.2	11.9	12.9	9.4	8.4	9.0	---	---	---
16	6.8	6.6	6.7	12.3	10.3	11.4	9.2	8.3	8.8	10.3	9.1	10.0
17	6.6	5.3	6.4	14.2	8.1	12.5	9.4	8.4	9.0	10.9	9.1	10.2
18	6.8	6.1	6.4	---	---	---	9.4	8.5	9.1	11.8	10.4	11.1
19	6.8	6.1	6.5	---	---	---	9.7	8.8	9.3	12.6	11.6	12.1
20	6.8	6.4	6.7	---	---	---	9.7	8.8	9.2	13.4	11.8	12.4
21	---	---	---	---	---	---	10.0	8.6	9.2	---	---	---
22	---	---	---	---	---	---	10.2	9.1	9.6	---	---	---
23	6.8	6.0	6.4	---	---	---	9.8	8.9	9.4	---	---	---
24	6.9	2.9	5.4	---	---	---	9.6	8.2	9.0	---	---	---
25	---	---	---	---	---	---	9.4	8.5	9.0	---	---	---
26	---	---	---	---	---	---	10.0	6.8	8.7	---	---	---
27	---	---	---	---	---	---	10.3	9.2	9.8	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	9.3	8.6	8.9	---	---	---
31	---	---	---	---	---	---	9.2	8.6	8.9	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

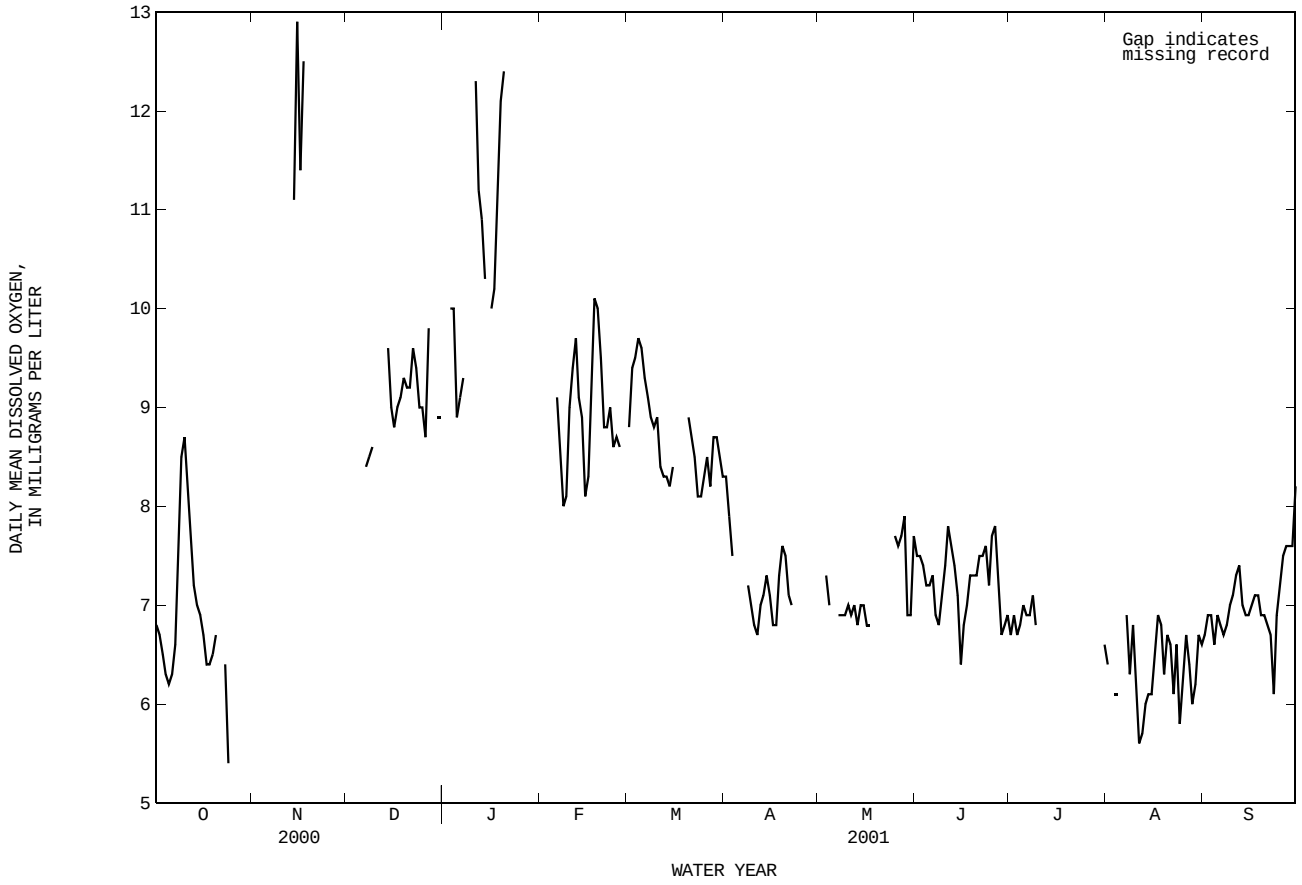
08181800 San Antonio River near Elmendorf, TX--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	9.4	8.3	8.8	8.4	8.1	8.3	---	---	---
2	---	---	---	9.6	9.3	9.4	8.1	7.8	7.9	---	---	---
3	---	---	---	9.8	9.2	9.5	7.8	7.4	7.5	7.6	7.0	7.3
4	---	---	---	9.9	9.5	9.7	---	---	---	7.2	6.7	7.0
5	---	---	---	9.8	9.4	9.6	---	---	---	---	---	---
6	9.5	8.7	9.1	9.5	9.1	9.3	---	---	---	---	---	---
7	9.2	8.3	8.6	9.3	9.0	9.1	---	---	---	7.0	6.8	6.9
8	8.4	7.7	8.0	9.2	8.6	8.9	7.5	7.0	7.2	6.9	6.8	6.9
9	9.0	7.4	8.1	9.0	8.6	8.8	7.4	6.4	7.0	7.0	6.8	6.9
10	9.8	8.3	9.0	9.0	8.6	8.9	7.2	6.4	6.8	7.2	6.7	7.0
11	10.1	8.9	9.4	8.8	8.1	8.4	7.3	6.3	6.7	7.1	6.6	6.9
12	10.1	9.2	9.7	8.6	8.1	8.3	7.5	6.6	7.0	7.2	6.7	7.0
13	9.6	8.9	9.1	8.5	8.1	8.3	7.4	6.9	7.1	7.0	6.3	6.8
14	9.5	8.5	8.9	8.6	8.0	8.2	7.5	7.0	7.3	7.1	6.8	7.0
15	8.8	7.8	8.1	8.6	8.2	8.4	7.3	6.8	7.1	7.2	6.8	7.0
16	9.3	7.7	8.3	---	---	---	7.4	6.4	6.8	7.1	6.6	6.8
17	10.1	8.4	9.3	---	---	---	7.4	6.4	6.8	7.3	6.5	6.8
18	10.5	9.8	10.1	---	---	---	7.8	6.8	7.3	---	---	---
19	10.3	9.8	10.0	---	---	---	7.9	7.3	7.6	---	---	---
20	9.9	9.0	9.5	9.2	8.7	8.9	7.8	7.2	7.5	---	---	---
21	9.1	8.6	8.8	8.9	8.6	8.7	7.6	6.8	7.1	---	---	---
22	9.3	8.4	8.8	8.7	8.2	8.5	7.2	6.7	7.0	---	---	---
23	9.2	8.7	9.0	8.3	8.0	8.1	---	---	---	---	---	---
24	8.8	8.4	8.6	8.3	8.0	8.1	---	---	---	---	---	---
25	8.9	8.3	8.7	8.6	8.1	8.3	---	---	---	8.2	7.2	7.7
26	8.9	8.2	8.6	8.8	8.2	8.5	---	---	---	8.4	6.9	7.6
27	---	---	---	8.4	7.9	8.2	---	---	---	8.7	6.6	7.7
28	---	---	---	9.0	8.4	8.7	---	---	---	8.8	7.1	7.9
29	---	---	---	8.9	8.6	8.7	---	---	---	7.7	6.3	6.9
30	---	---	---	8.7	8.3	8.5	---	---	---	7.8	6.3	6.9
31	---	---	---	8.5	8.2	8.3	---	---	---	8.6	7.0	7.7
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.6	6.5	7.5	6.9	6.4	6.7	7.8	5.7	6.4	7.1	5.6	6.7
2	8.7	6.7	7.5	7.5	6.5	6.9	---	---	---	7.2	6.5	6.9
3	8.4	6.7	7.4	7.2	6.3	6.7	7.1	5.5	6.1	7.1	6.6	6.9
4	8.0	6.6	7.2	7.5	6.4	6.8	7.8	5.4	6.1	7.1	5.4	6.6
5	8.2	6.3	7.2	7.8	6.3	7.0	---	---	---	7.0	6.6	6.9
6	8.5	6.5	7.3	7.9	6.2	6.9	---	---	---	7.3	6.2	6.8
7	7.8	6.1	6.9	8.1	6.2	6.9	8.4	5.8	6.9	7.0	6.4	6.7
8	7.5	6.3	6.8	8.7	5.9	7.1	7.0	5.4	6.3	7.1	6.5	6.8
9	8.2	6.4	7.1	8.2	5.7	6.8	7.9	6.2	6.8	7.1	6.7	7.0
10	8.7	6.7	7.4	---	---	---	7.6	5.6	6.3	7.5	7.0	7.1
11	9.5	6.6	7.8	---	---	---	6.4	5.2	5.6	7.5	7.1	7.3
12	8.9	6.7	7.6	---	---	---	6.5	5.2	5.7	7.5	7.2	7.4
13	8.8	6.4	7.4	---	---	---	6.8	5.5	6.0	7.4	6.5	7.0
14	8.4	6.2	7.1	---	---	---	6.9	5.6	6.1	7.1	6.7	6.9
15	7.1	4.4	6.4	---	---	---	6.9	5.5	6.1	7.2	6.4	6.9
16	7.3	6.3	6.8	---	---	---	8.0	5.5	6.5	7.3	6.7	7.0
17	7.3	6.8	7.0	---	---	---	7.7	6.1	6.9	7.4	6.8	7.1
18	7.6	7.1	7.3	---	---	---	7.7	5.8	6.8	7.4	6.7	7.1
19	7.6	6.9	7.3	---	---	---	7.0	5.6	6.3	7.2	6.7	6.9
20	7.7	7.0	7.3	---	---	---	7.3	5.9	6.7	7.4	6.6	6.9
21	8.2	7.2	7.5	---	---	---	7.1	6.2	6.6	7.2	6.5	6.8
22	8.2	7.1	7.5	---	---	---	7.0	5.3	6.1	7.0	6.4	6.7
23	8.7	6.8	7.6	---	---	---	7.3	6.2	6.6	8.4	4.9	6.1
24	7.6	6.6	7.2	---	---	---	6.6	5.4	5.8	7.1	6.6	6.9
25	7.9	7.1	7.7	---	---	---	7.5	5.3	6.3	7.5	7.0	7.2
26	7.9	7.7	7.8	---	---	---	7.4	5.8	6.7	7.7	7.2	7.5
27	7.9	6.4	7.2	---	---	---	7.0	5.8	6.4	7.8	7.5	7.6
28	6.9	6.5	6.7	---	---	---	7.1	5.7	6.0	7.8	7.5	7.6
29	7.2	6.5	6.8	---	---	---	6.9	3.8	6.2	7.8	7.4	7.6
30	7.4	6.5	6.9	---	---	---	8.5	5.9	6.7	8.7	7.4	8.2
31	---	---	---	7.9	5.9	6.6	7.2	6.4	6.6	---	---	---
MONTH	9.5	4.4	7.2	---	---	---	---	---	---	8.7	4.9	7.0

08181800 San Antonio River near Elmendorf, TX--Continued



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08183500 San Antonio River near Falls City, TX

LOCATION.--Lat 28°57'05", long 98°03'50", Karnes County, Hydrologic Unit 12100303, on left bank 23 ft downstream from bridge on Farm Road 791, 0.9 mi upstream from Scared Dog Creek, 3.6 mi southwest of Falls City, and 150.5 mi upstream from mouth.

DRAINAGE AREA.--2,113 mi^2.

PERIOD OF RECORD.--Apr. 1925 to current year.
Water-quality records.--Chemical data: Apr. 1959. Biochemical data: May 1965 to Sept. 1981, Oct. 1986 to Aug. 1995. Sediment data: Jan. 1966 to Sept. 1975, Jan. 1987 to Sept. 1996. Specific conductance: Jan. 1987 to Sept. 1996. pH: Jan. 1987 to Sept. 1996. Water temperature: Jan. 1987 to Sept. 1996. Dissolved oxygen: Jan. 1987 to Sept. 1996.

REVISED RECORDS.--WSP 1732: 1947(M). WSP 1923: Drainage area. WDR TX-87-3: 1983-84.

GAGE.--Water-stage recorder. Datum of gage is 285.49 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since installation of gage in Apr. 1925, at least 10% of contributing drainage area has been regulated. Flow is also regulated by eleven Natural Resources Conservation Service floodwater-retarding structures. Floodwater-retarding structures were completed in 1972. Records provided by the San Antonio City Public Service Board show that during the current year, 13,080 acre-ft of water was released into Calaveras Creek from Calaveras Lake and that 771 acre-ft was released from Brauning Lake. Some diversions for municipal uses and irrigation above station (amount unknown).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in Oct. 1913 reached a stage of 28.4 ft, from floodmark, from information by local residents. Maximum stage since at least 1875, that of Sept. 29, 1946.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	237	424	581	488	636	459	372	503	397	163	109	4040
2	242	394	549	480	572	463	364	492	448	153	116	4800
3	244	542	535	470	543	476	354	479	436	175	114	3830
4	249	3990	524	494	526	691	345	442	421	236	116	1830
5	235	7180	559	525	520	948	335	432	427	196	117	1310
6	224	5340	552	498	519	689	327	1210	392	165	118	1280
7	224	3360	520	481	516	551	318	1110	403	158	117	3040
8	229	2920	512	472	513	507	301	833	425	150	116	3630
9	536	1220	500	459	508	485	285	757	456	142	124	1410
10	858	928	492	489	509	552	259	624	489	132	111	777
11	1010	761	473	1010	511	511	249	563	515	150	135	e739
12	576	681	469	2160	497	484	252	534	510	135	151	e638
13	366	672	476	1180	499	484	262	509	481	132	150	e600
14	319	609	656	782	500	532	256	539	481	128	147	e557
15	310	581	715	688	507	623	261	384	492	124	155	e530
16	289	540	539	639	503	877	251	324	561	114	145	e487
17	280	513	494	635	577	601	231	300	603	109	142	e463
18	326	800	493	672	615	455	229	299	340	116	141	424
19	1140	1500	477	711	531	418	226	299	276	108	159	420
20	651	2760	474	759	501	626	217	307	270	105	157	412
21	438	1460	485	757	499	522	225	312	204	104	150	395
22	333	805	500	650	497	484	221	325	180	89	157	637
23	319	662	506	601	490	454	243	340	160	80	153	677
24	771	882	494	584	478	443	572	356	180	82	154	811
25	2500	2090	493	557	496	445	1670	367	401	88	151	546
26	3520	2030	492	542	488	434	1890	372	1090	94	146	436
27	1620	955	607	537	466	424	679	364	521	94	142	386
28	682	714	861	527	459	414	615	367	346	91	149	372
29	545	642	663	595	---	402	554	363	225	103	159	357
30	496	603	559	872	---	394	512	377	172	108	620	337
31	457	---	508	821	---	382	---	386	---	99	2950	---
TOTAL	20226	46558	16758	21135	14476	16230	12875	14869	12302	3923	7571	36171
MEAN	652	1552	541	682	517	524	429	480	410	127	244	1206
MAX	3520	7180	861	2160	636	948	1890	1210	1090	236	2950	4800
MIN	224	394	469	459	459	382	217	299	160	80	109	337
AC-FT	40120	92350	33240	41920	28710	32190	25540	29490	24400	7780	15020	71750

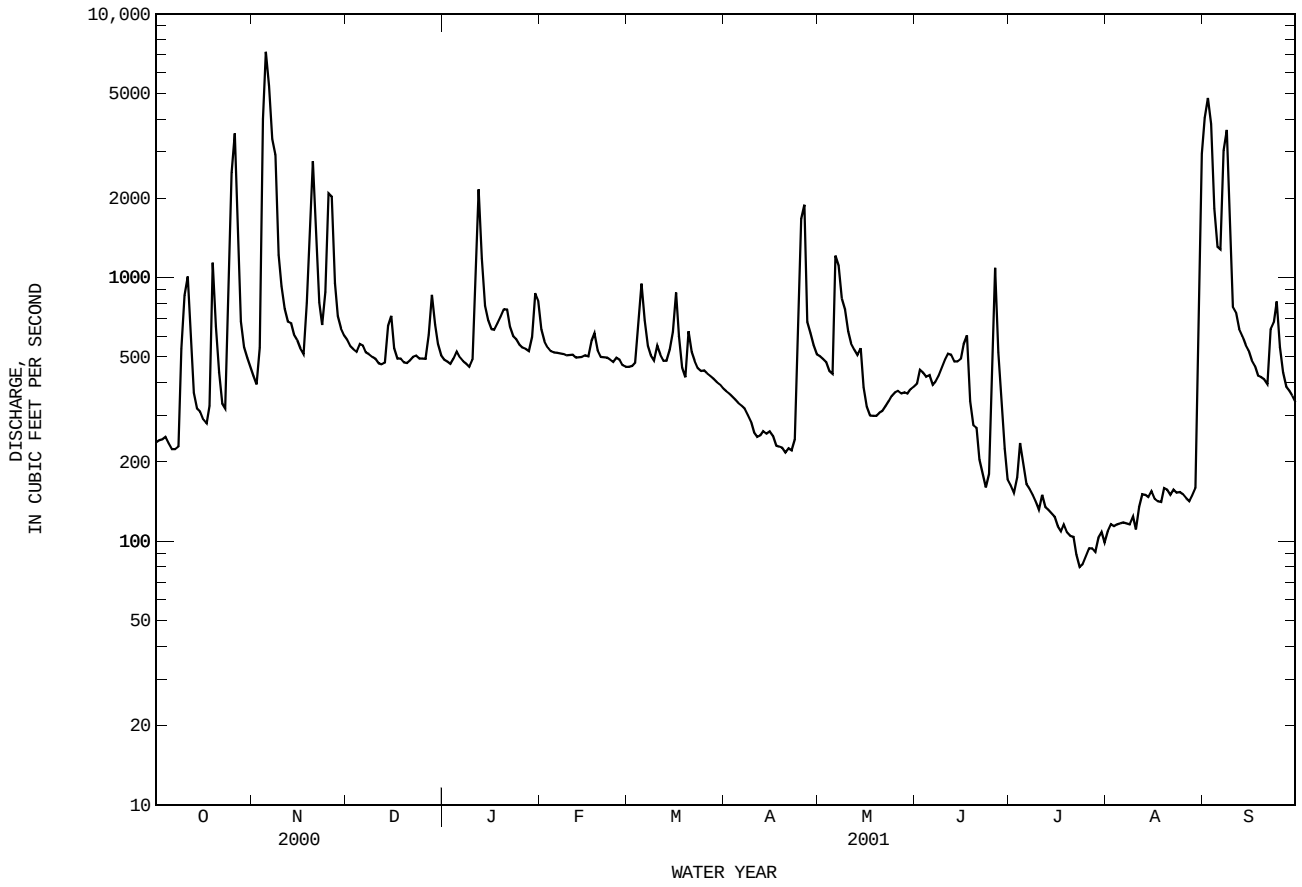
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2001, BY WATER YEAR (WY)

MEAN	493	395	375	408	460	393	459	618	747	410	291	481
MAX	5718	1592	2668	2705	4803	3536	2615	4303	10120	3662	1564	4100
(WY)	1999	1977	1992	1968	1992	1992	1992	1992	1987	1973	1978	1946
MIN	57.5	67.3	70.6	89.0	94.9	75.6	61.2	84.7	38.0	55.3	40.4	57.7
(WY)	1956	1956	1955	1957	1956	1956	1956	1956	1956	1954	1954	1930

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1925 - 2001	
ANNUAL TOTAL	161325		223094			
ANNUAL MEAN	441		611		462	
HIGHEST ANNUAL MEAN					2253	1992
LOWEST ANNUAL MEAN					92.0	1956
HIGHEST DAILY MEAN	7180	Nov 5	7180	Nov 5	63600	Oct 20 1998
LOWEST DAILY MEAN	84	Aug 8	80	Jul 23	19	Jun 27 1956
ANNUAL SEVEN-DAY MINIMUM	91	Aug 6	88	Jul 22	23	Jun 8 1956
MAXIMUM PEAK FLOW			7790	Nov 5	c70000	Oct 20 1998
MAXIMUM PEAK STAGE			10.68	Nov 5	33.80	Sep 29 1946
ANNUAL RUNOFF (AC-FT)	320000		442500		334900	
10 PERCENT EXCEEDS	715		936		824	
50 PERCENT EXCEEDS	280		484		250	
90 PERCENT EXCEEDS	110		144		92	

e Estimated
c From rating curve extended above measurement of 36,500 ft^3/s.

08183500 San Antonio River near Falls City, TX--Continued



08183850 Cibolo Creek at Interstate Highway 10 above Boerne, TX

LOCATION.--Lat 29°48'52", long 98°45'12", Kendall County, Hydrologic Unit 12100304, on right bank between westbound Interstate Highway 10 bridge and frontage road bridge, 600 ft downstream from Ranger Creek, 0.7 mi downstream from Boerne Lake, and 1.9 mi northwest of Boerne.

DRAINAGE AREA.--29.0 mi^2.

PERIOD OF RECORD.--Oct. 1995 to Apr. 1996 (discharge measurements only), May 1996 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,428.50 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since installation of gage in Oct. 1995, flow has been regulated. No known diversions. No flow at times.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	13	20	9.2	25	19	20	7.6	5.0	.98	.22	80
2	.05	20	18	8.5	23	19	20	7.4	4.5	1.0	.25	38
3	.09	100	23	8.4	23	32	20	7.1	4.1	.88	.24	24
4	.09	86	27	8.4	22	32	20	9.1	3.5	.82	.26	19
5	.09	134	20	13	21	27	19	42	3.0	.82	.21	75
6	.13	163	18	10	21	26	18	33	2.8	.74	.21	193
7	.60	97	16	8.8	21	24	18	24	2.8	.68	.19	81
8	1.2	72	14	7.7	21	25	17	19	2.8	.59	.22	47
9	1.3	56	14	7.4	21	25	16	16	2.7	.58	.18	34
10	.68	48	14	23	18	24	14	14	2.3	.59	.15	26
11	.51	42	14	19	17	24	14	12	2.2	.56	.16	22
12	.43	40	13	15	18	40	13	13	2.0	.51	.12	20
13	.38	34	14	15	18	31	13	12	1.8	.50	.10	17
14	.32	28	13	14	19	37	13	11	1.6	.61	.15	16
15	.34	25	13	13	19	34	12	9.4	1.4	.63	.21	15
16	.29	24	13	13	50	29	12	8.6	1.4	.61	.17	13
17	3.8	21	11	26	29	27	11	8.1	1.3	.65	.16	12
18	.96	41	11	23	24	29	9.3	7.6	1.2	.56	.14	11
19	.67	37	9.3	21	22	29	9.3	7.5	1.2	.53	.18	11
20	.62	31	9.4	19	21	26	9.4	7.4	1.1	.49	.17	11
21	1.2	27	8.8	18	21	25	9.3	13	1.1	.43	.16	9.9
22	.74	27	8.2	17	20	24	9.1	13	1.3	.41	.14	18
23	456	32	8.5	17	25	23	21	19	1.1	.37	.11	17
24	147	32	9.3	17	27	23	16	16	1.1	.38	.10	12
25	66	30	11	16	22	21	13	8.8	1.1	.35	.12	9.6
26	37	36	19	16	20	20	11	7.1	1.1	.36	41	8.6
27	26	28	15	24	20	21	9.9	6.5	.95	.34	93	7.9
28	20	25	12	31	19	24	9.0	5.6	.90	.33	7.7	7.4
29	16	23	10	45	---	22	8.4	4.7	.90	.31	65	6.6
30	14	21	9.3	31	---	20	8.0	4.3	.87	.28	9.5	6.5
31	13	---	9.3	27	---	20	---	5.3	---	.27	259	---
TOTAL	809.55	1393	425.1	541.4	627	802	412.7	379.1	59.12	17.16	479.52	868.5
MEAN	26.1	46.4	13.7	17.5	22.4	25.9	13.8	12.2	1.97	.55	15.5	29.0
MAX	456	163	27	45	50	40	21	42	5.0	1.0	259	193
MIN	.05	13	8.2	7.4	17	19	8.0	4.3	.87	.27	.10	6.5
AC-FT	1610	2760	843	1070	1240	1590	819	752	117	34	951	1720

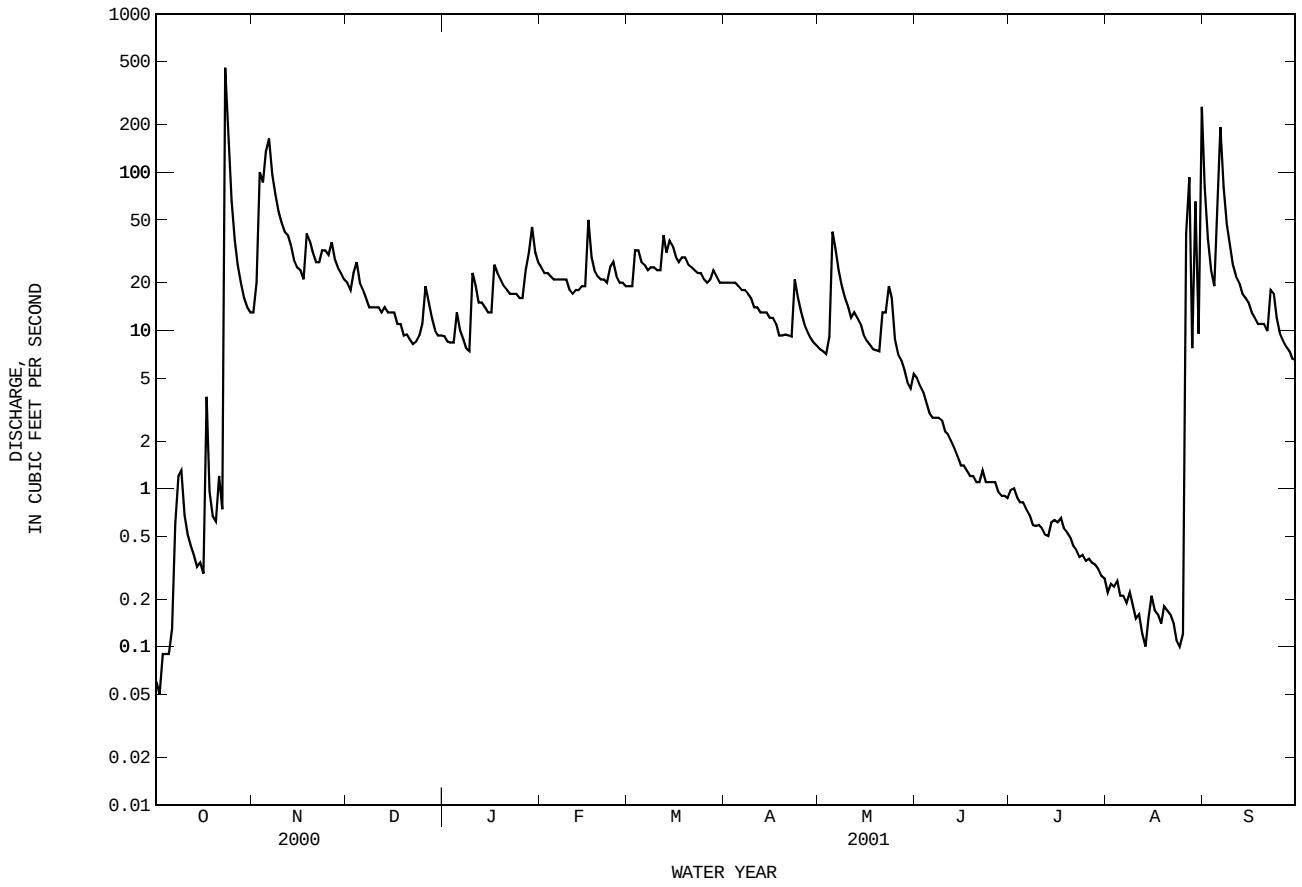
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2001, BY WATER YEAR (WY)

MEAN	10.1	19.6	7.22	6.68	10.8	23.2	18.4	9.06	54.6	9.82	5.74	6.31
MAX	26.1	49.0	16.8	17.5	22.4	73.8	56.8	22.5	313	38.5	15.5	29.0
(WY)	2001	1999	1999	2001	2001	1998	1997	1997	1997	1997	2001	2001
MIN	.24	.30	.081	.12	.47	.19	.26	.88	.48	.066	.25	.055
(WY)	1997	1997	2000	2000	2000	2000	2000	2000	1996	1996	1996	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1996 - 2001	
ANNUAL TOTAL	2769.28		6814.15			
ANNUAL MEAN	7.57		18.7		16.3	
HIGHEST ANNUAL MEAN					37.6	1997
LOWEST ANNUAL MEAN					.45	2000
HIGHEST DAILY MEAN	456	Oct 23	456	Oct 23	4940	Jun 22 1997
LOWEST DAILY MEAN	.00	Jan 6	.05	Oct 2	.00	Jul 23 1996
ANNUAL SEVEN-DAY MINIMUM	.01	Aug 25	.14	Aug 19	.00	Aug 3 1996
MAXIMUM PEAK FLOW			5460	Aug 31	i20100	Jun 22 1997
MAXIMUM PEAK STAGE			8.34	Aug 31	a20.82	Jun 22 1997
ANNUAL RUNOFF (AC-FT)	5490		13520		11810	
10 PERCENT EXCEEDS	20		32		27	
50 PERCENT EXCEEDS	.43		13		2.4	
90 PERCENT EXCEEDS	.06		.33		.14	

i From indirect measurement of peak flow.
a From floodmark.

08183850 Cibolo Creek at Interstate Highway 10 above Boerne, TX--Continued



08185000 Cibolo Creek at Selma, TX

LOCATION.--Lat 29°35'38", long 98°18'39", Bexar-Guadalupe County line, Hydrologic Unit 12100304, on right bank 0.6 mi downstream from Missouri-Kansas-Texas Railroad Co. bridge and 0.9 mi upstream from bridge on Interstate Highway 35 at Selma.

DRAINAGE AREA.--274 mi^2.

PERIOD OF RECORD.--Mar. 1946 to current year.

REVISED RECORDS.--Figures for the annual peak discharge for water year 1960 in WSP 1813 are in error and should be disregarded; the correct date and magnitude are in WSP 1712. WSP 1923: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 728.34 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since water year 1980, at least 10% of contributing drainage area has been regulated. Considerable flow of Cibolo Creek enters the Edwards and associated limestones in the Balcones Fault Zone that crosses basin between this station and the Cibolo Creek at Interstate Highway 10 above Boerne (station 08183850). One known diversion. No flow at times.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--33 years (water years 1947-79), 15.3 ft^3/s (11,080 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1947-79).--Maximum discharge, 65,000 ft^3/s July 16, 1973 (gage height, 26.2 ft, from floodmark), from rating curve extended above 16,000 ft^3/s on basis of field estimate of 54,000 ft^3/s and contracted-opening measurement of 65,000 ft^3/s; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 26 ft occurred in 1889, from information by local residents. Maximum stage since at least 1869, that of Oct. 17, 1998.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3140
2	.00	3.4	.00	.00	.00	.00	.00	.00	.00	.00	.00	351
3	.00	1200	.00	.00	.00	.00	.00	.00	.00	.00	.00	130
4	.00	256	.00	.00	.00	.00	.00	.00	.00	.00	.00	31
5	.00	82	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.9
6	.00	1580	.00	.00	.00	.00	.00	.00	.00	.00	.00	139
7	.00	382	.00	.00	.00	.00	.00	.00	.00	.00	.00	324
8	.00	153	.00	.00	.00	.00	.00	.00	.00	.00	.00	92
9	.00	90	.00	.00	.00	.00	.00	.00	.00	.00	.00	17
10	.00	31	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.8
11	.00	4.1	.00	.67	.00	.00	.00	.00	.00	.00	.00	.04
12	.00	1.5	.00	.08	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.32	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	1.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.35	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	822	4.7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	72	1.8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	3.4	.39	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	28	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	1570	---
TOTAL	897.41	3791.56	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	1598.00	4230.74
MEAN	28.9	126	.000	.024	.000	.000	.000	.000	.000	.000	51.5	141
MAX	822	1580	.00	.67	.00	.00	.00	.00	.00	.00	1570	3140
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	1780	7520	.00	1.5	.00	.00	.00	.00	.00	.00	3170	8390

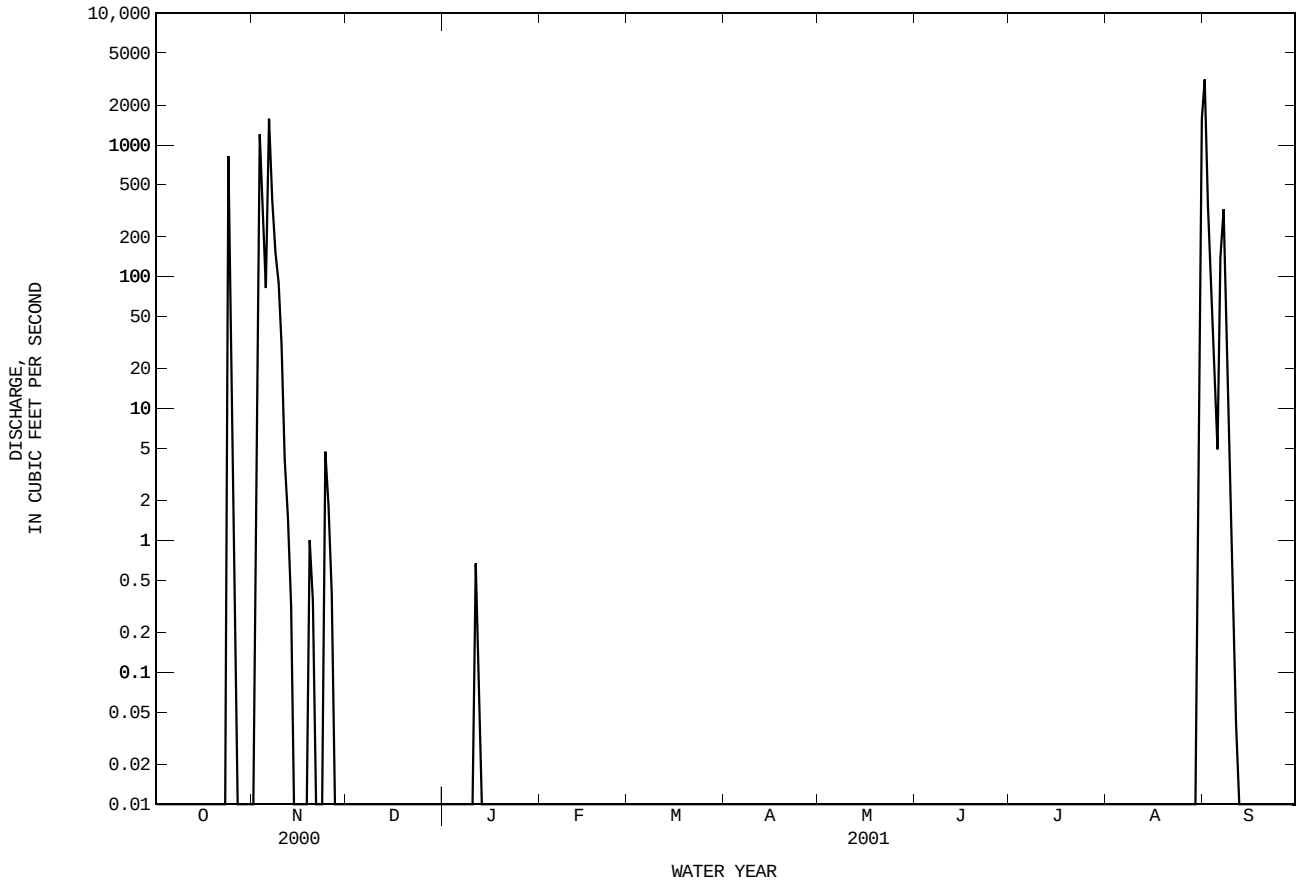
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2001z, BY WATER YEAR (WY)

MEAN	80.0	6.36	56.7	3.52	30.1	30.0	3.76	29.9	166	3.50	2.41	6.43
MAX	1722	126	1143	76.9	646	483	75.5	494	1567	44.7	51.5	141
(WY)	1999	2001	1992	1992	1992	1992	1991	1992	1997	1985	2001	2001
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1981

08185000 Cibolo Creek at Selma, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1980 - 2001z	
ANNUAL TOTAL	4708.77		10518.46			
ANNUAL MEAN	12.9		28.8		34.8	
HIGHEST ANNUAL MEAN					257	1992
LOWEST ANNUAL MEAN					.000	1984
HIGHEST DAILY MEAN	1580	Nov 6	3140	Sep 1	e32000	Oct 17 1998
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1979
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Oct 1 1979
MAXIMUM PEAK FLOW			8840	Sep 1	c98100	Oct 17 1998
MAXIMUM PEAK STAGE			11.38	Sep 1	a35.37	Oct 17 1998
ANNUAL RUNOFF (AC-FT)	9340		20860		25220	
10 PERCENT EXCEEDS	.00		.00		.00	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated.
z Period of regulated streamflow.
c From rating curve extended above indirect measurement of 69,600 ft^3/s.
a From floodmark.



08186000 Cibolo Creek near Falls City, TX

LOCATION.--Lat 29°00'50", long 97°55'48", Karnes County, Hydrologic Unit 12100304, at right downstream abutment of bridge on State Highway 123, 5.7 mi northeast of Falls City, and 10.4 mi upstream from mouth.

DRAINAGE AREA.--827 mi^2.

PERIOD OF RECORD.--Oct. 1930 to current year. Monthly discharge only for some periods, published in WSP 1312.
Water-quality records.--Chemical data: Oct. 1961 to Sept. 1996. Biochemical data: Oct. 1961 to Sept. 1996. Sediment data: Feb. 1966 to Sept. 1975. Specific conductance: Oct. 1968 to Sept. 1991. Water temperature: Oct. 1968 to Sept. 1991.

REVISED RECORDS.--WSP 733: 1931. WSP 1058: 1935. WSP 1562: 1931(M), 1933. WSP 1923: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 264.28 ft above sea level. Nov. 4, 1930, to Aug. 4, 1940, water-stage recorder at site 1,600 ft upstream at datum 0.56 ft higher. Aug. 5 to Sept. 13, 1940, nonrecording gage at site 150 ft to the left at same datum. Sept. 14, 1940, to Mar. 15, 1990, water-stage recorder at site 150 ft to the left at same datum. Mar. 16, 1990, to July 15, 1993, water-stage recorder at site 50 ft downstream at same datum. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow is affected at times by discharge from the flood-detention pools of ten floodwater-retarding structures with a combined detention capacity of 16,620 acre-ft. These structures control runoff from 62.9 mi^2. There are several diversions for irrigation above station. Much of the base flow is effluent from the Carrizo Sands in the vicinity of Sutherland Springs. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 35 ft occurred in Oct. 1913 (discharge, about 35,000 ft^3/s). Maximum stage since at least 1890, that of Oct. 19, 1998.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	34	81	61	77	42	56	64	37	29	12	5160
2	12	32	73	56	69	48	55	61	36	28	11	3430
3	11	130	67	53	63	52	55	59	36	29	11	6570
4	11	2550	64	51	57	95	55	56	33	75	10	1380
5	11	1360	60	49	54	235	56	73	31	61	9.9	4380
6	13	1150	58	48	52	135	56	72	32	45	10	6200
7	12	1680	55	48	51	92	55	79	31	36	9.2	3190
8	16	1230	52	46	50	74	56	74	31	31	9.8	551
9	21	460	49	45	50	69	54	73	31	27	8.9	517
10	27	296	48	51	47	142	54	71	30	25	8.0	615
11	29	208	47	e770	46	80	52	62	29	23	8.7	218
12	32	171	45	e520	46	61	54	55	28	22	8.8	120
13	29	260	51	246	45	55	53	51	28	21	9.1	88
14	25	222	66	150	46	205	52	49	28	20	8.9	70
15	24	111	108	114	46	525	53	47	28	19	9.3	59
16	22	93	81	97	48	266	52	47	30	18	9.3	50
17	20	85	67	90	46	133	52	46	37	18	9.9	42
18	25	680	58	121	46	92	52	45	81	17	9.9	37
19	28	1650	52	218	49	76	53	44	62	17	10	32
20	47	821	49	326	47	78	53	43	48	16	12	30
21	39	263	47	190	45	85	53	44	42	16	12	26
22	44	154	45	116	45	73	53	41	38	14	12	24
23	36	114	44	90	45	67	60	40	34	14	12	29
24	32	626	45	77	44	62	885	39	151	14	13	127
25	31	1180	46	70	43	58	502	40	214	14	13	59
26	251	350	51	65	43	54	156	38	54	14	13	33
27	152	e200	60	60	43	54	104	38	43	13	14	24
28	90	e129	134	58	42	55	84	35	38	12	17	20
29	63	e104	113	63	---	55	74	35	34	12	23	19
30	48	91	81	64	---	57	68	34	31	12	2370	17
31	39	---	68	82	---	57	---	35	---	12	7450	---
TOTAL	1252	16434	1965	4095	1385	3232	3117	1590	1406	724	10144.7	33117
MEAN	40.4	548	63.4	132	49.5	104	104	51.3	46.9	23.4	327	1104
MAX	251	2550	134	770	77	525	885	79	214	75	7450	6570
MIN	11	32	44	45	42	42	52	34	28	12	8.0	17
AC-FT	2480	32600	3900	8120	2750	6410	6180	3150	2790	1440	20120	65690

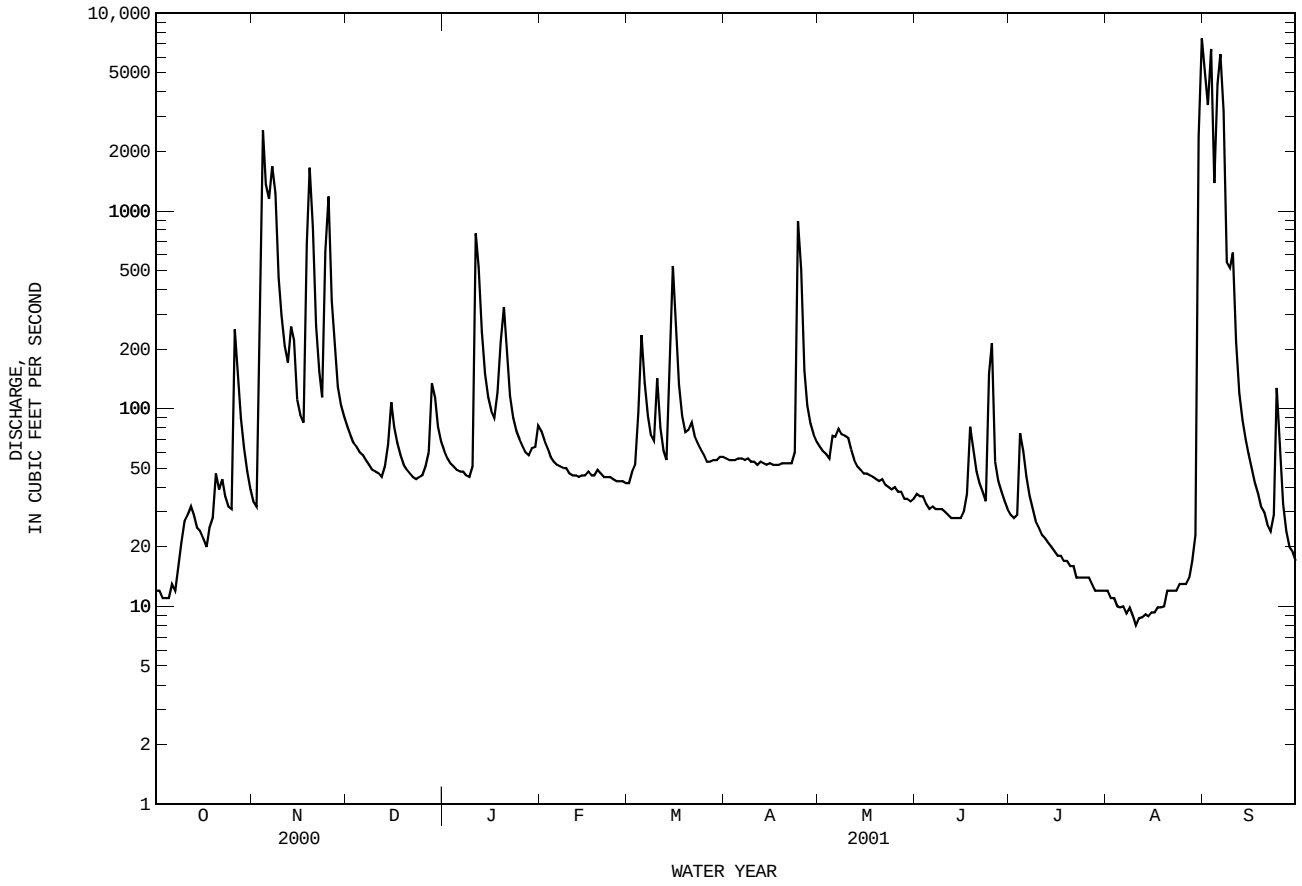
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2001h, BY WATER YEAR (WY)

MEAN	144	92.3	98.4	93.7	111	69.5	158	237	256	95.2	56.9	164
MAX	3246	565	2156	1627	1756	860	1492	2230	2821	1357	909	1579
(WY)	1999	1941	1992	1968	1992	1992	1977	1972	1987	1942	1946	1973
MIN	8.49	8.08	9.99	10.3	9.64	7.04	5.23	4.59	1.74	1.96	2.40	5.41
(WY)	1932	1932	1955	1956	1956	1956	1971	1971	1967	1971	1956	1984

08186000 Cibolo Creek near Falls City, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1931 - 2001h	
ANNUAL TOTAL	29664.7		78461.7			
ANNUAL MEAN	81.1		215		131	
HIGHEST ANNUAL MEAN					717	1992
LOWEST ANNUAL MEAN					10.4	1956
HIGHEST DAILY MEAN	2550	Nov 4	7450	Aug 31	45000	Oct 19 1998
LOWEST DAILY MEAN	7.1	Sep 7	8.0	Aug 10	.00	Jul 30 1956
ANNUAL SEVEN-DAY MINIMUM	8.0	Sep 4	8.8	Aug 9	.00	Aug 4 1956
MAXIMUM PEAK FLOW			16300	Sep 5	c51200	Oct 19 1998
MAXIMUM PEAK STAGE			27.84	Sep 5	a39.84	Oct 19 1998
ANNUAL RUNOFF (AC-FT)	58840		155600		94990	
10 PERCENT EXCEEDS	113		239		124	
50 PERCENT EXCEEDS	29		51		27	
90 PERCENT EXCEEDS	11		13		9.8	

e Estimated
h See PERIOD OF RECORD paragraph.
c From rating curve extended above discharge measurements of 27,800 ft^3/s and 31,400 ft^3/s.
a From floodmark.



08188500 San Antonio River at Goliad, TX

LOCATION.--Lat 28°38'58", long 97°23'04", Goliad County, Hydrologic Unit 12100303, on right downstream bank 300 ft below bridge on U.S. Highway 183, 1.2 mi southeast of courthouse in Goliad, 11.7 mi upstream from Manahuilla Creek, and 66.5 mi upstream from mouth.

DRAINAGE AREA.--3,921 mi^2.

PERIOD OF RECORD.--June 1924 to Mar. 1929, Feb. 1939 to current year.
Water-quality records.--Chemical data: Dec. 1941 to Dec. 1942, Nov. 1944 to Sept. 1946, Sept. 1958 to Sept. 1996. Biochemical data: Jan. 1968 to Sept. 1996. Pesticide data: Jan. 1968 to May 1982. Sediment data: Apr. 1959, Oct. 1974 to Aug. 1994.

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 91.08 ft above sea level. Prior to Mar. 31, 1929, nonrecording gage at Texas and New Orleans Railroad Co. bridge 1.1 mi upstream at same datum. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. There are many diversions and regulations above station. Flow is affected at times by discharge from the flood-detention pools of 36 floodwater-retarding structures, with a combined detention capacity of 66,730 acre-ft. These structures control runoff from 213 mi^2 in the drainage area above this station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in Oct. 1913 and June 15, 1935, reached about the same stage as flood in 1942. Maximum stage since about 1800 occurred in 1869 and was several feet higher than flood of Sept. 23, 1967. Maximum stage since 1869, that of Sept. 23, 1967. Flood of July 9, 1942, reached a stage of 44.9 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	274	670	e860	618	1030	567	531	875	517	331	148	21500
2	261	639	e800	564	856	573	522	806	510	277	139	26500
3	254	611	e766	537	734	599	503	770	502	261	139	22700
4	257	1210	725	523	684	588	491	739	517	248	150	16800
5	261	e5670	697	516	655	662	494	1520	478	279	151	14100
6	266	e8010	682	540	635	1170	489	3790	446	357	154	11100
7	257	8690	712	543	628	1100	482	2010	425	308	152	10700
8	254	8280	676	521	627	821	476	2030	359	265	151	14000
9	265	e6020	651	501	622	706	475	1370	336	246	156	12800
10	287	e3200	640	549	613	655	455	1210	328	230	154	7420
11	650	1710	628	707	603	704	446	1070	319	216	163	4060
12	967	1360	614	956	607	740	457	971	303	204	162	2590
13	928	1200	606	2600	602	649	490	892	306	209	164	1990
14	600	1230	618	2210	595	627	503	805	293	203	199	1660
15	451	1160	620	1250	599	671	524	791	288	190	204	1460
16	390	943	903	947	598	1650	521	874	273	186	200	1320
17	363	857	817	862	594	1620	526	743	265	180	211	1220
18	342	833	665	795	585	1140	524	703	560	173	207	1140
19	337	1780	621	830	693	806	512	678	666	165	206	1090
20	593	e4290	594	1040	650	685	518	662	473	166	206	1020
21	1060	4670	580	1260	605	726	511	647	403	166	222	978
22	693	3110	567	1190	583	810	512	621	381	154	235	938
23	551	1550	555	950	585	724	518	609	314	155	228	911
24	463	1250	554	802	581	642	522	614	285	146	234	1400
25	435	2630	559	751	578	591	975	606	266	132	236	1230
26	1390	3240	588	715	576	566	3220	597	e459	127	236	1280
27	2870	e3390	582	691	601	527	4460	605	912	126	247	980
28	e4350	e2090	556	676	581	541	3710	586	e1360	132	246	851
29	1250	e1140	782	666	---	530	1330	560	553	138	258	788
30	831	e980	925	665	---	510	984	533	435	132	2420	754
31	727	---	713	797	---	527	---	512	---	130	12700	---
TOTAL	22877	82413	20856	26772	17900	23427	26681	29799	13532	6232	20678	185280
MEAN	738	2747	673	864	639	756	889	961	451	201	667	6176
MAX	4350	8690	925	2600	1030	1650	4460	3790	1360	357	12700	26500
MIN	254	611	554	501	576	510	446	512	265	126	139	754
AC-FT	45380	163500	41370	53100	35500	46470	52920	59110	26840	12360	41010	367500

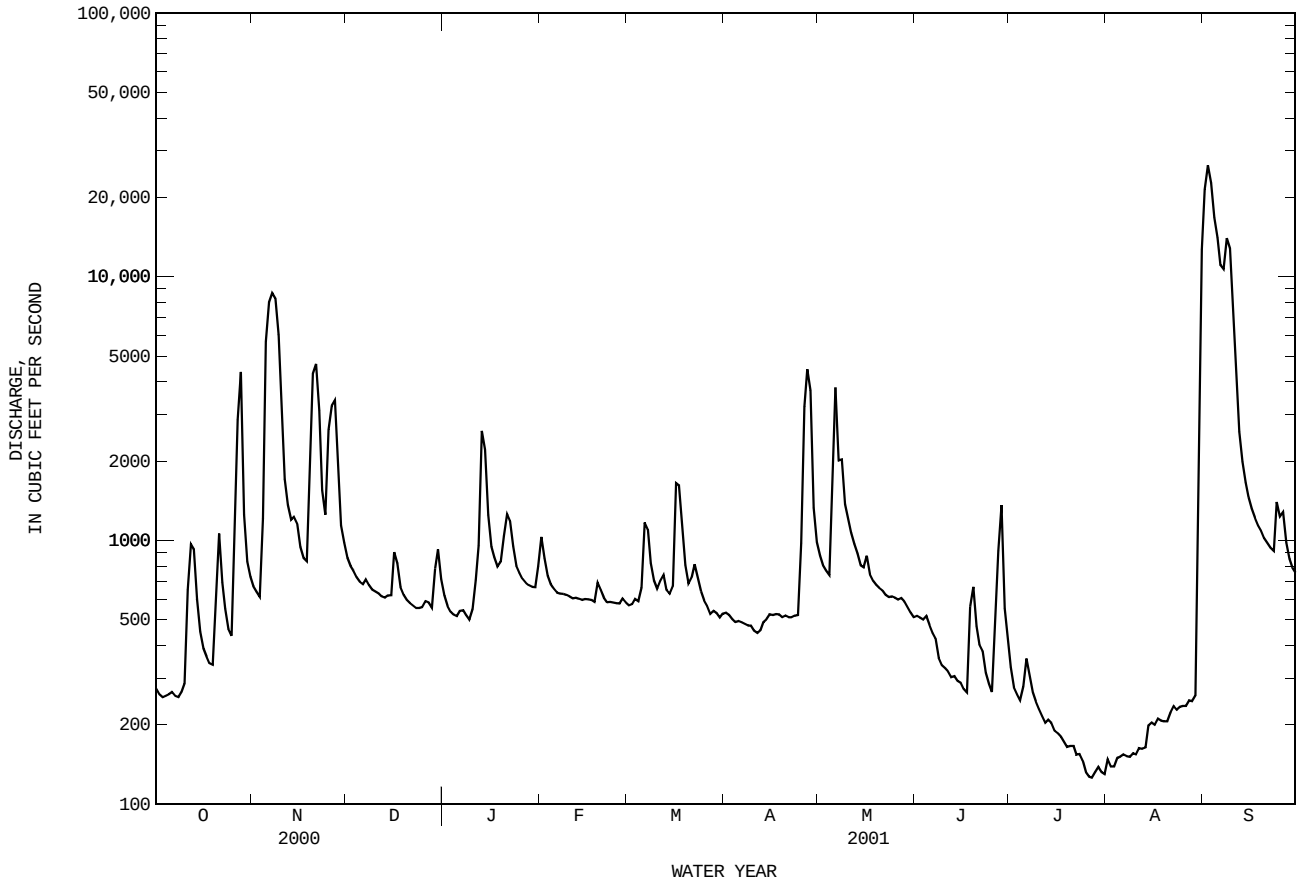
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2001h, BY WATER YEAR (WY)

MEAN	843	633	534	572	685	532	753	1046	1161	588	394	967
MAX	7543	2747	4628	4309	7682	4379	4488	6169	15370	4723	1736	12050
(WY)	1999	2001	1992	1968	1992	1992	1992	1992	1987	1973	1978	1967
MIN	75.1	76.2	86.5	104	107	83.9	86.8	137	26.2	52.4	47.9	66.8
(WY)	1956	1956	1955	1956	1956	1956	1956	1971	1956	1956	1963	1954

08188500 San Antonio River at Goliad, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1924 - 2001h	
ANNUAL TOTAL	228236		476447			
ANNUAL MEAN	624		1305		732	
HIGHEST ANNUAL MEAN					3289	1992
LOWEST ANNUAL MEAN					98.2	1956
HIGHEST DAILY MEAN	8690	Nov 7	26500	Sep 2	121000	Sep 23 1967
LOWEST DAILY MEAN	109	Sep 2	126	Jul 27	2.1	Jun 14 1956
ANNUAL SEVEN-DAY MINIMUM	118	Aug 29	131	Jul 25	5.0	Jun 12 1956
MAXIMUM PEAK FLOW			27200	Sep 2	i138000	Sep 23 1967
MAXIMUM PEAK STAGE			41.97	Sep 2	a53.70	Sep 23 1967
ANNUAL RUNOFF (AC-FT)	452700		945000		530500	
10 PERCENT EXCEEDS	981		2020		1210	
50 PERCENT EXCEEDS	362		606		333	
90 PERCENT EXCEEDS	146		206		120	

e Estimated
h See PERIOD OF RECORD paragraph.
i From indirect measurement of peak flow.
a From floodmark.



08188600 Guadalupe-Blanco River Authority Calhoun Canal Pump Station near Long Mott, TX

LOCATION.--Lat 28°29'35", long 96°46'43", Calhoun County, Hydrologic Unit 12100403, at raw water pump station on Goff Bayou, 0.6 mi upstream from State Highway 185, and 1.3 mi northwest of Long Mott.

PERIOD OF RECORD.--Mar. 1968 to Feb. 1970 (monthly discharge only), Mar. 1970 to current year.

GAGE.--Totalizing flow meters on rated pumps. Mar. 1968 to Mar. 6, 1981, Parshall flume and deflection-vane recorder, Mar. 7, 1981 to Oct. 5, 1989, water-stage and velocity recorders with duplex water-stage recorder, Oct. 6, 1989 to June 30, 1992, nonrecording gage at site 0.5 mi downstream. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow is diverted from Guadalupe River 550 ft upstream from Guadalupe River near Tivoli (station 08188800), and then through a system of canals, Hog Bayou, and Goff Bayou, a distance of 8.2 mi to the pumping station on Goff Bayou. No flow at times.

COOPERATION.--Log of pumping station on Goff Bayou provided by the Guadalupe-Blanco River Authority.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	77	26	51	48	e60	e34	e107	e94	e134	87	46
2	49	69	26	54	48	e40	e60	e103	e102	e138	76	50
3	49	69	26	25	48	e31	e74	e91	e112	e139	87	70
4	49	71	38	39	48	e40	e86	e98	e125	e105	81	71
5	49	70	35	47	41	e39	e56	e86	e154	e106	94	57
6	e51	70	47	32	41	e47	e60	e28	e144	e103	94	52
7	e51	70	50	49	49	e56	e57	e24	e142	e89	94	52
8	e51	81	35	49	35	e56	e49	e44	e145	e89	94	62
9	e64	71	38	63	42	e33	e39	e38	e118	e89	110	72
10	74	47	33	40	48	e41	e46	e52	e132	e89	119	86
11	74	47	43	32	e26	e38	e75	e71	e140	e102	118	95
12	74	34	39	40	e47	e55	e96	e60	e144	120	117	91
13	71	26	40	49	e50	e81	e93	e65	e165	117	108	95
14	70	43	50	49	e54	e74	e94	e80	e209	96	80	90
15	70	50	36	60	e47	e74	e100	e84	e177	96	84	89
16	71	53	25	50	e47	e74	e101	e71	e201	97	84	87
17	71	34	36	47	e29	e74	e107	e66	e230	87	72	77
18	74	25	46	.00	e38	e74	e94	e71	e221	95	74	76
19	76	26	46	24	e31	e75	e94	e86	e210	96	89	75
20	74	41	46	49	e41	e90	e90	e106	e192	93	109	110
21	71	50	36	48	e54	e82	e86	e102	e189	77	131	114
22	73	37	46	39	e62	e65	e79	e110	e200	73	132	102
23	94	26	46	49	e49	e48	e48	e102	e191	81	140	95
24	89	26	35	40	e49	e41	e65	e106	e180	75	141	95
25	90	38	26	40	e32	e37	e80	e108	e167	76	154	82
26	118	36	46	49	e42	e65	e101	e94	e143	77	146	75
27	105	26	46	49	e49	e74	e101	e94	e134	78	142	75
28	78	26	46	49	e64	e74	e81	e94	e134	69	83	75
29	70	26	46	49	---	e41	e76	e95	e134	65	95	68
30	70	39	26	49	---	e35	e90	e107	e134	65	96	51
31	69	---	30	48	---	e30	---	e88	---	72	71	---
TOTAL	2188	1404	1190	1358.00	1259	1744	2312	2531	4763	2888	3202	2335
MEAN	70.6	46.8	38.4	43.8	45.0	56.3	77.1	81.6	159	93.2	103	77.8
MAX	118	81	50	63	64	90	107	110	230	139	154	114
MIN	49	25	25	.00	26	30	34	24	94	65	71	46
AC-FT	4340	2780	2360	2690	2500	3460	4590	5020	9450	5730	6350	4630

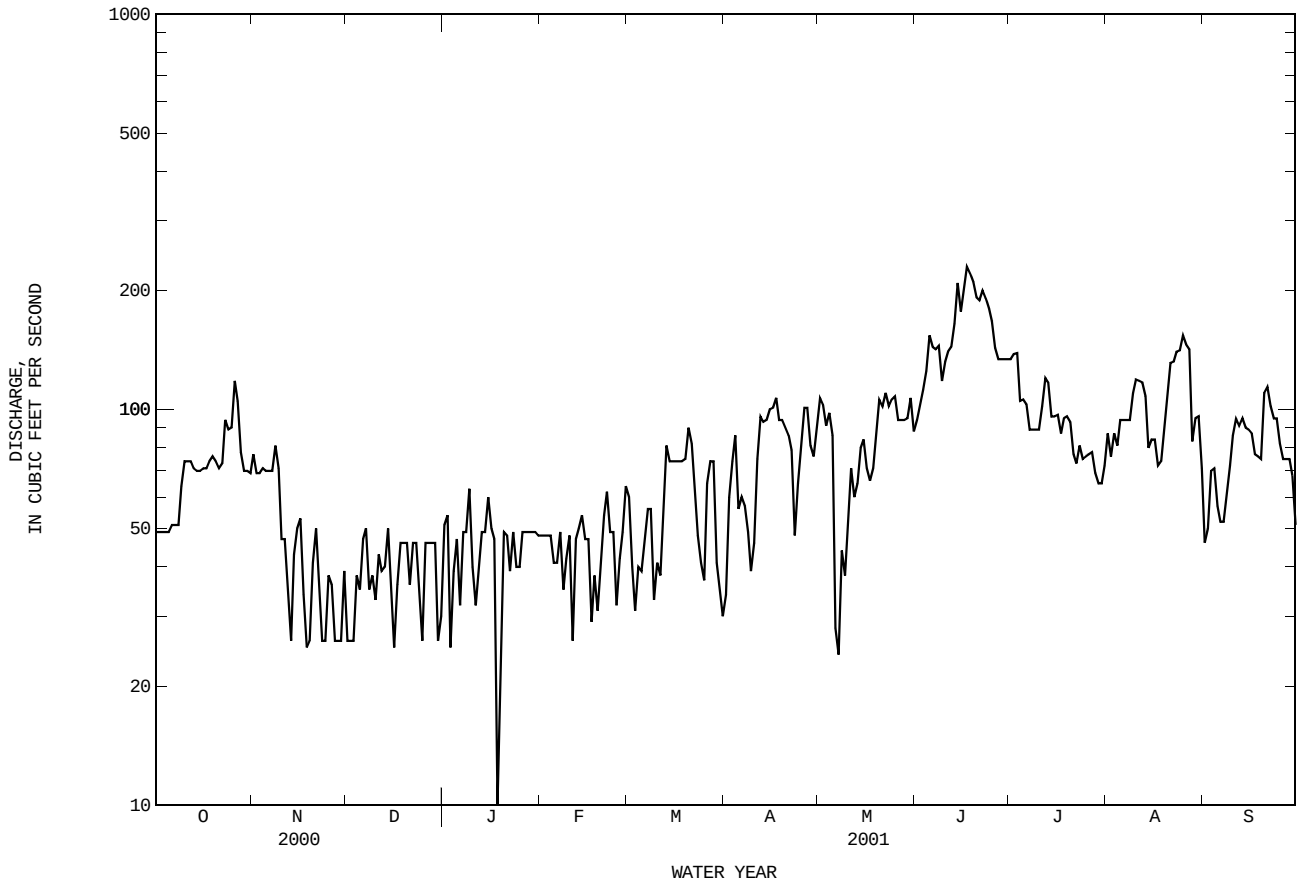
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2001, BY WATER YEAR (WY)

MEAN	75.0	31.9	31.1	30.8	29.2	42.4	87.7	124	176	164	127	126
MAX	167	83.8	55.7	58.9	61.0	96.9	169	209	268	247	193	225
(WY)	1989	2000	1976	2000	1976	1975	1971	1978	1980	1973	1977	1980
MIN	37.2	10.1	11.7	12.4	10.7	11.6	13.8	42.9	90.7	93.2	67.0	42.0
(WY)	1998	1982	1983	1982	1992	1983	1992	1997	1997	2001	1996	1998

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1970 - 2001	
ANNUAL TOTAL	25391.13		27174.00			
ANNUAL MEAN	69.4		74.4		87.4	
HIGHEST ANNUAL MEAN					126	1975
LOWEST ANNUAL MEAN					55.9	1997
HIGHEST DAILY MEAN	151	May 9	e230	Jun 17	301	Jun 23 1977
LOWEST DAILY MEAN	.00	Jan 10	.00	Jan 18	.00	Aug 3 1970
ANNUAL SEVEN-DAY MINIMUM	.02	Jan 10	28	Nov 27	.00	Dec 21 1970
MAXIMUM PEAK FLOW					311	Jul 7 1968
ANNUAL RUNOFF (AC-FT)	50360		53900		63290	
10 PERCENT EXCEEDS	112		122		192	
50 PERCENT EXCEEDS	70		71		67	
90 PERCENT EXCEEDS	26		35		14	

e Estimated

08188600 Guadalupe-Blanco River Authority Calhoun Canal Pump Station near Long Mott, TX--Continued



08188800 Guadalupe River near Tivoli, TX

LOCATION.--Lat 28°30'20", long 96°53'04", Calhoun-Refugio County line, Hydrologic Unit 12100204, on right bank at diversion and saltwater barrier, one orifice located upstream and one downstream, 550 ft downstream from Calhoun County Irrigation Canal intake, 0.4 mi downstream from San Antonio River, 3.5 mi north of Tivoli, and at mile 10.2.

DRAINAGE AREA.--10,128 mi^2.

PERIOD OF RECORD.--Sept. 1965 to current year (daily maximum stage).
Water-quality records.--Chemical data: Aug. 1965 to Aug. 1999. Biochemical data: Jan. 1968 to Sept. 1996. Pesticide data: Oct. 1970 to Aug. 1999. Specific conductance: Aug. 1965 to Oct. 1982. Water temperature: Aug. 1965 to Oct. 1982.

REVISED RECORDS.--WRD TX-68-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.04 ft above sea level. Satellite telemeter at station.

REMARKS.--Records fair. Interruptions in the record were due to malfunction of the instrument. Since installation of gage in Sept. 1965, at least 10% of contributing drainage area has been regulated. Many small diversions above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height (upstream from barrier), 14.8 ft Oct. 21, 1998. Maximum gage height (downstream from barrier), 14.7 ft Oct. 21, 1998. Maximum stage since at least 1936, that of Oct. 21, 1998.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1936 reached a stage of 11 ft, present site and datum. Levees along the Navigation Canal from San Antonio Bay to Victoria were built in 1961, thus decreasing the flood plain.

EXTREMES FOR CURRENT YEAR.--Maximum gage height (upstream from barrier), 10.6 ft Sept. 4-5. Maximum gage height (downstream from barrier), 10.4 ft Sept. 4-5.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	UP	DOWN	UP	DOWN	UP	DOWN	UP	DOWN	UP	DOWN	UP	DOWN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3.5	2.4	4.7	4.7	7.9	7.7	7.4	6.9	7.2	7.0	6.8	6.4
2	3.4	2.5	4.0	3.9	7.8	7.6	7.3	6.8	7.5	7.2	6.9	6.4
3	4.1	2.6	3.8	3.7	7.6	7.5	7.3	6.6	7.5	7.2	6.9	6.4
4	3.5	2.5	3.5	3.5	7.5	7.4	7.2	6.4	7.5	7.1	7.0	6.5
5	3.4	2.6	5.3	5.2	7.4	7.3	7.1	6.3	7.3	6.9	7.1	6.6
6	4.1	2.5	7.2	7.1	7.3	7.2	7.0	6.2	7.2	6.8	7.2	6.7
7	3.7	2.0	7.9	7.8	7.2	7.0	6.9	6.1	7.2	6.8	7.6	7.1
8	3.4	2.2	8.1	7.9	7.1	6.9	6.9	6.1	7.2	6.8	7.7	7.2
9	4.1	2.2	8.2	8.0	7.1	6.9	6.8	6.0	7.2	6.8	7.7	7.2
10	3.6	2.5	8.2	8.1	7.0	6.8	7.4	6.6	7.1	6.7	7.5	7.0
11	---	---	8.2	8.1	7.0	6.8	7.6	6.7	7.0	6.6	7.4	6.9
12	3.2	3.1	8.2	8.1	6.9	6.7	7.7	6.8	7.0	6.6	7.4	6.9
13	3.7	3.5	8.1	8.0	6.8	6.7	7.7	6.8	7.0	6.6	7.4	6.8
14	3.9	3.7	7.9	7.8	6.8	6.6	7.8	6.8	7.0	6.6	7.3	6.8
15	3.7	3.6	7.8	7.7	6.8	6.6	7.9	6.9	7.0	6.6	7.3	6.8
16	3.2	3.1	7.8	7.6	6.8	6.6	8.0	6.9	6.9	6.5	7.3	6.8
17	2.9	2.8	7.7	7.6	7.0	6.8	8.2	6.4	6.8	6.4	7.8	7.2
18	2.7	2.6	7.7	7.6	7.1	6.9	8.2	5.8	6.8	6.4	7.9	7.3
19	3.0	2.9	7.7	7.6	7.0	6.8	8.2	7.4	6.8	6.4	7.9	7.3
20	2.9	2.8	7.8	7.6	6.9	6.7	7.6	7.3	7.0	6.5	7.8	7.3
21	2.9	2.8	7.9	7.7	7.0	6.4	7.6	7.3	7.0	6.6	7.7	7.2
22	4.1	4.0	8.0	7.9	6.8	6.3	7.7	7.3	7.0	6.6	7.5	7.0
23	4.1	3.9	8.1	8.0	6.8	6.4	7.8	7.4	7.0	6.6	7.5	6.9
24	3.8	3.7	8.1	8.0	6.8	6.3	7.8	7.3	7.0	6.6	7.4	6.9
25	3.6	3.5	8.0	7.8	6.8	6.3	7.7	7.3	7.0	6.5	7.3	6.8
26	3.8	3.7	7.9	7.7	6.9	6.4	7.6	7.1	6.9	6.5	7.2	6.7
27	5.0	4.8	7.9	7.8	6.8	6.3	7.5	6.9	6.9	6.4	7.2	6.7
28	5.7	5.5	8.0	7.9	6.9	6.3	7.4	6.8	6.9	6.4	7.3	6.8
29	6.2	6.1	8.1	7.9	6.9	6.4	7.3	6.9	---	---	7.3	6.8
30	6.2	6.1	8.0	7.9	7.2	6.7	7.2	6.9	---	---	7.2	6.8
31	5.7	5.6	---	---	7.5	6.9	7.1	6.8	---	---	7.2	6.7
MAX	---	---	8.2	8.1	7.9	7.7	8.2	7.7	7.5	7.2	7.9	7.3
MIN	---	---	3.5	3.5	6.8	6.3	6.8	5.8	6.8	6.4	6.8	6.4

08188800 Guadalupe River near Tivoli, TX--Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	UP	DOWN	UP	DOWN	UP	DOWN	UP	DOWN	UP	DOWN	UP	DOWN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.1	6.6	7.9	7.7	5.9	5.4	4.2	4.1	2.4	2.3	8.2	8.1
2	7.1	6.6	7.7	7.5	5.7	5.3	3.8	3.7	2.4	2.4	8.9	8.8
3	7.1	6.6	7.5	7.3	5.6	5.2	3.5	3.4	2.5	2.5	9.8	9.6
4	7.1	6.6	7.3	7.1	5.5	5.0	3.3	3.2	2.7	2.6	10.6	10.4
5	7.0	6.5	7.9	7.7	5.4	4.9	3.6	3.5	2.7	2.7	10.6	10.4
6	7.0	6.5	8.1	7.8	5.2	4.8	3.6	3.5	2.9	2.9	10.5	10.4
7	7.0	6.5	8.2	7.9	5.1	4.7	3.5	3.4	2.8	2.7	10.0	9.8
8	6.9	6.4	8.2	7.9	4.7	4.3	3.4	3.3	2.8	2.8	9.4	9.2
9	6.8	6.3	8.2	7.9	4.3	3.9	3.4	3.3	2.9	2.8	8.9	8.8
10	6.9	6.4	8.0	7.7	4.2	3.8	3.0	2.9	2.8	2.8	8.7	8.6
11	6.9	6.4	7.9	7.6	4.1	3.7	2.9	2.8	2.5	2.5	8.8	8.7
12	6.9	6.2	7.8	7.5	4.0	3.7	2.8	2.8	2.5	2.5	8.8	8.6
13	6.8	6.2	7.7	7.3	4.1	3.8	2.8	2.7	2.2	2.2	8.6	8.5
14	6.8	6.2	7.6	7.2	4.2	3.9	2.5	2.4	2.0	2.0	8.2	8.2
15	6.8	6.2	---	---	4.2	3.9	2.4	2.3	2.0	2.0	8.0	7.9
16	6.7	6.1	7.4	6.9	3.8	3.5	2.4	2.3	2.3	2.3	7.8	7.8
17	6.5	5.9	7.3	6.8	3.5	3.2	2.6	2.5	2.4	2.4	7.8	7.7
18	6.4	5.9	---	---	3.2	2.9	2.8	2.7	2.3	2.3	7.6	7.6
19	---	---	---	---	3.2	2.9	2.9	2.8	2.4	2.4	7.5	7.4
20	---	---	---	---	4.0	3.6	3.0	2.9	2.5	2.5	7.4	7.3
21	---	---	---	---	4.0	3.6	3.0	2.9	2.7	2.7	7.2	7.1
22	---	---	---	---	3.8	3.5	2.8	2.7	2.7	2.7	7.2	7.1
23	---	---	6.4	5.9	3.6	3.2	2.6	2.5	2.7	2.7	7.1	7.0
24	6.3	5.9	6.3	5.8	3.4	3.1	2.5	2.5	2.6	2.5	7.1	6.9
25	6.0	5.6	6.3	5.8	3.2	2.9	2.7	2.6	2.5	2.4	7.1	7.0
26	6.3	6.1	6.3	5.9	3.3	3.2	2.6	2.5	2.5	2.4	7.2	7.1
27	7.2	7.0	6.4	6.0	3.7	3.6	3.3	2.7	2.3	2.2	7.3	7.2
28	7.7	7.4	6.5	6.1	4.5	4.4	2.9	2.8	2.5	2.4	7.3	7.1
29	7.9	7.7	6.4	6.0	4.9	4.8	2.9	2.8	2.9	2.9	7.4	7.0
30	8.0	7.8	6.3	5.9	4.8	4.7	2.7	2.7	3.6	3.5	7.1	6.9
31	---	---	6.1	5.7	---	---	2.6	2.5	7.2	7.1	---	---
MAX	---	---	---	---	5.9	5.4	4.2	4.1	7.2	7.1	10.6	10.4
MIN	---	---	---	---	3.2	2.9	2.4	2.3	2.0	2.0	7.1	6.9

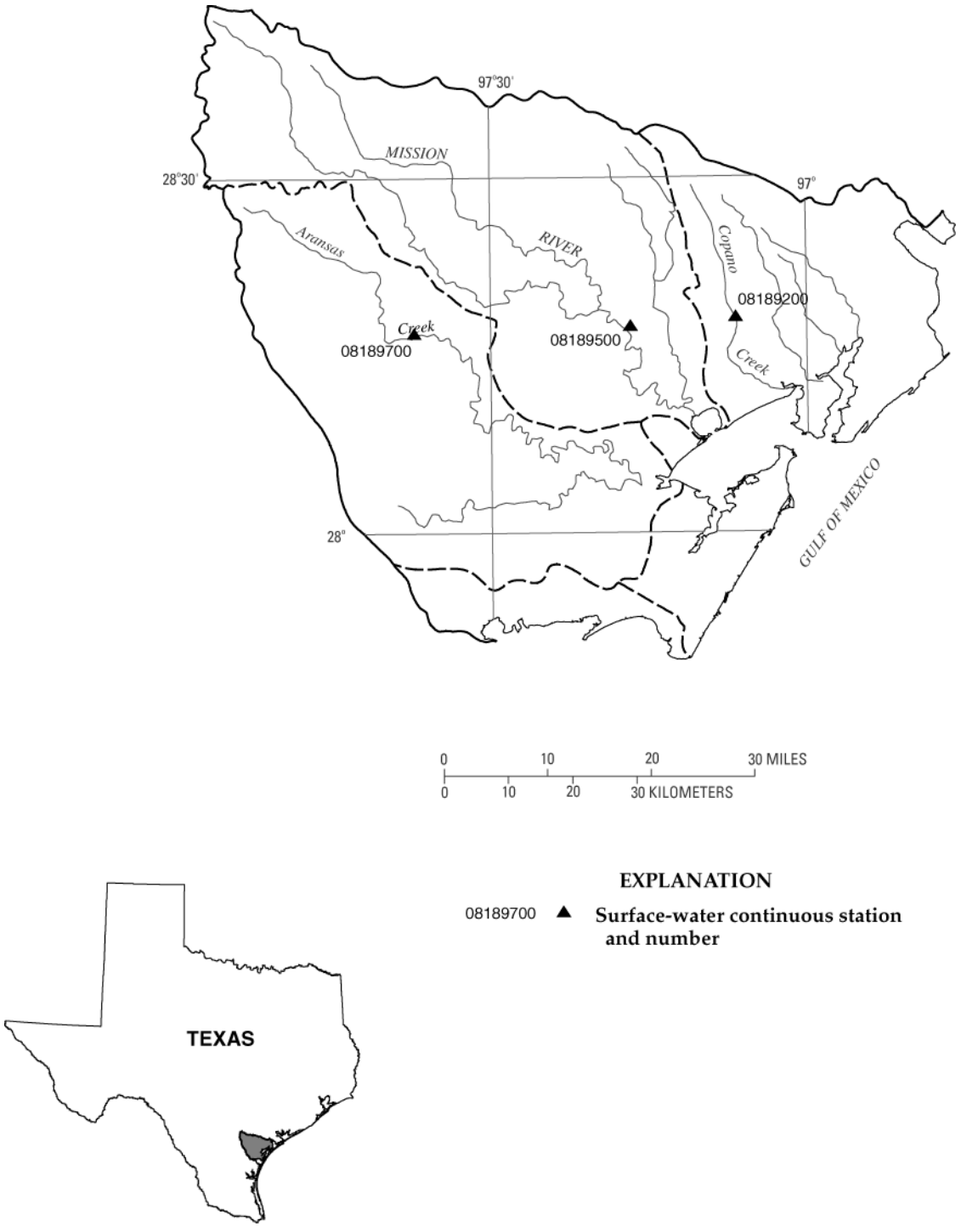


Figure 6.--Map showing location of gaging stations in the Copano, Mission and Aransas River Basins

08189200 Copano Creek near Refugio, TX 186
08189500 Mission River at Refugio, TX 188
08189700 Aransas River near Skidmore, TX 190

08189200 Copano Creek near Refugio, TX

LOCATION.--Lat 28°18'12", long 97°06'44", Refugio County, Hydrologic Unit 12100405, on right bank at downstream end of bridge on Farm Road 774, 3.6 mi upstream from Alameda Creek, 8.1 mi east of Refugio, and 11.9 mi upstream from mouth.

DRAINAGE AREA.--87.8 mi^2.

PERIOD OF RECORD.--June 1970 to current year.
Water-quality records.--Chemical data: July 1970 to Dec. 1988. Biochemical data: July 1970 to Dec. 1988. Pesticide data: July 1970 to July 1981.

GAGE.--Water-stage recorder. Datum of gage is 17.25 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. No known regulation or diversions. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1921, 22 ft in Sept. 1967, from information by local residents.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.32	.00	.59	.00	e.00	.00	.00	.00	.00	817
2	.00	.00	.05	.10	.37	.00	e.00	.00	.00	.00	.00	843
3	.00	.00	.00	1.0	.22	.00	e.00	.00	.00	.00	.00	925
4	.00	.00	.00	.50	.10	.00	1.7	.00	.00	.00	.00	935
5	.00	.00	.00	.11	.03	.00	7.6	.00	.00	.00	.00	808
6	.00	.00	.00	.01	.00	.00	9.0	.00	.00	.00	.00	587
7	.00	.00	.00	.00	.00	.00	9.0	.00	.00	.00	.00	451
8	.00	.00	.00	.00	.00	.00	7.2	1.5	.00	.00	.00	285
9	.00	.00	.00	.00	.00	.00	3.6	41	.00	.00	.00	193
10	.00	.00	.00	93	.00	.00	1.7	288	.00	.00	.00	311
11	.00	.00	.00	620	.00	.00	1.0	405	.00	.00	.00	219
12	.00	.00	.00	536	.00	.00	.60	308	.00	.00	.00	130
13	.00	.00	.00	351	.00	.00	.24	182	.00	.00	.00	94
14	.00	.00	.00	207	.00	.00	.04	100	.00	.00	.00	49
15	.00	.00	.00	121	.00	.00	.00	60	.00	.00	.00	23
16	.00	.00	.00	58	.00	.00	.00	41	.00	.00	.00	9.9
17	.00	.00	.00	34	.00	.00	.00	29	.00	.00	.00	5.0
18	.00	16	.00	28	.00	.00	.00	22	.00	.00	.00	3.0
19	.00	86	.00	39	.00	.00	.00	15	.00	.00	.00	2.0
20	.00	49	.00	51	.00	.00	.00	7.6	.00	.00	.00	1.2
21	.00	23	.00	49	.00	.00	.00	4.5	.00	.00	.00	.67
22	.00	18	.00	30	.00	.00	.00	2.8	.00	.00	.00	.26
23	.00	15	.00	20	.00	.00	.00	1.7	.00	.00	.00	.09
24	.00	10	.00	13	.00	.00	.00	1.0	.00	.00	.00	.05
25	.00	7.5	.00	7.0	.00	.00	.00	.49	.00	.00	.00	.00
26	.00	5.3	.00	4.2	.00	.00	.00	.08	.00	.00	.00	.00
27	.00	3.4	.00	2.7	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	2.1	.87	1.9	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	1.3	.79	1.5	---	e.00	.00	.00	.00	.00	.00	.00
30	.00	.75	.19	1.1	---	e.00	.00	.00	.00	.00	13	.00
31	.00	---	.01	.83	---	e.00	---	.00	---	.00	327	---
TOTAL	0.00	237.35	2.23	2270.95	1.31	0.00	41.68	1510.67	0.00	0.00	340.00	6692.17
MEAN	.000	7.91	.072	73.3	.047	.000	1.39	48.7	.000	.000	11.0	223
MAX	.00	86	.87	620	.59	.00	9.0	405	.00	.00	327	935
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	471	4.4	4500	2.6	.00	83	3000	.00	.00	674	13270

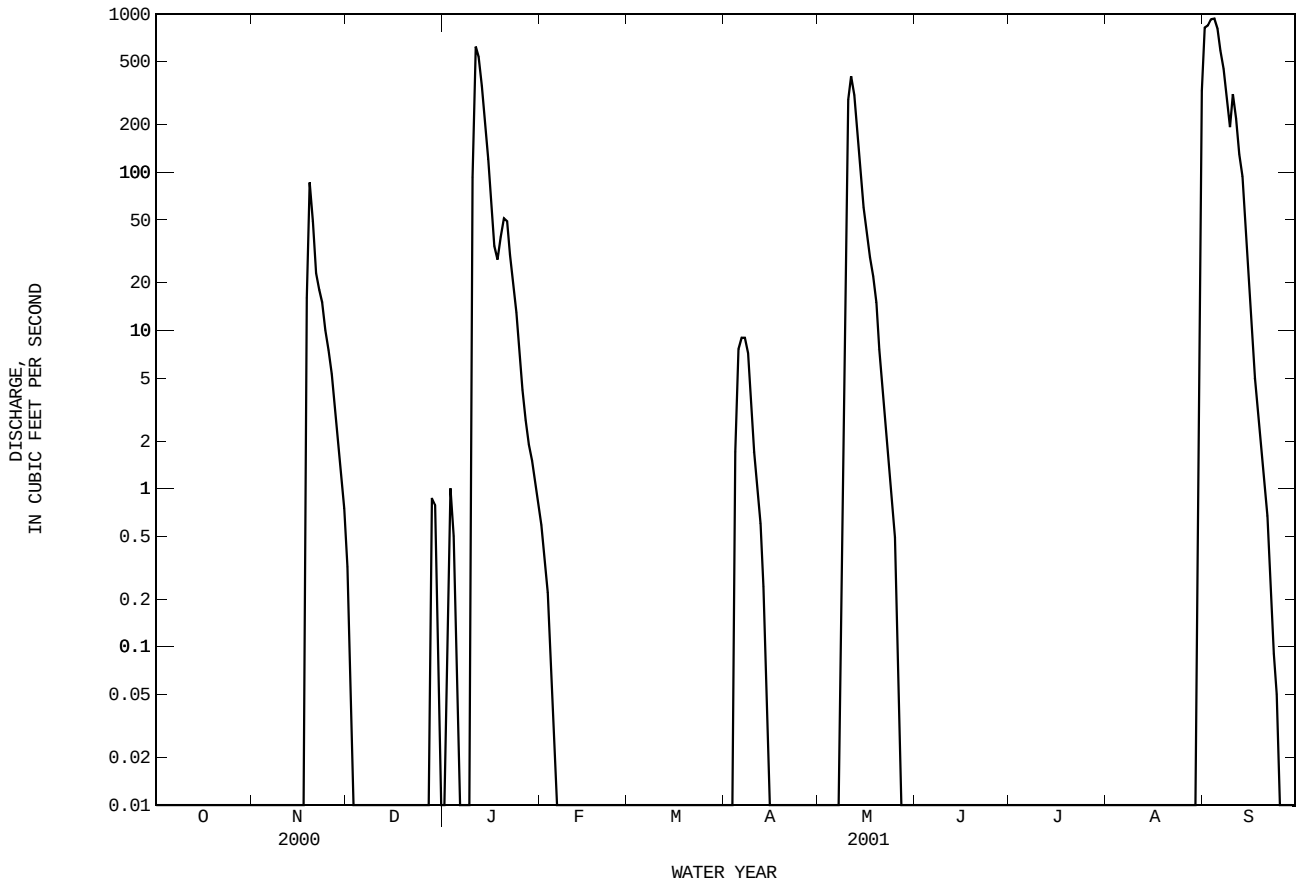
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2001, BY WATER YEAR (WY)

MEAN	71.0	45.1	21.0	24.3	36.3	36.7	26.7	58.9	62.8	38.6	3.43	91.1
MAX	551	589	240	189	459	524	229	508	499	416	29.9	1028
(WY)	1984	1982	1992	1979	1992	1997	1992	1981	1981	1990	1998	1971
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1978	1989	1971	1983	1971	1971	1971	1971	1971	1971	1974	1977

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1970 - 2001	
ANNUAL TOTAL	892.62		11096.36			
ANNUAL MEAN	2.44		30.4		43.1	
HIGHEST ANNUAL MEAN					138	1992
LOWEST ANNUAL MEAN					.52	1989
HIGHEST DAILY MEAN	302	Mar 15	935	Sep 4	5960	Sep 12 1971
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Aug 14 1970
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Aug 14 1970
MAXIMUM PEAK FLOW			989	Sep 4	6300	Sep 12 1971
MAXIMUM PEAK STAGE			11.66	Sep 4	21.00	Sep 12 1971
ANNUAL RUNOFF (AC-FT)	1770		22010		31190	
10 PERCENT EXCEEDS	.21		32		62	
50 PERCENT EXCEEDS	.00		.00		.03	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated

08189200 Copano Creek near Refugio, TX--Continued



08189500 Mission River at Refugio, TX

LOCATION.--Lat 28°17'30", long 97°16'44", Refugio County, Hydrologic Unit 12100406, on left bank at upstream side of upstream bridge of two bridges on U.S. Highway 77, 560 ft upstream from Missouri Pacific Railroad Co. bridge, and 0.2 mi southwest of Refugio.

DRAINAGE AREA.--690 mi^2.

PERIOD OF RECORD.--July 1939 to current year.
Water-quality records.--Chemical data: Sept. 1961 to Aug. 1993. Biochemical data: Jan. 1968 to Aug. 1993. Pesticide data: Oct. 1970 to Apr. 1979. Sediment data: Jan. 1978 to Aug. 1993. Specific conductance: Oct. 1961 to Sept. 1981. Water temperature: Oct. 1961 to Sept. 1981.

REVISED RECORDS.--WSP 1923: Drainage area. WDR TX-71-1: 1967

GAGE.--Water-stage recorder. Datum of gage is 1.00 ft above sea level. Prior to Nov. 25, 1958, nonrecording gage at site 59 ft downstream at same datum; Nov. 26, 1958, to Apr. 18, 1963, nonrecording gage at present site and datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation. There are several small diversions above station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in Aug. 1914 and May 17, 1938, reached a stage of 32.3 ft, from information by local residents. Maximum stage since about 1899, that of Sept. 12, 1971.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	1.3	10	35	17	9.3	62	23	48	11	3.9	32100
2	.28	1.3	9.4	31	16	11	43	24	47	22	3.8	24600
3	.27	1.3	8.6	26	16	12	37	23	45	31	4.7	11000
4	.24	3.5	8.2	23	15	11	33	22	42	13	4.4	3210
5	.24	2.4	7.6	20	14	10	31	27	40	11	4.0	1680
6	1.3	41	7.2	18	14	9.9	34	842	39	11	3.9	3270
7	2.6	148	7.1	17	14	9.3	30	6440	37	9.8	4.3	1110
8	3.0	88	6.9	15	14	8.9	23	5190	36	9.4	4.0	271
9	1.9	32	6.9	14	13	8.7	22	776	35	9.2	3.7	191
10	2.7	18	6.9	129	13	8.1	21	140	34	8.5	3.4	422
11	3.5	13	7.1	778	13	8.4	17	109	32	8.1	3.2	369
12	4.1	9.4	7.3	969	13	8.9	20	102	31	8.1	3.0	170
13	1.2	24	7.3	250	12	7.8	24	98	29	7.7	2.8	128
14	.81	45	7.3	116	12	7.8	20	91	29	7.3	2.7	109
15	.72	20	7.3	86	12	8.1	21	93	27	6.9	2.9	100
16	.78	12	7.2	71	12	7.7	19	90	26	6.9	2.5	95
17	.69	8.4	7.1	117	11	7.4	18	84	26	6.7	2.4	91
18	.70	101	7.3	154	11	7.6	19	80	23	6.8	2.4	87
19	.72	300	7.2	144	11	7.8	19	75	24	6.3	2.3	83
20	.71	225	7.3	133	11	7.5	19	73	21	6.2	2.5	80
21	.90	107	7.3	92	10	7.2	19	70	19	6.0	2.7	77
22	.85	62	7.4	63	9.8	7.0	20	68	22	5.4	2.3	74
23	.94	36	7.3	52	9.8	6.9	18	65	20	5.0	2.1	74
24	1.0	28	7.6	44	9.8	7.0	16	63	17	5.0	1.9	119
25	1.3	26	8.2	37	9.5	7.0	21	61	18	5.0	1.8	115
26	1.9	20	10	31	9.3	6.9	23	58	16	5.2	2.0	90
27	1.6	17	230	31	9.3	7.5	19	57	15	5.0	1.7	75
28	1.8	16	518	30	9.4	23	12	55	13	4.7	5.5	70
29	1.4	14	132	29	---	63	11	54	12	4.6	22	66
30	1.3	12	70	22	---	168	10	53	11	4.4	432	63
31	1.4	---	46	21	---	93	---	51	---	4.1	6240	---
TOTAL	41.19	1432.6	1195.0	3598	340.9	573.7	701	15057	834	261.3	6780.8	79989
MEAN	1.33	47.8	38.5	116	12.2	18.5	23.4	486	27.8	8.43	219	2666
MAX	4.1	300	518	969	17	168	62	6440	48	31	6240	32100
MIN	.24	1.3	6.9	14	9.3	6.9	10	22	11	4.1	1.7	63
AC-FT	82	2840	2370	7140	676	1140	1390	29870	1650	518	13450	158700
CFSM	.00	.07	.06	.17	.02	.03	.03	.70	.04	.01	.32	3.86
IN.	.00	.08	.06	.19	.02	.03	.04	.81	.04	.01	.37	4.31

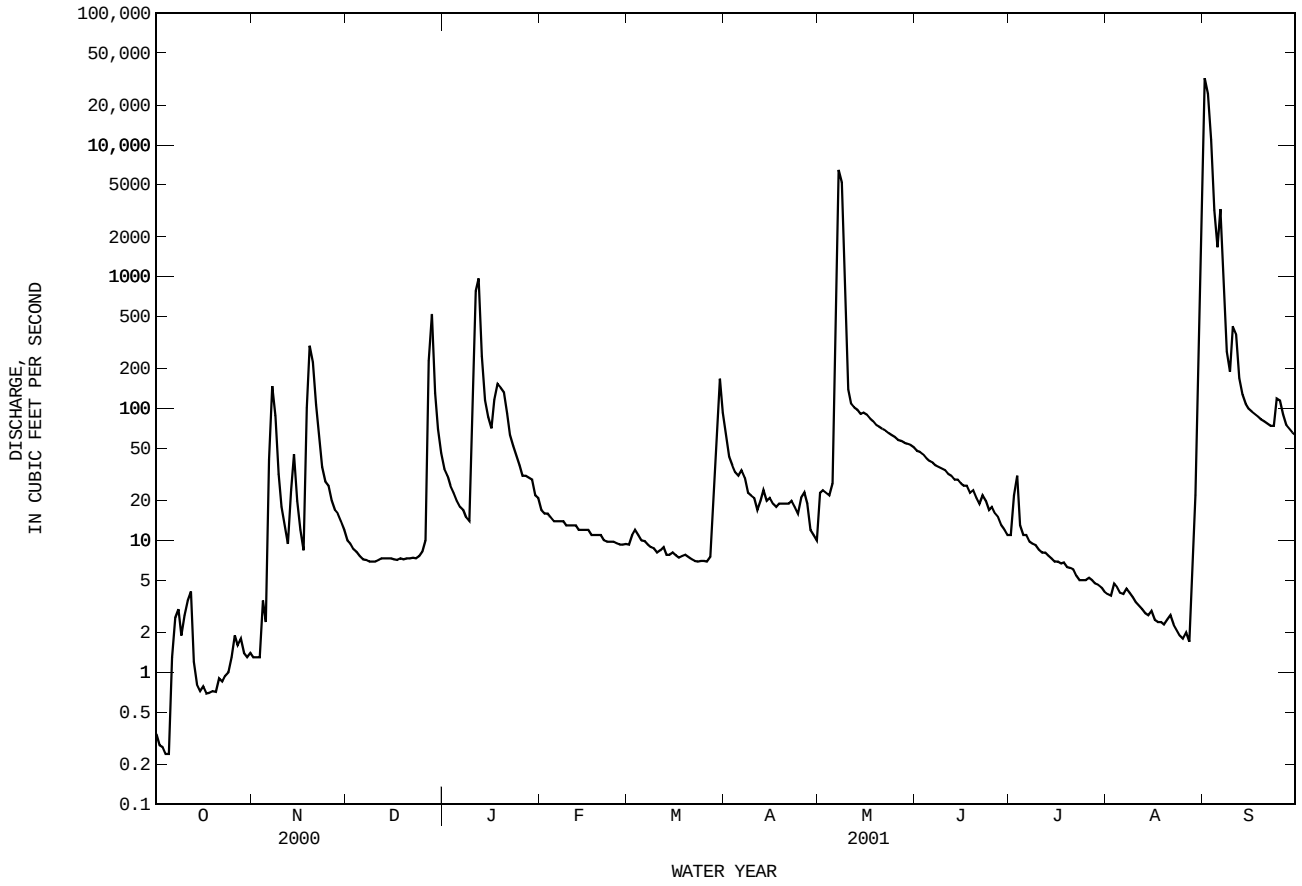
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2001, BY WATER YEAR (WY)

MEAN	189	70.3	59.3	46.9	104	58.7	99.8	185	174	130	62.7	296
MAX	1882	1380	849	417	1178	595	851	1387	1848	2135	1076	5349
(WY)	1974	1982	1992	1992	1958	1997	1992	1972	1973	1990	1942	1967
MIN	.051	.63	.62	.66	.66	2.20	1.90	.46	.65	.40	.096	.027
(WY)	1990	1990	1990	1990	1990	1989	1940	1989	1990	1989	1989	1989

08189500 Mission River at Refugio, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1939 - 2001	
ANNUAL TOTAL	6451.36		110804.49			
ANNUAL MEAN	17.6		304		123	
HIGHEST ANNUAL MEAN					459	1967
LOWEST ANNUAL MEAN					1.74	1989
HIGHEST DAILY MEAN	518	Dec 28	32100	Sep 1	67200	Sep 12 1971
LOWEST DAILY MEAN	.18	Sep 24	.24	Oct 4	.00	Sep 1 1989
ANNUAL SEVEN-DAY MINIMUM	.23	Sep 18	.73	Oct 14	.00	Aug 30 1989
MAXIMUM PEAK FLOW			46900	Sep 1	c79000	Sep 12 1971
MAXIMUM PEAK STAGE			34.08	Sep 1	p38.25	Sep 12 1971
ANNUAL RUNOFF (AC-FT)	12800		219800		89360	
ANNUAL RUNOFF (CFSM)	.026		.44		.18	
ANNUAL RUNOFF (INCHES)	.35		5.97		2.43	
10 PERCENT EXCEEDS	32		116		94	
50 PERCENT EXCEEDS	5.4		14		11	
90 PERCENT EXCEEDS	.29		2.4		2.2	

c From rating curve extended above current-meter discharge measurements of 76,000 ft^3/s and 77,200 ft^3/s.
p Observed.



08189700 Aransas River near Skidmore, TX

LOCATION.--Lat 28°16'56", long 97°37'14", Bee County, Hydrologic Unit 12100407, on right bank 160 ft downstream from centerline of county road bridge, 3.8 mi downstream from confluence of West Aransas and Poesta Creeks, and 4.4 mi northeast of Skidmore.

DRAINAGE AREA.--247 mi^2.

PERIOD OF RECORD.--Mar. 1964 to current year.
Water-quality records.--Chemical data: Oct. 1965 to Sept. 1966. Sediment data: Feb. 1966 to Sept. 1975.

GAGE.--Water-stage recorder. Datum of gage is 72.37 ft above sea level. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. The city of Beeville discharges wastewater effluent into the river via Poesta Creek 3.8 mi upstream. No known regulation or diversions. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 1954 reached a stage of 33 ft (discharge, 19,600 ft^3/s), from information by local resident. Maximum stage since at least 1914, that of Sept. 22, 1967.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.8	1.8	4.5	6.8	4.3	4.8	12	3.1	1.8	.76	.39	e4150
2	e1.8	2.1	4.2	5.8	4.5	5.7	8.4	3.1	1.4	1.0	.42	e894
3	e1.9	21	3.8	5.6	4.9	6.2	7.1	3.1	1.7	1.6	.43	153
4	1.5	13	3.8	5.1	4.8	6.7	6.3	3.1	1.5	2.1	.61	102
5	1.4	7.2	4.4	5.1	4.7	5.0	5.8	3.8	1.4	2.3	1.1	98
6	1.7	266	4.9	5.1	4.8	4.3	5.2	8.5	1.4	1.7	.80	76
7	2.7	102	4.7	5.1	5.1	4.2	5.0	10	1.3	1.2	.55	59
8	5.9	22	4.5	4.8	5.4	4.0	4.7	5.2	1.3	.99	.47	49
9	5.6	11	4.5	5.0	5.5	4.2	4.4	3.9	1.3	e.60	.45	63
10	e9.4	7.6	4.5	12	5.2	4.2	4.1	3.7	1.3	e.54	.49	78
11	e6.1	6.1	4.3	63	5.0	4.2	2.0	3.4	1.5	.44	.38	48
12	e4.7	5.6	4.3	32	5.0	4.4	4.9	3.2	1.4	.58	.43	38
13	e4.2	5.2	4.1	13	5.0	3.9	4.0	3.2	.80	2.1	.48	34
14	e3.8	4.8	4.0	8.3	5.4	3.9	3.8	4.7	.95	1.6	.39	32
15	e3.3	4.6	4.3	6.3	5.6	6.2	4.2	7.6	1.0	.83	.37	30
16	e2.8	4.6	4.4	6.3	5.6	9.4	3.9	4.5	1.1	.51	.43	28
17	e2.5	4.9	4.5	7.0	5.0	4.8	3.7	3.2	.90	.43	.45	27
18	e2.4	164	4.3	7.2	4.4	3.8	3.5	2.8	.78	.38	.46	25
19	e2.3	155	4.1	7.0	4.7	3.8	3.4	2.8	.67	.36	.39	24
20	2.1	48	4.0	8.9	4.9	4.4	3.9	2.6	.64	.31	.52	23
21	2.1	17	4.3	6.7	5.6	4.3	3.7	2.7	.99	.31	.58	22
22	2.2	9.8	4.2	5.2	5.4	3.6	3.4	3.0	1.3	.36	.58	21
23	2.3	7.3	4.6	4.8	5.1	3.4	3.2	2.9	6.2	.29	.72	237
24	2.4	6.4	4.7	4.9	4.8	3.5	3.1	3.4	16	.29	.61	116
25	2.6	5.6	4.7	4.7	4.5	3.5	3.2	2.8	5.5	.23	.59	43
26	3.7	5.9	122	4.8	4.1	3.4	3.1	2.4	2.9	.28	.53	28
27	3.5	5.1	304	4.8	4.4	3.6	3.0	2.3	e3.0	.68	.76	22
28	2.6	4.8	38	4.8	4.5	4.8	2.9	2.2	e2.4	.52	3.3	19
29	2.1	4.7	15	4.8	---	406	2.9	2.0	1.5	.42	29	17
30	1.9	4.6	8.9	4.6	---	66	3.0	1.9	.97	.42	e3650	16
31	1.8	---	7.1	4.4	---	21	---	1.8	---	.39	e5500	---
TOTAL	95.1	927.7	603.6	273.9	138.2	621.2	131.8	112.9	64.90	24.52	9196.68	6572
MEAN	3.07	30.9	19.5	8.84	4.94	20.0	4.39	3.64	2.16	.79	297	219
MAX	9.4	266	304	63	5.6	406	12	10	16	2.3	5500	4150
MIN	1.4	1.8	3.8	4.4	4.1	3.4	2.0	1.8	.64	.23	.37	16
AC-FT	189	1840	1200	543	274	1230	261	224	129	49	18240	13040

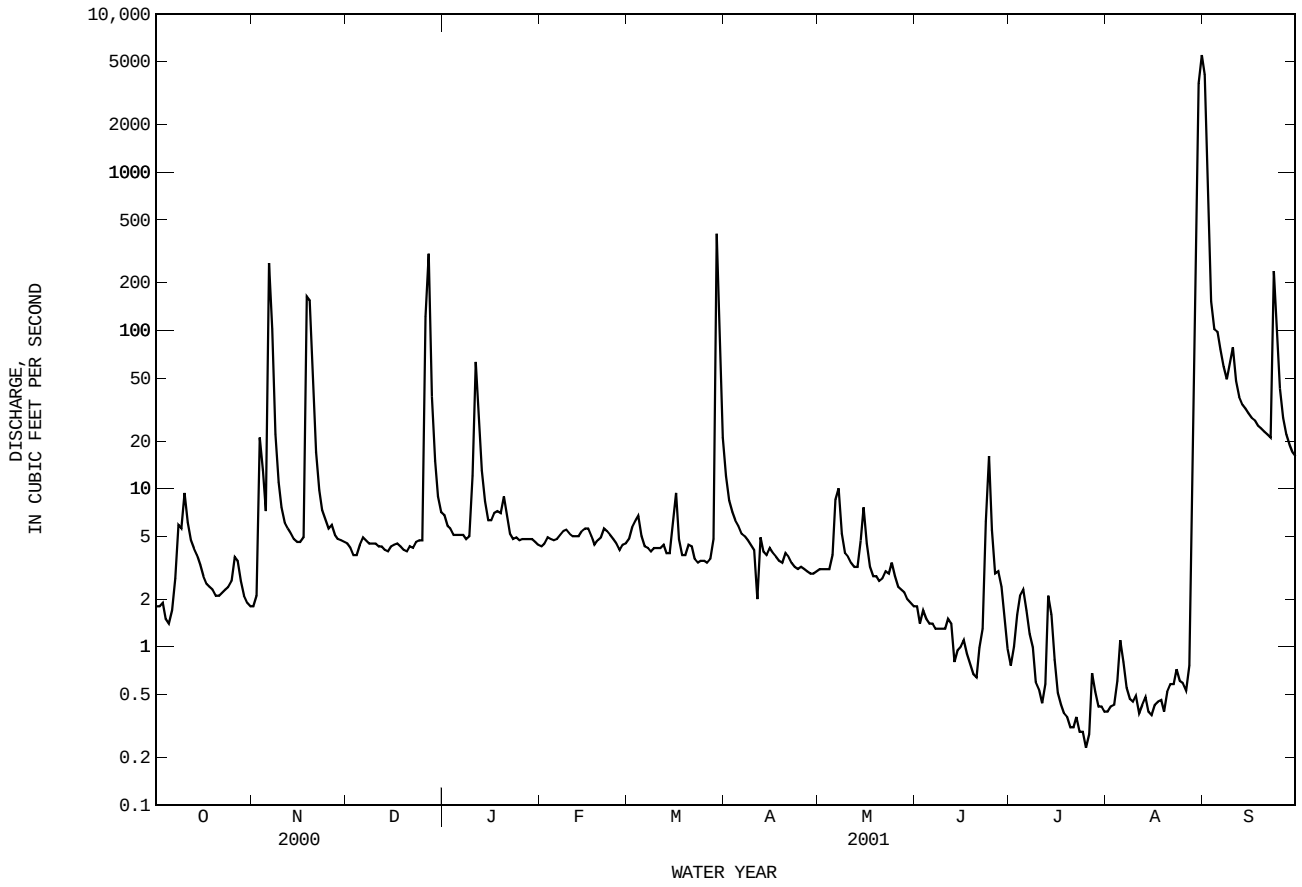
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2001, BY WATER YEAR (WY)

MEAN	41.6	10.9	18.0	7.65	14.2	15.8	29.1	51.8	47.2	26.4	21.4	132
MAX	346	105	327	38.9	119	117	255	349	512	451	297	2356
(WY)	1998	1999	1992	1992	1969	1992	1992	1972	1973	1990	2001	1967
MIN	.000	.17	.72	1.05	1.10	.55	.31	1.04	.026	.031	.000	.000
(WY)	1990	1965	1965	1971	1967	1966	1967	1989	1967	1986	1965	1965

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1964 - 2001	
ANNUAL TOTAL	4753.37		18762.50			
ANNUAL MEAN	13.0		51.4		35.1	
HIGHEST ANNUAL MEAN					199	1967
LOWEST ANNUAL MEAN					3.15	1986
HIGHEST DAILY MEAN	687	Mar 15	e5500	Aug 31	49300	Sep 22 1967
LOWEST DAILY MEAN	.55	Sep 14	.23	Jul 25	.00	Jun 24 1964
ANNUAL SEVEN-DAY MINIMUM	.60	Sep 8	.30	Jul 20	.00	Aug 16 1964
MAXIMUM PEAK FLOW			5640	Aug 31	i82800	Sep 22 1967
MAXIMUM PEAK STAGE			a21.10	Aug 31	a42.22	Sep 22 1967
ANNUAL RUNOFF (AC-FT)	9430		37220		25450	
10 PERCENT EXCEEDS	9.4		26		15	
50 PERCENT EXCEEDS	3.5		4.2		4.0	
90 PERCENT EXCEEDS	1.3		.58		.67	

e Estimated
i From indirect measurement of peak flow.
a From floodmark.

08189700 Aransas River near Skidmore, TX--Continued



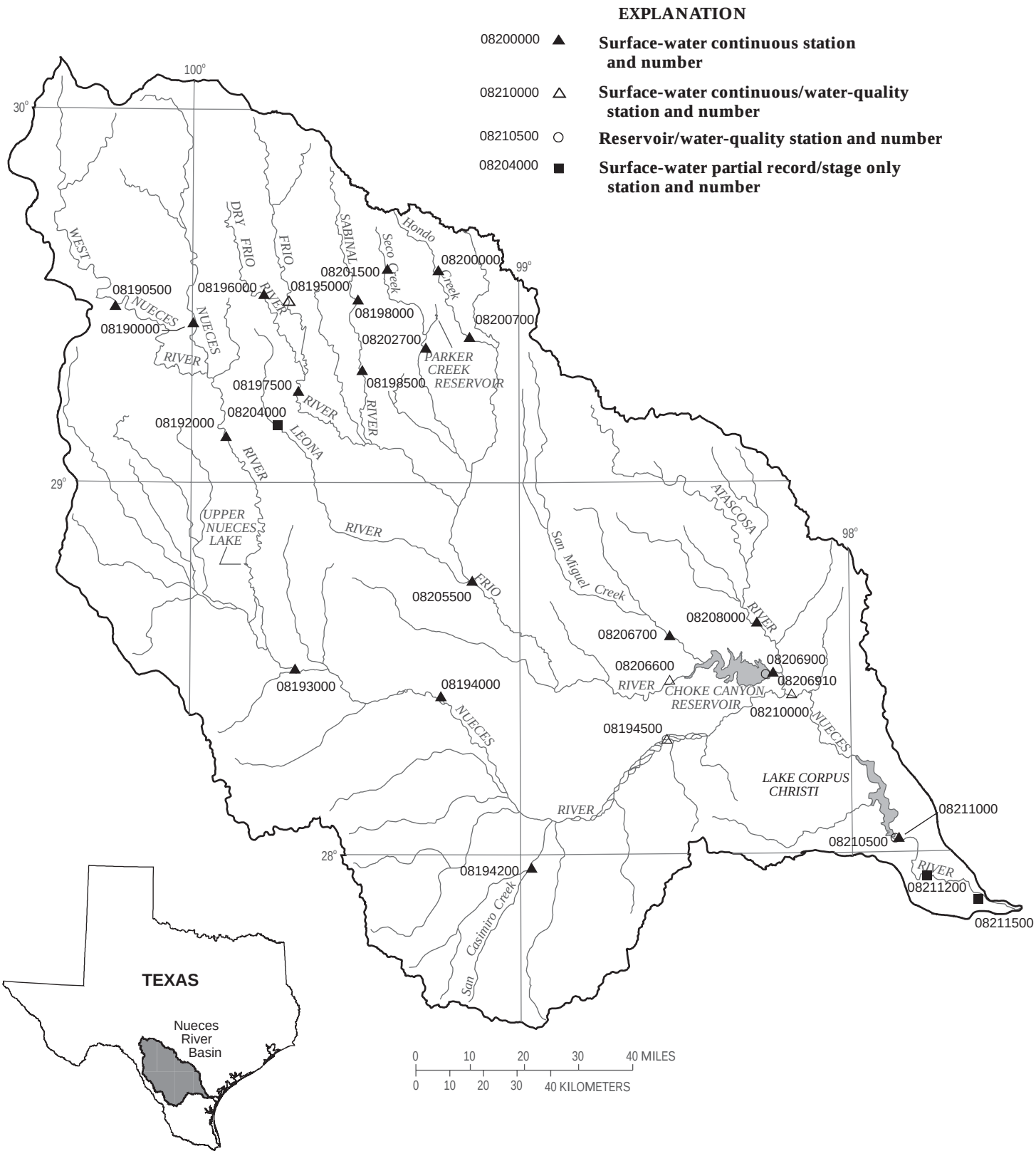


Figure 7.--Map showing location of gaging stations in the Nueces River Basin

08190000 Nueces River at Laguna, TX 194
08190500 West Nueces River near Brackettville, TX 196
08192000 Nueces River below Uvalde, TX 198
08193000 Nueces River near Asherton, TX 200
08194000 Nueces River at Cotulla, TX 202
08194200 San Casimiro near Freer, TX 204
08194500 Nueces River near Tilden, TX 206
08195000 Frio River at Concan, TX 212
08196000 Dry Frio River near Reagan Wells, TX 218
08197500 Frio River below Dry Frio River near Uvalde, TX 220
08198000 Sabinal River near Sabinal, TX 222
08198500 Sabinal River at Sabinal, TX 224
08200000 Hondo Creek near Tarpley, TX 226
08200700 Hondo Creek at King Waterhole near Hondo, TX 228
08201500 Seco Creek at Miller Ranch near Utopia, TX 230
08202700 Seco Creek at Rowe Ranch near D'Hanis, TX 232
08204000 Leona River Springflow near Uvalde, TX 339
08205500 Frio River near Derby, TX 234
08206600 Frio River at Tilden, TX 236
08206700 San Miguel Creek near Tilden, TX 242
08206900 Choke Canyon Reservoir near Three Rivers, TX 244
08206910 Choke Canyon Reservoir (Outlet Works Channel) near Three Rivers, TX 264
08208000 Atascosa River at Whitsett, TX 266
08210000 Nueces River near Three Rivers, TX 268
08210500 Lake Corpus Christi near Mathis, TX 274
08211000 Nueces River near Mathis, TX 286
08211200 Nueces River at Bluntzer, TX 288
08211500 Nueces River at Calallen, TX 290

08190000 Nueces River at Laguna, TX

LOCATION.--Lat 29°25'42", long 99°59'49", Uvalde County, Hydrologic Unit 12110101, on right bank 0.5 mi downstream from Sycamore Creek, 1.0 mi northeast of Laguna, and at mile 370.8.

DRAINAGE AREA.--737 mi^2.

PERIOD OF RECORD.--Oct. 1923 to current year.
Water-quality records.--Chemical data: May 1949 to June 1952, Sept. 1964 to Sept. 1993. Biochemical data: Feb. 1970 to Sept. 1993. Pesticide data: Feb. 1970 to Sept. 1993. Sediment data: Jan. 1966.

REVISED RECORDS.--WSP 1562: 1930, 1931(M), 1932, 1939. WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,119.72 ft above sea level. Prior to Jan. 26, 1925, nonrecording gage at site 2 mi downstream at different datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation. There are many small diversions above station for irrigation.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1913 reached a stage of about 29 ft (discharge, 210,000 ft^3/s); flood of Sept. 21, 1923, reached a stage of about 26.5 ft (discharge, 160,000 ft^3/s); from information by local residents. Maximum stage since at least 1866, that of Sept. 24, 1955.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	599	427	234	177	181	169	127	166	62	52	104
2	25	579	412	225	176	181	166	123	160	87	52	97
3	25	1760	399	220	173	181	166	122	150	144	52	93
4	25	9060	391	215	171	184	166	266	140	114	53	100
5	26	2860	379	211	167	185	165	2010	134	98	53	95
6	26	3520	367	207	166	185	161	841	130	87	53	102
7	34	2410	354	205	166	185	158	566	126	81	53	96
8	45	1780	340	201	165	181	157	459	118	76	53	96
9	87	1420	329	194	162	179	151	428	114	75	53	100
10	110	1190	318	217	158	176	150	380	107	73	52	104
11	111	1070	310	227	158	170	148	349	101	71	52	105
12	107	966	300	218	158	187	147	333	95	68	53	106
13	104	841	295	211	158	220	143	342	90	69	53	106
14	102	759	294	211	158	221	140	308	89	67	52	102
15	102	690	288	207	158	215	141	288	87	67	50	99
16	102	653	281	202	206	203	141	274	91	64	50	95
17	151	631	270	201	236	194	141	254	85	64	50	92
18	234	690	261	194	234	199	143	238	82	62	48	89
19	181	737	254	194	227	196	141	229	77	62	48	86
20	158	695	247	194	218	193	140	227	71	60	48	84
21	178	637	243	192	215	188	134	213	69	59	48	80
22	281	599	237	187	207	184	130	204	69	58	48	76
23	593	586	232	181	207	180	135	192	79	58	48	75
24	9270	564	226	179	204	179	138	190	80	56	47	73
25	2630	531	225	180	197	176	140	247	74	55	46	72
26	1690	514	253	176	190	173	141	222	71	54	45	70
27	1310	491	310	173	185	173	139	230	68	54	60	69
28	1050	473	285	170	184	173	136	230	65	53	63	67
29	884	461	264	176	---	173	132	203	63	54	94	66
30	745	443	249	177	---	173	128	180	61	52	106	64
31	662	---	240	177	---	172	---	173	---	53	106	---
TOTAL	21071	38209	9280	6156	5181	5760	4387	10448	2912	2157	1741	2663
MEAN	680	1274	299	199	185	186	146	337	97.1	69.6	56.2	88.8
MAX	9270	9060	427	234	236	221	169	2010	166	144	106	106
MIN	23	443	225	170	158	170	128	122	61	52	45	64
AC-FT	41790	75790	18410	12210	10280	11420	8700	20720	5780	4280	3450	5280
CFSM	.92	1.73	.41	.27	.25	.25	.20	.46	.13	.09	.08	.12
IN.	1.06	1.93	.47	.31	.26	.29	.22	.53	.15	.11	.09	.13

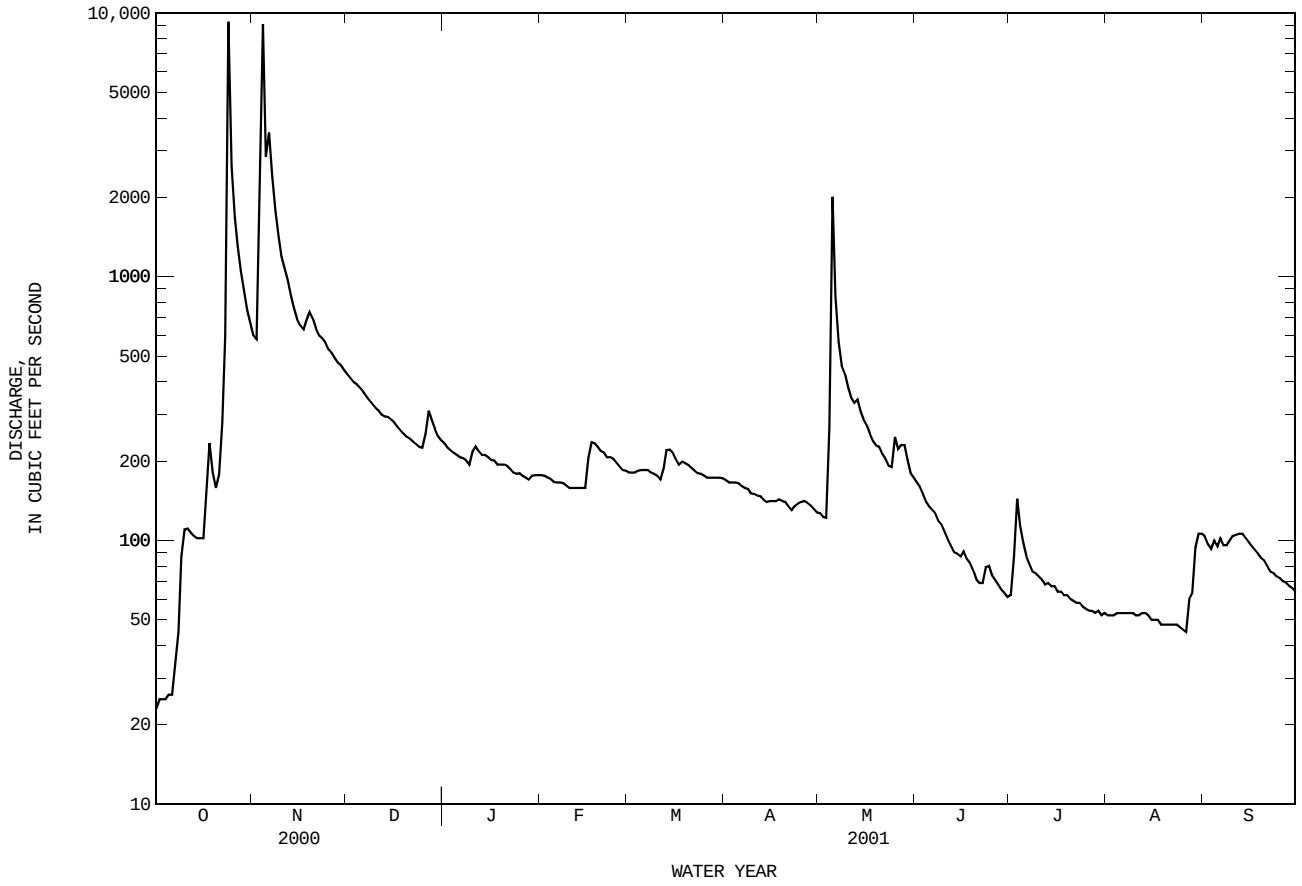
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2001, BY WATER YEAR (WY)

MEAN	234	140	121	107	117	108	113	157	264	160	158	242
MAX	2030	1274	894	610	1160	867	766	868	5407	1580	2500	2668
(WY)	1974	2001	1992	1992	1949	1992	1977	1935	1935	1939	1971	1955
MIN	7.39	5.42	5.58	5.46	5.10	7.04	23.7	18.2	12.2	8.11	6.99	8.60
(WY)	1953	1957	1957	1957	1957	1957	1935	1953	1953	1953	1953	1956

08190000 Nueces River at Laguna, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1924 - 2001	
ANNUAL TOTAL	84151		109965			
ANNUAL MEAN	230		301		160	
HIGHEST ANNUAL MEAN					611	1935
LOWEST ANNUAL MEAN					23.1	1953
HIGHEST DAILY MEAN	9270	Oct 24	9270	Oct 24	107000	Jun 14 1935
LOWEST DAILY MEAN	18	Sep 12	23	Oct 1	3.0	Feb 27 1957
ANNUAL SEVEN-DAY MINIMUM	18	Sep 17	26	Oct 1	3.2	Mar 10 1957
MAXIMUM PEAK FLOW			28100	Oct 24	i307000	Sep 24 1955
MAXIMUM PEAK STAGE			14.80	Oct 24	a32.70	Sep 24 1955
ANNUAL RUNOFF (AC-FT)	166900		218100		116000	
ANNUAL RUNOFF (CFSM)	.31		.41		.22	
ANNUAL RUNOFF (INCHES)	4.25		5.55		2.95	
10 PERCENT EXCEEDS	478		544		243	
50 PERCENT EXCEEDS	68		167		77	
90 PERCENT EXCEEDS	23		53		24	

i From indirect measurement of peak flow.
a From floodmark.



08190500 West Nueces River near Brackettville, TX

LOCATION.--Lat 29°28'21", long 100°14'10", Kinney County, Hydrologic Unit 12110102, at Wilson Ranch on Farm Road 3199, 1.3 mi upstream from Miguel Canyon, 16.0 mi northeast of Brackettville, and 40.2 mi upstream from mouth.

DRAINAGE AREA.--694 mi^2.

PERIOD OF RECORD.--Sept. 1939 to Sept. 1950, Apr. 1956 to current year.

REVISED RECORDS.--WSP 1312: 1949(M). WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,326.79 ft above sea level. Prior to Mar. 14, 1940, nonrecording gage at same site and datum. Satellite telemeter at station.

REMARKS.--Records fair. A large part of the low flow enters the Edwards and associated limestones in the Balcones Fault Zone above station. No known regulation or diversions. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1879, about 40 ft June 14, 1935 (discharge, 550,000 ft^3/s, based on slope-area measurements of 580,000 ft^3/s at site 33 mi upstream from gage, and 536,000 ft^3/s at site 24 mi downstream from gage, present site and datum), from gage-height relation of 1935 and 1955 flood peaks at site 0.6 mi upstream. Flood in 1900 reached a stage about 34 ft, and flood of Sept. 24, 1955, reached a stage of 27.1 ft, from floodmark at present site (discharge, 150,000 ft^3/s, by slope-area measurement).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.71	7.7	14	6.6	3.1	e2.3	1.7	1.4	8.9	2.4	.99	1.5
2	.57	7.4	13	6.4	3.0	2.3	1.7	1.4	8.5	2.8	1.0	1.6
3	.49	248	12	6.1	2.9	2.4	1.7	1.8	8.0	2.3	1.0	1.5
4	.38	4260	12	6.0	2.9	2.2	1.7	5.5	7.8	2.3	1.0	1.7
5	.34	400	12	5.9	2.9	2.0	1.7	2420	7.3	2.1	.98	2.2
6	.32	150	11	5.8	2.7	2.0	1.6	327	7.0	2.0	.97	3.6
7	.45	96	11	5.6	2.7	1.9	1.6	111	7.0	1.9	.98	4.9
8	.70	75	11	5.4	2.6	2.0	1.6	86	6.9	1.8	.97	4.0
9	1.5	65	11	8.5	2.4	1.9	1.6	75	6.6	1.7	.96	2.8
10	4.3	56	11	6.5	2.4	1.8	1.5	66	6.4	1.7	.96	2.1
11	6.2	49	11	5.6	2.4	1.8	1.5	58	6.1	1.6	.95	1.7
12	6.8	44	10	5.3	2.3	1.7	1.4	53	5.7	1.5	.92	1.5
13	6.8	37	10	5.2	2.3	1.7	1.5	48	5.6	1.4	.93	1.2
14	6.4	32	10	5.0	2.3	1.9	1.5	43	5.4	1.4	.83	1.1
15	5.8	28	10	4.9	2.4	1.7	1.6	39	5.1	1.3	.72	.99
16	4.9	27	9.8	4.8	2.6	1.7	1.6	35	4.7	1.3	.73	.94
17	4.6	24	9.7	5.5	2.5	1.7	1.6	30	4.7	1.3	.72	.90
18	5.7	30	9.4	4.6	3.0	1.9	1.6	27	4.4	1.3	.71	.89
19	7.9	33	9.1	4.4	3.0	1.7	1.5	25	4.0	1.2	.90	.87
20	8.5	32	8.8	4.3	3.0	1.7	1.6	23	3.8	1.2	2.0	.84
21	8.9	29	8.5	4.2	3.0	1.7	1.6	21	3.7	1.2	1.5	.80
22	8.4	27	8.2	4.1	2.9	1.7	1.6	19	3.5	1.1	1.0	.77
23	8.8	26	8.1	4.0	2.8	1.7	1.7	17	3.5	1.1	.89	.84
24	3970	23	7.8	4.0	2.6	1.7	1.5	15	3.3	1.1	.80	.80
25	486	22	7.7	3.8	2.6	1.7	1.5	14	3.2	1.1	.78	.81
26	55	20	7.5	3.6	2.7	1.7	1.5	13	3.0	1.1	.75	.81
27	23	18	7.1	3.4	2.5	1.8	1.5	12	2.9	1.1	1.7	.77
28	14	17	7.1	3.4	e2.4	1.7	1.5	11	2.8	1.1	2.8	.75
29	11	16	7.1	3.3	---	1.7	1.5	10	2.6	1.0	2.8	.75
30	9.8	15	6.9	3.2	---	1.7	1.5	9.6	2.5	.99	1.9	.72
31	8.6	---	6.8	3.1	---	1.7	---	9.2	---	.98	1.5	---
TOTAL	4676.86	5914.1	298.6	152.5	74.9	57.1	47.2	3626.9	154.9	46.37	35.64	44.65
MEAN	151	197	9.63	4.92	2.67	1.84	1.57	117	5.16	1.50	1.15	1.49
MAX	3970	4260	14	8.5	3.1	2.4	1.7	2420	8.9	2.8	2.8	4.9
MIN	.32	7.4	6.8	3.1	2.3	1.7	1.4	1.4	2.5	.98	.71	.72
AC-FT	9280	11730	592	302	149	113	94	7190	307	92	71	89

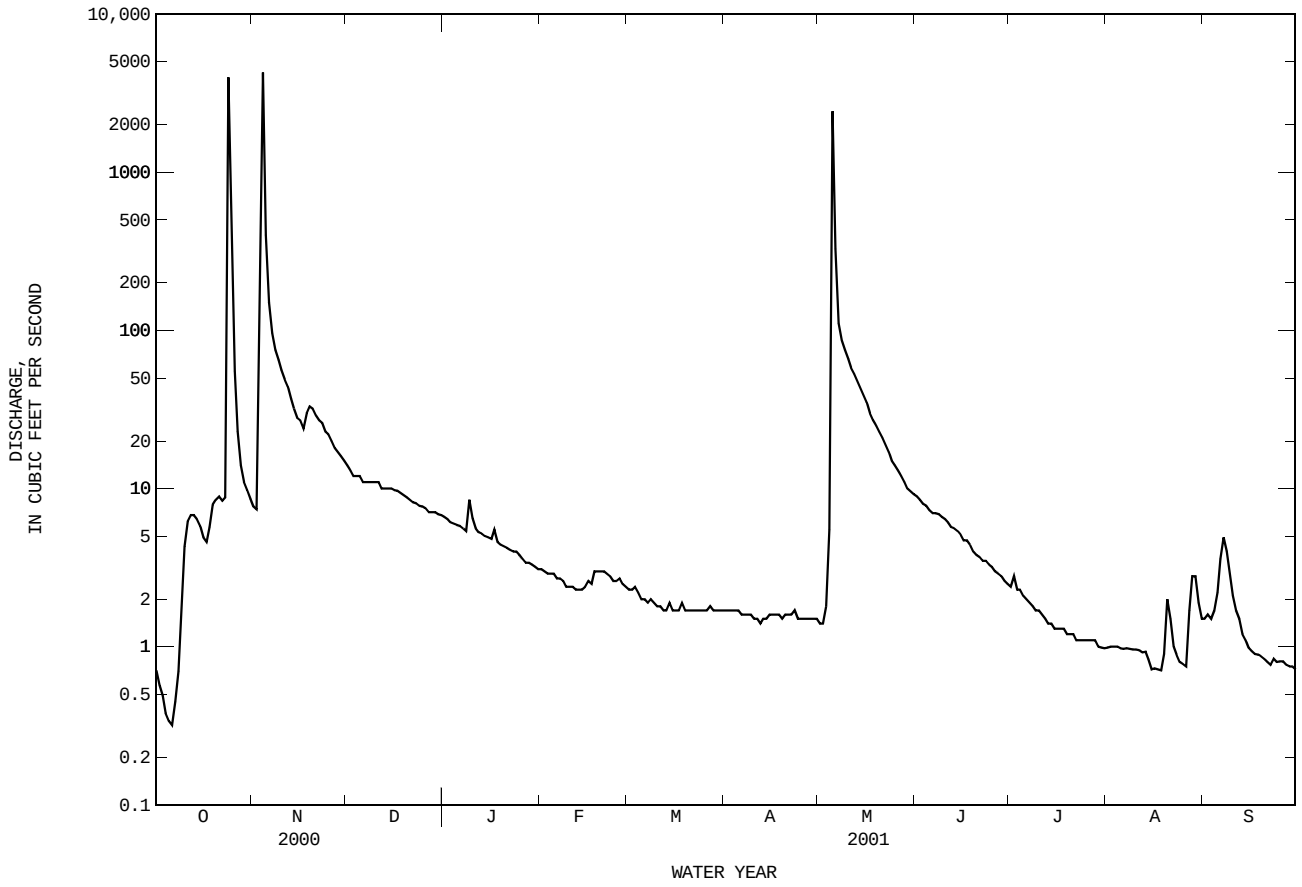
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2001h, BY WATER YEAR (WY)

MEAN	80.8	8.76	4.94	2.44	20.1	3.60	9.34	13.7	102	44.8	61.7	68.4
MAX	1145	197	164	68.4	978	60.2	238	266	1880	737	1308	2180
(WY)	1997	2001	1985	1985	1949	1979	1990	1957	1958	1976	1971	1964
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1941	1941	1940	1940	1940	1940	1942	1942	1942	1941	1940	1940

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1939 - 2001h	
ANNUAL TOTAL	10963.09		15129.72			
ANNUAL MEAN	30.0		41.5		35.4	
HIGHEST ANNUAL MEAN					237	1958
LOWEST ANNUAL MEAN					.000	1962
HIGHEST DAILY MEAN	4260	Nov 4	4260	Nov 4	42500	Sep 20 1964
LOWEST DAILY MEAN	.00	May 8	.32	Oct 6	.00	Sep 28 1939
ANNUAL SEVEN-DAY MINIMUM	.00	May 14	.46	Oct 2	.00	Sep 28 1939
MAXIMUM PEAK FLOW			15500	Oct 24	246000	Sep 20 1964
MAXIMUM PEAK STAGE			13.50	Oct 24	31.30	Sep 20 1964
ANNUAL RUNOFF (AC-FT)	21750		30010		25680	
10 PERCENT EXCEEDS	12		26		8.7	
50 PERCENT EXCEEDS	.23		2.8		.05	
90 PERCENT EXCEEDS	.00		.96		.00	

e Estimated
h See PERIOD OF RECORD paragraph.

08190500 West Nueces River near Brackettville, TX--Continued



08192000 Nueces River below Uvalde, TX

LOCATION.--Lat 29°07'25", long 99°53'40", Uvalde County, Hydrologic Unit 12110103, on right bank at McDaniel Ranch, 5.7 mi upstream from bridge on U.S. Highway 83, 8.8 mi southwest of Uvalde, 18.2 mi downstream from West Nueces River, and at mile 338.7.

DRAINAGE AREA.--1,861 mi^2.

PERIOD OF RECORD.-- Apr. 1939 to current year.

REVISED RECORDS.--WSP 1732: 1956(M). WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 796.12 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. Part of the flow of the Nueces River and its headwater tributaries enters the Edwards and associated limestones in the Balcones Fault Zone that crosses the basin between Nueces River at Laguna (station 08190000) and this station. No known regulation. There are many small diversions above station for irrigation. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1836, 40.4 ft June 14, 1935, from floodmark (discharge 616,000 ft^3/s at discontinued station 08191500 Nueces River near Uvalde 8.5 miles upstream, by slope-area measurement). Large floods also occurred in 1901 and 1913, stages unknown.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	206	287	157	125	124	100	50	102	30	22	23
2	6.9	181	276	152	123	120	99	49	95	57	22	22
3	6.9	214	276	149	121	127	98	48	90	39	22	21
4	6.9	6130	268	146	119	127	97	51	84	34	22	22
5	7.0	3130	259	143	115	122	97	411	77	33	22	22
6	6.9	2050	249	142	113	122	96	1170	71	31	21	23
7	8.3	1680	240	141	113	122	93	587	66	31	21	23
8	11	1150	232	136	113	120	92	390	64	30	20	23
9	12	917	224	134	110	118	87	333	61	30	20	22
10	11	765	219	152	105	116	85	300	58	30	20	22
11	9.7	659	213	158	104	115	82	269	54	29	20	22
12	9.8	599	203	153	104	111	79	242	52	29	20	23
13	9.4	535	201	152	108	113	79	228	51	29	19	23
14	9.3	476	195	149	110	134	78	221	49	29	19	23
15	9.3	442	193	148	110	137	75	200	46	28	19	22
16	9.3	413	189	146	116	134	69	182	44	28	19	22
17	8.9	394	179	145	122	129	67	158	44	27	20	22
18	8.9	438	176	140	143	129	72	137	43	27	20	21
19	9.3	454	170	141	148	124	69	127	41	26	21	22
20	9.3	443	168	139	146	121	67	122	40	26	20	22
21	9.8	415	163	139	146	118	66	119	39	26	20	22
22	9.7	392	157	136	144	116	64	111	38	26	19	27
23	9.8	384	156	135	142	115	60	104	37	25	19	26
24	4090	373	155	132	140	111	62	99	40	24	20	25
25	2470	352	155	130	136	105	59	111	36	24	19	23
26	964	337	162	129	132	102	58	129	34	24	19	24
27	562	326	168	129	130	103	58	138	32	24	22	24
28	423	317	189	126	129	104	57	136	32	23	21	24
29	337	305	181	125	---	105	56	135	31	23	21	23
30	287	295	173	125	---	104	53	122	31	22	22	23
31	239	---	163	125	---	102	---	110	---	22	24	---
TOTAL	9578.3	24772	6239	4354	3467	3650	2274	6589	1582	886	635	686
MEAN	309	826	201	140	124	118	75.8	213	52.7	28.6	20.5	22.9
MAX	4090	6130	287	158	148	137	100	1170	102	57	24	27
MIN	6.9	181	155	125	104	102	53	48	31	22	19	21
AC-FT	19000	49140	12380	8640	6880	7240	4510	13070	3140	1760	1260	1360

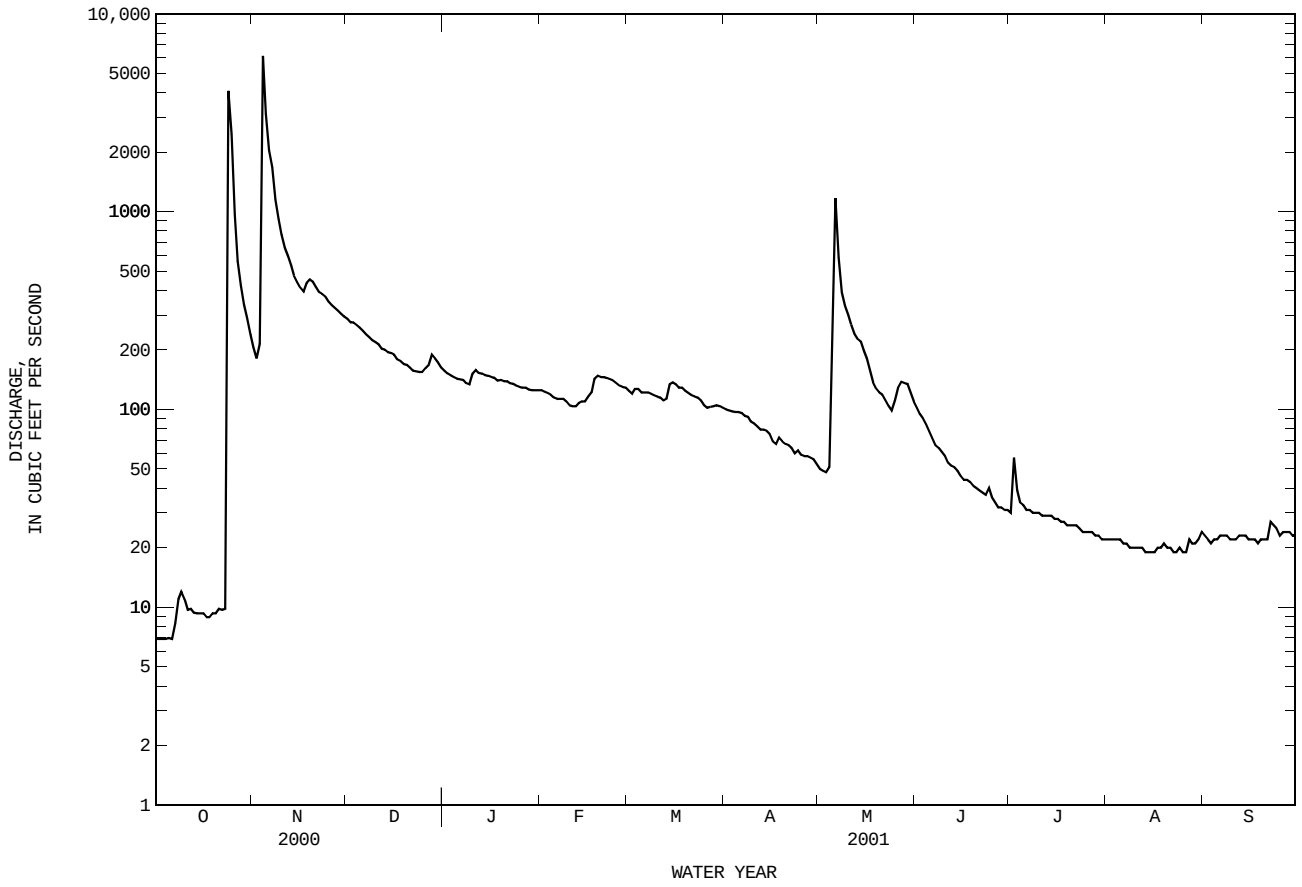
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2001, BY WATER YEAR (WY)

MEAN	269	101	82.5	71.6	95.9	63.1	74.9	102	263	138	209	219
MAX	3153	826	811	656	2487	909	785	972	3496	1525	4057	3081
(WY)	1974	2001	1992	1985	1949	1992	1977	1987	1958	1976	1998	1964
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1953	1953	1952	1952	1952	1952	1952	1953	1953	1951	1951	1951

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1939 - 2001	
ANNUAL TOTAL	45334.3		64712.3			
ANNUAL MEAN	124		177		141	
HIGHEST ANNUAL MEAN					678	1997
LOWEST ANNUAL MEAN					3.63	1956
HIGHEST DAILY MEAN	6130	Nov 4	6130	Nov 4	51600	Oct 29 1996
LOWEST DAILY MEAN	6.6	Sep 7	6.9	Oct 1	.00	May 10 1951
ANNUAL SEVEN-DAY MINIMUM	6.7	Sep 13	7.1	Oct 1	.00	Jun 18 1951
MAXIMUM PEAK FLOW			13700	Oct 24	i201000	Oct 28 1996
MAXIMUM PEAK STAGE			11.72	Oct 24	a24.88	Oct 28 1996
ANNUAL RUNOFF (AC-FT)	89920		128400		101800	
10 PERCENT EXCEEDS	276		310		202	
50 PERCENT EXCEEDS	20		103		27	
90 PERCENT EXCEEDS	7.6		20		3.2	

i From indirect measurement of peak flow.
a From floodmark.

08192000 Nueces River below Uvalde, TX--Continued



08193000 Nueces River near Asherton, TX

LOCATION.--Lat 28°30'00", long 99°40'54", Dimmit County, Hydrologic Unit 12110103, on right bank 28 ft downstream from bridge on Farm Road 190, 0.1 mi downstream from El Moro Creek, 5.8 mi northeast of Asherton, and at mile 266.0.

DRAINAGE AREA.--4,082 mi^2.

PERIOD OF RECORD.--Oct. 1939 to current year.

REVISED RECORDS.--WSP 1118: 1944.

GAGE.--Water-stage recorder. Datum of gage is 470.92 ft above sea level. Prior to Feb. 2, 1940, nonrecording gage at same site and datum. Satellite telemeter at station.

REMARKS.--Records fair. Since Mar. 1948, at least 10% of contributing drainage area has been regulated. Part of the flow of the Nueces River and its headwater tributaries enters the Edwards and associated limestones in the Balcones Fault Zone that crosses the basin between Nueces River at Laguna (station 08190000) and Nueces River below Uvalde (station 08192000). Some loss of flow into various permeable formations occurs downstream from the Balcones Fault Zone. There are many small diversions above station for irrigation. No flow at times.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--8 years (water years 1940-48), 140 ft^3/s (101,700 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1940-48).--Maximum discharge, 24,000 ft^3/s Sept. 2, 1944 (gage height 30.40, corrected); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 33 ft June 17, 1935; flood of June 30, 1913, reached about same stage, from information by local residents.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	132	296	171	e114	111	82	12	67	8.1	.00	.00
2	.00	108	287	166	e112	108	81	12	62	7.7	.00	.00
3	.00	94	282	160	e110	116	80	11	57	7.4	.00	.00
4	.00	85	278	156	e109	124	77	14	55	51	.00	.00
5	.00	e1230	271	152	e108	121	76	16	62	409	.00	.00
6	.00	3920	265	146	e106	115	75	42	63	299	.00	.00
7	.00	2930	253	139	e105	113	77	123	53	153	.00	.00
8	.00	1970	246	136	104	111	70	516	44	78	.00	.00
9	.00	1300	240	131	102	110	67	455	38	44	.00	.00
10	.00	914	235	142	98	109	65	351	34	25	.00	.00
11	.00	741	233	161	94	104	61	299	31	14	.00	.00
12	.00	640	226	160	94	102	53	256	28	8.5	.00	.00
13	.00	572	221	158	95	100	48	224	25	5.6	.00	.00
14	.00	518	215	158	98	98	46	207	24	4.0	.00	.00
15	.00	477	213	154	100	97	41	194	24	2.6	.00	.00
16	.00	446	208	153	100	95	40	175	24	1.4	.00	.00
17	.00	422	199	153	98	99	41	159	24	.80	.00	.00
18	.00	405	196	153	99	111	37	143	24	.61	.00	.00
19	.00	401	189	149	99	115	32	130	23	.40	.00	.00
20	.00	409	183	144	100	113	27	125	23	.30	.00	.00
21	.00	410	180	140	107	111	23	120	22	.24	.00	.00
22	.00	400	173	137	117	110	19	114	21	.09	.00	.00
23	.00	391	169	134	124	103	16	103	21	.02	.00	.00
24	.00	390	169	130	126	96	15	92	20	.01	.00	.00
25	.00	374	168	127	125	90	14	87	19	.00	.00	.00
26	259	356	171	124	123	91	13	92	17	.00	.00	.00
27	1130	340	173	122	123	92	13	90	15	.00	.00	.00
28	531	324	171	120	116	91	13	91	12	.00	.00	.00
29	290	311	170	119	---	90	13	84	10	.00	.00	.00
30	209	303	170	e116	---	88	13	78	8.7	.00	.00	.00
31	163	---	171	e115	---	85	---	72	---	.00	.00	---
TOTAL	2582.00	21313	6621	4426	3006	3219	1328	4487	950.7	1120.77	0.00	0.00
MEAN	83.3	710	214	143	107	104	44.3	145	31.7	36.2	.000	.000
MAX	1130	3920	296	171	126	124	82	516	67	409	.00	.00
MIN	.00	85	168	115	94	85	13	11	8.7	.00	.00	.00
AC-FT	5120	42270	13130	8780	5960	6380	2630	8900	1890	2220	.00	.00

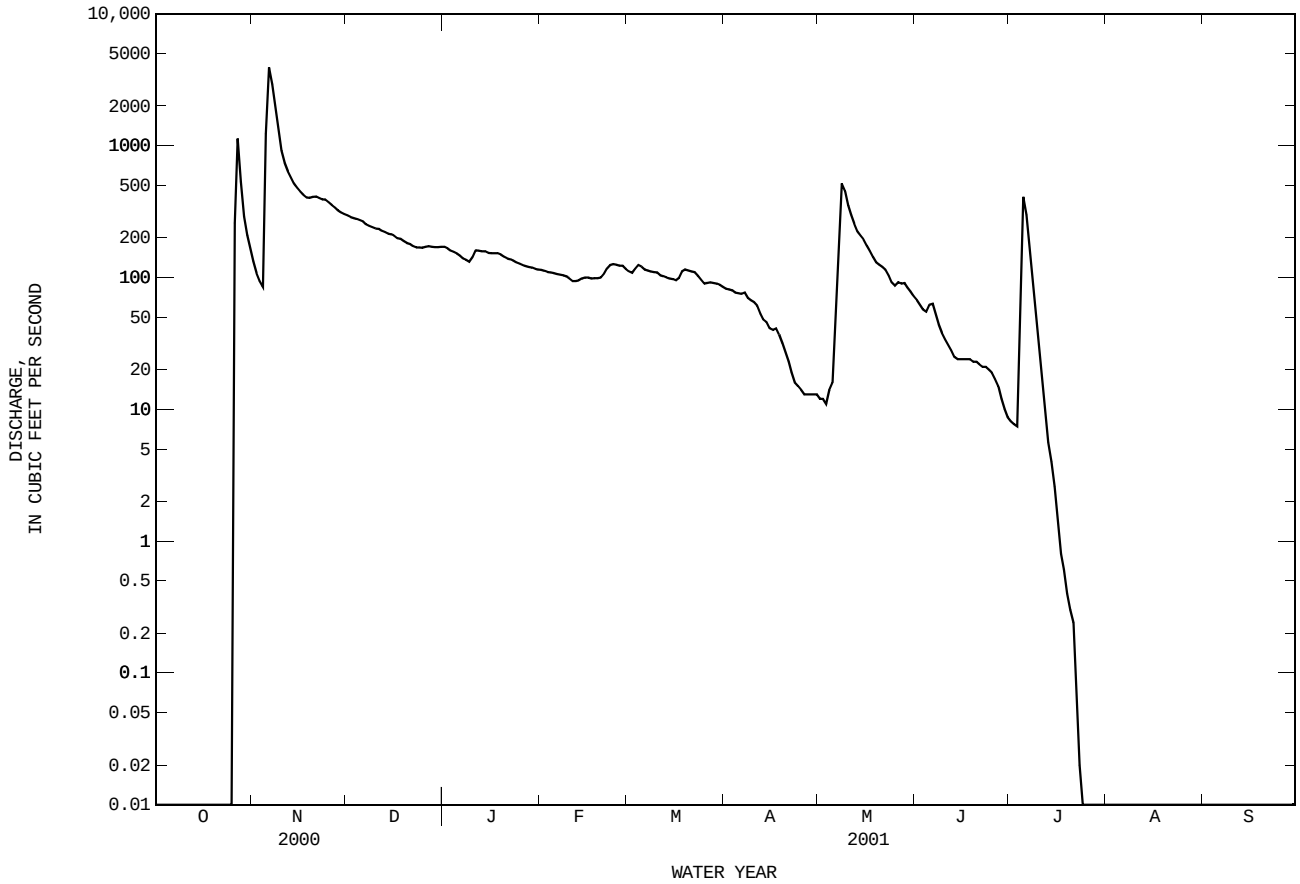
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2001z, BY WATER YEAR (WY)

MEAN	366	117	61.9	66.0	80.1	78.4	94.0	228	440	213	238	276
MAX	3254	831	537	724	1498	1347	1256	1738	4349	1845	5246	3674
(WY)	1960	1997	1992	1985	1949	1949	1957	1957	1987	1971	1971	1964
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1953	1951	1949	1949	1950	1950	1950	1956	1953	1951	1951	1952

08193000 Nueces River near Asherton, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1949 - 2001z	
ANNUAL TOTAL	31186.50		49053.47			
ANNUAL MEAN	85.2		134		188	
HIGHEST ANNUAL MEAN					700	1971
LOWEST ANNUAL MEAN					.003	1989
HIGHEST DAILY MEAN	3920	Nov 6	3920	Nov 6	24800	Oct 6 1959
LOWEST DAILY MEAN	.00	Apr 25	.00	Oct 1	.00	Oct 1 1948
ANNUAL SEVEN-DAY MINIMUM	.00	Apr 25	.00	Oct 1	.00	Oct 1 1948
MAXIMUM PEAK FLOW			4100	Nov 6	28500	Oct 6 1959
MAXIMUM PEAK STAGE			22.25	Nov 6	30.88	Oct 6 1959
ANNUAL RUNOFF (AC-FT)	61860		97300		136500	
10 PERCENT EXCEEDS	255		288		287	
50 PERCENT EXCEEDS	.04		84		.30	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated
z Period of regulated streamflow.



08194000 Nueces River at Cotulla, TX

LOCATION.--Lat 28°25'34", long 99°14'23", La Salle County, Hydrologic Unit 12110105, on left bank at downstream side of bridge on U.S. Highway 81, 0.4 mi upstream from Missouri Pacific Railroad Co. bridge, 0.8 mi southwest of Cotulla, 1.0 mi upstream from Lind Dam, and at mile 216.9.

DRAINAGE AREA.--5,171 mi^2.

PERIOD OF RECORD.--Nov. 1923 to Sept. 1926 (monthly discharge only), Oct. 1926 to current year. Gage-height records collected in this vicinity in 1914-17 and since 1922 are contained in reports of the National Weather Service.

REVISED RECORDS.--Figures of daily discharge for Oct. 31, 1923, to Sept. 30, 1926, published in WSP 588, 608, and 628, have been found to be unreliable and should not be used. WSP 1732: 1957(M). WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 368.08 ft above sea level. From Oct. 31, 1923, to Aug. 3, 1924, nonrecording gage at approximate site of present gage at datum 7.28 ft higher. Aug. 4, 1924, to Nov. 19, 1934, nonrecording gage at site 5,000 ft downstream at datum 8.42 ft higher. From Nov. 20, 1934, to July 14, 1938, water-stage recorder, and July 15, 1938, to Apr. 30, 1963, nonrecording gage, at present site and datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since Mar. 1948, at least 10% of contributing drainage area has been regulated. Part of the flow of the Nueces River and its headwater tributaries enters the Edwards and associated limestones in the Balcones Fault Zone that crosses the basin between Nueces River at Laguna (station 08190000) and Nueces River below Uvalde (station 08192000). Some loss of flow into various permeable formations occurs downstream from the Balcones Fault Zone. There are many small diversions above station for irrigation. No flow at times.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--22 years (water years 1927-48), 315 ft^3/s (228,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1927-48).--Maximum discharge 82,600 ft^3/s June 18, 1935 (gage height 32.4 ft from flood marks), by slope-area method; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 19, 1899, reached a stage of 29.7 ft, from information by local residents. Maximum stage since at least 1879, that of June 18, 1935.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	289	314	158	114	118	76	1.2	28	.00	.00	.00
2	.00	218	304	160	111	116	75	.83	23	.00	.00	.00
3	.00	179	299	158	109	113	74	.56	19	.00	.00	.00
4	.00	168	292	155	105	109	72	1.1	16	.00	.00	.00
5	.00	127	283	149	103	106	70	1.4	12	.00	.00	.00
6	.00	170	277	145	102	114	67	1.7	9.0	.00	.00	.00
7	.00	558	270	141	103	117	64	30	6.5	118	.00	.00
8	.00	1010	262	135	103	113	61	25	5.2	278	.00	.00
9	.00	1510	251	129	100	107	59	58	6.7	187	.00	.00
10	.00	2510	242	130	97	104	60	346	7.6	98	.00	.00
11	.00	2230	234	128	95	101	56	489	5.2	57	.00	.00
12	.00	1740	225	126	91	99	52	394	2.8	35	.00	.00
13	.00	1340	226	148	86	97	49	319	1.2	21	.00	.00
14	.00	1040	218	155	86	94	44	273	.51	14	.00	.00
15	.00	784	209	155	86	89	37	235	.43	8.5	.00	.00
16	.00	619	202	155	86	85	31	198	.21	4.5	.00	.00
17	.00	533	197	155	86	83	27	171	.09	2.6	.00	.00
18	.00	513	193	153	89	82	24	144	.02	1.3	.00	.00
19	.00	470	186	152	88	80	22	123	.00	.59	.00	.00
20	.00	425	182	151	89	87	21	107	.00	.18	.00	.00
21	.00	409	176	150	89	100	20	91	.00	.02	.00	.00
22	.00	412	169	144	93	104	16	79	.00	.00	.00	.00
23	.00	417	164	139	95	102	13	72	.00	.00	.00	.00
24	.00	412	158	136	106	102	11	67	.00	.00	.00	.00
25	.00	402	155	133	115	99	9.0	59	.00	.00	.00	.00
26	.00	394	153	129	121	90	7.9	49	.00	.00	.00	.00
27	.00	381	153	125	122	82	5.6	35	.00	.00	.00	.00
28	.00	364	155	123	120	78	3.5	32	.00	.00	.00	.00
29	235	346	158	121	---	79	2.2	35	.00	.00	.00	.00
30	662	330	159	118	---	79	1.5	34	.00	.00	.00	.00
31	463	---	158	116	---	78	---	34	---	.00	.00	---
TOTAL	1360.00	20300	6624	4372	2790	3007	1130.7	3505.79	143.46	825.69	0.00	0.00
MEAN	43.9	677	214	141	99.6	97.0	37.7	113	4.78	26.6	.000	.000
MAX	662	2510	314	160	122	118	76	489	28	278	.00	.00
MIN	.00	127	153	116	86	78	1.5	.56	.00	.00	.00	.00
AC-FT	2700	40270	13140	8670	5530	5960	2240	6950	285	1640	.00	.00

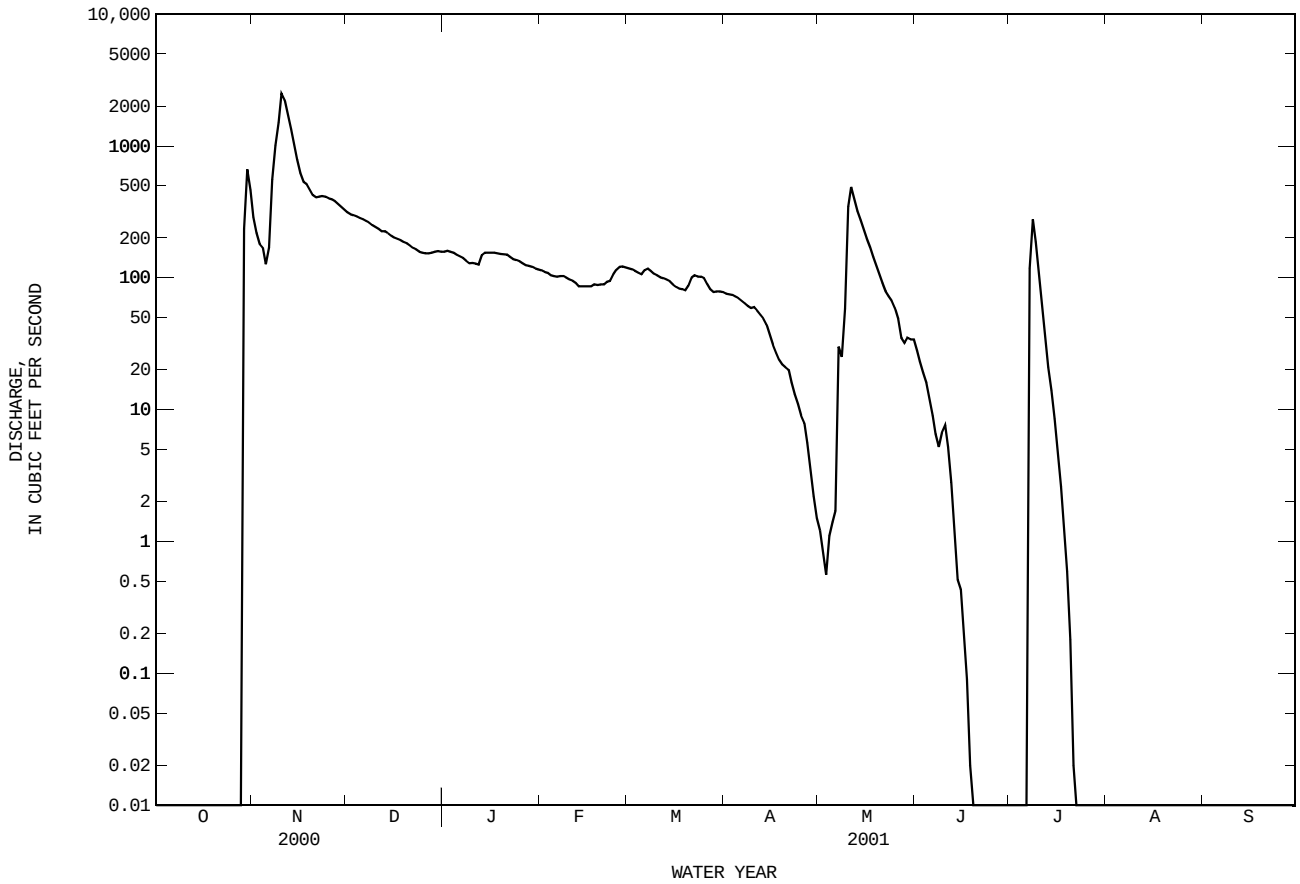
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2001z, BY WATER YEAR (WY)

MEAN	472	153	64.7	71.0	55.0	98.0	109	248	523	284	280	359
MAX	3906	1098	414	761	619	2351	1444	1873	5280	3922	6412	5417
(WY)	1960	1977	1970	1985	1992	1949	1957	1957	1987	1971	1971	1964
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1953	1951	1949	1949	1951	1950	1950	1956	1953	1951	1951	1951

08194000 Nueces River at Cotulla, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1949 - 2001z	
ANNUAL TOTAL	28793.16		44058.64			
ANNUAL MEAN	78.7		121		227	
HIGHEST ANNUAL MEAN					1003	1971
LOWEST ANNUAL MEAN					2.24	1989
HIGHEST DAILY MEAN	2510	Nov 10	2510	Nov 10	37400	Sep 18 1964
LOWEST DAILY MEAN	.00	Mar 31	.00	Oct 1	.00	Oct 8 1948
ANNUAL SEVEN-DAY MINIMUM	.00	Mar 31	.00	Oct 1	.00	Oct 8 1948
MAXIMUM PEAK FLOW			2620	Nov 10	46000	Sep 17 1964
MAXIMUM PEAK STAGE			13.16	Nov 10	27.75	Sep 17 1964
ANNUAL RUNOFF (AC-FT)	57110		87390		164500	
10 PERCENT EXCEEDS	245		280		360	
50 PERCENT EXCEEDS	.00		59		.63	
90 PERCENT EXCEEDS	.00		.00		.00	

z Period of regulated streamflow.



08194200 San Casimiro Creek near Freer, TX

LOCATION.--Lat 27°57'53", long 98°58'00", Webb County, Hydrologic Unit 12110105, at downstream side of bridge on State Highway 44, 11.4 mi upstream from mouth, and 22 mi northwest of Freer.

DRAINAGE AREA.--469 mi^2.

PERIOD OF RECORD.--Jan. 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 298.00 ft above sea level, from Texas Department of Transportation datum. Satellite telemeter at station.

REMARKS.--Records fair. No known regulation or diversions. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1946, that of Oct. 17, 1971. The next highest stage, 26 ft (discharge 65,200 ft^3/s), occurred in 1954, from information by Texas Department of Transportation.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	6720
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3490
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1270
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	925
5	.00	.12	.00	.00	.00	.00	.00	.00	.00	.00	.00	291
6	.00	102	.00	.00	.00	.00	.00	.00	.00	.00	.00	65
7	64	186	.00	.00	.00	.00	.00	191	.00	.00	.00	41
8	93	57	.00	.00	.00	.00	.00	205	.00	.00	.00	44
9	39	34	.00	.00	.00	.00	.00	47	.00	.00	.00	70
10	81	18	.00	.00	.00	.00	.00	8.0	.00	.00	.00	23
11	89	3.7	.00	.00	.00	.00	.00	2.1	.00	.00	.00	1.2
12	41	1.3	.00	.00	.00	.00	.00	.64	.00	.00	.00	.13
13	15	.45	.00	.00	.00	.00	.00	.21	.00	.00	.00	.05
14	5.2	.11	.00	.00	.00	.00	.00	.07	e.00	.00	.00	.01
15	2.1	.04	.00	.00	.00	.00	.00	.02	e.00	.00	.00	.00
16	.68	.02	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
17	.22	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
18	.07	18	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
19	.03	70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	38	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	4.9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	2.1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.88	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.01	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	e.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	e.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	116	---
TOTAL	430.30	551.03	0.00	0.00	0.00	0.00	0.00	454.04	0.00	0.00	116.00	12940.39
MEAN	13.9	18.4	.000	.000	.000	.000	.000	14.6	.000	.000	3.74	431
MAX	93	186	.00	.00	.00	.00	.00	205	.00	.00	116	6720
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	854	1090	.00	.00	.00	.00	.00	901	.00	.00	230	25670

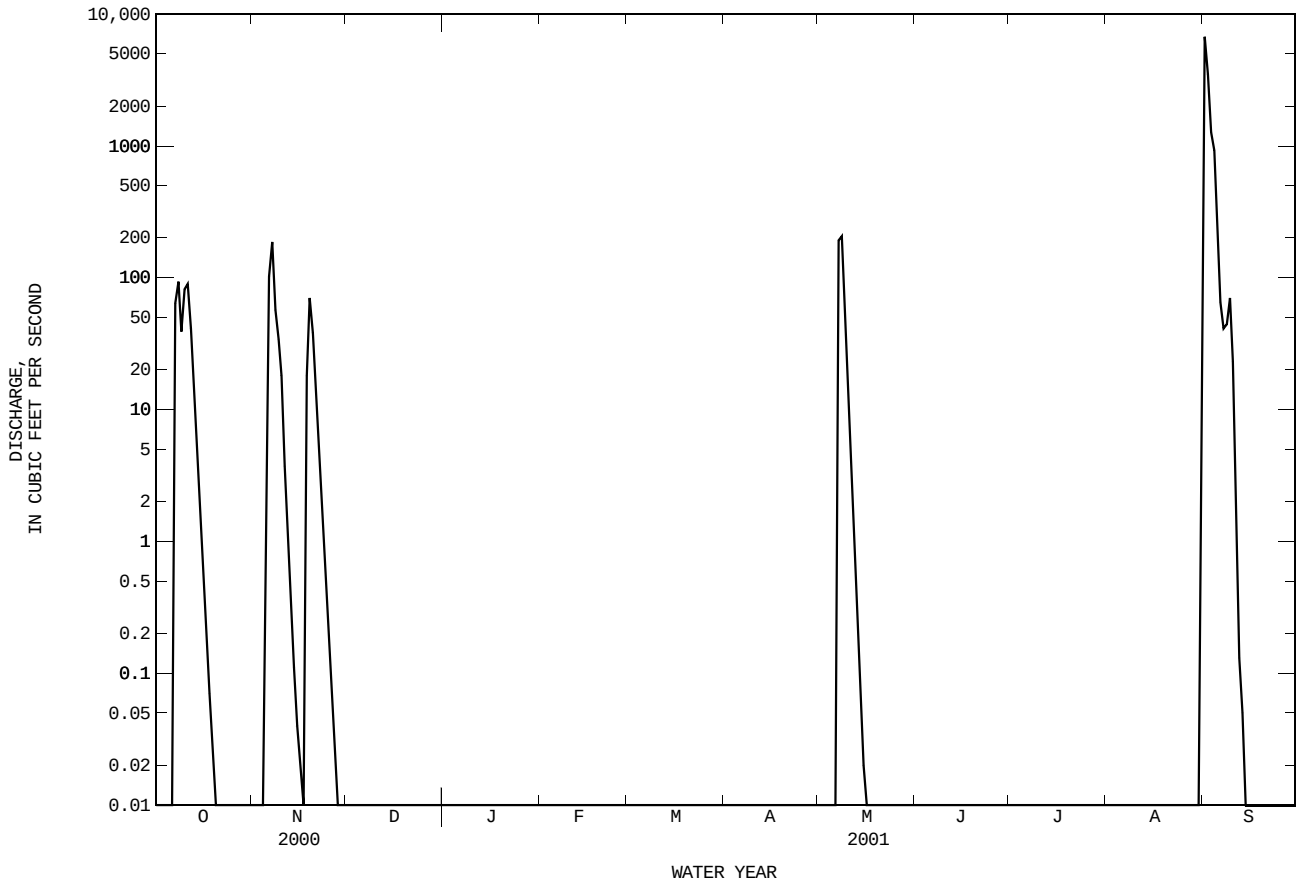
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2001, BY WATER YEAR (WY)

MEAN	117	17.3	7.69	1.96	2.12	8.24	17.8	110	75.4	14.8	33.2	140
MAX	3021	288	247	40.2	19.5	145	297	747	606	365	398	2367
(WY)	1972	1986	1977	1977	1973	1985	1985	1981	1981	1976	1999	1967
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1964	1965	1965	1962	1962	1962	1965	1962	1965	1965	1963	1965

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1962 - 2001	
ANNUAL TOTAL	1494.30		14491.76			
ANNUAL MEAN	4.08		39.7		46.4	
HIGHEST ANNUAL MEAN					323	1972
LOWEST ANNUAL MEAN					1.54	2000
HIGHEST DAILY MEAN	386	Jun 9	6720	Sep 1	36600	Oct 17 1971
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Jan 1 1962
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 20	.00	Jan 1 1962
MAXIMUM PEAK FLOW			9380	Sep 1	82000	Oct 17 1971
MAXIMUM PEAK STAGE			22.32	Sep 1	26.87	Oct 17 1971
ANNUAL RUNOFF (AC-FT)	2960		28740		33620	
10 PERCENT EXCEEDS	.47		2.1		14	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated

08194200 San Casimiro Creek near Freer, TX--Continued



08194500 Nueces River near Tilden, TX

LOCATION.--Lat 28°18'31", long 98°33'25", McMullen County, Hydrologic Unit 12110105, on right bank at downstream side of bridge on State Highway 16, 1.8 mi upstream from Kings Branch, 10.5 mi south of Tilden, and at mile 135.4.

DRAINAGE AREA.--8,093 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Nov. 1942 to current year.

REVISED RECORDS.--WSP 1512: 1947. WSP 1732: 1951(M). WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 183.5 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since Mar. 1948, at least 10% of contributing drainage area has been regulated. Part of the flow of the Nueces River and its headwater tributaries enters the Edwards and associated limestones in the Balcones Fault Zone that crosses the basin between Nueces River at Laguna (station 08190000) and Nueces River below Uvalde (station 08192000). Some loss of flow into various permeable formations occurs downstream from the Balcones Fault Zone. There are many small diversions above station for irrigation. No flow at times.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--6 years (water years 1943-48), 510 ft^3/s (369,500 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1943-48).--Maximum discharge 57,500 ft^3/s, Oct. 11, 1946 (gage height 26.46 ft), from rating curve extended above 46,400 ft^3/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in June 1935 reached a stage of 23.7 ft and in July 1942 about 22 ft, from information by local residents. Maximum stage since about 1902, that of Sept. 24, 1967.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.03	389	144	109	103	78	16	25	.00	.00	1370
2	.00	38	370	147	107	110	75	13	23	.00	.00	2380
3	.00	366	350	146	105	113	74	10	22	.00	.00	2460
4	.00	409	333	145	103	114	74	8.3	23	.00	.00	1960
5	.00	228	321	145	100	112	73	6.4	21	.00	.00	3280
6	.00	385	312	147	98	109	71	5.3	18	.00	.00	7840
7	.00	279	303	147	95	104	69	15	14	.00	.00	4910
8	19	241	293	142	93	99	67	6.2	12	.00	.00	2870
9	35	309	285	136	90	97	64	54	9.2	.00	.00	2060
10	53	387	277	134	89	103	63	280	6.8	.00	.00	1060
11	66	526	269	132	90	104	62	188	5.1	.00	.00	153
12	54	607	257	128	90	100	61	93	3.7	110	.00	63
13	90	661	247	126	90	95	61	140	2.5	139	.00	30
14	72	726	237	122	89	93	61	357	1.6	103	.00	14
15	46	802	232	117	88	91	60	392	1.0	82	.00	7.0
16	22	883	225	124	85	89	59	309	.81	72	.00	3.7
17	11	968	217	143	82	87	56	224	.50	50	.00	1.9
18	36	1080	208	149	80	84	54	174	.17	25	.00	.88
19	6.9	1210	200	154	79	81	53	140	.04	16	.00	.36
20	2.9	1310	189	150	80	78	49	122	.00	7.5	.00	.13
21	1.7	1290	190	145	81	76	44	106	.00	4.0	.00	.03
22	1.2	978	182	141	83	75	40	91	.00	3.1	.00	.01
23	37	598	175	139	83	74	37	77	.00	2.5	.00	.00
24	5.7	478	170	139	83	77	35	65	.00	1.8	.00	.00
25	1.9	446	163	136	81	86	33	57	.00	1.2	.00	.00
26	.93	438	157	132	82	91	32	52	.00	.79	.00	.00
27	.51	431	154	127	86	92	30	49	.00	.47	.00	.00
28	.28	421	146	124	95	92	26	46	.00	.18	.00	.00
29	.16	414	142	121	---	92	22	41	.00	.03	.00	.00
30	.08	407	140	116	---	88	19	36	.00	.00	.00	.00
31	.05	---	141	112	---	83	---	29	---	.00	440	---
TOTAL	563.31	17316.03	7274	4210	2516	2892	1602	3202.2	189.42	618.57	440.00	30464.01
MEAN	18.2	577	235	136	89.9	93.3	53.4	103	6.31	20.0	14.2	1015
MAX	90	1310	389	154	109	114	78	392	25	139	440	7840
MIN	.00	.03	140	112	79	74	19	5.3	.00	.00	.00	.00
AC-FT	1120	34350	14430	8350	4990	5740	3180	6350	376	1230	873	60430

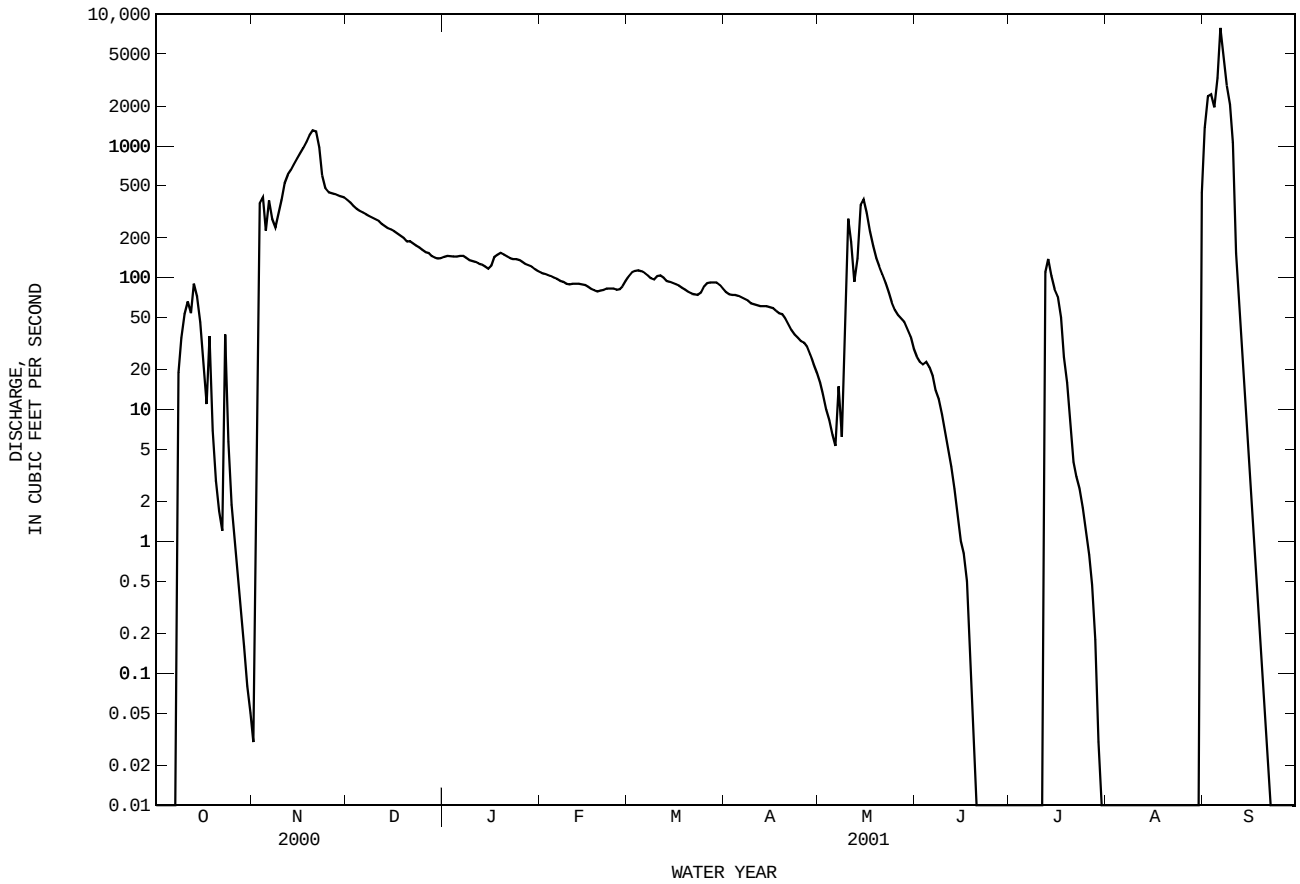
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2001z, BY WATER YEAR (WY)

MEAN	795	279	95.7	117	147	116	160	499	673	406	332	721
MAX	11250	3509	1275	1912	4793	2104	2028	4122	5404	6291	7197	10150
(WY)	1972	1977	1977	1958	1958	1949	1949	1957	1987	1971	1971	1967
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1953	1953	1951	1951	1964	1954	1955	1971	1998	1953	1951	1952

08194500 Nueces River near Tilden, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1949 - 2001z	
ANNUAL TOTAL	29857.47		71287.54			
ANNUAL MEAN	81.6		195		362	
HIGHEST ANNUAL MEAN					1736	1971
LOWEST ANNUAL MEAN					14.0	1989
HIGHEST DAILY MEAN	1310	Nov 20	7840	Sep 6	70000	Sep 24 1967
LOWEST DAILY MEAN	.00	May 1	.00	Oct 1	.00	Oct 15 1948
ANNUAL SEVEN-DAY MINIMUM	.00	May 12	.00	Oct 1	.00	Jan 6 1949
MAXIMUM PEAK FLOW			8620	Sep 6	76500	Sep 24 1967
MAXIMUM PEAK STAGE			18.77	Sep 6	26.57	Sep 24 1967
ANNUAL RUNOFF (AC-FT)	59220		141400		262500	
10 PERCENT EXCEEDS	305		376		710	
50 PERCENT EXCEEDS	1.0		74		7.0	
90 PERCENT EXCEEDS	.00		.00		.00	

z Period of regulated streamflow.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Dec. 1997 to current year.
BIOCHEMICAL DATA: Dec. 1997 current year.
PESTICIDE DATA: Dec. 1997 to current year.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
DEC													
19...	1100	201	10.2	88.3	--	471	10.0	23	200	60.0	12.2	1.51	.404
MAR													
27...	1155	92	8.6	89.3	8.2	463	17.0	23	179	49.5	13.4	1.30	.803
MAY													
10...	1200	309	7.1	84.8	7.7	574	23.5	35	131	43.1	5.60	5.12	1.98

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
DEC													
19...	13.1	12.4	178	217	0	19.2	E.1	9.4	22.5	252	<.041	.18	--
MAR													
27...	24.7	22.9	156	190	0	35.0	E.1	4.0	30.1	253	<.041	.18	--
MAY													
10...	52.1	45.3	96	117	0	87.6	.3	10.1	26.8	290	<.041	.62	.334

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)
DEC													
19...	1.58	E.003	--	<.060	<.018	<1	.09	E1.2	68.5	<.06	<.04	<.8	.18
MAR													
27...	.258	<.006	--	<.060	<.018	<1	.09	<2.0	64.9	<.06	.04	<.8	.16
MAY													
10...	.362	.028	.239	.101	.078	2	.15	5.5	81.7	<.06	<.04	<.8	.27

DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
DEC													
19...	.9	<10	E.05	E3.1	.7	<.23	1.0	.15	<2.4	<1.0	267	E5.1	<1
MAR													
27...	1.2	<10	.11	4.9	.9	<.23	1.1	.49	<2.4	<1.0	305	9.2	3
MAY													
10...	2.6	10	E.04	13.8	.8	<.01	1.8	1.19	<2.4	<1.0	301	13.3	<1

DATE	2,4,5-T DIS-SOLVED (UG/L) (39742)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL-UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA-RB SUL-FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALDI-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)
DEC													
19...	<.04	<.11	<.10	<.002	<.11	<.004	<.05	<.002	<.20	<.02	<.21	<.005	<.007
MAR													
27...	<.04	<.11	<.10	<.002	<.12	<.004	<.05	<.002	<.20	<.02	<.21	<.005	E.002
MAY													
10...	--	--	--	<.002	--	<.004	--	<.002	--	--	--	<.005	.047

08194500 Nueces River near Tilden, TX--Continued

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

DATE	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENTA-ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BRO-MACIL, WATER, DISS, REC (UG/L) (04029)	BRO-MOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)
DEC													
19...	<.010	<.04	<.09	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.42	<.018
MAR													
27...	<.010	<.04	<.09	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.42	<.018
MAY													
10...	<.010	--	--	--	<.002	--	<.041	--	<.020	--	<.005	--	<.018

DATE	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLO-BENIL, WATER, FLTRD, GF 0.7U REC (UG/L) (49303)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	DNOC WAT,FLT GF 0.7U REC (UG/L) (49299)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)
DEC													
19...	<.07	<.003	<.006	<.005	<.04	<.05	<.05	<.005	<.09	<.021	<.06	<.25	<.002
MAR													
27...	<.07	<.003	<.006	<.005	<.04	<.05	<.05	<.005	<.09	<.021	<.06	<.25	<.002
MAY													
10...	--	<.003	E.009	<.005	--	--	--	<.005	--	<.021	--	--	<.002

DATE	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)
DEC													
19...	<.009	<.005	<.07	<.06	<.003	<.004	<.02	<.035	<.027	<.08	<.13	<.07	<.02
MAR													
27...	<.009	<.005	<.07	<.06	<.003	<.004	<.02	<.035	<.027	<.08	<.13	<.07	<.50
MAY													
10...	<.009	<.005	--	--	<.003	<.004	--	<.035	<.027	--	--	--	--

DATE	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)
DEC													
19...	<.050	<.006	<.013	<.006	<.002	<.007	<.02	<.04	<.28	<.02	<.003	<.007	<.002
MAR													
27...	<.050	<.006	E.001	<.006	<.002	<.007	<.02	<.04	<1.95	<.13	<.003	<.007	<.002
MAY													
10...	<.050	<.006	<.013	<.006	<.002	<.007	--	--	--	--	<.003	<.007	<.002

DATE	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SILVEX, DIS-SOLVED (UG/L) (39762)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
DEC													
19...	<.010	<.006	<.011	<.09	<.015	<.004	<.010	<.011	<.023	<.09	<.12	<.03	<.011
MAR													
27...	<.010	<.006	<.011	<.09	<.015	<.004	<.010	<.011	<.023	<.09	<.12	<.03	<.011
MAY													
10...	<.020	<.006	<.011	--	<.015	<.004	<.010	<.011	<.023	--	--	--	<.011

08194500 Nueces River near Tilden, TX--Continued

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

DATE	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)
DEC								
19...	<.016	<.034	<.017	<.005	<.002	<.18	<.009	1.04
MAR								
27...	<.016	<.034	<.017	<.005	<.002	<.26	<.009	.85
MAY								
10...	<.016	<.034	<.017	<.005	<.002	--	<.009	.77

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08195000 Frio River at Concan, TX

LOCATION.--Lat 29°29'18", long 99°42'16", Uvalde County, Hydrologic Unit 12110106, on left bank 0.7 mi southeast of Concan Post Office, 15 mi upstream from Dry Frio River, and 222.8 mi upstream from mouth.

DRAINAGE AREA.--389 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Oct. 1923 to Sept. 1929, Oct. 1930 to current year.
Water-quality records.--Chemical data: June 1952, Dec. 1964 to July 1965, Aug. 1968 to Sept. 1993, Apr. 1996 to Apr. 1998. Biochemical data: Aug. 1968 to Sept. 1993, Apr. 1996 to Apr. 1998. Pesticide data: Aug. 1968 to Sept. 1993. Sediment data: Apr. 1996 to Apr. 1998.

REVISED RECORDS.--WSP 1342: Drainage area. WSP 1512: 1926, 1931-32, 1934(M), 1935-36. WSP 1712: 1958. WSP 1923: 1954(M), 1957(M). WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,203.71 ft above sea level. Oct. 26, 1923, to July 28, 1924, nonrecording gage at site 86 ft upstream at datum 5.08 ft lower. July 29, 1924, to Oct. 3, 1930, nonrecording gage, and Oct. 4, 1930, to May 18, 1939, water-stage recorder, at site 130 ft downstream at present datum. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. No known regulation. Many small diversions for irrigation above station. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1869, that of July 1, 1932, from information by local residents.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	221	325	162	158	150	145	96	99	48	26	e515
2	14	245	314	162	154	149	145	94	95	50	26	e400
3	14	525	297	158	154	158	145	92	93	57	26	e330
4	14	1780	287	156	152	162	145	96	92	54	26	e290
5	14	806	274	154	150	158	143	366	89	52	25	e220
6	14	1570	262	152	150	155	137	276	86	49	24	e180
7	17	922	252	150	150	154	134	213	86	48	24	e160
8	31	752	244	150	150	154	133	189	84	46	23	142
9	48	667	238	147	150	154	130	188	78	44	23	115
10	55	654	233	169	150	151	126	179	77	44	23	104
11	54	600	228	189	149	150	123	172	75	42	23	97
12	60	578	221	180	145	187	119	166	72	40	21	85
13	60	536	218	176	145	187	118	166	71	40	20	80
14	57	498	215	173	145	194	118	155	70	38	20	76
15	56	475	211	168	145	189	111	145	70	37	20	75
16	56	458	205	167	161	183	112	140	68	37	19	71
17	58	436	200	167	169	176	125	137	67	35	20	63
18	66	474	195	167	166	177	133	133	65	35	19	62
19	79	469	192	167	162	176	124	130	63	36	18	60
20	86	450	190	167	160	172	115	129	60	35	19	59
21	88	442	185	162	158	170	113	125	60	34	20	56
22	90	435	182	160	158	164	111	119	58	33	21	55
23	6200	428	180	158	159	166	116	115	58	31	21	54
24	2350	420	180	158	161	162	124	109	58	30	18	55
25	635	385	180	158	158	162	123	108	57	30	17	51
26	453	360	194	158	155	157	116	105	55	30	17	50
27	369	343	195	158	154	155	110	113	54	30	21	50
28	317	342	185	157	152	156	106	113	52	29	27	49
29	280	338	180	157	---	154	103	113	51	29	e45	48
30	254	332	174	158	---	154	98	107	49	27	e110	47
31	234	---	167	158	---	149	---	102	---	27	e600	---
TOTAL	12138	16941	6803	5023	4320	5085	3701	4491	2112	1197	1362	3699
MEAN	392	565	219	162	154	164	123	145	70.4	38.6	43.9	123
MAX	6200	1780	325	189	169	194	145	366	99	57	600	515
MIN	14	221	167	147	145	149	98	92	49	27	17	47
AC-FT	24080	33600	13490	9960	8570	10090	7340	8910	4190	2370	2700	7340
CFSM	1.01	1.45	.56	.42	.40	.42	.32	.37	.18	.10	.11	.32
IN.	1.16	1.62	.65	.48	.41	.49	.35	.43	.20	.11	.13	.35

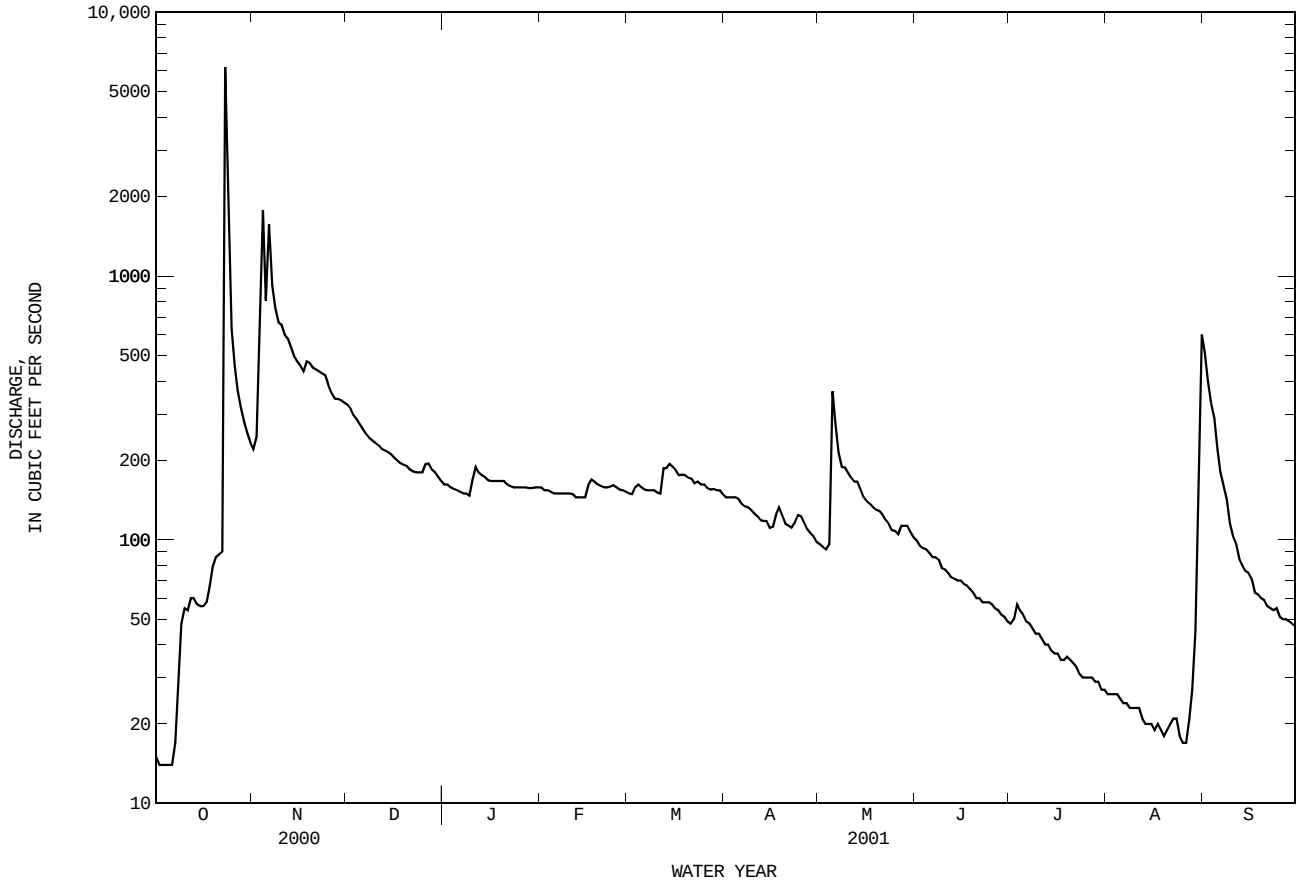
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2001h, BY WATER YEAR (WY)

MEAN	149	107	102	90.9	96.7	97.5	107	134	185	164	109	139
MAX	648	565	767	525	613	762	859	1041	2468	2823	1050	1333
(WY)	1970	2001	1992	1992	1992	1992	1981	1935	1935	1932	1971	1936
MIN	.000	.000	.000	3.01	8.25	11.8	8.52	6.48	1.08	1.25	.019	.000
(WY)	1957	1957	1957	1957	1957	1956	1956	1956	1956	1953	1956	1956

08195000 Frio River at Concan, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1924 - 2001h	
ANNUAL TOTAL	44585.7		66872			
ANNUAL MEAN	122		183		124	
HIGHEST ANNUAL MEAN					434	1992
LOWEST ANNUAL MEAN					8.80	1956
HIGHEST DAILY MEAN	6200	Oct 23	6200	Oct 23	52000	Jul 1 1932
LOWEST DAILY MEAN	5.0	Sep 8	14	Oct 2	.00	Aug 5 1956
ANNUAL SEVEN-DAY MINIMUM	6.0	Sep 6	15	Oct 1	.00	Aug 5 1956
MAXIMUM PEAK FLOW			35500	Oct 23	i162000	Jul 1 1932
MAXIMUM PEAK STAGE			18.29	Oct 23	a34.44	Jul 1 1932
ANNUAL RUNOFF (AC-FT)	88440		132600		89540	
ANNUAL RUNOFF (CFSM)	.31		.47		.32	
ANNUAL RUNOFF (INCHES)	4.26		6.39		4.32	
10 PERCENT EXCEEDS	302		334		198	
50 PERCENT EXCEEDS	42		145		69	
90 PERCENT EXCEEDS	12		27		19	

e Estimated
h See Period of Record paragraph
i From indirect measurement of peak flow.
a From floodmark.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Nov. 2000 to Sept. 2001
BIOCHEMICAL DATA: Nov. 2000 to Sept. 2001.
PESTICIDE DATA: Nov. 2000 to Sept. 2001.
SEDIMENT DATA: Nov 2000 to Sept. 2001.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
NOV													
30...	1215	331	--	--	8.8	450	16.5	--	233	70.4	14.0	.84	.183
JAN													
30...	1100	158	9.8	92.4	8.8	430	13.5	23	210	62.2	13.3	.77	.189
MAR													
06...	1000	154	9.9	96.4	8.7	420	14.5	34	212	62.6	13.6	.97	.187
26...	1030	158	9.6	96.6	8.0	420	16.5	24	206	60.2	13.4	.80	.193
MAY													
02...	1000	95	9.1	105	7.8	420	22.0	21	203	58.7	13.8	.77	.202
22...	1000	118	8.5	96.1	8.0	440	21.5	19	204	58.9	13.8	.85	.200
JUN													
26...	1100	56	--	--	7.8	403	26.5	--	197	55.1	14.4	.90	.216
JUL													
17...	1000	35	--	--	7.4	415	28.5	10	193	53.7	14.3	.86	.230
AUG													
15...	1100	20	7.6	104	7.9	395	29.5	--	161	43.7	12.7	.79	.217
SEP													
20...	1030	60	5.1	67.0	7.9	400	27.0	--	167	46.4	12.4	.74	.190

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
NOV													
30...	6.4	5.62	--	9.0	E.1	11.0	15.4	251	--	<.041	<.10	.10	--
JAN													
30...	6.3	6.11	190	10.2	E.1	10.2	14.7	238	234	<.041	E.06	.15	--
MAR													
06...	6.3	5.99	180	9.9	E.1	10.3	15.3	251	230	<.041	.11	.13	--
26...	6.4	6.27	180	10.8	.2	9.8	14.7	239	229	<.041	<.10	.09	--
MAY													
02...	6.6	6.59	180	11.5	E.2	10	14.5	250	228	<.041	<.10	.14	--
22...	6.6	6.51	190	10.7	E.1	11.2	15.1	234	231	<.040	.10	.17	--
JUN													
26...	7.0	7.11	--	11.7	.2	13.2	14.4	225	--	<.040	E.08	.14	.314
JUL													
17...	7.3	7.62	180	12.0	E.1	13.6	13.8	238	227	<.040	E.08	.16	--
AUG													
15...	6.3	7.82	170	12.2	E.1	12.0	14.6	210	206	<.040	E.07	.15	--
SEP													
20...	5.6	6.81	180	12.2	E.1	11.3	11.6	197	210	<.040	E.07	.14	--

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)
NOV													
30...	1.45	<.006	1.55	<.006	<.018	<.004	<10	<3.2	<.002	<.004	<.002	<.005	<.007
JAN													
30...	1.08	<.006	1.23	<.006	<.018	<.004	<10	E2.0	<.002	<.004	<.002	<.005	<.007
MAR													
06...	.946	<.006	1.08	<.006	<.018	<.004	<10	<3.2	<.002	<.004	<.002	<.005	<.007
26...	.924	E.004	1.01	<.006	<.018	E.002	M	<3.2	<.002	<.004	<.002	<.005	<.007
MAY													
02...	.651	<.006	.794	<.006	<.018	<.004	<10	<3.2	<.002	<.004	<.002	<.005	E.001
22...	.649	<.006	.816	<.006	<.020	E.003	<10	<3.0	<.002	<.004	<.002	<.005	<.007
JUN													
26...	.320	.006	.456	<.006	<.020	E.003	<10	<3.0	<.002	<.004	<.002	<.005	<.007
JUL													
17...	.275	E.003	.431	<.006	<.020	<.004	<10	<3.0	<.002	<.004	<.002	<.005	<.007
AUG													
15...	.216	<.006	.364	.008	<.020	<.004	<10	<3.0	<.002	<.004	<.002	<.005	<.007
SEP													
20...	.521	<.006	.660	<.006	<.020	E.002	<10	<3.0	<.002	<.004	<.002	<.005	<.007

08195000 FRIO RIVER AT CONCAN, TX--Continued

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

DATE	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)
NOV													
30...	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	<.005	<.005	<.021	<.002	<.009
JAN													
30...	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	<.005	<.005	<.021	<.002	<.009
MAR													
06...	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	<.005	<.005	<.021	<.002	<.009
26...	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	<.005	<.005	<.021	<.002	<.009
MAY													
02...	<.010	<.002	<.041	<.020	<.005	<.018	<.003	E.004	<.005	<.005	<.021	<.002	<.009
22...	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	<.005	<.005	<.021	<.002	<.009
JUN													
26...	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	.008	<.005	<.021	<.002	<.009
JUL													
17...	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	.007	<.005	<.021	<.002	<.009
AUG													
15...	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	<.005	<.005	<.021	<.002	<.009
SEP													
20...	<.010	<.002	<.041	<.035	<.005	<.018	<.003	<.006	.006	<.005	<.021	<.002	<.009

DATE	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)
NOV													
30...	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.020	<.007	<.003	<.007
JAN													
30...	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002	<.007	<.003	<.007
MAR													
06...	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002	<.007	<.003	<.007
26...	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002	<.007	<.003	<.007
MAY													
02...	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002	<.007	<.003	<.007
22...	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002	<.007	<.003	<.007
JUN													
26...	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002	<.007	E.001	<.007
JUL													
17...	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002	<.007	<.003	<.007
AUG													
15...	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002	<.007	<.003	<.007
SEP													
20...	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006	<.002	<.007	<.003	<.007

DATE	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)
NOV													
30...	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023	<.011	<.016	<.034	<.017
JAN													
30...	<.015	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023	<.011	<.016	<.034	<.017
MAR													
06...	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023	<.011	<.016	<.034	<.017
26...	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023	<.011	<.016	<.034	<.017
MAY													
02...	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.040	<.011	<.016	<.034	<.017
22...	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023	<.011	<.016	<.034	<.017
JUN													
26...	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023	<.011	<.016	<.034	<.017
JUL													
17...	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023	<.011	<.016	<.034	<.017
AUG													
15...	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023	<.011	<.016	<.034	<.017
SEP													
20...	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023	<.011	<.016	E.067	<.017

08195000 FRIO RIVER AT CONCAN, TX--Continued

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

DATE	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
NOV					
30...	<.005	<.002	<.009	2	1.8
JAN					
30...	<.005	<.002	<.009	0	0
MAR					
06...	<.005	<.002	<.009	4	1.7
26...	<.005	<.002	<.009	9	3.8
MAY					
02...	<.005	<.002	<.009	3	.77
22...	<.005	<.002	<.009	9	2.9
JUN					
26...	<.005	<.002	<.009	5	.76
JUL					
17...	<.005	<.002	<.009	3	.28
AUG					
15...	<.005	<.002	<.009	8	.43
SEP					
20...	<.005	<.002	<.009	2	.32

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08196000 Dry Frio River near Reagan Wells, TX

LOCATION.--Lat 29°30'16", long 99°46'52", Uvalde County, Hydrologic Unit 12110106, on right bank 2.3 mi upstream from bridge on U.S. Highway 83, 3.1 mi upstream from Rocky Creek, 4.3 mi southeast of Reagan Wells, and 25.9 mi upstream from mouth.

DRAINAGE AREA.--126 mi^2.

PERIOD OF RECORD.--Sept. 1952 to current year.
Water-quality records.--Chemical data: Jan. 1966 to Sept. 1993. Biochemical data: Jan. 1966 to Sept. 1993. Pesticide data: Jan. 1974 to Sept. 1993. Sediment data: Jan. 1966.

REVISED RECORDS.--WSP 1712: 1953. WSP 1923: 1955(M). WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,335.2 ft above sea level, from Texas Department of Transportation datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. No known regulation. There are several small diversions above station. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875 occurred in 1880 (about 33 ft). Flood of June 14, 1935, reached a stage of 26.0 ft (discharge, 64,700 ft^3/s, determined at site 2.6 mi upstream), and flood of July 1, 1932, reached a stage of 23 ft (discharge, 30,700 ft^3/s, determined at site 2.0 mi upstream), from information by local residents.

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

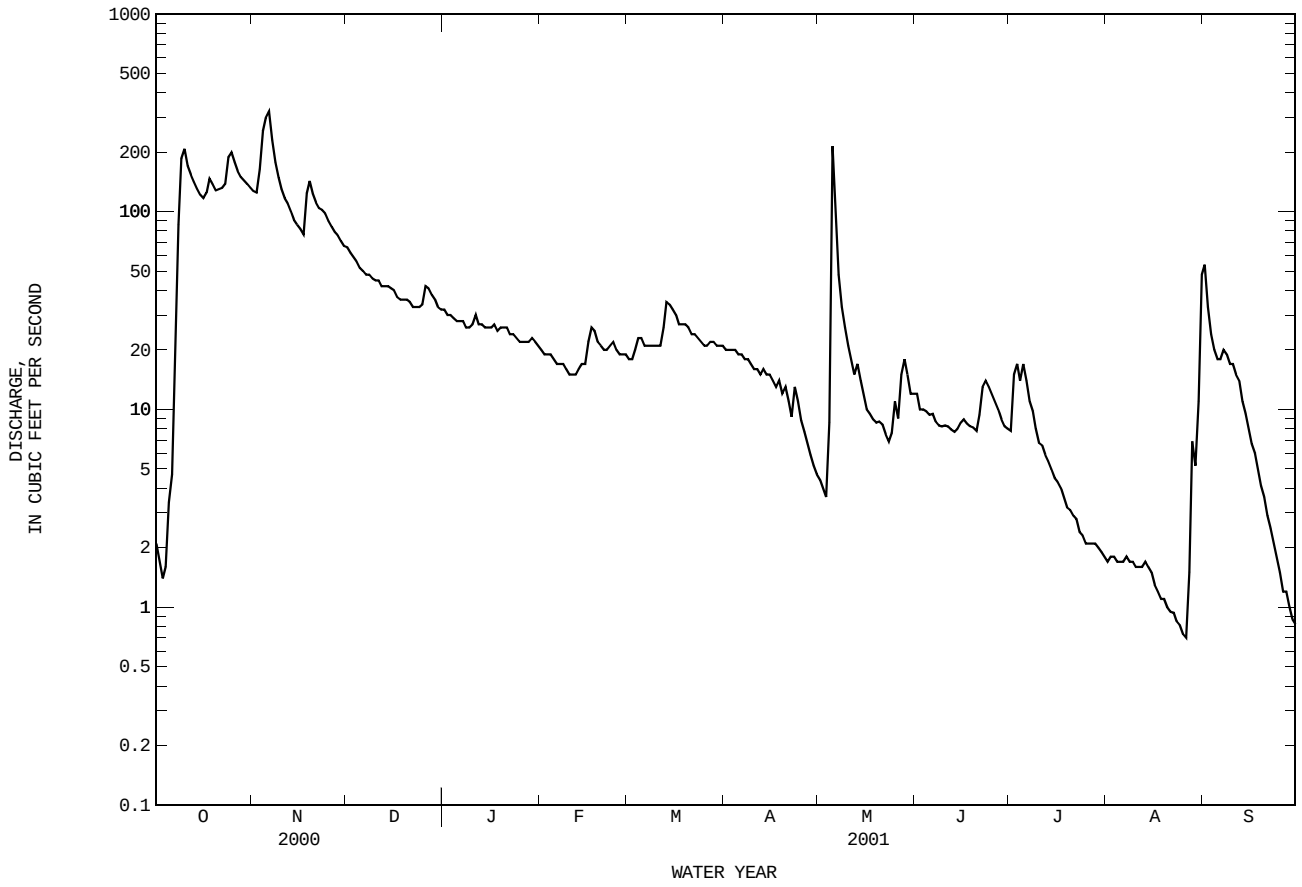
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	127	66	32	20	18	20	4.4	12	7.8	1.7	54
2	1.7	125	62	30	19	18	20	4.0	10	15	1.8	33
3	1.4	164	59	30	19	20	20	3.6	10	17	1.8	24
4	1.6	256	56	29	19	23	20	8.6	9.8	14	1.7	20
5	3.4	299	52	28	18	23	19	214	9.4	17	1.7	18
6	4.7	322	50	28	17	21	19	94	9.5	14	1.7	18
7	18	230	48	28	17	21	18	48	8.7	11	1.8	20
8	86	178	48	26	17	21	18	33	8.3	9.8	1.7	19
9	186	149	46	26	16	21	17	26	8.2	8.0	1.7	17
10	208	130	45	27	15	21	16	21	8.3	6.8	1.6	17
11	170	117	45	30	15	21	16	18	8.2	6.6	1.6	15
12	154	110	42	27	15	26	15	15	7.9	5.9	1.6	14
13	142	100	42	27	16	35	16	17	7.7	5.5	1.7	11
14	131	91	42	26	17	34	15	14	8.0	5.0	1.6	9.5
15	122	86	41	26	17	32	15	12	8.6	4.5	1.5	8.0
16	117	82	40	26	22	30	14	10	8.9	4.3	1.3	6.7
17	125	77	37	27	26	27	13	9.5	8.5	4.0	1.2	6.0
18	147	124	36	25	25	27	14	8.9	8.2	3.6	1.1	4.9
19	138	143	36	26	22	27	12	8.6	8.1	3.2	1.1	4.1
20	128	123	36	26	21	26	13	8.7	7.8	3.1	1.0	3.6
21	130	111	35	26	20	24	11	8.4	9.4	2.9	.95	2.9
22	132	104	33	24	20	24	9.2	7.5	13	2.8	.94	2.5
23	138	102	33	24	21	23	13	6.9	14	2.4	.85	2.1
24	188	98	33	23	22	22	11	7.6	13	2.3	.81	1.8
25	199	90	34	22	20	21	8.8	11	12	2.1	.73	1.5
26	177	84	42	22	19	21	7.7	9.0	11	2.1	.70	1.2
27	161	79	41	22	19	22	6.8	15	10	2.1	1.5	1.2
28	150	76	38	22	19	22	5.9	18	8.9	2.1	6.9	1.0
29	144	71	36	23	---	21	5.2	15	8.2	2.0	5.2	.87
30	138	67	33	22	---	21	4.7	12	8.0	1.9	11	.82
31	132	---	32	21	---	21	---	12	---	1.8	48	---
TOTAL	3575.9	3915	1319	801	533	734	413.3	700.7	283.6	190.6	108.48	338.69
MEAN	115	130	42.5	25.8	19.0	23.7	13.8	22.6	9.45	6.15	3.50	11.3
MAX	208	322	66	32	26	35	20	214	14	17	48	54
MIN	1.4	67	32	21	15	18	4.7	3.6	7.7	1.8	.70	.82
AC-FT	7090	7770	2620	1590	1060	1460	820	1390	563	378	215	672
CFSM	.92	1.04	.34	.21	.15	.19	.11	.18	.08	.05	.03	.09
IN.	1.06	1.16	.39	.24	.16	.22	.12	.21	.08	.06	.03	.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2001, BY WATER YEAR (WY)

MEAN	57.1	32.2	27.6	22.2	23.9	27.6	28.8	37.8	62.1	35.6	36.9	36.6
MAX	258	134	185	120	131	208	257	338	483	277	365	277
(WY)	1970	1968	1992	1992	1992	1992	1981	1987	1987	1976	1966	1958
MIN	.000	.000	.055	.51	.87	2.24	1.50	.86	.19	.077	.000	.000
(WY)	1957	1957	1957	1957	1957	1954	1956	1956	1953	1953	1956	1956

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1952 - 2001	
ANNUAL TOTAL	10611.02		12913.27			
ANNUAL MEAN	29.0		35.4		35.8	
HIGHEST ANNUAL MEAN					121	1987
LOWEST ANNUAL MEAN					2.99	1956
HIGHEST DAILY MEAN	322	Nov 6	322	Nov 6	8100	Aug 13 1966
LOWEST DAILY MEAN	.47	Sep 16	.70	Aug 26	.00	Jul 10 1953
ANNUAL SEVEN-DAY MINIMUM	.53	Sep 10	.85	Aug 20	.00	Jul 30 1953
MAXIMUM PEAK FLOW			644	Nov 5	123000	Aug 13 1966
MAXIMUM PEAK STAGE			3.95	Nov 5	27.60	Aug 13 1966
ANNUAL RUNOFF (AC-FT)	21050		25610		25940	
ANNUAL RUNOFF (CFSM)	.23		.28		.28	
ANNUAL RUNOFF (INCHES)	3.13		3.81		3.86	
10 PERCENT EXCEEDS	117		119		64	
50 PERCENT EXCEEDS	6.0		18		14	
90 PERCENT EXCEEDS	1.1		1.8		2.2	

08196000 Dry Frio River near Reagan Wells, TX--Continued



08197500 Frio River below Dry Frio River near Uvalde, TX

LOCATION.--Lat 29°14'44", long 99°40'27", Uvalde County, Hydrologic Unit 12110106, on right bank 1.1 mi upstream from Farm Road 1023, 5.7 mi downstream from Dry Frio River, 6.3 mi downstream from bridge on U.S. Highway 90, 7.2 mi northeast of Uvalde, and 194.5 mi upstream from mouth.

DRAINAGE AREA.--631 mi^2.

PERIOD OF RECORD.--Oct. 1953 to current year. Sum of records published as Frio River at Knippa (discontinued station 08195700) and Dry Frio River at Knippa (discontinued station 08196500) for period Sept. 1952 to Sept. 1953 is equivalent to record for this station.

REVISED RECORDS.--WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 882.47 ft above sea level. Satellite telemeter at station.

REMARKS.--Records fair. No known regulation. Part of flow of Frio River enters the Edwards and associated limestones in the Balcones Fault Zone, that crosses the basin between Frio River at Concan (station 08195000) and this station. Most of the low flow enters this formation. Many diversions for irrigation above station. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887, about 35 ft in 1894. Flood of July 1, 1932, reached a stage of about 30 ft. A higher flood than that of 1894 occurred prior to 1887, from information by local residents.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.94	2.3	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.66	.83	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.58	.51	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	1550	.28	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	647	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	1580	.18	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	816	.12	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	495	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	363	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	280	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	226	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	186	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	e152	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	e130	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	e117	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	e111	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	e109	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	119	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	133	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	106	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	84	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	70	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	1.8	66	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	7580	74	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	711	55	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	301	40	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	156	30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	84	22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	37	13	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	9.5	5.6	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	2.0	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	8882.30	7581.78	5.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	287	253	.17	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	7580	1580	2.3	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.58	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	17620	15040	10	.00	.00	.00	.00	.00	.00	.00	.00	.00

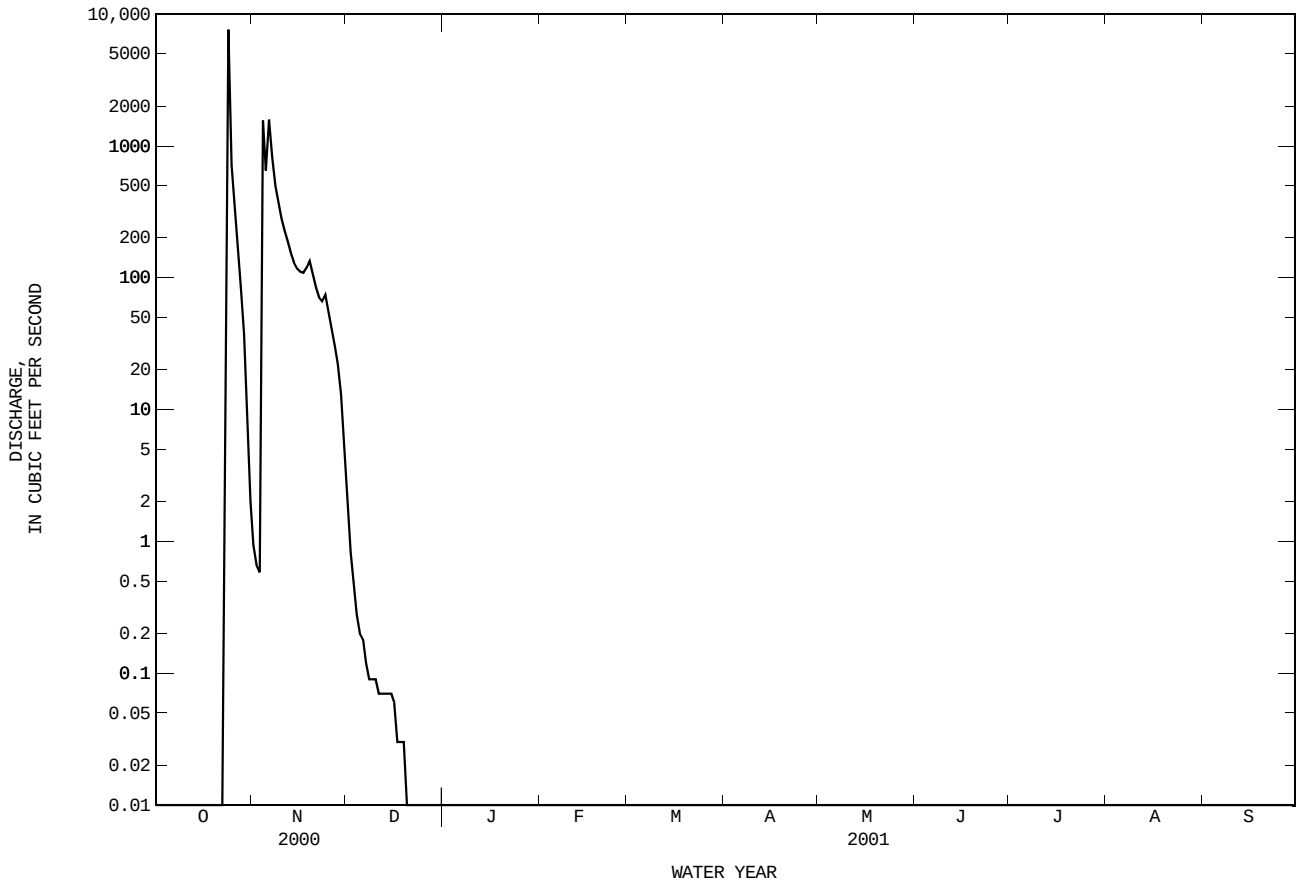
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2001, BY WATER YEAR (WY)

MEAN	80.6	9.04	27.2	10.4	6.64	10.8	26.0	36.3	116	34.2	67.3	45.7
MAX	842	253	710	241	300	455	702	865	1584	597	1224	699
(WY)	1997	2001	1985	1992	1992	1992	1981	1987	1997	1973	1998	1958
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1954	1954	1954	1954	1954	1954	1954	1955	1954	1954	1954	1954

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1954 - 2001	
ANNUAL TOTAL	16469.30		16469.30			
ANNUAL MEAN	45.0		45.1		39.3	
HIGHEST ANNUAL MEAN					221	1987
LOWEST ANNUAL MEAN					.000	1962
HIGHEST DAILY MEAN	7580	Oct 24	7580	Oct 24	32300	Jun 22 1997
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1953
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Oct 1 1953
MAXIMUM PEAK FLOW			30300	Oct 24	c100000	Jun 22 1997
MAXIMUM PEAK STAGE			15.77	Oct 24	a25.09	Jun 22 1997
ANNUAL RUNOFF (AC-FT)	32670		32670		28490	
10 PERCENT EXCEEDS	1.9		1.9		.12	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated
c From rating curve extended above indirect measurement of 88,500 ft^3/s.
a From floodmark

08197500 Frio River below Dry Frio River near Uvalde, TX--Continued



08198000 Sabinal River near Sabinal, TX

LOCATION.--Lat 29°29'27", long 99°29'33", Uvalde County, Hydrologic Unit 12110106, on right bank 108 ft upstream from concrete dam, 2.3 mi downstream from mouth of Onion Creek, 12.5 mi north of Sabinal, and 41.6 mi upstream from mouth.

DRAINAGE AREA.--206 mi^2.

PERIOD OF RECORD.--Oct. 1942 to current year.
Water-quality records.--Chemical data: Nov. 1964 to July 1965, Feb. 1970 to Sept. 1993, Apr. 1996 to Apr. 1998. Biochemical data: Feb. 1970 to Sept. 1993, Apr. 1996 to Apr. 1998. Pesticide data: Aug. 1971 to Sept. 1993. Sediment data: Nov. 1965, Apr. 1996 to Apr. 1998.

REVISED RECORDS.--WSP 1312: 1943(M), 1944(M), 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 1,131.20 ft above sea level. Prior to Apr. 9, 1971, at site 0.3 mi downstream at same datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. There are several small diversions above station for irrigation. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1892, about 33 ft July 2, 1932, from information by local residents. A flood in the middle 1800's reached a stage of nearly 63 ft. Information indicates that a flood in 1858 covered the townsite of Sabinal. The stage would have been 70 to 80 ft, which seems unlikely. However, it is possible that a flood occurred in 1858 that covered part of the townsite and was higher than any flood since that date.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	48	151	91	104	121	124	74	72	42	25	19
2	1.3	49	145	90	102	121	121	72	71	60	25	18
3	1.1	1440	146	88	101	134	118	69	68	58	24	17
4	.93	1320	144	88	100	140	116	88	66	52	24	17
5	.77	759	137	87	98	131	114	286	65	48	24	19
6	.71	2020	133	86	98	128	111	165	65	45	23	1180
7	1.2	623	128	85	96	127	108	130	64	43	22	199
8	1.4	485	126	83	95	130	105	139	62	42	23	104
9	1.9	390	122	82	94	129	102	127	61	41	23	78
10	3.1	329	119	123	92	126	100	113	59	41	22	67
11	4.4	287	116	130	92	126	99	109	59	41	22	60
12	3.9	262	112	110	92	183	96	108	58	40	21	54
13	3.5	236	113	110	94	170	94	109	56	39	20	51
14	3.2	218	108	108	93	164	93	101	56	38	20	47
15	2.8	209	104	106	92	157	94	98	60	37	18	45
16	2.7	200	101	107	174	152	116	96	56	36	17	42
17	2.8	186	97	111	147	151	98	93	55	35	18	40
18	3.6	270	96	110	135	152	96	94	53	33	17	39
19	4.2	247	93	111	130	151	92	93	51	32	16	38
20	4.0	216	92	109	127	147	90	92	50	32	16	36
21	4.6	203	91	108	124	145	87	90	48	31	15	33
22	6.5	198	88	107	123	144	82	89	51	30	15	32
23	2030	200	87	107	125	141	95	87	53	29	14	32
24	657	209	86	106	128	138	103	84	49	29	13	33
25	173	190	88	105	125	136	92	82	47	30	12	32
26	107	182	119	105	122	135	86	81	48	29	13	30
27	82	174	121	105	123	138	83	78	47	29	100	29
28	69	167	106	106	122	137	79	78	45	28	35	29
29	60	159	98	112	---	132	76	75	44	27	26	28
30	54	154	94	111	---	129	75	73	43	26	23	28
31	50	---	92	106	---	127	---	73	---	26	22	---
TOTAL	3342.11	11630	3453	3193	3148	4342	2945	3146	1682	1149	708	2476
MEAN	108	388	111	103	112	140	98.2	101	56.1	37.1	22.8	82.5
MAX	2030	2020	151	130	174	183	124	286	72	60	100	1180
MIN	.71	48	86	82	92	121	75	69	43	26	12	17
AC-FT	6630	23070	6850	6330	6240	8610	5840	6240	3340	2280	1400	4910
CFSM	.52	1.88	.54	.50	.55	.68	.48	.49	.27	.18	.11	.40
IN.	.60	2.10	.62	.58	.57	.78	.53	.57	.30	.21	.13	.45

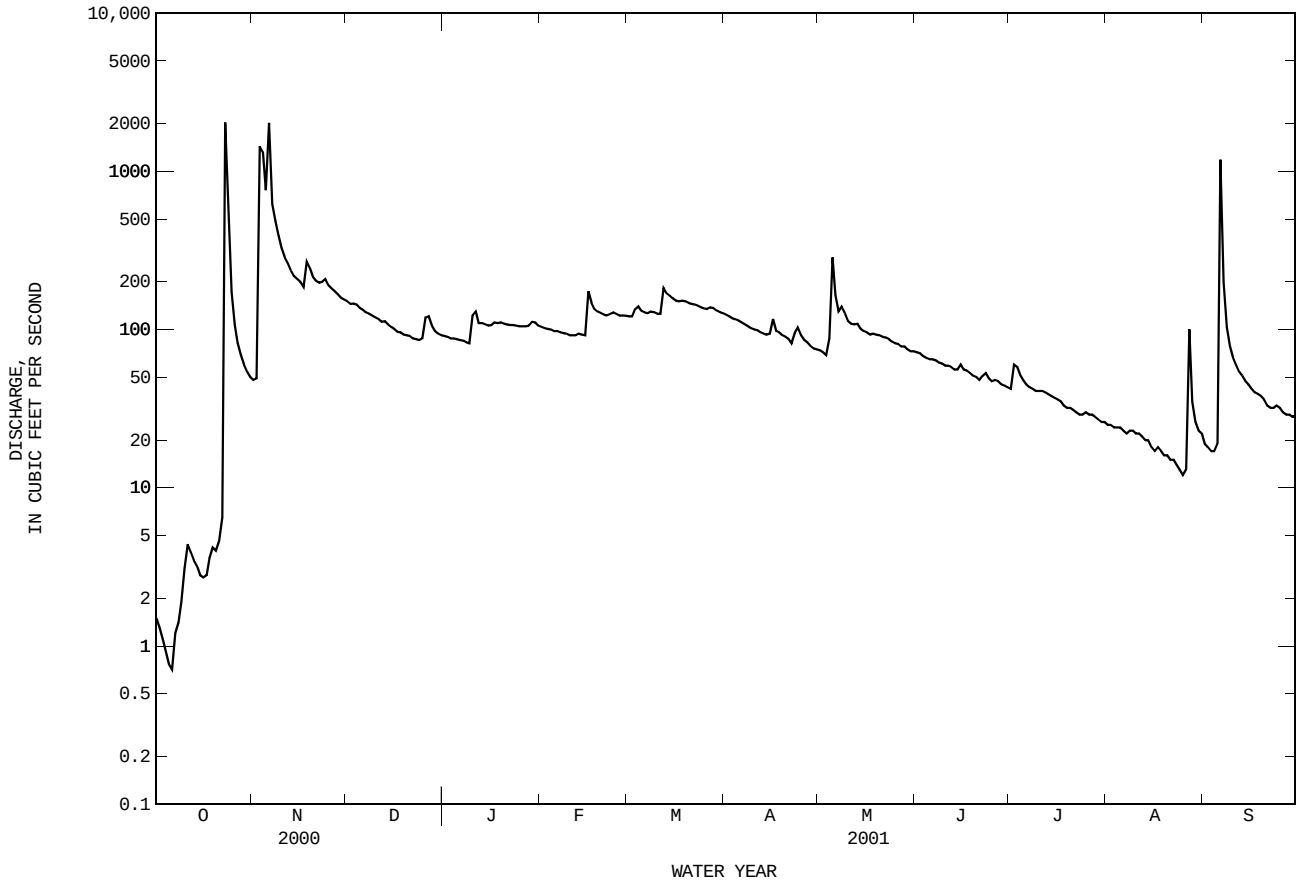
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2001, BY WATER YEAR (WY)

MEAN	67.4	55.9	50.6	47.0	52.9	59.3	57.9	68.6	122	76.6	56.3	49.7
MAX	318	388	612	408	584	624	392	389	1527	1035	669	306
(WY)	1972	2001	1992	1992	1992	1992	1992	1987	1987	1973	1971	1980
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1952	1952	1952	1952	1952	1952	1954	1953	1953	1953	1948	1951

08198000 Sabinal River near Sabinal, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1943 - 2001	
ANNUAL TOTAL	20075.70		41214.11			
ANNUAL MEAN	54.9		113		63.7	
HIGHEST ANNUAL MEAN					340	1992
LOWEST ANNUAL MEAN					.82	1955
HIGHEST DAILY MEAN	2030	Oct 23	2030	Oct 23	13000	Jun 17 1958
LOWEST DAILY MEAN	.01	Sep 16	.71	Oct 6	.00	Aug 10 1946
ANNUAL SEVEN-DAY MINIMUM	.01	Sep 16	1.1	Oct 2	.00	Aug 10 1946
MAXIMUM PEAK FLOW			9910	Oct 23	c56500	Jun 22 1997
MAXIMUM PEAK STAGE			11.95	Oct 23	a28.50	Jun 22 1997
ANNUAL RUNOFF (AC-FT)	39820		81750		46150	
ANNUAL RUNOFF (CFSM)	.27		.55		.31	
ANNUAL RUNOFF (INCHES)	3.63		7.44		4.20	
10 PERCENT EXCEEDS	134		164		123	
50 PERCENT EXCEEDS	5.8		91		26	
90 PERCENT EXCEEDS	.91		18		.00	

c From rating curve extended above indirect measurement of 55,200 ft^3/s.
a From floodmark.



08198500 Sabinal River at Sabinal, TX

LOCATION.--Lat 29°18'05", long 99°28'46", Uvalde County, Hydrologic Unit 12110106, on left bank 80 ft downstream from bridge on U.S. Highway 90, 1,100 ft downstream from Southern Pacific Lines railroad bridge, 0.8 mi west of Sabinal, 5.8 mi upstream from Ranchero Creek, and 223 mi upstream from mouth.

DRAINAGE AREA.--241 mi^2.

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

REVISED RECORDS.--WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 882.17 ft above sea level. Prior to July 29, 1958, nonrecording gage, and July 29, 1958, to Mar. 19, 1964, water-stage recorder at site 80 ft upstream at same datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation. Several small diversions for irrigation above station. Most of low flow of the Sabinal River enters the Edwards and associated limestones in the Balcones Fault Zone, that crosses basin upstream from this station and downstream from Sabinal River near Sabinal (station 08198000). No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1890, 40 ft Aug. 24, 1919, from information by local residents. Flood of July 2, 1932, reached a stage of 31 ft (discharge, 60,000 ft^3/s), from information by Southern Pacific Lines. Information indicates that a flood in 1858 covered the townsite of Sabinal. The stage would have been 70 to 80 ft, which seems unlikely. However, it is possible that a flood occurred in 1858 that covered part of the townsite and was higher than any flood since that date.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.39	6.2	39	11	14	9.0	10	3.8	6.0	4.5	4.0	6.1
2	.37	7.6	36	11	13	8.7	9.4	3.7	6.0	6.7	4.0	6.0
3	.35	240	35	11	13	8.8	8.7	3.5	5.9	9.4	4.1	5.7
4	.33	1570	36	11	12	8.4	8.5	3.8	5.9	9.0	4.0	5.6
5	.29	391	34	11	11	8.2	7.9	3.7	5.9	8.9	3.9	5.7
6	.33	1920	33	10	11	8.1	7.7	3.2	6.0	8.7	4.0	323
7	.68	614	32	10	11	7.9	7.5	11	5.9	7.5	3.7	245
8	.99	397	30	9.9	10	7.7	7.3	8.7	5.8	5.6	3.8	33
9	1.3	281	29	9.8	10	7.6	7.1	9.3	5.8	5.5	3.8	15
10	.97	217	27	13	10	7.5	6.9	12	5.5	5.4	3.7	11
11	.77	169	24	10	10	7.5	6.7	7.8	5.5	5.4	3.6	10
12	.71	141	22	9.8	9.9	7.3	6.5	6.5	5.5	5.3	3.6	9.4
13	.70	115	20	11	9.8	7.0	6.3	5.9	5.4	5.2	3.6	9.1
14	.65	95	19	16	9.4	7.1	5.9	5.6	5.5	5.1	3.5	8.7
15	.63	85	19	17	9.1	12	5.8	5.5	5.7	5.0	3.5	8.4
16	.65	79	17	15	9.1	15	5.7	5.4	5.6	5.0	3.5	8.1
17	1.3	68	17	14	8.8	13	5.5	5.3	5.5	4.9	3.5	7.8
18	.80	93	16	17	8.7	14	5.5	5.2	5.5	4.8	3.5	7.5
19	.65	156	15	18	8.5	17	5.3	5.1	5.3	4.8	3.7	7.2
20	.63	103	14	19	8.3	17	5.1	4.9	5.2	4.7	3.7	7.1
21	2.5	86	13	18	8.5	16	5.0	4.8	5.1	4.7	3.6	6.9
22	1.1	78	12	18	9.5	14	4.8	4.7	5.0	4.6	3.4	7.0
23	554	79	12	17	9.7	13	5.3	4.6	5.0	4.5	3.3	7.1
24	1260	87	12	16	9.6	12	4.8	4.6	5.2	4.4	3.3	6.8
25	122	75	11	16	9.3	11	4.6	4.9	5.1	4.4	3.4	6.7
26	37	64	12	15	9.1	10	4.4	6.1	5.0	4.4	3.4	6.6
27	17	58	12	14	9.1	9.8	4.4	6.2	4.9	4.2	41	6.6
28	10	54	11	14	9.0	9.7	4.1	6.1	4.8	3.9	6.6	6.5
29	7.8	48	11	14	---	10	4.0	6.0	4.6	3.9	6.0	6.4
30	7.0	42	11	13	---	12	3.9	6.1	4.6	3.8	6.0	6.3
31	6.4	---	10	13	---	11	---	6.1	---	3.9	6.2	---
TOTAL	2038.29	7418.8	641	422.5	280.4	327.3	184.6	180.1	162.7	168.1	160.9	806.3
MEAN	65.8	247	20.7	13.6	10.0	10.6	6.15	5.81	5.42	5.42	5.19	26.9
MAX	1260	1920	39	19	14	17	10	12	6.0	9.4	41	323
MIN	.29	6.2	10	9.8	8.3	7.0	3.9	3.2	4.6	3.8	3.3	5.6
AC-FT	4040	14720	1270	838	556	649	366	357	323	333	319	1600

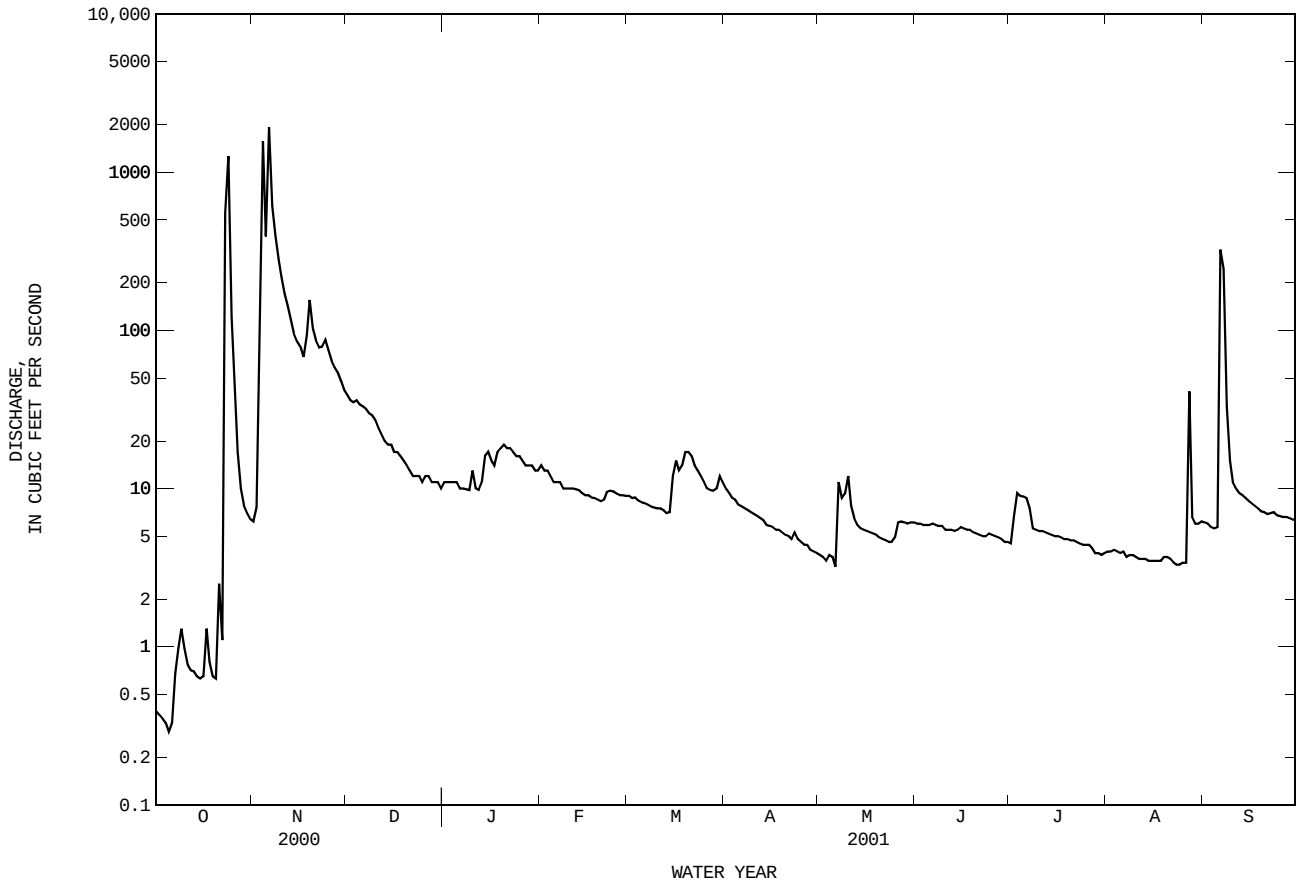
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2001, BY WATER YEAR (WY)

MEAN	36.3	20.5	19.3	15.2	20.6	24.3	26.6	32.9	111	55.9	35.3	21.7
MAX	261	247	498	292	510	535	349	427	1493	1066	709	210
(WY)	1970	2001	1992	1992	1992	1992	1992	1987	1987	1973	1971	1958
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1953	1953	1953	1953	1953	1956	1956	1953	1953	1953	1962	1962

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1952 - 2001	
ANNUAL TOTAL	10502.34		12790.99			
ANNUAL MEAN	28.7		35.0		35.0	
HIGHEST ANNUAL MEAN					265	1992
LOWEST ANNUAL MEAN					.070	1963
HIGHEST DAILY MEAN	1920	Nov 6	1920	Nov 6	17100	Jun 17 1958
LOWEST DAILY MEAN	.22	May 30	.29	Oct 5	.00	Sep 5 1952
ANNUAL SEVEN-DAY MINIMUM	.26	May 29	.39	Oct 1	.00	Sep 19 1952
MAXIMUM PEAK FLOW			6540	Oct 23	a93500	Jun 22 1997
MAXIMUM PEAK STAGE			14.59	Oct 23	c35.86	Jun 22 1997
ANNUAL RUNOFF (AC-FT)	20830		25370		25340	
10 PERCENT EXCEEDS	36		36		42	
50 PERCENT EXCEEDS	.65		7.5		1.6	
90 PERCENT EXCEEDS	.34		3.6		.10	

a From floodmark.
c From rating curve extended above current-meter discharge measurements of 43,400 ft^3/s and 71,300 ft^3/s.

08198500 Sabinal River at Sabinal, TX--Continued



08200000 Hondo Creek near Tarpley, TX

LOCATION.--Lat 29°34'10", long 99°14'47", Medina County, Hydrologic Unit 12110107, on left bank 460 ft downstream from bridge on Ranch Road 462, 6.3 mi southeast of Tarpley, and 16.6 mi northwest of Hondo.

DRAINAGE AREA.--95.6 mi^2.

PERIOD OF RECORD.--Aug. 1952 to current year.
Water-quality records.--Chemical data: Nov. 1965 to Sept. 1969, Feb. 1970 to Sept. 1993. Biochemical data: Feb. 1970 to Sept. 1993. Pesticide data: Aug. 1971 to Sept. 1993. Sediment data: Nov. to Dec. 1965.

REVISED RECORDS.--WSP 1712: 1957. WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,169.1 ft, from Magnolia Oil Co. datum adjustment unknown. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. No known regulation. There are several small diversions for irrigation above station. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1932 reached a stage of about 26 ft (discharge, 58,500 ft^3/s), from information by local resident. Maximum stage since at least 1907, that of June 22, 1997.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	44	79	47	66	50	57	42	42	22	14	13
2	.00	43	75	46	64	50	56	41	40	27	14	10
3	.00	75	76	46	62	67	55	41	39	26	14	9.9
4	.00	94	75	46	59	63	54	73	38	24	14	9.7
5	.00	267	71	45	57	58	53	246	37	23	13	10
6	.00	291	68	45	56	57	52	110	36	22	13	97
7	.00	196	65	45	55	57	51	100	36	21	13	32
8	.01	202	63	43	54	59	50	93	34	21	13	23
9	1.5	161	61	42	52	58	48	93	33	20	13	18
10	2.3	139	60	148	48	56	47	83	32	20	12	16
11	1.4	125	59	83	48	54	47	80	31	19	12	14
12	1.2	119	54	77	48	219	46	79	30	19	12	15
13	1.0	101	57	83	52	104	46	79	30	18	12	14
14	.80	91	53	83	48	120	46	76	29	18	11	13
15	.70	87	53	83	47	104	45	72	28	18	11	12
16	.83	84	50	84	133	94	53	69	27	17	11	12
17	1690	78	48	92	67	91	49	67	27	17	11	12
18	74	153	47	87	64	98	45	63	26	17	10	12
19	40	119	46	87	63	87	44	62	25	16	10	12
20	32	108	45	85	63	81	43	60	25	16	10	11
21	141	103	43	84	62	79	43	61	24	16	9.8	11
22	54	105	43	83	61	78	42	56	28	16	9.3	11
23	283	108	43	82	62	75	62	54	31	16	8.9	10
24	186	106	42	80	61	72	49	54	37	15	8.5	9.6
25	101	96	43	78	57	67	45	56	26	15	8.4	9.3
26	74	92	74	77	55	66	44	51	24	15	8.3	9.3
27	62	89	55	75	57	69	44	48	24	15	18	8.9
28	56	87	50	76	54	67	44	47	23	15	12	8.7
29	52	83	48	79	---	62	43	46	23	14	15	8.0
30	48	81	47	71	---	60	42	44	22	14	12	7.9
31	45	---	48	68	---	58	---	43	---	14	12	---
TOTAL	2947.74	3527	1741	2250	1675	2380	1445	2189	907	566	365.2	459.3
MEAN	95.1	118	56.2	72.6	59.8	76.8	48.2	70.6	30.2	18.3	11.8	15.3
MAX	1690	291	79	148	133	219	62	246	42	27	18	97
MIN	.00	43	42	42	47	50	42	41	22	14	8.3	7.9
AC-FT	5850	7000	3450	4460	3320	4720	2870	4340	1800	1120	724	911
CFSM	.99	1.23	.59	.76	.63	.80	.50	.74	.32	.19	.12	.16
IN.	1.15	1.37	.68	.88	.65	.93	.56	.85	.35	.22	.14	.18

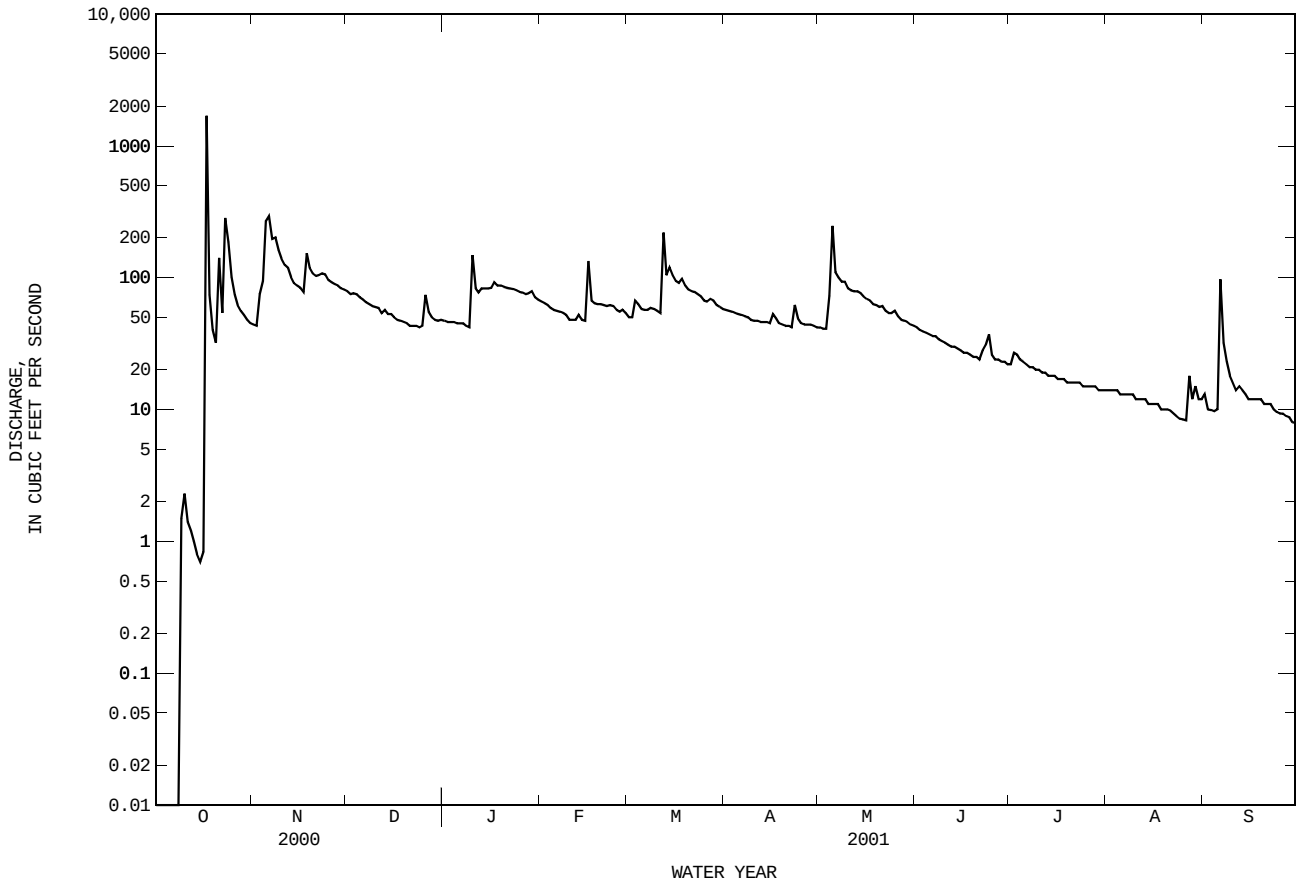
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2001, BY WATER YEAR (WY)

MEAN	37.6	28.0	32.9	26.8	33.8	36.9	36.9	63.8	95.5	37.6	36.6	26.9
MAX	254	134	541	172	342	323	178	402	1056	574	654	153
(WY)	1972	1999	1992	1992	1992	1992	1992	1987	1987	1973	1971	1958
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1956	1955	1955	1956	1956	1956	1956	1956	1996	1996	1984	1955

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1952 - 2001	
ANNUAL TOTAL	8414.73		20452.24			
ANNUAL MEAN	23.0		56.0		41.1	
HIGHEST ANNUAL MEAN					205	1992
LOWEST ANNUAL MEAN					.41	1956
HIGHEST DAILY MEAN	1690	Oct 17	1690	Oct 17	11900	Jun 17 1958
LOWEST DAILY MEAN	.00	Jul 22	.00	Oct 1	.00	Sep 1 1952
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 8	.00	Oct 1	.00	Sep 1 1952
MAXIMUM PEAK FLOW			18400	Oct 17	c76900	Jun 22 1997
MAXIMUM PEAK STAGE			15.25	Oct 17	a29.64	Jun 22 1997
ANNUAL RUNOFF (AC-FT)	16690		40570		29810	
ANNUAL RUNOFF (CFSM)	.24		.59		.43	
ANNUAL RUNOFF (INCHES)	3.27		7.96		5.85	
10 PERCENT EXCEEDS	75		93		82	
50 PERCENT EXCEEDS	.90		47		12	
90 PERCENT EXCEEDS	.00		10		.15	

c From rating curve extended above indirect measurement of 69,800 ft^3/s.
a From floodmark.

08200000 Hondo Creek near Tarpley, TX--Continued



08200700 Hondo Creek at King Waterhole near Hondo, TX

LOCATION.--Lat 29°23'26", long 99°09'04", Medina County, Hydrologic Unit 12110107, on left bank 0.3 mi downstream from county road low-water crossing, 3.1 mi north of Hondo, 7.8 mi upstream from Verde Creek, and 55.4 mi upstream from mouth.

DRAINAGE AREA.--149 mi^2.

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

REVISED RECORDS.--WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 897.87 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation. Most of the low flow enters the Edwards and associated limestones in the Balcones Fault Zone, that crosses the basin between Hondo Creek near Tarpley (station 08200000) and this station. There are several small diversions above station for irrigation. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 21 ft in Sept. 1919, from information by local resident. Other substanial floods occurred in July 1932, stage 18 ft, and June 17, 1958, stage 17 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	48	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	3150	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	7.8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	8.7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	3166.50	48.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	102	1.61	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	3150	48	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	6280	96	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

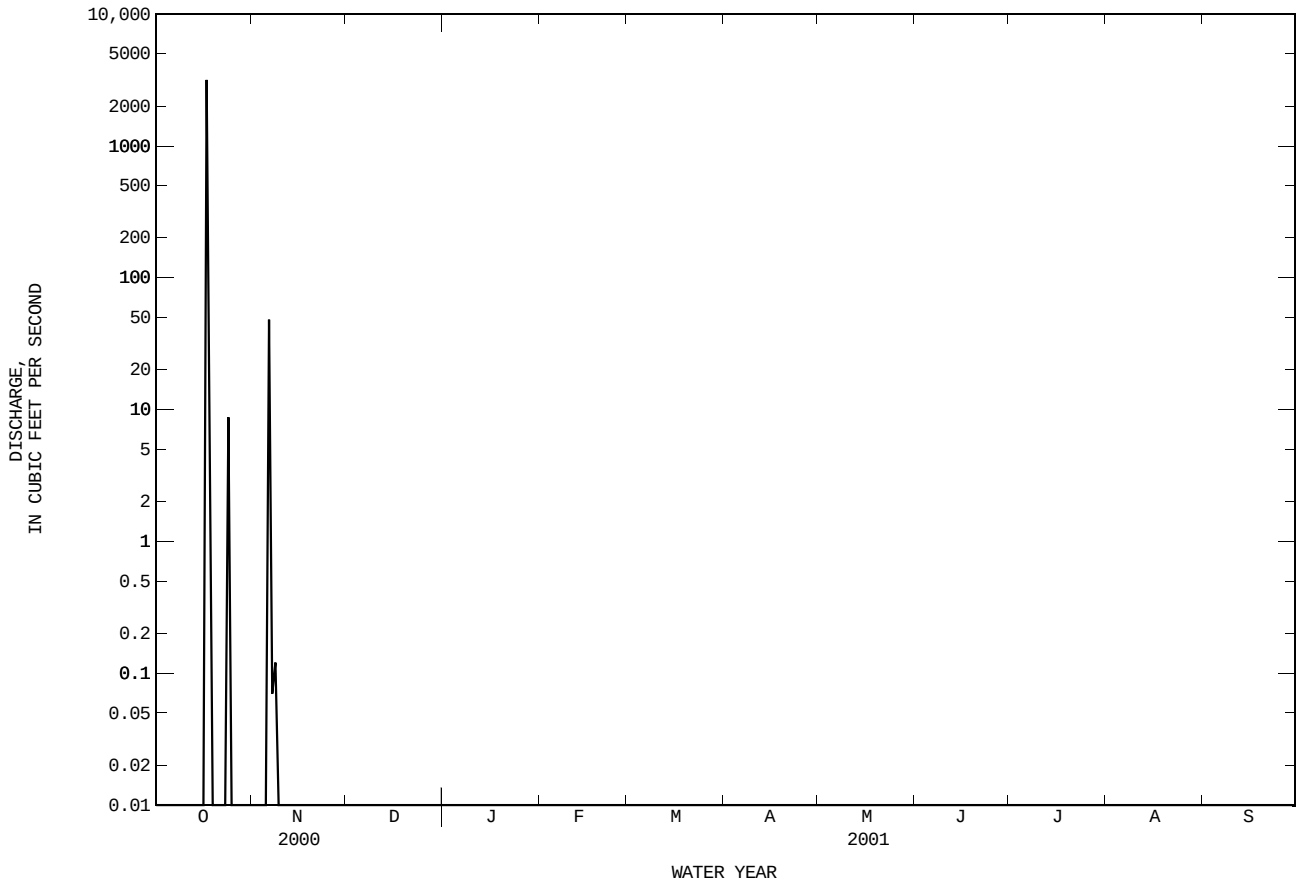
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2001, BY WATER YEAR (WY)

MEAN	12.8	.50	10.2	2.67	6.68	8.78	6.83	28.3	60.2	13.5	33.0	6.82
MAX	160	10.8	379	56.9	187	168	89.5	468	1060	509	1015	151
(WY)	1972	1972	1992	1968	1992	1992	1981	1987	1987	1973	1971	1980
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1962	1961	1962	1961	1962	1962	1961	1961	1962	1962	1961	1961

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1961 - 2001	
ANNUAL TOTAL	3214.69		3214.69			
ANNUAL MEAN	8.78		8.81		15.9	
HIGHEST ANNUAL MEAN					128	1987
LOWEST ANNUAL MEAN					.000	1962
HIGHEST DAILY MEAN	3150	Oct 17	3150	Oct 17	13900	Jun 22 1997
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1960
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Oct 1 1960
MAXIMUM PEAK FLOW			32800	Oct 17	i63600	Jun 22 1997
MAXIMUM PEAK STAGE			13.88	Oct 17	18.96	Jun 22 1997
ANNUAL RUNOFF (AC-FT)	6380		6380		11520	
10 PERCENT EXCEEDS	.00		.00		.21	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

i From indirect measurement of peak flow

08200700 Hondo Creek at King Waterhole near Hondo, TX--Continued



08201500 Seco Creek at Miller Ranch near Utopia, TX

LOCATION.--Lat 29°34'23", long 99°24'10", Medina County, Hydrologic Unit 12110107, on right bank 200 ft upstream from county road crossing, 4.5 mi downstream from Cascade Creek, 7.9 mi southeast of Utopia, and 58.0 mi upstream from mouth.

DRAINAGE AREA.--45.0 mi^2.

PERIOD OF RECORD.--May 1961 to current year.
Water-quality records.--Chemical data: Nov. 1965, Sept. 1969 to July 1994. Biochemical data: Mar. 1970 to July 1999. Pesticide data: Jan. 1974 to Sept. 1998. Sediment data: Nov. 1965, Aug. 1994 to Sept. 1998.

REVISED RECORDS.--WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 1,265.8 ft, from Magnolia Oil Company datum, adjustment unknown. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation or diversions. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1901, 16.4 ft June 17, 1958, from floodmarks (discharge, 52,600 ft^3/s, by slope-area measurement of peak flow).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	14	30	15	20	21	25	11	15	5.5	5.2	7.2
2	.07	14	27	15	20	20	25	11	14	7.4	5.4	6.8
3	.06	44	28	15	19	28	24	11	14	7.2	5.4	6.5
4	.06	69	27	15	19	26	24	16	14	6.8	5.7	13
5	.05	82	25	14	18	23	23	87	13	6.2	5.8	13
6	.05	111	24	14	18	23	22	41	12	5.8	5.8	42
7	.14	76	23	14	17	25	21	33	9.8	5.7	5.7	31
8	1.4	68	22	14	17	27	21	30	9.3	5.4	5.7	20
9	4.6	58	21	13	17	25	20	28	9.0	5.5	5.9	17
10	3.1	50	20	35	16	25	19	26	8.7	5.3	5.9	16
11	1.6	46	20	25	16	25	19	25	8.5	5.5	6.0	15
12	1.1	43	18	24	16	70	19	47	8.2	5.3	5.9	15
13	.91	38	19	27	17	44	19	49	7.8	5.3	6.1	14
14	.78	35	18	25	16	48	18	35	7.8	5.3	6.1	13
15	.73	33	18	25	16	43	18	32	8.2	5.3	6.4	12
16	.68	32	17	26	45	37	18	30	7.1	5.1	6.3	11
17	6.0	29	16	27	21	37	17	28	6.9	5.0	6.2	11
18	7.1	54	15	26	21	38	17	26	6.8	5.2	5.8	10
19	4.4	46	15	26	21	37	15	25	6.7	5.1	5.8	9.7
20	4.5	44	15	25	21	36	15	24	6.5	5.5	5.7	9.0
21	12	41	14	24	22	35	14	24	6.2	5.3	5.4	8.5
22	13	41	13	24	21	34	14	21	6.0	5.4	5.3	8.0
23	67	43	14	23	21	32	19	20	6.6	5.2	4.8	8.1
24	51	44	13	23	22	32	15	19	6.8	5.2	4.5	7.7
25	34	38	14	23	21	30	14	19	5.8	5.3	4.3	6.7
26	27	37	24	23	20	30	13	23	5.6	5.5	4.0	6.5
27	23	35	18	22	23	31	13	18	5.3	5.4	38	6.4
28	20	34	17	23	21	30	12	17	5.4	5.4	15	6.0
29	18	32	16	25	---	28	12	17	5.2	5.4	9.8	5.8
30	16	31	16	22	---	27	12	16	5.3	5.3	9.6	5.4
31	15	---	16	21	---	26	---	15	---	5.3	8.5	---
TOTAL	333.42	1362	593	673	562	993	537	824	251.5	172.1	226.0	361.3
MEAN	10.8	45.4	19.1	21.7	20.1	32.0	17.9	26.6	8.38	5.55	7.29	12.0
MAX	67	111	30	35	45	70	25	87	15	7.4	38	42
MIN	.05	14	13	13	16	20	12	11	5.2	5.0	4.0	5.4
AC-FT	661	2700	1180	1330	1110	1970	1070	1630	499	341	448	717
CFSM	.24	1.01	.43	.48	.45	.71	.40	.59	.19	.12	.16	.27
IN.	.28	1.13	.49	.56	.46	.82	.44	.68	.21	.14	.19	.30

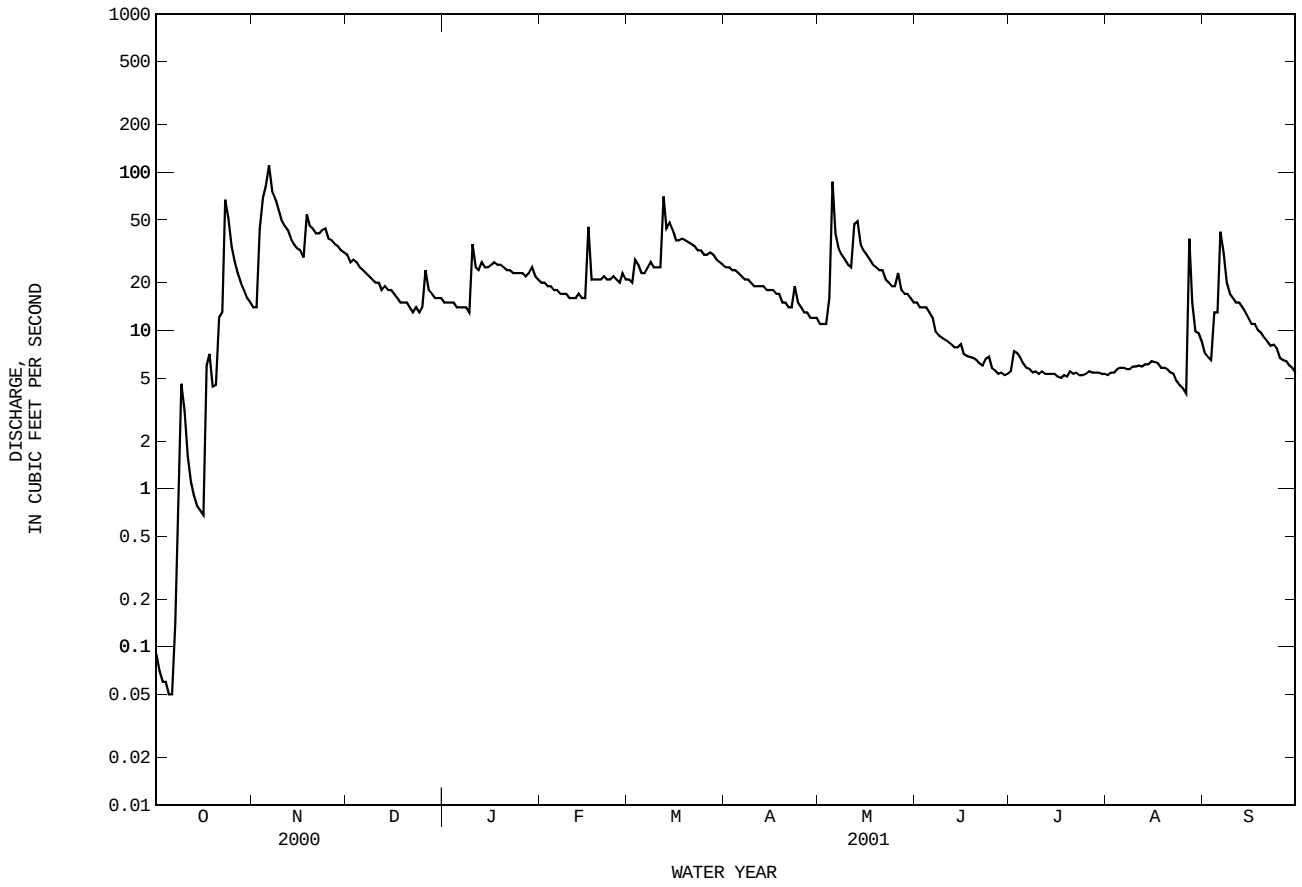
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2001, BY WATER YEAR (WY)

MEAN	20.1	13.2	16.6	12.4	14.3	16.3	15.4	25.9	41.3	21.7	21.0	14.4
MAX	169	73.6	241	92.9	136	134	91.1	120	471	276	279	63.1
(WY)	1972	1999	1992	1992	1992	1992	1992	1987	1987	1973	1971	1967
MIN	.24	.50	.40	.66	.90	.65	.52	.64	.15	.010	.005	.000
(WY)	1964	1964	1964	2000	2000	2000	2000	1984	1989	1989	1989	1989

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1961 - 2001	
ANNUAL TOTAL	2670.94		6888.32			
ANNUAL MEAN	7.30		18.9		19.5	
HIGHEST ANNUAL MEAN					87.4	1992
LOWEST ANNUAL MEAN					.97	1989
HIGHEST DAILY MEAN	111	Nov 6	111	Nov 6	5000	Jun 22 1997
LOWEST DAILY MEAN	.05	Oct 5	.05	Oct 5	.00	Jul 30 1963
ANNUAL SEVEN-DAY MINIMUM	.07	Oct 1	.07	Oct 1	.00	Jul 30 1963
MAXIMUM PEAK FLOW			318	Nov 5	i64900	Jun 22 1997
MAXIMUM PEAK STAGE			2.81	Nov 5	a17.70	Jun 22 1997
ANNUAL RUNOFF (AC-FT)	5300		13660		14120	
ANNUAL RUNOFF (CFSM)	.16		.42		.43	
ANNUAL RUNOFF (INCHES)	2.21		5.69		5.88	
10 PERCENT EXCEEDS	26		37		40	
50 PERCENT EXCEEDS	.81		16		5.5	
90 PERCENT EXCEEDS	.22		5.3		.74	

i From indirect measurement of peak flow
a From floodmark

08201500 Seco Creek at Miller Ranch near Utopia, TX--Continued



08202700 Seco Creek at Rowe Ranch near D'Hanis, TX

LOCATION.--Lat 29°21'43", long 99°17'05", Medina County, Hydrologic Unit 12110107, on left bank 2.9 mi north of D'Hanis and 8.0 mi downstream from Rocky Creek.

DRAINAGE AREA.--168 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 900.88 ft above sea level. Prior to Oct. 1970, published as "at Crook Ranch, near D'Hanis". Satellite telemeter at station.

REMARKS.--Records fair. No known regulation or diversions. All of low flow from Seco Creek enters the Edwards and associated limestones in the Balcones Fault Zone that crosses the basin between Seco Creek at Miller Ranch near Utopia (station 08201500) and this station. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1852, 35.7 ft, May 31, 1935, from information by local resident. Other floods occurred Aug. 31, 1894, 33 ft; Sept. 1919, 28 ft; July 2, 1932, 28.2 ft (discharge, 35,800 ft^3/s, by slope-area measurement); and June 17, 1958, 32.4 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	651	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	e145	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	e45	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	4.6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	4.6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	2.5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	895.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	28.9	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	651	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	1780	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

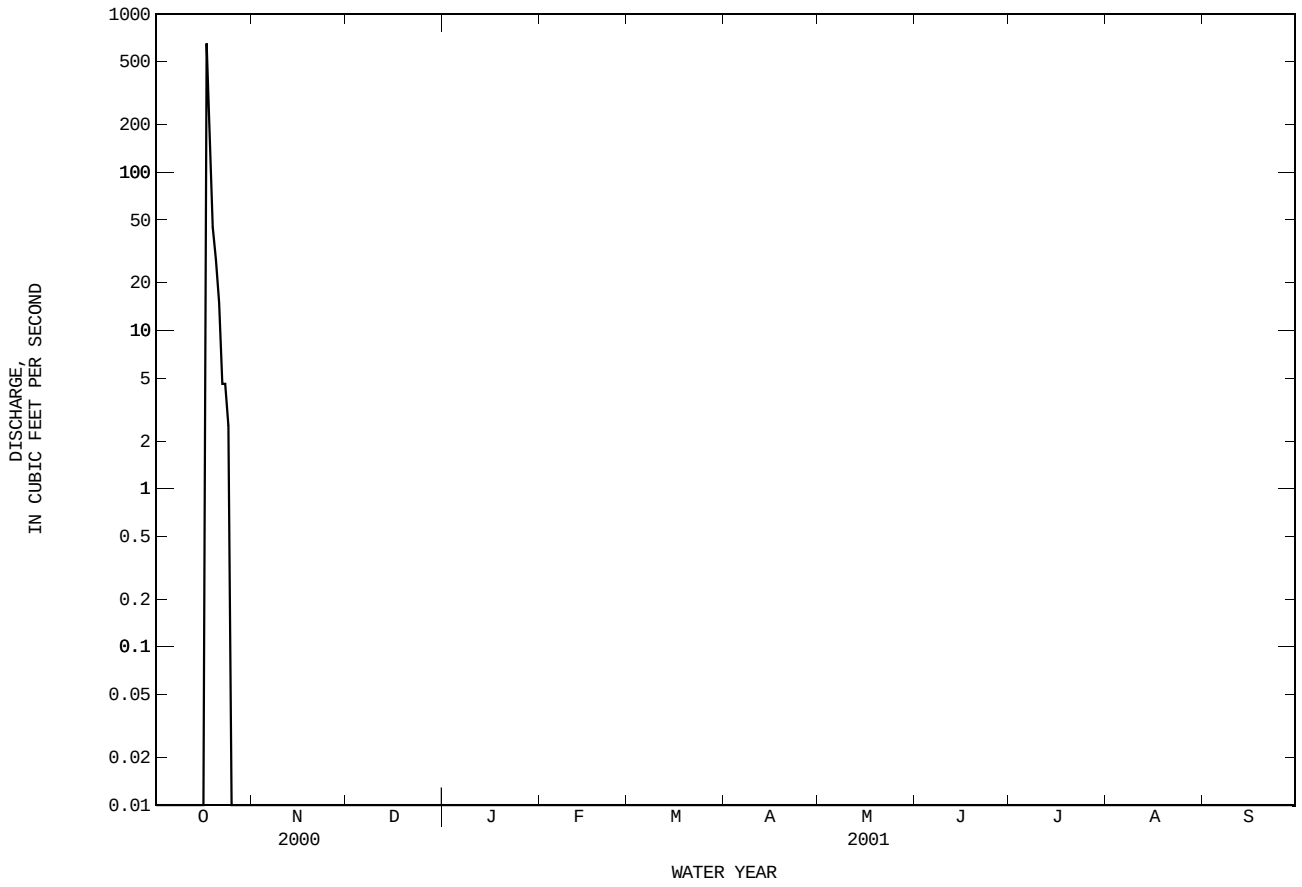
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2001, BY WATER YEAR (WY)

MEAN	9.93	.002	4.23	.61	.93	1.66	3.22	10.9	27.3	7.52	27.7	4.11
MAX	183	.057	117	24.7	33.2	27.0	74.6	277	411	275	862	58.5
(WY)	1972	1977	1992	1968	1992	1992	1981	1987	1997	1973	1971	1980
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1962	1961	1961	1961	1961	1961	1961	1961	1962	1962	1961	1961

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1961 - 2001	
ANNUAL TOTAL	895.71		895.71			
ANNUAL MEAN	2.45		2.45		8.32	
HIGHEST ANNUAL MEAN					73.3	1971
LOWEST ANNUAL MEAN					.000	1962
HIGHEST DAILY MEAN	651	Oct 17	651	Oct 17	11800	Jun 22 1997
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Nov 1 1960
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Nov 1 1960
MAXIMUM PEAK FLOW			3510	Oct 17	i51400	Jun 22 1997
MAXIMUM PEAK STAGE			12.64	Oct 17	a30.62	Jun 22 1997
ANNUAL RUNOFF (AC-FT)	1780		1780		6030	
10 PERCENT EXCEEDS	.00		.00		.00	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated
i From indirect measurement of peak flow
a From floodmark

08202700 Seco Creek at Rowe Ranch near D'Hanis, TX--Continued



08205500 Frio River near Derby, TX

LOCATION.--Lat 28°44'11", long 99°08'40", Frio County, Hydrologic Unit 12110106, on right bank 17 ft downstream from centerline of railroad tracks, 35 ft right of the Missouri Pacific Railroad Co. bridge abutment, 167 ft downstream from Interstate Highway 35, 917 ft downstream from Leona River, 2.5 mi south of Derby, and 115.1 mi upstream from mouth.

DRAINAGE AREA.--3,429 mi^2.

PERIOD OF RECORD.--Aug. 1915 to current year.

REVISED RECORDS.--WSP 568: 1915-16, 1918-22. WSP 1312: 1917-18(M). WSP 1923: 1954. WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 449.11 ft above sea level. Aug. 1, 1915, to Apr. 21, 1931, nonrecording gage, and Apr. 22, 1931, to Mar. 6, 1940, water-stage recorder at same site and datum. Mar. 7, 1940, to May 4, 1972, water-stage recorder, and May 5 to Nov. 1, 1972, nonrecording gage at site 167 ft upstream at same datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation. Part of the flow of the Frio River and its headwater tributaries enters the Edwards and associated limestones in the Balcones Fault Zone upstream from U.S. Highway 90. There is considerable loss of flow into various permeable formations downstream from the Balcones Fault Zone. There are many small diversions for irrigation above station. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1860, that of July 4, 1932, from information by local resident.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	37	91	15	25	20	30	21	12	.00	.00	.00
2	.00	21	75	15	25	20	30	19	11	.00	.00	.00
3	.00	13	63	16	24	25	33	17	10	.00	.00	.00
4	.00	11	52	16	23	25	32	17	8.8	.00	.00	.00
5	.00	885	45	16	23	24	31	24	8.0	.00	.00	.00
6	.00	1740	37	16	23	25	30	23	7.0	.00	.00	.00
7	.00	1870	34	17	24	27	28	46	5.8	.00	.00	2.1
8	.00	2450	35	17	23	27	26	93	4.9	.00	.00	152
9	.00	1290	31	17	23	26	26	60	4.6	.00	.00	80
10	.00	964	28	19	23	29	26	42	4.1	1.3	.00	20
11	.00	793	26	21	22	29	26	32	3.2	.73	.00	19
12	.00	644	23	19	21	28	26	27	2.1	.06	.00	16
13	.00	528	21	25	21	26	25	23	1.5	.01	.00	8.6
14	.00	439	19	39	22	27	25	21	.95	.00	.00	5.4
15	.00	361	17	30	23	27	25	19	1.8	.00	.00	4.0
16	.00	294	16	26	22	26	25	18	2.2	.00	.00	3.5
17	.00	254	16	26	20	26	25	17	2.4	.00	.00	3.3
18	11	237	15	24	19	26	25	16	1.2	.00	.00	3.3
19	1950	236	14	22	19	26	25	16	.68	.00	.00	3.3
20	951	290	13	21	20	27	25	14	.79	.00	.00	3.2
21	124	377	17	21	20	28	24	12	.48	.00	.00	3.0
22	38	307	15	23	21	28	22	11	.21	.00	.00	3.0
23	18	241	14	24	21	28	23	9.3	.09	.00	.00	2.4
24	234	212	14	23	21	28	25	9.2	.03	.00	.00	1.7
25	2950	258	12	23	20	29	23	11	.02	.00	.00	1.4
26	2640	279	12	24	20	29	21	10	.01	.00	.00	3.5
27	785	243	12	24	20	29	25	9.8	.00	.00	.00	13
28	397	177	12	25	20	31	39	11	.00	.00	.00	13
29	205	136	14	26	---	31	29	14	.00	.00	.00	9.2
30	114	113	15	24	---	28	25	13	.00	.00	.00	7.0
31	64	---	15	24	---	29	---	12	---	.00	.00	---
TOTAL	10481.00	15700	823	678	608	834	800	687.3	93.86	2.10	0.00	380.90
MEAN	338	523	26.5	21.9	21.7	26.9	26.7	22.2	3.13	.068	.000	12.7
MAX	2950	2450	91	39	25	31	39	93	12	1.3	.00	152
MIN	.00	11	12	15	19	20	21	9.2	.00	.00	.00	.00
AC-FT	20790	31140	1630	1340	1210	1650	1590	1360	186	4.2	.00	756

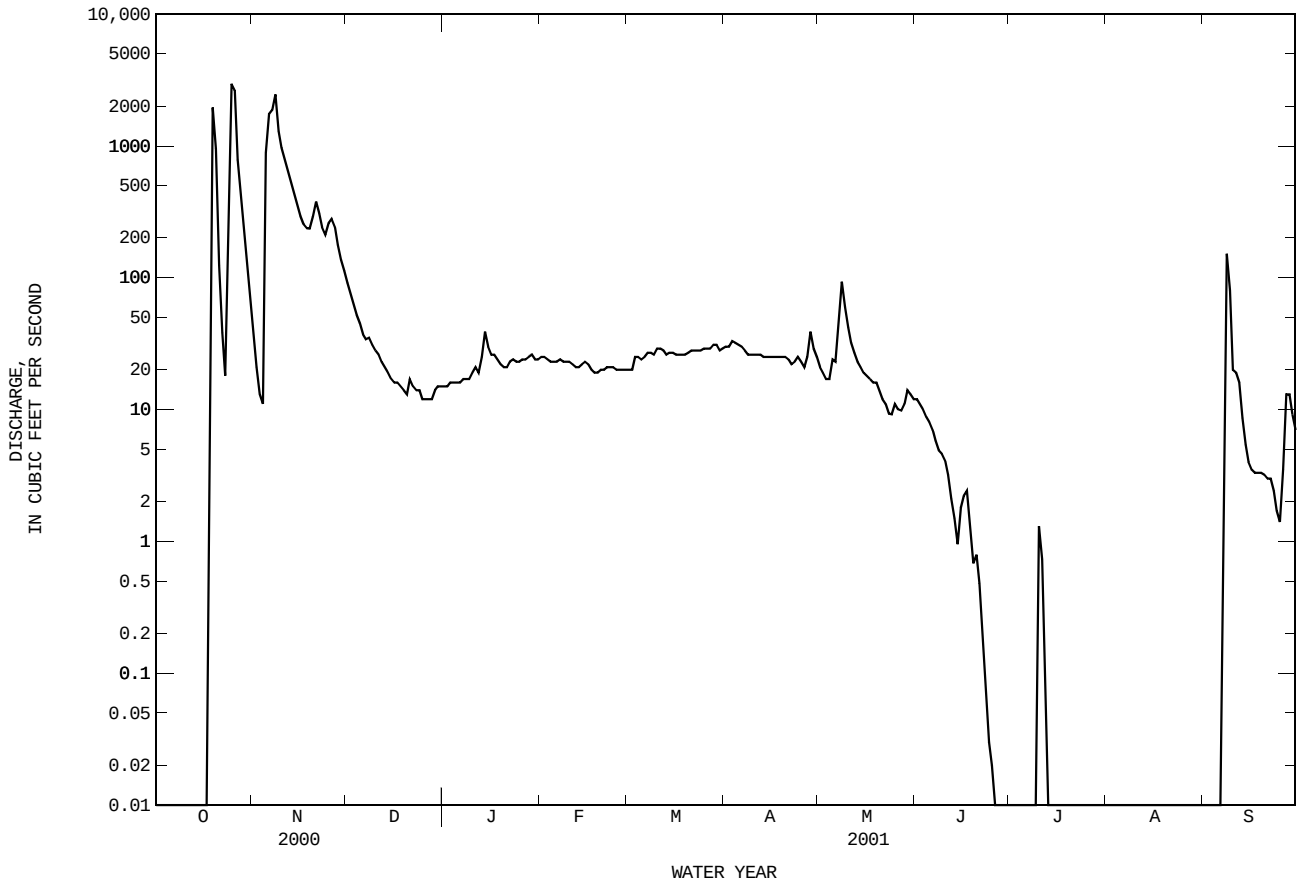
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 2001, BY WATER YEAR (WY)

MEAN	168	53.5	45.8	50.5	59.2	49.2	112	193	368	245	143	189
MAX	1813	674	950	559	988	1079	1072	2320	8069	8943	5648	3247
(WY)	1920	1920	1992	1992	1992	1992	1957	1935	1935	1932	1971	1919
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1918	1916	1916	1916	1916	1916	1917	1917	1918	1918	1917	1922

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1915 - 2001	
ANNUAL TOTAL	30066.20		31088.16			
ANNUAL MEAN	82.1		85.2		140	
HIGHEST ANNUAL MEAN					1087	1935
LOWEST ANNUAL MEAN					1.76	1952
HIGHEST DAILY MEAN	2950	Oct 25	2950	Oct 25	135000	Jul 4 1932
LOWEST DAILY MEAN	.00	Jun 1	.00	Oct 1	.00	Aug 1 1915
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 1	.00	Oct 1	.00	Aug 1 1915
MAXIMUM PEAK FLOW			4490	Oct 25	i230000	Jul 4 1932
MAXIMUM PEAK STAGE			7.99	Oct 25	a29.45	Jul 4 1932
ANNUAL RUNOFF (AC-FT)	59640		61660		101200	
10 PERCENT EXCEEDS	117		113		150	
50 PERCENT EXCEEDS	9.2		18		5.7	
90 PERCENT EXCEEDS	.00		.00		.00	

i From indirect measurement of peak flow
a From floodmark

08205500 Frio River near Derby, TX--Continued



08206600 Frio River at Tilden, TX

LOCATION.--Lat 28°28'02", long 98°32'50", McMullen County, Hydrologic Unit 12110108, on left bank 80 ft downstream from bridge on State Highway 16 in Tilden, 300 ft downstream from Leoncita Creek, 1.3 mi upstream from Salt Branch, 1.8 mi downstream from Big Slough, and 44.2 mi upstream from mouth.

DRAINAGE AREA.--4,493 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 216.04 ft above sea level. July 14, 1978, to Sept. 13, 1994, at site 80 ft upstream at same datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation. Part of the flow of the Frio River and its headwater tributaries enters the Edwards and associated limestones in the Balcones Fault Zone that crosses the basin upstream from U.S. Highway 90. Considerable flow into various permeable formations also occurs downstream from the Balcones Fault Zone. There are many small diversions above station for irrigation. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1932 reached a stage of 38.44 ft, from information by local resident.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	237	111	15	25	21	25	16	7.8	.00	.27	40
2	.00	69	85	15	25	22	26	21	7.5	.00	.09	285
3	.00	52	72	16	25	23	25	23	8.7	.00	.03	51
4	.00	64	63	17	24	23	24	21	10	.00	.00	36
5	.00	39	54	17	24	23	24	19	9.6	.00	.00	33
6	.00	143	49	17	24	23	25	17	8.8	.00	.00	581
7	.00	145	43	17	24	23	25	16	8.1	.00	.17	92
8	.02	458	39	18	24	24	26	190	7.6	.00	.33	267
9	.24	791	36	18	24	24	25	385	7.1	.00	.35	94
10	.23	1260	33	19	23	24	25	322	6.3	.00	.32	30
11	.03	1720	32	20	24	24	24	106	5.5	.00	.05	18
12	.00	1920	32	22	24	25	23	54	4.5	.00	.00	56
13	.00	1400	31	24	24	25	22	40	4.2	.00	.00	34
14	.00	920	30	23	24	26	22	31	3.6	.00	.00	20
15	.00	624	30	22	23	27	21	26	3.3	.00	.07	15
16	.00	433	28	22	23	26	21	22	4.1	.00	.02	14
17	.00	313	25	23	23	26	22	20	3.3	.00	.01	10
18	.05	258	23	33	23	25	21	18	1.9	.00	.18	7.5
19	8.2	264	22	32	23	24	21	17	1.3	.00	.22	5.5
20	5.8	219	21	29	22	24	20	16	1.1	.00	.04	4.0
21	12	176	20	28	22	23	19	15	.79	.00	.00	3.0
22	327	169	19	27	21	23	19	14	.60	.00	.15	2.3
23	505	212	19	25	21	23	20	13	.32	.08	.06	1.8
24	399	245	18	24	21	23	21	12	.17	.05	.01	1.4
25	49	206	18	23	21	24	21	11	.09	.02	.21	1.2
26	29	167	20	23	21	24	20	9.6	.00	.01	.25	.90
27	242	146	20	24	22	24	19	9.2	.00	.23	.05	.62
28	545	174	18	25	22	25	19	9.5	.00	.09	.00	.42
29	1100	183	18	24	---	25	18	9.7	.00	.03	3.9	.29
30	1680	155	17	24	---	25	17	9.4	.00	.01	6.2	.21
31	979	---	16	25	---	25	---	8.7	---	.06	42	---
TOTAL	5881.57	13162	1062	691	646	746	660	1501.1	116.27	0.58	54.98	1705.14
MEAN	190	439	34.3	22.3	23.1	24.1	22.0	48.4	3.88	.019	1.77	56.8
MAX	1680	1920	111	33	25	27	26	385	10	.23	42	581
MIN	.00	39	16	15	21	21	17	8.7	.00	.00	.00	.21
AC-FT	11670	26110	2110	1370	1280	1480	1310	2980	231	1.2	109	3380

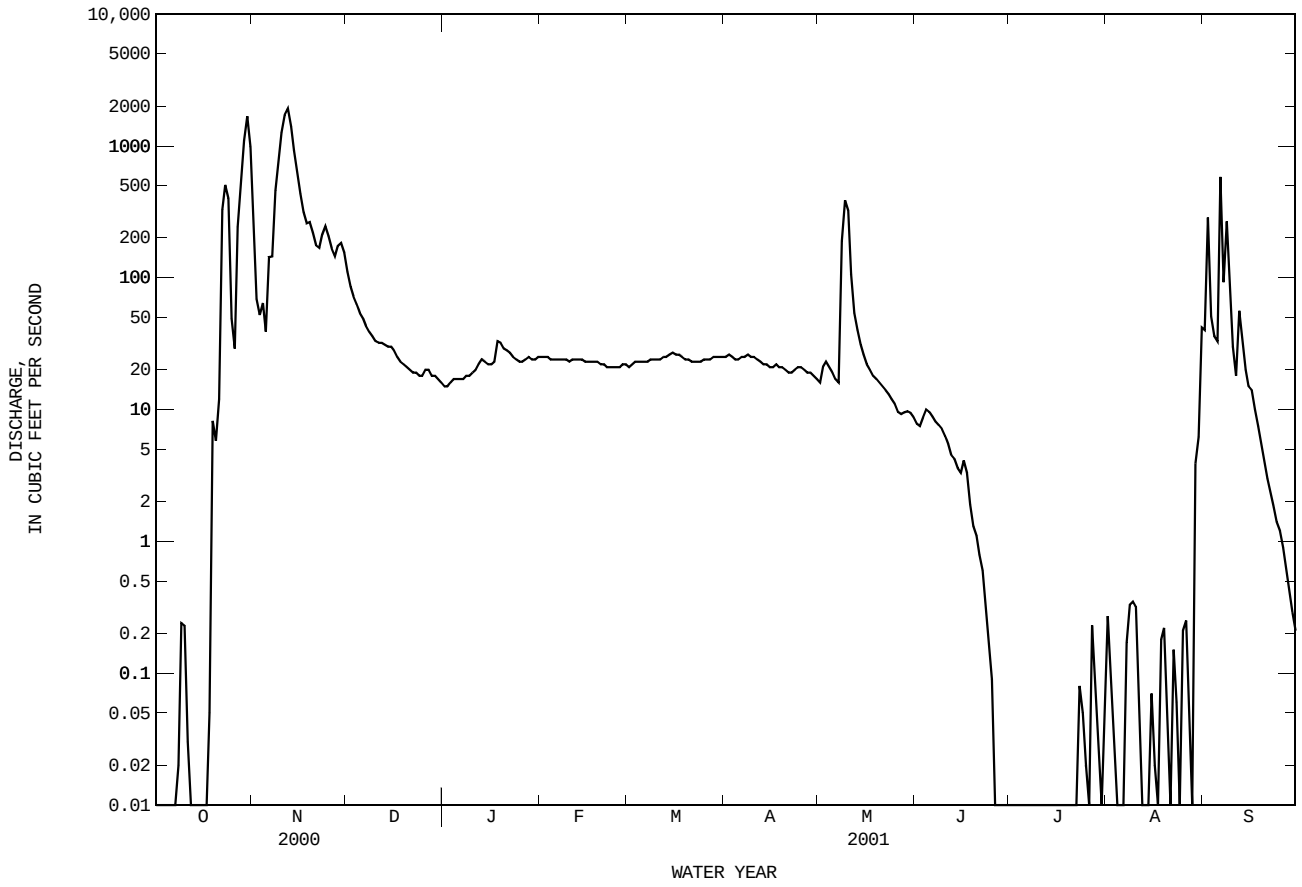
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2001, BY WATER YEAR (WY)

MEAN	192	78.8	103	103	118	103	118	181	752	178	113	96.3
MAX	861	439	1314	877	1745	1188	935	1171	8992	1232	842	315
(WY)	1986	2001	1992	1992	1992	1992	1992	1980	1987	1990	1998	1991
MIN	.12	.25	.27	.45	.32	2.91	.55	.46	.025	.000	.000	.000
(WY)	1991	1991	1991	1991	1990	1984	1984	1998	1998	1996	2000	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1978 - 2001	
ANNUAL TOTAL	24254.92		26226.64			
ANNUAL MEAN	66.3		71.9		176	
HIGHEST ANNUAL MEAN					1000	1987
LOWEST ANNUAL MEAN					7.06	1984
HIGHEST DAILY MEAN	1920	Nov 12	1920	Nov 12	20100	Jun 9 1987
LOWEST DAILY MEAN	.00	Jul 6	.00	Oct 1	.00	Apr 16 1984
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 18	.00	Oct 1	.00	Apr 22 1984
MAXIMUM PEAK FLOW			2000	Nov 12	20900	Jun 9 1987
MAXIMUM PEAK STAGE			16.80	Nov 12	p29.56	Jun 28 1997
ANNUAL RUNOFF (AC-FT)	48110		52020		127200	
10 PERCENT EXCEEDS	145		160		216	
50 PERCENT EXCEEDS	12		21		25	
90 PERCENT EXCEEDS	.00		.00		.21	

p Observed.

08206600 Frio River at Tilden, TX--Continued



WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Dec. 1997 to current year.
BIOCHEMICAL DATA: Dec. 1997 to current year.
PESTICIDE DATA: Dec. 1997 to current year.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
DEC													
19...	1155	22	10.4	88.5	--	1240	9.0	87	319	90.7	22.2	2.53	2.89
MAR													
27...	1255	25	8.4	86.4	8.1	1870	16.0	324	538	151	38.6	3.42	3.55
MAY													
10...	1310	327	5.6	67.2	7.6	351	24.0	3	105	33.9	4.82	9.13	1.09

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
DEC													
19...	118	44.5	232	283	0	187	.2	8.8	110	687	<.041	.24	--
MAR													
27...	189	43.2	214	261	0	311	.2	10.9	317	1170	<.041	.38	4.94
MAY													
10...	25.6	32.4	102	124	0	26.3	E.1	8.3	24.9	195	<.041	.80	.100

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)
DEC													
19...	1.57	E.004	--	<.060	<.018	<1	.12	E1.5	79.6	<.06	<.04	<.8	.30
MAR													
27...	4.94	.007	--	<.060	E.011	2	.14	E1.0	85.4	<.06	E.03	<.8	.36
MAY													
10...	.103	.003	.383	.234	.125	2	E.03	2.8	40.9	<.06	.04	<.8	.35

DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
DEC													
19...	1.4	<10	E.07	22.3	2.6	<.23	1.2	<.06	<2.4	<1.0	544	<8.0	2
MAR													
27...	2.6	<10	E.07	36.6	2.0	<.23	1.4	<.06	<2.4	<1.0	1270	<8.0	4
MAY													
10...	2.2	30	E.05	7.0	1.1	<.01	.7	1.46	<2.4	<1.0	197	9.2	1

DATE	2,4,5-T DIS-SOLVED (UG/L) (39742)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL-UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA-RB SUL-FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALDI-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)
DEC													
19...	<.04	<.11	<.10	<.002	<.11	<.004	<.05	<.002	<.20	<.02	<.21	<.005	<.007
MAR													
27...	<.04	<.11	<.10	<.002	<.17	<.004	<.05	<.002	<.20	<.02	<.21	<.005	.009
MAY													
10...	--	--	--	<.002	--	<.004	--	<.002	--	--	--	<.005	.086

08206600 Frio River at Tilden, TX--Continued

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

DATE	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENTA-ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BRO-MACIL, WATER, DISS, REC (UG/L) (04029)	BRO-MOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)
DEC													
19...	<.010	<.04	<.09	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.42	<.018
MAR													
27...	<.010	<.04	<.09	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.42	<.018
MAY													
10...	<.010	--	--	--	<.002	--	<.041	--	<.020	--	<.005	--	<.018

DATE	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLO-BENIL, WATER, FLTRD, GF 0.7U REC (UG/L) (49303)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	DNOC WAT,FLT GF 0.7U REC (UG/L) (49299)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)
DEC													
19...	<.07	<.003	E.007	<.005	<.04	<.05	<.05	<.005	<.09	<.021	<.06	<.25	<.002
MAR													
27...	<.07	<.003	E.008	E.003	<.04	<.05	<.05	<.005	<.09	<.021	<.06	<.25	E.002
MAY													
10...	--	<.003	E.015	<.005	--	--	--	<.005	--	<.021	--	--	<.002

DATE	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)
DEC													
19...	<.009	<.005	<.07	<.06	<.003	<.004	<.02	<.035	<.027	<.08	<.13	<.07	<.02
MAR													
27...	<.009	<.005	<.07	<.06	<.003	<.004	<.02	<.035	<.027	<.08	<.13	<.07	<.64
MAY													
10...	<.009	<.005	--	--	<.003	<.004	--	<.035	<.027	--	--	--	--

DATE	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)
DEC													
19...	<.050	<.006	E.009	<.006	<.002	<.007	<.02	<.04	<.42	<.26	<.003	<.007	<.002
MAR													
27...	<.050	<.006	E.013	<.006	<.002	<.007	<.02	<.04	<2.31	<.20	<.003	<.007	<.002
MAY													
10...	<.050	<.006	E.004	<.006	<.002	<.007	--	--	--	--	<.003	<.007	<.002

DATE	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SILVEX, DIS-SOLVED (UG/L) (39762)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
DEC													
19...	<.010	<.006	<.011	<.09	<.015	<.004	<.010	<.011	<.023	<.09	<.12	<.03	<.011
MAR													
27...	<.010	<.006	<.011	<.09	E.003	<.004	<.010	<.011	<.070	<.09	<.12	<.03	<.011
MAY													
10...	<.010	<.006	<.011	--	<.015	<.004	<.010	<.011	<.023	--	--	--	<.011

08206600 Frio River at Tilden, TX--Continued

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

DATE	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)
DEC								
19...	<.016	<.034	<.017	<.005	<.002	<.12	<.009	1.36
MAR								
27...	<.016	<.034	<.017	<.005	<.002	<.19	<.009	1.91
MAY								
10...	<.016	<.034	<.017	<.005	<.002	--	<.009	.21

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08206700 San Miguel Creek near Tilden, TX

LOCATION.--Lat 28°35'14", long 98°32'44", McMullen County, Hydrologic Unit 12110109, on left bank 25 ft downstream from State Highway 16, 0.3 mi upstream from mouth of Bruce Branch, 0.9 mi downstream from mouth of Far Live Oak Creek, 3 mi upstream from San Patricio Creek, 7 mi downstream from Clear Creek, 8.7 mi north of Tilden, and 12.9 mi upstream from mouth.

DRAINAGE AREA.--783 mi^2.

PERIOD OF RECORD.--Jan. 1964 to current year.
Water-quality records.--Chemical data: July 1978 to Sept. 1984. Biochemical data: July 1978 to Sept. 1984.

REVISED RECORDS.--WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 242.95 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good. No known regulation. There are five diversions above station, but amounts are unknown. At times, water from Bexar-Medina-Atascosa Counties Water Improvement District No. 1 system enters San Miguel Creek basin via Chacon Creek 52 mi upstream (amounts unknown). No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1919, 32.6 ft in 1942; stage of 1919 flood not known, from information by local residents.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	6.2	.00	.00	.00	.00	5.6	.00	.00	.00	88
2	.00	.00	3.3	.00	.00	.00	.00	2.4	.00	.00	.00	8.9
3	.00	.46	1.4	.00	.00	.00	.00	.39	.00	.00	.00	1.5
4	.00	1.1	.56	.00	.00	.00	.00	.03	.00	.00	.00	4.3
5	.00	147	.03	.00	.00	.00	.00	.00	.00	.00	.00	29
6	.00	221	.00	.00	.00	.00	.00	7.4	.00	.00	.00	540
7	.00	84	.00	.00	.00	.00	.00	3.3	.00	.00	.00	199
8	.00	189	.00	.00	.00	.00	.00	18	.00	.00	.00	278
9	.00	122	.00	.00	.00	.00	.00	16	.00	.00	.00	122
10	.61	37	.00	.76	.00	.00	.00	19	.00	.00	.00	32
11	.00	29	.00	1.7	.00	.00	.00	13	.00	.00	.00	14
12	.00	21	.00	.00	.00	.00	.00	5.5	.00	.00	.00	6.0
13	.00	12	.00	60	.00	.00	.00	2.8	.00	.00	.00	2.6
14	.00	5.2	.00	63	.00	.00	.00	.64	.00	.00	.00	.65
15	.00	2.6	.00	26	.00	.00	.00	.02	.00	.00	.00	.03
16	.00	.67	.00	15	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.05	.00	8.9	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	25	.00	6.1	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	37	.00	8.0	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	69	.00	6.0	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	250	.00	26	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	89	.00	20	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	34	.00	14	.00	.00	.46	.00	e.00	.00	.00	.00
24	.00	33	.00	8.2	.00	.00	2.6	.00	e.00	.00	.00	.00
25	.00	160	.00	4.3	.00	.00	.00	.00	.00	.00	.00	.00
26	192	215	.00	2.0	.00	.00	141	.00	.00	.00	.00	.00
27	61	171	.00	.44	.00	.00	273	.00	.00	.00	.00	.00
28	21	46	.00	.04	.00	.00	49	.00	.00	.00	.00	.00
29	7.5	22	.00	.01	---	.00	21	.00	.00	.00	184	.00
30	2.7	11	.00	.00	---	.00	11	.00	.00	.00	88	.00
31	.14	---	.00	.00	---	.00	---	.00	---	.00	673	---
TOTAL	284.95	2034.08	11.49	270.45	0.00	0.00	498.06	94.08	0.00	0.00	945.00	1325.98
MEAN	9.19	67.8	.37	8.72	.000	.000	16.6	3.03	.000	.000	30.5	44.2
MAX	192	250	6.2	63	.00	.00	273	19	.00	.00	673	540
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	565	4030	23	536	.00	.00	988	187	.00	.00	1870	2630

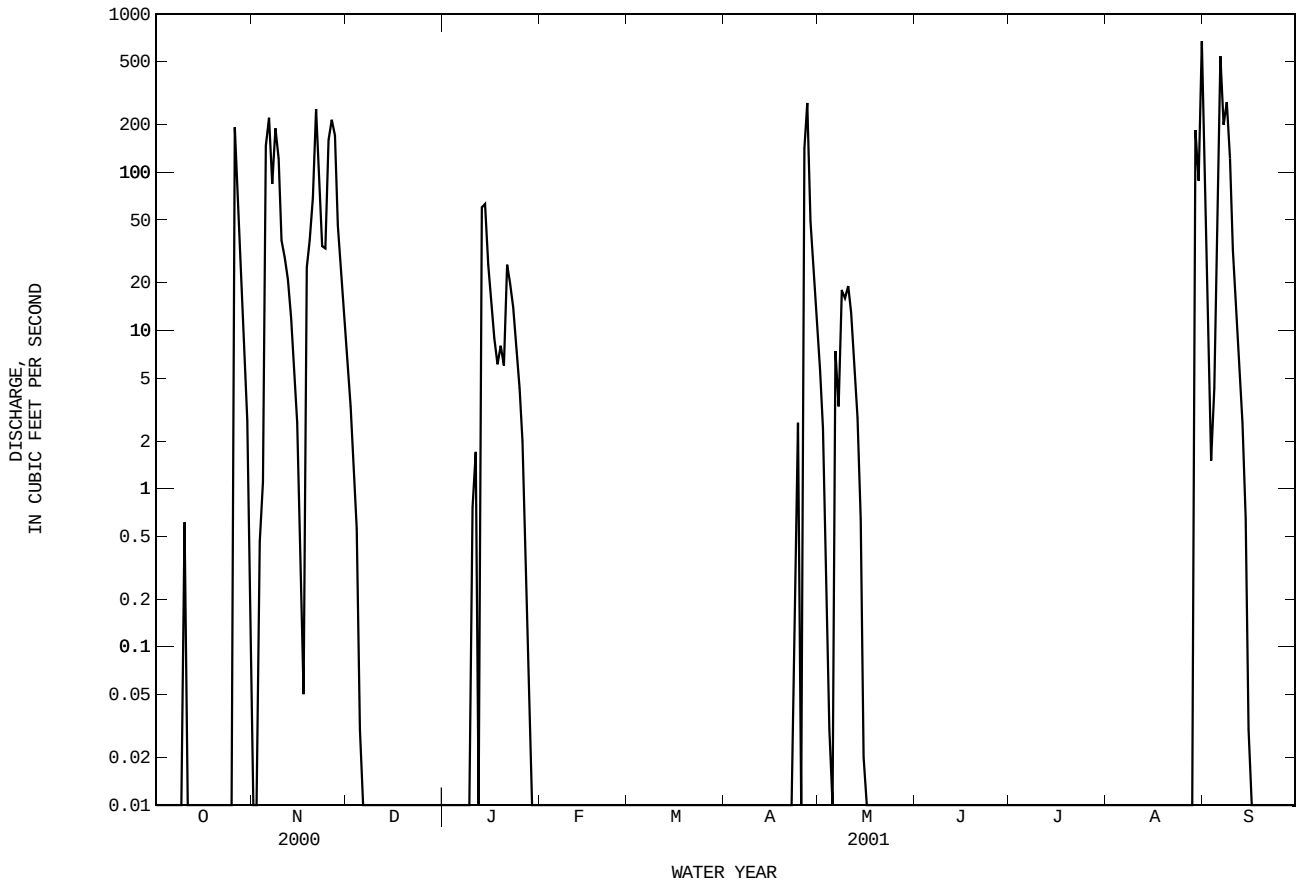
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2001, BY WATER YEAR (WY)

MEAN	66.9	21.5	15.9	25.7	23.6	9.58	54.7	116	97.1	36.0	51.2	83.4
MAX	486	286	226	641	352	78.0	1065	900	690	748	741	1233
(WY)	1982	1993	1987	1968	1992	1992	1977	1980	1987	1990	1980	1967
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1980	1995	1989	1989	1995	1996	1996	1971	1967	1996	1991	1999

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1964 - 2001	
ANNUAL TOTAL	3359.87		5464.09			
ANNUAL MEAN	9.18		15.0		51.0	
HIGHEST ANNUAL MEAN					161	1968
LOWEST ANNUAL MEAN					2.43	1984
HIGHEST DAILY MEAN	250	Nov 21	673	Aug 31	16700	May 16 1980
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Feb 1 1964
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Feb 7 1964
MAXIMUM PEAK FLOW			1540	Aug 31	20600	May 16 1980
MAXIMUM PEAK STAGE			13.44	Aug 31	27.31	May 16 1980
ANNUAL RUNOFF (AC-FT)	6660		10840		36970	
10 PERCENT EXCEEDS	19		25		35	
50 PERCENT EXCEEDS	.00		.00		1.7	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated

08206700 San Miguel Creek near Tilden, TX--Continued



08206900 Choke Canyon Reservoir near Three Rivers, TX

LOCATION.--Lat 28°29'01", long 98°14'44", Live Oak County, Hydrologic Unit 12110108, at Choke Canyon Dam on Frio River, 3.9 mi upstream from Atascosa River, and 4.0 mi west of Three Rivers.

DRAINAGE AREA.--5,490 mi^2.

WATER-CONTENT RECORDS

PERIOD OF RECORD.--Oct. 1984 to current year.

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

REMARKS.--No estimated daily contents. Records good. The reservoir is formed by a rolled earthfill dam, 3.5 mi long. The dam was completed and deliberate impoundment began on Oct. 12, 1982. The spillway has seven radial gates, each 50 ft long and 24 ft high. Water for municipal and industrial use to meet the needs of the Coastal Bend area is released downstream through a 5.0- x 5.0-foot square slide gate. The dam is owned by the City of Corpus Christi. Conservation pool storage is 695,271 acre-ft. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam	241.1
Top of spillway gates	222.5
Crest of spillway	199.5
Lowest gated outlet (invert)	136.3

COOPERATION.--Capacity table computed June 1, 1983, provided by the City of Corpus Christi. Prior to Oct. 1, 1999, elevation and reservoir contents record provided by the City of Corpus Christi.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 733,100 acre-ft June 21, 1987, elevation, 222.1 ft; minimum daily, 4,500 acre-ft Oct. 1-9, 1984, elevation, 156.9 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 272,000 acre-ft, Jan. 25, elevation, 199.66 ft; minimum contents, 220,000 acre-ft, Aug. 31, elevation, 195.93 ft.

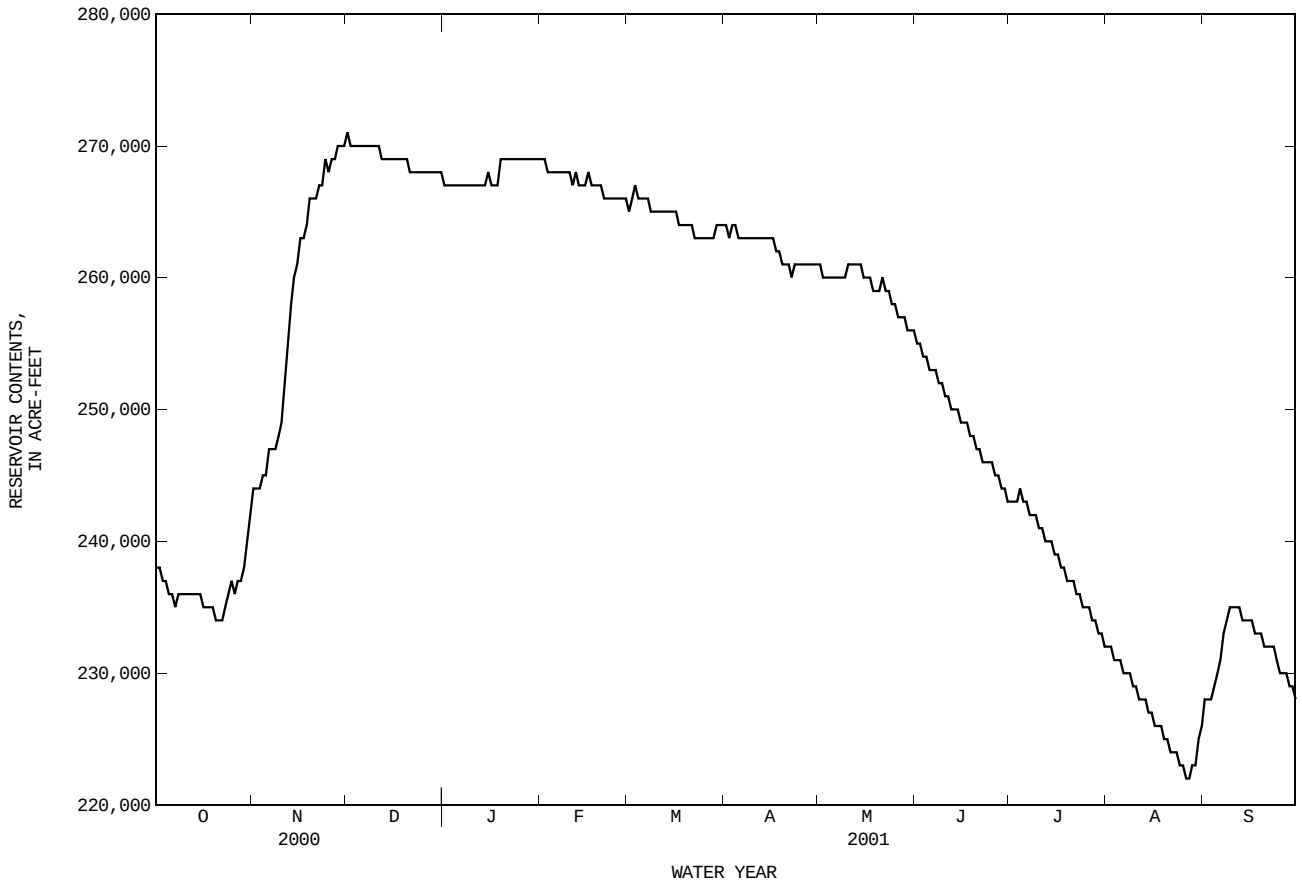
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	238000	244000	271000	267000	269000	265000	264000	261000	255000	243000	232000	228000
2	238000	244000	270000	267000	269000	266000	263000	260000	255000	243000	232000	228000
3	237000	244000	270000	267000	268000	267000	264000	260000	254000	243000	231000	228000
4	237000	245000	270000	267000	268000	266000	264000	260000	254000	244000	231000	229000
5	236000	245000	270000	267000	268000	266000	263000	260000	253000	243000	231000	230000
6	236000	247000	270000	267000	268000	266000	263000	260000	253000	243000	230000	231000
7	235000	247000	270000	267000	268000	266000	263000	260000	253000	242000	230000	233000
8	236000	247000	270000	267000	268000	265000	263000	260000	252000	242000	230000	234000
9	236000	248000	270000	267000	268000	265000	263000	260000	252000	242000	229000	235000
10	236000	249000	270000	267000	268000	265000	263000	261000	251000	241000	229000	235000
11	236000	252000	270000	267000	267000	265000	263000	261000	251000	241000	228000	235000
12	236000	255000	269000	267000	268000	265000	263000	261000	250000	240000	228000	235000
13	236000	258000	269000	267000	267000	265000	263000	261000	250000	240000	228000	234000
14	236000	260000	269000	267000	267000	265000	263000	261000	250000	240000	227000	234000
15	236000	261000	269000	268000	267000	265000	263000	260000	249000	239000	227000	234000
16	235000	263000	269000	267000	268000	265000	263000	260000	249000	239000	226000	234000
17	235000	263000	269000	267000	267000	264000	262000	260000	249000	238000	226000	233000
18	235000	264000	269000	267000	267000	264000	262000	259000	248000	238000	226000	233000
19	235000	266000	269000	269000	267000	264000	261000	259000	248000	237000	225000	233000
20	234000	266000	269000	269000	267000	264000	261000	259000	247000	237000	225000	232000
21	234000	266000	268000	269000	266000	264000	261000	260000	247000	237000	224000	232000
22	234000	267000	268000	269000	266000	263000	260000	259000	246000	236000	224000	232000
23	235000	267000	268000	269000	266000	263000	261000	259000	246000	236000	224000	232000
24	236000	269000	268000	269000	266000	263000	261000	258000	246000	235000	223000	231000
25	237000	268000	268000	269000	266000	263000	261000	258000	246000	235000	223000	230000
26	236000	269000	268000	269000	266000	263000	261000	257000	245000	235000	222000	230000
27	237000	269000	268000	269000	266000	263000	261000	257000	245000	234000	222000	230000
28	237000	270000	268000	269000	266000	263000	261000	257000	244000	234000	223000	229000
29	238000	270000	268000	269000	---	264000	261000	256000	244000	233000	223000	229000
30	240000	270000	268000	269000	---	264000	261000	256000	243000	233000	225000	228000
31	242000	---	268000	269000	---	264000	---	256000	---	232000	226000	---
MEAN	236000	258000	269000	268000	267000	265000	262000	259000	249000	239000	227000	232000
MAX	242000	270000	271000	269000	269000	267000	264000	261000	255000	244000	232000	235000
MIN	234000	244000	268000	267000	266000	263000	260000	256000	243000	232000	222000	228000
(+)	197.56	199.54	199.35	199.44	199.22	199.08	198.87	198.52	197.65	196.83	196.38	196.55
(@)	0	+28000	-2000	+1000	-3000	-2000	-3000	-5000	-13000	-11000	-6000	+2000

CAL YR 2000 MAX 304000 MIN 234000 (@) -36000
WTR YR 2001 MAX 271000 MIN 222000 (@) -14000

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

08206900 Choke Canyon Reservoir near Three Rivers, TX--Continued



08206900 Choke Canyon Reservoir near Three Rivers, TX

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Mar. 1999 to current year.
PESTICIDE DATA: Mar. 1999 to current year.

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

08206890 -- Choke Canyon Res Site AC

DATE	TIME	RESER-VOIR STORAGE (AC-FT) (00054)	SAM-PLING DEPTH (FEET) (00003)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TRANS-PAR-ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
JAN													
30...	0815	269000	1.00	836	8.4	12.5	.76	10.2	96.6	195	49	53.5	14.7
JAN													
30-30	0815	--	--	--	--	--	--	--	--	--	--	--	--
30...	0817	--	10.0	836	8.4	12.5	--	10.0	94.7	--	--	--	--
30...	0819	--	20.0	836	8.4	12.5	--	9.9	93.7	--	--	--	--
30...	0821	--	30.0	837	8.3	12.0	--	9.5	88.9	--	--	--	--
30...	0823	--	40.0	838	8.3	12.0	--	9.5	88.9	--	--	--	--
30...	0825	--	50.0	839	8.3	11.5	--	9.2	85.2	--	--	--	--
30...	0827	--	60.0	842	8.2	11.0	--	8.7	79.6	--	--	--	--
30...	0829	--	69.0	848	8.2	11.0	--	8.9	81.4	198	50	54.2	15.0
JUN													
14...	0800	250000	1.00	870	8.2	29.0	.91	6.1	80.5	201	56	53.3	16.4
JUN													
14-14	0800	--	--	--	--	--	--	--	--	--	--	--	--
14...	0802	--	10.0	870	8.2	29.0	--	6.0	79.2	--	--	--	--
14...	0804	--	20.0	871	8.1	28.0	--	5.7	73.9	--	--	--	--
14...	0806	--	30.0	874	7.9	27.0	--	3.8	48.4	--	--	--	--
14...	0808	--	40.0	876	7.8	26.5	--	.4	5.0	--	--	--	--
14...	0810	--	50.0	874	7.5	23.5	--	.2	2.4	--	--	--	--
14...	0812	--	64.0	877	7.3	23.0	--	0	0	214	40	58.7	16.2
AUG													
22...	0735	224000	1.00	923	8.2	29.0	.91	6.1	79.8	204	--	52.6	17.6
AUG													
22-22	0735	--	--	--	--	--	--	--	--	--	--	--	--
22...	0737	--	10.0	923	8.2	29.0	--	6.2	81.1	--	--	--	--
22...	0739	--	20.0	925	8.1	28.5	--	4.9	63.6	--	--	--	--
22...	0741	--	30.0	924	8.1	28.5	--	5.3	68.8	--	--	--	--
22...	0743	--	40.0	924	8.0	28.5	--	4.6	59.7	--	--	--	--
22...	0745	--	50.0	924	7.8	28.0	--	3.0	38.6	--	--	--	--
22...	0747	--	61.0	938	7.4	24.0	--	0	0	242	--	66.8	18.1

08206890 -- Choke Canyon Res Site AC

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
JAN													
30...	85.8	2.68	47.2	11.4	0	177	145	68.5	125	.2	17.7	464	--
JAN													
30-30	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	86.0	2.67	46.8	12.2	0	181	148	69.0	128	.2	18.2	473	--
JUN													
14...	93.8	2.88	48.7	11.6	0	177	147	74.3	130	.2	18.2	486	2
JUN													
14-14	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	<1
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	90.1	2.68	46.0	12.7	0	213	175	66.5	126	.2	21.3	498	--
AUG													
22...	101	3.08	49.8	13.4	--	--	--	80.3	147	.2	21.4	--	--
AUG													
22-22	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	91.9	2.58	43.7	12.6	--	--	--	63.1	132	.2	31.1	--	--

08206900 Choke Canyon Reservoir near Three Rivers, TX--Continued

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

08206890 -- Choke Canyon Res Site AC

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JAN													
30...	<1	.50	7.0	106	<.06	<.04	<.8	.17	2.7	<10	.12	19.3	.7
JAN													
30-30	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	<1	.50	6.9	110	<.06	<.04	<.8	.19	3.0	<10	.11	18.6	17.3
JUN													
14...	<1	.51	6.3	107	<.06	<.04	<.8	.14	1.3	<10	E.04	18.2	.5
JUN													
14-14	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	<1	.24	6.3	125	<.06	<.04	<.8	.32	.7	30	<.08	18.2	670
AUG													
22...	<1	.54	7.0	111	<.06	<.04	E.5	.11	1.1	<50	<.08	23.5	.4
AUG													
22-22	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	<1	.11	10.8	211	<.06	<.04	<.8	.31	.4	50	<.08	21.5	2350

08206890 -- Choke Canyon Res Site AC

DATE	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)	2,4,5-T DIS-SOLVED (UG/L) (39742)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)
JAN													
30...	<.23	2.4	.33	<2.4	<1.0	397	8.5	5	.97	--	--	--	--
JAN													
30-30	--	--	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	<.23	2.4	.46	<2.4	<1.0	406	8.0	4	.99	--	--	--	--
JUN													
14...	0	2.4	.10	<2.0	<1.0	451	E7.8	1	1.08	--	--	--	--
JUN													
14-14	<.01	--	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	<.01	1.7	.26	<2.0	<1.0	459	<8.0	<1	.91	--	--	--	--
AUG													
22...	M	2.5	<.06	<2.0	<1.0	470	<40.0	3	1.02	--	--	--	--
AUG													
22-22	<.01	--	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	.01	<.2	.42	<2.0	<1.0	529	<40.0	1	.41	--	--	--	--

08206890 -- Choke Canyon Res Site AC

DATE	SILVEX, DIS-SOLVED (UG/L) (39762)	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	DNOC WAT,FLT GF 0.7U REC (UG/L) (49299)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL-UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALDI-CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA-RB SUL-FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.03	<.26	<.25	<.004	<.05	<.002	<.21	<1.33	<.02	<.005	.032	<.050	<.010
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.03	<.13	<.25	<.004	<.06	<.002	<.21	<.20	<.02	<.005	.058	<.050	<.010
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.03	<.15	<.25	<.004	<.05	<.002	<.21	<.22	<.02	<.005	.066	<.050	<.010
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206890 -- Choke Canyon Res Site AC

DATE	BENTA-ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BRO-MACIL, WATER, DISS, REC (UG/L) (04029)	BRO-MOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.04	<.16	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.006	<.42	<.018
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.04	<.17	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.006	<.42	<.018
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.04	<.23	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.006	<.59	<.018
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206900 Choke Canyon Reservoir near Three Rivers, TX--Continued

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

08206890 -- Choke Canyon Res Site AC

DATE	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLO-BENIL, WATER, FLTRD, GF 0.7U REC (UG/L) (49303)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.07	<.003	E.010	<.005	<.04	<.05	<.05	<.005	<.09	<.021	<.06	<.002	<.009
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.07	<.003	E.012	<.005	<.04	<.05	<.05	<.005	<.13	<.021	<.06	<.002	<.009
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.07	<.003	E.010	<.005	<.04	<.05	<.05	<.005	<.09	<.021	<.06	<.002	<.009
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
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08206890 -- Choke Canyon Res Site AC

DATE	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)
JAN													
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JAN													
30-30	<.005	<.07	<.06	<.003	<.004	<.02	<.035	<.027	<.08	<.13	<.07	<2.52	<.013
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JUN													
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JUN													
14-14	<.005	<.07	<.06	<.003	<.004	<.02	<.035	<.027	<.08	<.23	<.07	<1.10	E.004
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
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AUG													
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AUG													
22-22	<.005	<.07	<.13	<.003	<.004	<.02	<.035	<.027	<.08	<.13	<.07	<.20	E.006
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08206890 -- Choke Canyon Res Site AC

DATE	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.006	<.002	<.007	<.19	<.04	<.53	<.33	<.003	<.007	<.006	<.002	<.010	<.011
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JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.006	<.002	<.007	<.10	<.04	<.28	<1.37	<.003	<.007	<.006	<.002	<.010	<.011
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AUG													
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AUG													
22-22	<.006	<.002	<.007	<.02	<.04	<.28	<.32	<.003	<.007	<.006	<.002	<.010	<.011
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08206890 -- Choke Canyon Res Site AC

DATE	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.09	<.015	<.010	<.011	--	<.35	<.12	<.004	<.011	E.010	<.034	<.017	<.005
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
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JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.17	<.015	<.010	<.011	<.023	<.27	<.12	<.004	<.011	<.020	<.034	<.017	<.005
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
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AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.09	<.015	<.010	<.011	<.023	<4.64	<.12	<.004	<.011	E.020	<.034	<.017	<.005
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
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08206900 Choke Canyon Reservoir near Three Rivers, TX--Continued

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

08206890 -- Choke Canyon Res Site AC

DATE	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
JAN			
30...	--	--	--
JAN			
30-30	<.002	<.07	<.009
30...	--	--	--
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30...	--	--	--
30...	--	--	--
30...	--	--	--
JUN			
14...	--	--	--
JUN			
14-14	<.002	<.07	<.009
14...	--	--	--
14...	--	--	--
14...	--	--	--
14...	--	--	--
14...	--	--	--
14...	--	--	--
AUG			
22...	--	--	--
AUG			
22-22	<.002	<.07	<.009
22...	--	--	--
22...	--	--	--
22...	--	--	--
22...	--	--	--
22...	--	--	--
22...	--	--	--

08206880 -- Choke Canyon Res Site BC

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)
JAN							
30...	0908	1.00	838	8.4	13.0	9.4	89.8
30...	0910	10.0	838	8.4	13.0	9.2	87.9
30...	0912	21.0	837	8.3	12.5	9.0	85.0
JUN							
14...	0850	1.00	861	8.3	30.0	6.8	91.2
14...	0852	10.0	861	8.3	30.0	6.7	89.8
14...	0854	22.0	862	8.3	29.5	6.6	87.7
AUG							
22...	0830	1.00	920	8.4	30.0	7.7	103
22...	0832	10.0	920	8.4	30.0	7.7	103
22...	0834	21.0	922	8.4	29.5	6.6	87.1

08206870 -- Choke Canyon Res Site CC

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TRANSPARENCY (SECCHI DISK) (M) (00078)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)	2,4,5-T DISSOLVED (UG/L) (39742)	2,4-D, DISSOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	2,6-DIETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)
JAN													
30...	0930	1.00	823	8.4	13.5	.55	9.3	89.7	--	--	--	--	--
JAN													
30-30	0930	--	--	--	--	--	--	--	--	<.04	<.11	<.11	<.002
30...	0932	10.0	829	8.4	13.0	--	9.0	85.8	--	--	--	--	--
30...	0934	20.0	829	8.4	12.5	--	8.9	83.9	--	--	--	--	--
30...	0936	30.0	835	8.2	12.5	--	8.0	75.5	--	--	--	--	--
30...	0938	42.0	892	7.9	12.0	--	7.9	73.7	--	--	--	--	--
JUN													
14...	0910	1.00	880	8.1	29.5	--	6.0	79.5	<1	--	--	--	--
JUN													
14-14	0910	--	--	--	--	--	--	--	--	<.04	<.11	<.10	--
14...	0912	10.0	880	8.1	29.5	--	5.9	78.2	--	--	--	--	--
14...	0914	20.0	881	7.9	29.0	--	5.1	67.0	--	--	--	--	--
14...	0916	30.0	881	7.9	28.5	--	4.9	63.8	--	--	--	--	--
14...	0918	39.0	884	7.5	28.5	--	1.8	23.4	--	--	--	--	--
14...	0918	40.0	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	0915	1.00	943	8.3	29.5	.43	6.7	88.4	--	--	--	--	--
AUG													
22-22	0915	--	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002
22...	0917	10.0	943	8.3	29.5	--	6.6	87.1	--	--	--	--	--
22...	0919	20.0	943	8.3	29.5	--	6.1	80.5	--	--	--	--	--
22...	0921	30.0	943	8.3	29.5	--	6.0	79.2	--	--	--	--	--
22...	0923	36.0	943	8.2	29.0	--	5.5	72.0	--	--	--	--	--

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DATE	SILVEX, DISSOLVED (UG/L) (39762)	3HYDRXY CARBOFURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	DNOC WAT,FLT GF 0.7U REC (UG/L) (49299)	ACETOCHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFLUORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALACHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDICARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALDICARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICARB SULFOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALPHA BHC DISSOLVED (UG/L) (34253)	ATRAZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZINPHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BENFLURALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.03	<.11	<.25	<.004	<.05	<.002	<.21	<.20	<.02	<.005	.050	<.050	<.010
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
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JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.03	<.25	<.25	--	<.05	--	<.21	<.20	<.02	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
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AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.03	<.15	<.25	<.004	<.05	<.002	<.21	<.20	<.02	<.005	.063	<.050	<.010
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
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08206900 Choke Canyon Reservoir near Three Rivers, TX--Continued

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

08206870 -- Choke Canyon Res Site CC

DATE	BENTAZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BROMACIL, WATER, DISS, REC (UG/L) (04029)	BROMOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYLATE, WATER, DISS, REC (UG/L) (04028)	CARBARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CARBARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBOFURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBOFURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLORPYRIFOS TOTAL IN BOTTOM MATERIAL (UG/KG) (39787)	CHLOROTHALONIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLORPYRIFOS DISSOLVED (UG/L) (38933)	PERMETHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	CLOPYRALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.04	<.09	<.07	<.002	<.02	<.041	<.29	<.020	--	<.13	<.005	<.006	<.42
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
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JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.04	<.18	<.07	--	<.02	--	<.29	--	--	<.13	--	--	<.42
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
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AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.04	<.17	<.07	<.002	<.02	<.041	<.29	<.020	--	<.13	<.005	<.006	<.54
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
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22...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206870 -- Choke Canyon Res Site CC

DATE	CYANAZINE, WATER, DISS, REC (UG/L) (04041)	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L) (04040)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG) (39571)	DIAZINON, DISSOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLOBENIL, WATER, FLTRD, GF 0.7U REC (UG/L) (49303)	DICHLORPROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DIELDRIN DISSOLVED (UG/L) (39381)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DISULFOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.018	<.07	<.003	E.010	--	<.005	<.04	<.05	<.05	<.005	<.23	<.021	<.06
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
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30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	--	<.07	--	--	--	--	<.11	<.05	<.05	--	<.09	--	<.06
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	<.4	--	--	--	--	--	--	--	--
AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.018	<.07	<.003	E.011	--	<.005	<.04	<.05	<.05	<.005	<.09	<.021	<.06
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206900 Choke Canyon Reservoir near Three Rivers, TX--Continued

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

08206870 -- Choke Canyon Res Site CC

DATE	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39399)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39531)	MALA-THION, DIS-SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.002	<.009	--	<.005	<.07	<.06	<.003	<.004	<.02	<.035	--	<.027	<.08
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	--	--	--	--	<.08	<.06	--	--	<.02	--	--	--	<.08
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	<.4	--	--	--	--	--	--	--	<.4	--	--
AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.002	<.009	--	<.005	<.07	<.06	<.003	<.004	<.02	<.035	--	<.027	<.08
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206870 -- Choke Canyon Res Site CC

DATE	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39541)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.13	<.07	<2.52	E.004	<.006	<.002	<.007	<.02	<.04	<.28	<.02	<.003	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.13	<.07	<.02	--	--	--	--	<.02	<.04	<.28	<.02	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	<.4
AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.13	<.07	<.49	E.005	<.006	<.002	<.007	<.02	<.04	<.28	<1.13	<.003	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206900 Choke Canyon Reservoir near Three Rivers, TX--Continued

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

08206870 -- Choke Canyon Res Site CC

DATE	PARA-THION, DIS-SOLVED (UG/L) (39542)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG) (39601)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.007	--	<.006	<.002	<.010	<.011	<.09	<.015	<.010	<.011	--	<.09	<.12
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	--	--	--	--	--	--	<.09	--	--	--	--	<.46	<.12
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	<.4	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.007	--	<.006	<.002	<.010	<.011	<.09	<.015	<.010	<.011	<.023	<.35	<.12
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206870 -- Choke Canyon Res Site CC

DATE	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
JAN									
30...	--	--	--	--	--	--	--	--	--
JAN									
30-30	<.004	<.011	E.009	<.034	<.017	<.005	<.002	<.07	<.009
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
JUN									
14...	--	--	--	--	--	--	--	--	--
JUN									
14-14	--	--	--	--	--	--	--	<.07	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
AUG									
22...	--	--	--	--	--	--	--	--	--
AUG									
22-22	<.004	<.011	E.024	<.034	<.017	<.005	<.002	<.07	<.009
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--

08206860 -- Choke Canyon Res Site DC

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)
JAN							
30...	1020	1.00	833	8.5	15.0	8.9	88.7
30...	1022	14.0	834	8.4	14.5	8.1	79.9
JUN							
14...	1010	1.00	875	8.2	30.0	6.6	88.5
14...	1012	10.0	874	8.2	30.0	6.5	87.1
14...	1014	16.0	--	--	--	--	--
AUG							
22...	1035	1.00	939	8.4	30.0	7.1	94.5
22...	1037	8.00	937	8.4	30.0	7.0	93.2

08206850 -- Choke Canyon Res Site EC

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TRANSPARENCY (SECCHI DISK) (M) (00078)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	2,4,5-T DISSOLVED (UG/L) (39742)	2,4-D, DISSOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	2,6-DIETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	SILVEX, DISSOLVED (UG/L) (39762)
JAN													
30...	1000	1.00	800	8.3	14.5	.30	8.7	85.8	--	--	--	--	--
JAN													
30-30	1000	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002	<.03
30...	1002	10.0	817	8.3	13.5	--	8.4	81.0	--	--	--	--	--
30...	1004	18.0	815	8.1	13.5	--	7.5	72.3	--	--	--	--	--
JUN													
14...	0950	1.00	879	8.1	29.0	.55	6.2	81.3	--	--	--	--	--
JUN													
14-14	0950	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002	<.25
14...	0952	10.0	879	8.1	29.0	--	6.1	80.0	--	--	--	--	--
14...	0954	15.0	881	8.0	29.0	--	6.0	78.7	--	--	--	--	--
AUG													
22...	1000	1.00	952	8.3	29.5	.43	6.6	87.1	--	--	--	--	--
AUG													
22-22	1000	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002	<.03
22...	1002	13.0	952	8.3	29.5	--	6.4	84.5	--	--	--	--	--

08206850 -- Choke Canyon Res Site EC

DATE	3HYDRXY CARBOFURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	DNOC WAT,FLT GF 0.7U REC (UG/L) (49299)	ACETOCHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFLUORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALACHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDICARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALDICARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICARB SULFOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALPHA BHC DISSOLVED (UG/L) (34253)	ATRAZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZINPHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BENFLURALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENTAZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.11	<.25	<.004	<.05	<.002	<.21	<.20	<.53	<.005	.032	<.050	<.010	<.04
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.11	<.25	<.004	<.05	<.002	<.21	<.20	<.24	<.005	.087	<.050	<.010	<.04
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.21	<.25	<.004	<.05	<.002	<.21	<.20	<.02	<.005	.063	<.050	<.010	<.04
22...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206850 -- Choke Canyon Res Site EC

DATE	BRO-MACIL, WATER, DISS, REC (UG/L) (04029)	BRO-MOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.09	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.006	<.42	<.018	<.07
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.16	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.006	<.42	<.018	<.07
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.17	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.006	<.46	<.018	<.07
22...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206850 -- Choke Canyon Res Site EC

DATE	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLO-BENIL, WATER, FLTRD, GF 0.7U REC (UG/L) (49303)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.003	E.010	<.005	<.04	<.05	<.05	<.005	<.15	<.021	<.06	<.002	<.009	<.005
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.003	E.008	<.005	<.04	<.05	<.05	<.005	<.11	<.021	<.06	<.002	<.009	<.005
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.003	E.010	<.005	<.04	<.05	<.05	<.005	<.09	<.021	<.06	<.002	<.009	<.005
22...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206850 -- Choke Canyon Res Site EC

DATE	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.07	<.06	<.003	<.004	<.02	<.035	<.027	<.08	<.13	<.07	<1.17	E.003	<.006
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.07	<.06	<.003	<.004	<.02	<.035	<.027	<.08	<.04	<.07	<.66	E.007	<.006
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.15	<.06	<.003	<.004	<.02	<.035	<.027	<.08	<.13	<.07	<.41	E.005	<.006
22...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206850 -- Choke Canyon Res Site EC

DATE	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.002	<.007	<.02	<.04	<.28	<.16	<.003	<.007	<.006	<.002	<.010	<.011	<.09
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.002	<.007	<.02	<.04	<.28	<.02	<.003	<.007	<.006	<.002	<.010	<.011	<.09
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.002	<.007	<.02	<.04	<.28	<.75	<.003	<.007	<.006	<.002	<.010	<.011	<.09
22...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206850 -- Choke Canyon Res Site EC

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.015	<.010	<.011	--	<.09	<.10	<.004	<.011	E.008	<.034	<.017	<.005	<.002
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.015	<.010	<.011	<.023	<.40	<.12	<.004	<.011	<.016	<.034	<.017	<.005	<.002
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22-22	<.015	<.010	<.011	<.023	<.28	<.12	<.004	<.011	E.024	<.034	<.017	<.005	<.002
22...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206850 -- Choke Canyon Res Site EC

DATE	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
JAN		
30...	--	--
JAN		
30-30	<.07	<.009
30...	--	--
30...	--	--
JUN		
14...	--	--
JUN		
14-14	<.07	<.009
14...	--	--
14...	--	--
AUG		
22...	--	--
AUG		
22-22	<.07	<.009
22...	--	--

08206900 Choke Canyon Reservoir near Three Rivers, TX--Continued

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

08206840 -- Choke Canyon Res Site FC

DATE	TIME	SAM-PLING DEPTH (FEET) (00003)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TRANS-PAR-ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	2,4,5-T DIS-SOLVED (UG/L) (39742)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	SILVEX, DIS-SOLVED (UG/L) (39762)
JAN													
30...	1130	1.00	1040	8.3	16.0	.49	9.7	98.9	--	--	--	--	--
JAN													
30-30	1130	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002	<.03
30...	1132	10.0	1290	8.1	15.0	--	9.1	90.8	--	--	--	--	--
30...	1134	20.0	1920	7.9	12.5	--	9.5	89.9	--	--	--	--	--
30...	1136	25.0	1930	7.9	12.5	--	9.8	92.8	--	--	--	--	--
JUN													
14...	1120	1.00	922	8.0	30.5	.52	5.5	74.5	--	--	--	--	--
JUN													
14-14	1120	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002	<.03
14...	1122	10.0	923	8.0	30.5	--	5.2	70.4	--	--	--	--	--
14...	1124	15.0	926	7.9	30.0	--	4.8	64.4	--	--	--	--	--
14...	1126	24.0	932	7.0	28.0	--	0	0	--	--	--	--	--
14...	1126	25.0	--	--	--	--	--	--	--	--	--	--	--
AUG													
21...	1550	1.00	1030	8.4	31.5	.59	8.9	122	--	--	--	--	--
AUG													
21-21	1550	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002	<.03
21...	1552	10.0	1040	7.8	30.5	--	3.7	49.8	--	--	--	--	--
21...	1554	20.0	1050	7.5	30.5	--	.2	2.7	--	--	--	--	--

08206840 -- Choke Canyon Res Site FC

DATE	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	DNOC WAT,FLT GF 0.7U REC (UG/L) (49299)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL-UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALDI-CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA-RB SUL-FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENTA-ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.11	<.25	<.004	<.05	<.002	<.21	<.20	<.02	<.005	.872	<.050	<.010	<.04
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.29	<.25	<.004	<.05	<.002	<.21	<.20	<.02	<.005	.278	<.050	E.004	<.04
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
21-21	<.25	<.25	<.004	<.05	<.002	<.02	<.48	<.02	<.005	.100	<.050	<.010	<.04
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206840 -- Choke Canyon Res Site FC

DATE	BRO-MACIL, WATER, DISS, REC (UG/L) (04029)	BRO-MOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39787)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.09	<.07	<.002	<.02	<.041	<.29	<.020	--	<.13	<.005	<.006	<.42	<.018
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.15	<.07	<.002	<.02	<.041	<.29	<.020	--	<.13	<.005	<.006	<.04	<.018
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	<.4	--	--	--	--	--
AUG													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
21-21	<.18	<.07	<.002	<.02	<.041	<.29	<.020	--	<.13	<.005	<.006	<.99	<.018
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206840 -- Choke Canyon Res Site FC

DATE	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39571)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLO-BENIL, WATER, FLTRD, GF 0.7U REC (UG/L) (49303)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.07	<.003	E.026	--	<.005	<.04	<.05	<.05	<.005	<.15	<.021	<.06	<.002
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.07	<.003	E.015	--	<.005	<.04	<.05	<.05	<.005	<.09	<.021	<.06	<.002
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	<.4	--	--	--	--	--	--	--	--	--
AUG													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
21-21	<.07	<.003	E.018	--	<.005	<.04	<.05	<.05	<.005	<.09	<.021	<.06	<.002
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206900 Choke Canyon Reservoir near Three Rivers, TX--Continued

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

08206840 -- Choke Canyon Res Site FC

DATE	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39399)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39531)	MALA-THION, DIS-SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.009	--	<.005	<.07	<.06	<.003	<.004	<.02	<.035	--	<.027	<.08	<.13
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.009	--	<.005	<.07	<.06	<.003	<.004	<.02	<.035	--	<.027	<.08	<.13
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	<.4	--	--	--	--	--	--	--	<.4	--	--	--
AUG													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
21-21	<.009	--	<.005	<.07	<.06	<.003	<.004	<.02	<.035	--	<.027	<.08	<.13
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206840 -- Choke Canyon Res Site FC

DATE	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39541)	PARA-THION, DIS-SOLVED (UG/L) (39542)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.07	<1.05	.020	<.006	<.002	<.007	<.02	<.04	<.28	<.02	<.003	--	<.007
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	<.07	<.67	.021	<.006	<.002	<.007	<.05	<.04	<.28	<.02	.003	--	<.007
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	<.4	--
AUG													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
21-21	<.07	<.45	E.005	<.006	<.002	<.007	<.02	<.04	<.28	<.39	<.003	--	<.007
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206840 -- Choke Canyon Res Site FC

DATE	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG) (39601)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	--	<.006	<.002	<.010	<.011	<.09	<.015	<.010	<.011	--	<.09	<.12	<.004
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14-14	--	<.006	<.002	<.010	<.011	<.09	<.015	<.010	<.011	<.023	<.56	<.12	<.004
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	<.4	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
21-21	--	<.006	<.002	<.010	<.011	<.09	<.015	<.010	<.011	<.023	<.42	<.12	<.004
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--

08206840 -- Choke Canyon Res Site FC

DATE	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
JAN								
30...	--	--	--	--	--	--	--	--
JAN								
30-30	<.011	<.016	<.034	<.017	<.005	<.002	<.07	<.009
30...	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--
JUN								
14...	--	--	--	--	--	--	--	--
JUN								
14-14	<.011	<.016	<.034	<.017	<.005	<.002	<.07	<.009
14...	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--
AUG								
21...	--	--	--	--	--	--	--	--
AUG								
21-21	<.011	E.016	<.034	<.017	<.005	<.002	<.07	<.009
21...	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--

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08206910 Choke Canyon Reservoir (Outlet Works Channel) near Three Rivers, TX

LOCATION.--Lat 28°29'09", long 98°14'29", Live Oak County, Hydrologic Unit 12110108, 0.2 mi downstream from Choke Canyon Dam on Frio River, 3.7 mi upstream from Atascosa River, and 3.8 mi west of Three Rivers.

DRAINAGE AREA.--5,490 mi^2.

PERIOD OF RECORD.--Nov. 1991 to Sept. 1999 (daily mean discharges below base), Oct. 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is 124.06 ft above sea level.

REMARKS.--No estimated daily discharges. Records fair. Since installation of gage in water year 1992, at least 10% of the contributing drainage area has been regulated.

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

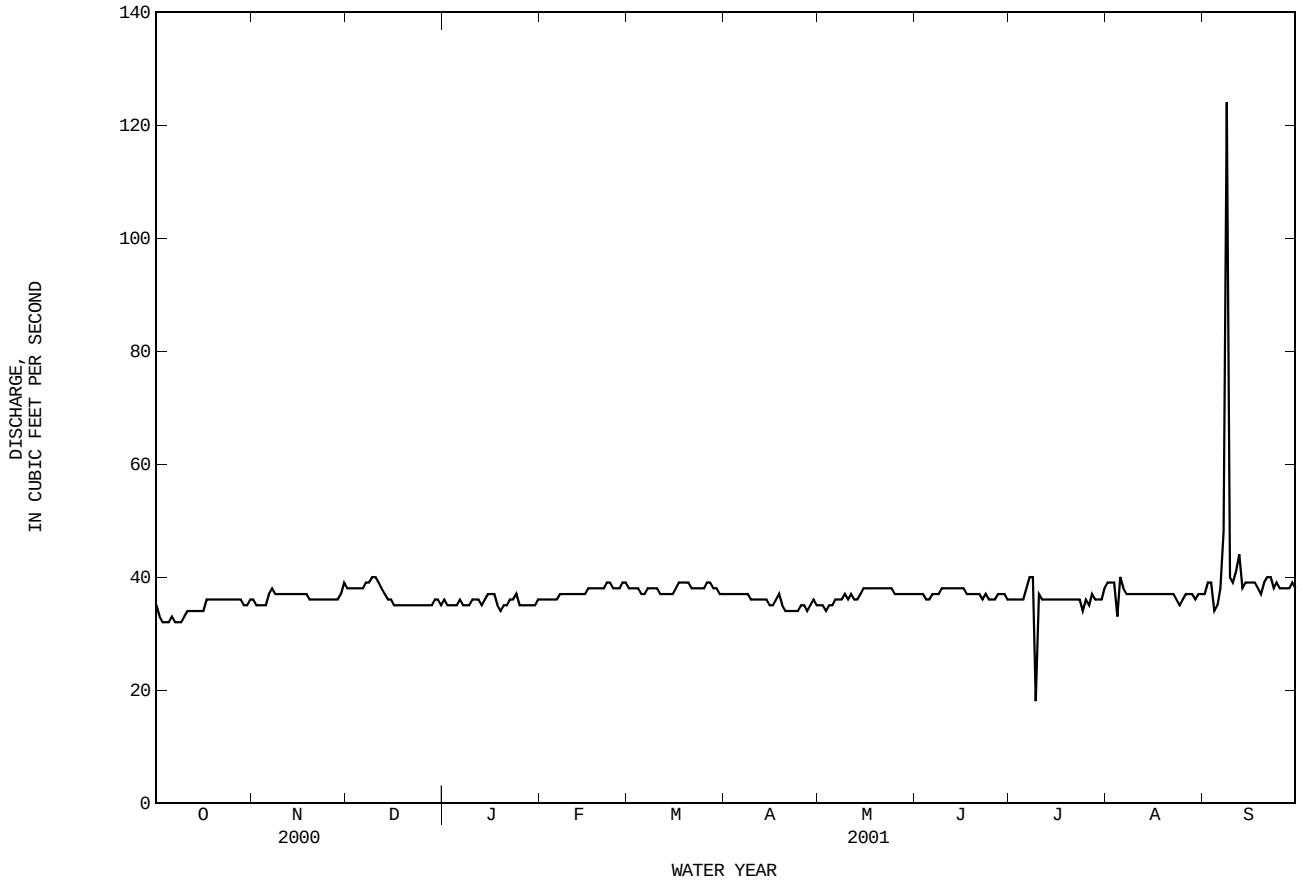
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	36	38	36	36	38	37	35	37	36	39	37
2	33	35	38	35	36	38	37	35	37	36	39	39
3	32	35	38	35	36	38	37	34	37	36	39	39
4	32	35	38	35	36	38	37	35	36	36	33	34
5	32	35	38	35	36	37	37	35	36	36	40	35
6	33	37	38	36	36	37	37	36	37	38	38	38
7	32	38	39	35	37	38	37	36	37	40	37	48
8	32	37	39	35	37	38	37	36	37	40	37	124
9	32	37	40	35	37	38	36	37	38	18	37	40
10	33	37	40	36	37	38	36	36	38	37	37	39
11	34	37	39	36	37	37	36	37	38	36	37	41
12	34	37	38	36	37	37	36	36	38	36	37	44
13	34	37	37	35	37	37	36	36	38	36	37	38
14	34	37	36	36	37	37	36	37	38	36	37	39
15	34	37	36	37	37	37	35	38	38	36	37	39
16	34	37	35	37	38	38	35	38	38	36	37	39
17	36	37	35	37	38	39	36	38	37	36	37	39
18	36	37	35	35	38	39	37	38	37	36	37	38
19	36	36	35	34	38	39	35	38	37	36	37	37
20	36	36	35	35	38	39	34	38	37	36	37	39
21	36	36	35	35	38	38	34	38	37	36	37	40
22	36	36	35	36	39	38	34	38	36	36	37	40
23	36	36	35	36	39	38	34	38	37	36	36	38
24	36	36	35	37	38	38	34	38	36	34	35	39
25	36	36	35	35	38	38	35	37	36	36	36	38
26	36	36	35	35	38	39	35	37	36	35	37	38
27	36	36	35	35	39	39	34	37	37	37	37	38
28	36	36	35	35	39	38	35	37	37	36	37	38
29	35	37	36	35	---	38	36	37	37	36	36	39
30	35	39	36	35	---	37	35	37	36	36	37	38
31	36	---	35	36	---	37	---	37	---	38	37	---
TOTAL	1068	1094	1134	1101	1047	1175	1070	1140	1111	1109	1148	1252
MEAN	34.5	36.5	36.6	35.5	37.4	37.9	35.7	36.8	37.0	35.8	37.0	41.7
MAX	36	39	40	37	39	39	37	38	38	40	40	124
MIN	32	35	35	34	36	37	34	34	36	18	33	34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)

MEAN	34.7	36.3	37.3	36.3	82.1	38.3	36.7	37.1	37.7	38.9	35.4	39.9
MAX	34.9	36.5	38.0	37.0	125	38.8	37.8	37.5	38.3	42.1	37.0	41.7
(WY)	2000	2001	2000	2000	2000	2000	2000	2000	2000	2000	2001	2001
MIN	34.5	36.2	36.6	35.5	37.4	37.9	35.7	36.8	37.0	35.8	33.8	38.1
(WY)	2001	2000	2001	2001	2001	2001	2001	2001	2001	2001	2000	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 2000 - 2001	
ANNUAL TOTAL	16219		13449			
ANNUAL MEAN	44.3		36.8		40.6	
HIGHEST ANNUAL MEAN					44.4	2000
LOWEST ANNUAL MEAN					36.8	2001
HIGHEST DAILY MEAN	405	Feb 17	124	Sep 8	405	Feb 17 2000
LOWEST DAILY MEAN	25	Aug 20	18	Jul 9	18	Jul 9 2001
ANNUAL SEVEN-DAY MINIMUM	29	Aug 16	32	Oct 3	29	Aug 16 2000
MAXIMUM PEAK FLOW			229	Jan 24	1130	Feb 17 2000
MAXIMUM PEAK STAGE			5.84	Jan 24	9.96	Feb 17 2000
10 PERCENT EXCEEDS	42		39		40	
50 PERCENT EXCEEDS	37		37		37	
90 PERCENT EXCEEDS	34		35		35	

08206910 Choke Canyon Reservoir (Outlet Works Channel) near Three Rivers, TX--Continued



08208000 Atascosa River at Whitsett, TX

LOCATION.--Lat 28°37'19", long 98°16'52", Live Oak County, Hydrologic Unit 12110111, on right bank at downstream side of bridge on Farm Road 99, 1.1 mi southwest of Whitsett, 4.2 mi downstream from La Parita Creek, and 12.9 mi upstream from mouth.

DRAINAGE AREA.--1,171 mi^2.

PERIOD OF RECORD.--Sept. 1924 to May 1926 (monthly discharge only), May 1932 to current year.

GAGE.--Water-stage recorder. Datum of gage is 159.04 ft above sea level. Prior to May 8, 1926, nonrecording gage at bridge destroyed in 1956 at site 200 ft downstream at 1.38 ft higher datum. May 21, 1932, to Feb. 16, 1983, water-stage recorder at site 1,000 ft upstream at same datum. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharge, which are fair. Considerable loss of flow into various permeable formations occurs upstream from this station. The Campbellton water wells discharge into the Atascosa River 12 mi upstream from this station to supplement streamflow during dry periods; however, records provided by the city of Corpus Christi indicate that during the current year, the Campbellton water wells did not discharge into the Atascosa River. No known regulation. There are several small diversions above station. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1881, that of Sept. 23, 1967. Second highest stage, 41 ft (discharge 106,000 ft^3/s), occurred in Sept. 1919.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	2.8	17	6.8	4.6	1.3	6.3	14	.90	.97	e.79	634
2	1.1	2.2	13	6.4	3.9	1.9	6.3	11	.79	1.1	e.78	683
3	.99	2.1	12	5.9	3.3	3.4	6.3	9.3	.77	1.4	e.77	180
4	.94	3.2	13	5.6	3.0	5.2	6.1	7.7	.70	2.4	e.76	87
5	.94	110	11	5.5	2.9	6.1	5.6	7.0	.68	1.7	e.75	40
6	.93	203	11	5.5	2.8	6.3	5.2	6.7	.85	1.1	e.74	591
7	.94	495	9.5	5.6	2.7	5.7	4.9	7.7	1.7	1.0	e.72	1000
8	1.6	188	9.0	5.5	2.5	4.8	4.7	15	1.4	1.1	e.71	390
9	1.9	99	8.5	5.3	2.5	3.9	4.5	11	1.4	1.1	e.70	94
10	4.7	59	7.6	5.7	2.2	3.2	4.4	8.0	1.4	1.4	e.69	101
11	9.0	30	6.3	36	2.0	2.5	4.4	6.3	1.5	1.2	e.68	60
12	15	20	5.6	281	2.0	2.1	4.1	6.0	1.4	1.3	e.67	28
13	12	14	6.4	88	2.2	1.7	3.8	8.5	1.3	1.0	e.66	20
14	9.3	54	6.3	30	2.2	2.2	3.7	17	1.3	1.4	e.65	16
15	6.0	25	6.1	20	2.2	5.8	3.8	16	1.6	1.5	e.64	14
16	4.2	15	6.2	15	2.2	60	4.4	12	1.7	1.4	e.64	11
17	3.2	12	8.5	10	2.2	42	4.4	7.6	1.4	1.5	e.63	11
18	2.5	15	7.5	7.9	1.9	22	3.4	5.0	1.8	.93	e.62	9.9
19	2.0	425	7.0	13	1.8	16	2.8	3.8	1.5	.74	e.61	9.4
20	1.8	762	6.7	38	2.1	14	2.4	3.4	1.3	.84	e.60	8.5
21	1.6	149	6.1	35	2.1	11	2.3	4.5	.62	.86	.60	7.8
22	1.5	118	5.6	19	1.8	10	2.3	5.3	.58	.85	1.1	7.6
23	1.6	52	5.3	11	1.7	9.6	2.5	3.9	.63	e.84	1.6	11
24	1.9	96	5.1	7.9	1.8	8.4	2.9	2.3	1.1	e.84	1.5	391
25	4.4	651	5.0	6.4	1.7	7.1	5.9	2.8	4.1	e.83	.87	69
26	15	366	5.1	6.3	1.6	6.4	6.8	2.5	4.9	e.82	.82	20
27	15	139	5.3	6.9	1.5	6.0	34	2.0	4.2	e.81	.66	13
28	9.1	66	5.8	6.7	1.3	12	63	1.8	3.6	e.81	1.3	9.6
29	5.6	35	6.9	5.1	---	11	26	1.6	2.6	e.80	2.4	7.9
30	4.2	23	7.3	4.1	---	7.6	18	1.4	1.3	e.80	7.7	8.0
31	3.4	---	6.8	3.7	---	6.6	---	1.1	---	e.79	38	---
TOTAL	143.64	4231.3	242.5	708.8	64.7	305.8	255.2	212.2	49.02	34.13	70.36	4532.7
MEAN	4.63	141	7.82	22.9	2.31	9.86	8.51	6.85	1.63	1.10	2.27	151
MAX	15	762	17	281	4.6	60	63	17	4.9	2.4	38	1000
MIN	.93	2.1	5.0	3.7	1.3	1.3	2.3	1.1	.58	.74	.60	7.6
AC-FT	285	8390	481	1410	128	607	506	421	97	68	140	8990

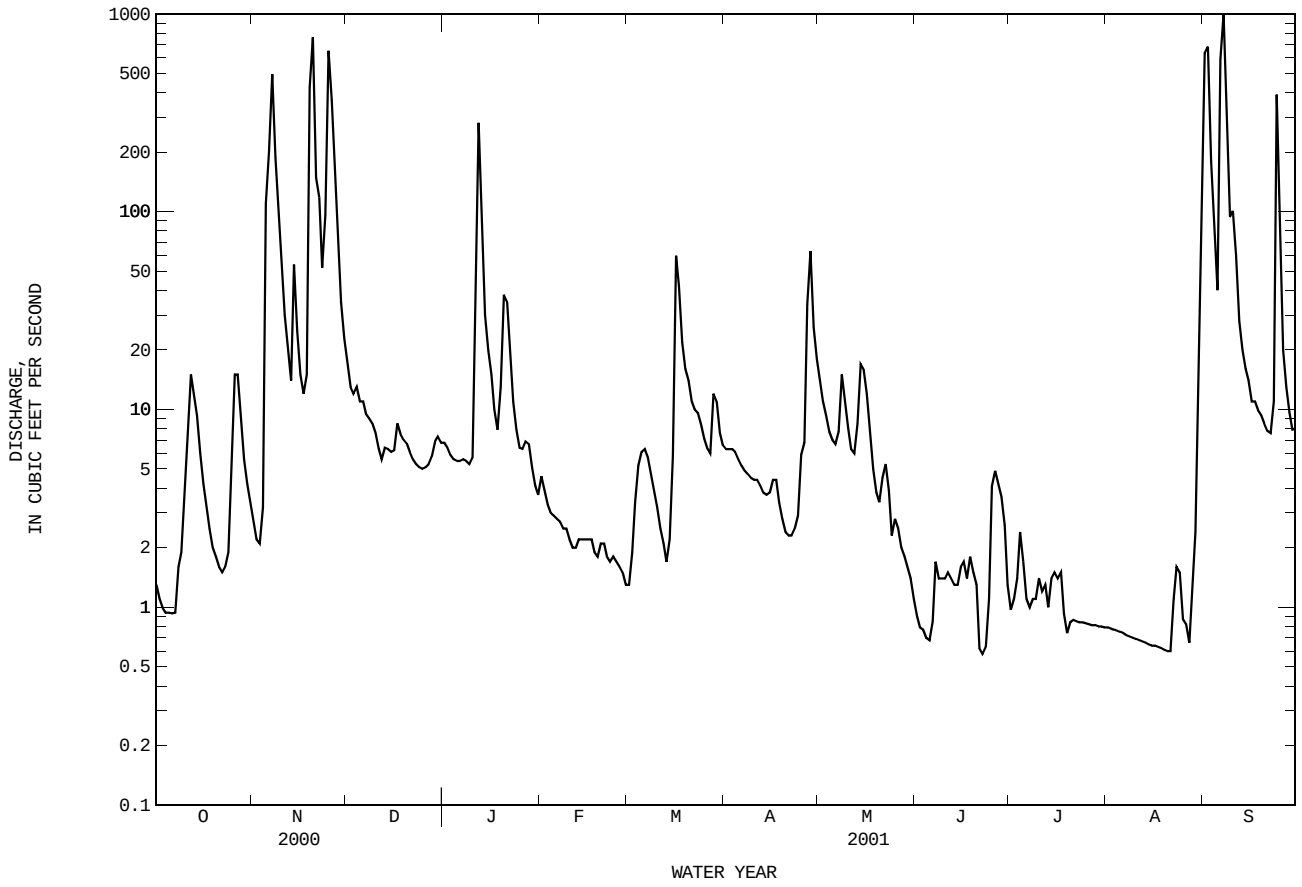
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2001, BY WATER YEAR (WY)

MEAN	101	50.7	56.2	77.3	92.9	33.6	145	222	236	115	74.0	238
MAX	788	399	1060	2053	1590	250	2298	1365	3445	2879	1207	5006
(WY)	1947	1941	1992	1968	1992	1970	1977	1957	1935	1942	1946	1967
MIN	.048	.21	.19	1.52	1.57	1.51	.57	.000	.000	.000	.000	.001
(WY)	1989	1989	1989	1996	1990	1996	1996	1996	1989	1998	1954	1997

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1932 - 2001	
ANNUAL TOTAL	18177.82		10850.35			
ANNUAL MEAN	49.7		29.7		120	
HIGHEST ANNUAL MEAN					472	1935
LOWEST ANNUAL MEAN					2.29	1989
HIGHEST DAILY MEAN	3700	Jun 12	1000	Sep 7	65000	Sep 23 1967
LOWEST DAILY MEAN	.34	Apr 28	.58	Jun 22	.00	Jun 11 1934
ANNUAL SEVEN-DAY MINIMUM	.44	Apr 25	.62	Aug 15	.00	Jun 11 1934
MAXIMUM PEAK FLOW			1110	Sep 7	i121000	Sep 23 1967
MAXIMUM PEAK STAGE			13.52	Sep 7	a41.30	Sep 23 1967
ANNUAL RUNOFF (AC-FT)	36060		21520		87140	
10 PERCENT EXCEEDS	51		38		90	
50 PERCENT EXCEEDS	3.3		4.7		11	
90 PERCENT EXCEEDS	.94		.82		.86	

e Estimated
i From indirect measurement of peak flow.
a From floodmark.

08208000 Atascosa River at Whitsett, TX--Continued



08210000 Nueces River near Three Rivers, TX

LOCATION.--Lat 28°25'38", long 98°10'40", Live Oak County, Hydrologic Unit 12110111, on right bank at U.S. Highway 281, 1.0 mi downstream from Frio River, 2.2 mi south of Three Rivers, and at mile 100.2.

DRAINAGE AREA.--15,427 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1915 to current year. Monthly discharge only for Nov. 1919 to Jan. 1920, published in WSP 1312.

REVISED RECORDS.--WSP 548: 1920-21. WSP 1562: 1916, 1918-21, 1922(M), 1923, 1929. WDR TX-83-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 99.26 ft above sea level. Prior to Apr. 5, 1932, nonrecording gage at railroad bridge 0.8 mi upstream at datum 1.87 ft higher. Apr. 5, 1932 to Aug. 9, 1983, water-stage recorder at site 0.8 mi upstream at datum 1.87 ft higher. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since Mar. 1948, at least 10% of contributing drainage area has been regulated. Part of the flow of the Nueces and Frio Rivers and their headwater tributaries enters the Edwards and associated limestones in the Balcones Fault Zone that crosses the basin upstream from U.S. Highway 90. Some loss of flow into various permeable formations also occurs downstream from the Balcones Fault Zone. Flow of the Atascosa River at Whitsett (station 08208000) is supplemented during dry periods by discharge from the Campbellton water wells. There are many small diversions for irrigation and for municipal supply above this station. No flow at times.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--33 years (water years 1916-48) 945 ft^3/s (684,500 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1916-48).--Maximum discharge, 85,000 ft^3/s, Sept. 18, 1919, gage height, 46.0 ft, site and datum then in use; no flow at times.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	36	446	197	157	130	114	59	72	39	33	1950
2	34	36	419	198	156	143	108	53	66	39	33	2260
3	33	39	393	199	153	149	104	49	63	38	33	2000
4	33	473	376	199	149	151	102	46	61	38	32	2290
5	33	501	359	198	147	154	102	46	61	37	33	2820
6	33	776	347	198	145	154	100	47	60	36	32	2590
7	35	877	337	199	141	153	97	43	56	36	32	3800
8	38	770	324	200	139	148	94	41	53	35	32	5420
9	38	428	319	197	136	141	90	48	50	34	32	4910
10	41	443	312	216	132	136	87	45	48	28	31	3680
11	38	475	304	203	130	138	85	251	46	34	32	2450
12	83	579	295	313	130	140	82	224	44	32	32	582
13	90	653	287	375	130	136	82	143	43	32	32	228
14	117	696	280	244	129	132	80	171	41	60	32	153
15	114	793	274	204	128	131	79	375	41	87	32	116
16	90	829	270	195	127	138	77	438	41	68	32	95
17	65	885	262	191	122	195	75	381	41	55	32	80
18	50	981	259	200	118	159	73	300	40	47	31	72
19	50	1140	251	219	116	138	70	248	40	41	31	66
20	71	1790	244	221	115	126	68	216	39	37	31	62
21	43	1730	235	247	116	119	64	195	39	35	32	58
22	38	1360	233	231	117	114	60	174	39	34	32	55
23	37	1160	228	210	118	111	57	156	39	34	31	55
24	49	728	223	208	118	108	109	139	40	34	32	146
25	107	813	219	198	117	107	120	122	41	35	31	410
26	47	1160	216	187	117	113	63	109	39	34	32	98
27	46	706	211	182	118	119	57	100	41	34	32	65
28	47	567	206	180	122	136	94	96	41	34	33	55
29	42	505	200	177	---	161	97	91	40	34	34	49
30	39	470	196	168	---	131	70	85	40	33	44	46
31	37	---	196	162	---	120	---	78	---	33	518	---
TOTAL	1653	22399	8721	6516	3643	4231	2560	4569	1405	1227	1491	36661
MEAN	53.3	747	281	210	130	136	85.3	147	46.8	39.6	48.1	1222
MAX	117	1790	446	375	157	195	120	438	72	87	518	5420
MIN	33	36	196	162	115	107	57	41	39	28	31	46
AC-FT	3280	44430	17300	12920	7230	8390	5080	9060	2790	2430	2960	72720

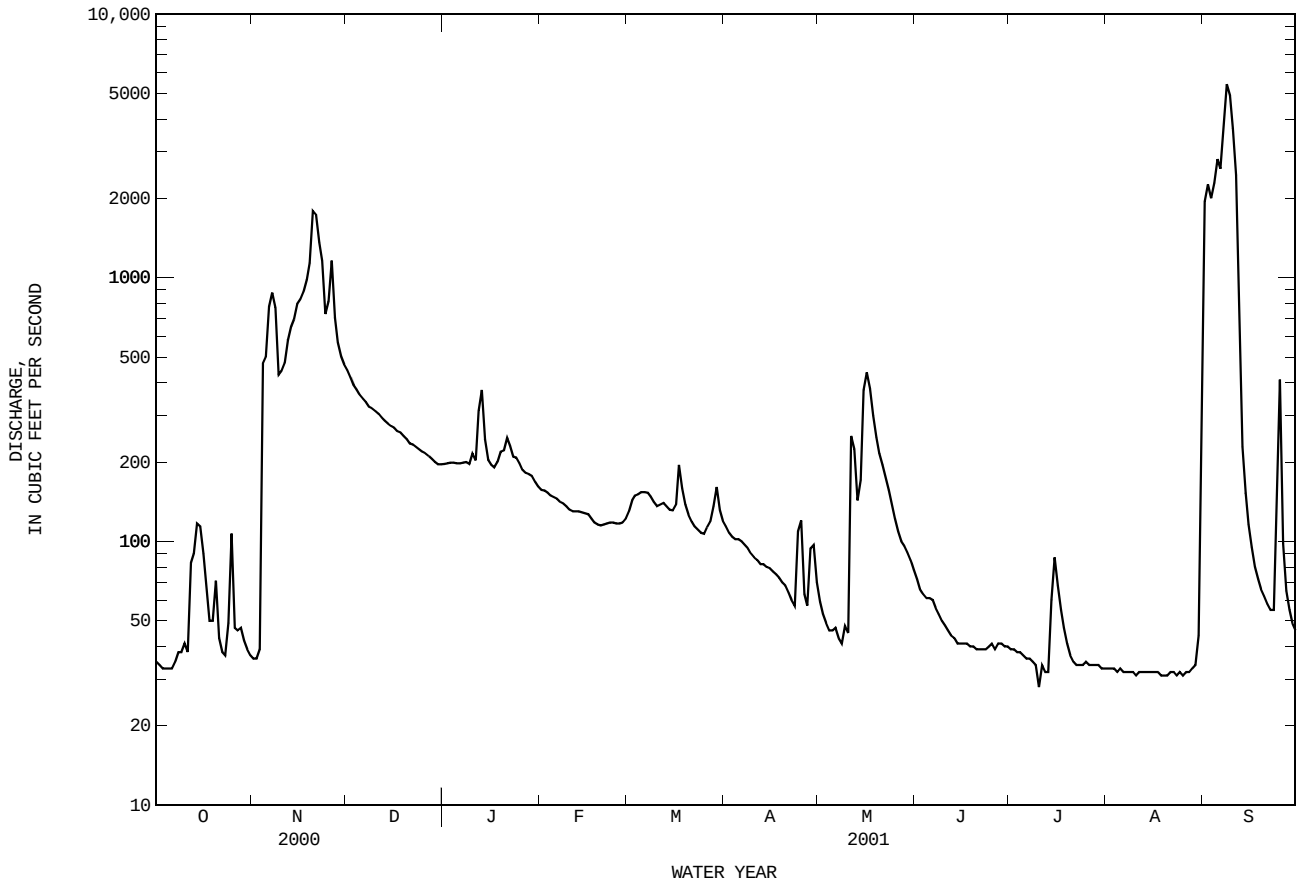
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2001z, BY WATER YEAR (WY)

MEAN	1156	463	217	318	362	222	441	1083	1276	622	601	1328
MAX	13810	4944	1801	4833	7868	2285	5082	8645	8451	5723	10550	23650
(WY)	1972	1977	1977	1958	1958	1949	1977	1957	1987	1971	1971	1967
MIN	.54	.033	.63	3.61	5.80	6.21	4.30	1.85	8.72	3.05	.026	1.28
(WY)	1963	1951	1951	1967	1951	1963	1984	1971	1967	1967	1962	1984

08210000 Nueces River near Three Rivers, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1949 - 2001z	
ANNUAL TOTAL	62886		95076			
ANNUAL MEAN	172		260		674	
HIGHEST ANNUAL MEAN					2110	1971
LOWEST ANNUAL MEAN					82.3	1984
HIGHEST DAILY MEAN	3690	Jun 13	5420	Sep 8	128000	Sep 23 1967
LOWEST DAILY MEAN	27	Apr 30	28	Jul 10	.00	Aug 25 1950
ANNUAL SEVEN-DAY MINIMUM	28	Apr 25	31	Aug 17	.00	Aug 28 1950
MAXIMUM PEAK FLOW			5660	Sep 8	18300	Sep 21 1983
MAXIMUM PEAK STAGE			26.97	Sep 8	37.29	Jun 22 1987
ANNUAL RUNOFF (AC-FT)	124700		188600		488400	
10 PERCENT EXCEEDS	427		474		1380	
50 PERCENT EXCEEDS	40		111		88	
90 PERCENT EXCEEDS	32		33		6.0	

z Period of requlated streamflow.



08210000 Nueces River near Three Rivers, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Aug. 1941 to Sept. 1952, May 1965 to current year.
BIOCHEMICAL DATA: May 1965 to current year.
PESTICIDE DATA: Jan. 1968 to May 1982, Oct. 1996 to current year.
SEDIMENT DATA: Oct. 1941 to Aug. 1945, Mar. 1951 to Sept. 1952, Oct. 1974 to Aug. 1994.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Oct. 1941 to Sept. 1952, Oct. 1974 to Sept. 1981.
WATER TEMPERATURE: Oct. 1950 to Sept. 1952, Oct. 1974 to Sept. 1981.
SUSPENDED-SEDIMENT DISCHARGE: Oct. 1950 to Sept. 1951.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 4,310 microsiemens/cm, Jan. 17, 1977; minimum daily, 157 microsiemens/cm, May 26, 1975.
WATER TEMPERATURE: Maximum daily, 32.0°C, on several days during summers of 1977, 1978, and 1981; minimum daily, 7.0°C, Jan. 2, 3, 1979.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
DEC													
19...	0930	253	10.0	86.7	--	556	10.0	14	197	58.7	12.2	3.37	.937
MAR													
27...	1012	118	8.5	86.3	8.1	620	16.0	32	197	55.3	14.1	5.07	1.63
MAY													
10...	1015	45	7.7	90.9	8.1	972	23.5	--	190	52.0	14.4	12.5	3.94
AUG													
14...	1140	32	6.2	80.9	7.9	991	29.0	58	204	52.3	17.5	12.8	3.17

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
DEC													
19...	30.2	24.6	183	223	0	44.5	.2	11.2	32.5	309	<.041	.30	--
MAR													
27...	52.6	36.1	165	201	0	71.3	.2	8.5	47.8	356	E.035	.38	.252
MAY													
10...	124	56.9	191	233	0	136	.4	16.4	72.4	544	--	--	--
AUG													
14...	104	50.8	148	176	0	148	.2	19.5	81.7	525	E.035	.64	.173

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)
DEC													
19...	1.26	E.003	.058	E.032	.019	<1	.27	2.2	79.8	<.06	.04	<.8	.19
MAR													
27...	.259	.007	.061	E.033	.020	<1	.21	2.1	84.5	<.06	E.03	<.8	.23
MAY													
10...	--	--	--	--	--	2	.35	6.1	105	<.06	<.04	<.8	.34
AUG													
14...	.180	.007	.178	.067	.058	--	.48	7.2	113	<.06	E.02	<.8	.20

DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
DEC													
19...	1.1	<10	E.08	6.4	2.2	<.23	1.3	.19	<2.4	<1.0	297	E4.6	1
MAR													
27...	1.4	<10	.11	13.3	2.0	<.23	1.5	.21	<2.4	<1.0	363	<8.0	2
MAY													
10...	2.7	<10	.10	31.7	3.4	<.01	2.1	.39	<2.4	<1.0	470	8.2	3
AUG													
14...	2.7	20	E.05	23.4	6.3	--	2.4	<.06	<2.0	<1.0	460	E8.0	8

08210000 Nueces River near Three Rivers, TX--Continued

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

DATE	2,4,5-T DIS-SOLVED (UG/L) (39742)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL-UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA-RB SUL-FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALDI-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)
DEC													
19...	<.04	<.11	<.10	<.002	<.11	<.004	<.05	<.002	<.20	<.02	<.21	<.005	E.006
MAR													
27...	<.04	<.18	<.10	<.002	<.15	<.004	<.05	.007	<.20	<.02	<.21	<.005	.027
MAY													
10...	<.13	<.19	<.10	<.002	<.11	<.004	<.05	<.002	<.20	<.12	<.21	<.005	.399
AUG													
14...	<.04	<.11	<.10	<.002	<.11	<.004	<.05	<.002	<.20	<.02	<.21	<.005	.075

DATE	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENTA-ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BRO-MACIL, WATER, DISS, REC (UG/L) (04029)	BRO-MOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)
DEC													
19...	<.010	<.04	<.09	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.42	<.018
MAR													
27...	<.010	<.04	<.09	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.42	<.018
MAY													
10...	<.010	<.04	<.77	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.42	<.018
AUG													
14...	<.010	<.04	<.39	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.42	<.018

DATE	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLO-BENIL, WATER, FLTRD, GF 0.7U REC (UG/L) (49303)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	DNOC WAT,FLT GF 0.7U REC (UG/L) (49299)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)
DEC													
19...	<.07	<.003	<.006	<.005	<.04	<.05	<.05	<.005	<.09	<.021	<.06	<.25	<.002
MAR													
27...	<.07	<.003	E.004	<.005	<.04	<.05	<.05	<.005	<.09	<.021	<.06	<.25	<.002
MAY													
10...	<.07	<.003	E.021	<.005	<.04	<.05	<.05	<.005	<.09	<.021	.07	<.25	<.002
AUG													
14...	>.07	<.003	E.009	<.005	<.04	<.05	<.05	<.005	<.09	<.021	<.06	<.25	<.002

DATE	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)
DEC													
19...	<.009	<.005	<.07	<.06	<.003	<.004	<.02	<.035	<.027	<.08	<.13	<.07	<.02
MAR													
27...	<.009	<.005	<.07	<.06	<.003	<.004	<.02	<.035	<.027	<.08	<.13	<.07	<.59
MAY													
10...	<.009	<.005	<.07	<.06	<.003	<.004	<.02	<.035	<.027	<.08	<.13	<.07	<.54
AUG													
14...	<.009	<.005	<.07	<.06	<.003	<.004	<.02	<.035	<.027	<.08	<.13	<.07	<.49

DATE	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)
DEC													
19...	<.050	<.006	<.013	<.006	<.002	<.007	<.02	<.04	<.44	<.13	<.003	<.007	<.002
MAR													
27...	<.050	<.006	E.001	<.006	<.002	<.007	<.02	<.04	<2.20	<.18	<.003	<.007	<.002
MAY													
10...	<.050	<.006	E.006	<.006	<.002	<.007	<.02	<.04	<.28	<.02	<.003	<.007	<.002
AUG													
14...	<.050	<.006	E.005	<.006	<.002	<.007	<.02	<.04	<.28	<2.80	<.003	<.007	<.002

08210000 Nueces River near Three Rivers, TX--Continued

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

DATE	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SILVEX, DIS-SOLVED (UG/L) (39762)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
DEC													
19...	<.010	<.006	<.011	<.09	<.015	<.004	<.010	<.011	<.023	<.09	<.12	<.03	<.011
MAR													
27...	<.010	<.006	<.011	<.09	<.015	<.004	<.010	<.011	<.090	<.09	<.12	<.03	<.011
MAY													
10...	<.010	<.006	<.011	<.09	<.015	<.004	<.010	<.011	<.023	<1.69	<.12	<.03	.104
AUG													
14...	<.010	<.006	<.011	<.09	<.015	<.004	<.010	<.011	<.023	<.41	<.12	<.03	<.011

DATE	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)
DEC								
19...	<.016	<.034	<.017	<.005	<.002	<.21	<.009	1.08
MAR								
27...	<.016	<.034	<.017	<.005	<.002	<.15	<.009	.94
MAY								
10...	E.004	<.034	<.017	<.005	<.002	<.07	<.009	1.17
AUG								
14...	<.016	<.034	<.017	<.005	<.002	<.07	<.009	1.05

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08210500 Lake Corpus Christi near Mathis, TX

LOCATION.--Lat 28°02'17", long 97°52'15", San Patricio-Jim Wells County line, Hydrologic Unit 12110111, on right upstream corner of outlet tower at right end of Wesley E. Seale Dam on Nueces River, 0.6 mi upstream from bridge on State Highway 359, and 4.5 mi southwest of Mathis.

DRAINAGE AREA.--16,656 mi^2.

WATER-CONTENT RECORDS

PERIOD OF RECORD.--Sept. 1948 to Sept. 1960 (month end records only), Oct. 1960 to current year.

REVISED RECORDS.--WSP 1923: 1953(M), 1957(M).

GAGE.--Water-stage recorder. Supplemental water-stage recorder operated by city of Corpus Christi. Datum of gage is sea level. Prior to Oct. 1, 1957, nonrecording gage at various sites 0.2 mi upstream at datum 0.52 ft higher. Oct. 1, 1957, to Apr. 3, 1961, nonrecording gage near left end of Mathis Dam 0.2 mi upstream at present datum. Satellite telemeter at station.

REMARKS.--No estimated daily contents. Records good. Mathis Dam was completed and storage began July 24, 1934. The original capacity at spillway crest (elevation, 74.5 ft) was 54,000 acre-ft, but by Mar. 1948 had decreased to 39,400 acre-ft because of sedimentation. Wesley E. Seale Dam was completed and deliberate impoundment began on Apr. 26, 1958, submerging the old Mathis Dam. Wesley E. Seale Dam is a rolled earthfill dam, 5,930 ft long, including two spillways. The 1,320-foot north spillway has 33 gates that are operated by movable hydraulic lifts. The 1,080-foot south spillway has 27 gates that are electrically operated from the control tower. The gates were repaired and modified in Aug. 1966. All gates in both spillways are 37.5 by 8.75 ft wide. The dam is owned by the City of Corpus Christi. Water for municipal supply for the City of Corpus Christi is released downstream through a 4.0-foot-diameter cylinder valve and three 2.5- by 4.0-foot rectangular openings. The releases are diverted from the river at Calallen 35 mi downstream for domestic, municipal, irrigation, mining, and industrial uses in the Corpus Christi area. The cities of Alice, Beeville, and Mathis withdrew 8,418 acre-ft from the lake during the current year for municipal use. Conservation pool storage is 269,900 acre-ft. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam	106.0
Top of north spillway gates	94.5
Top of south spillway gates	94.0
Crest of spillways	88.0
Lowest gated outlet (invert)	55.5

COOPERATION.--Capacity curve 5-C from a Jan. 1987 survey provided by the City of Corpus Christi. Figures for new capacity curve were used beginning Oct. 1, 1989. Prior to Aug. 31, 1998, the City of Corpus Christi provided daily observer readings.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 320,000 acre-ft Sept. 22, 1967 and Sept. 12, 1971; maximum elevation, 94.82 ft, Sept. 22, 1967; minimum daily, 14,740 acre-ft, May 5, 1951, elevation, 67.62 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 185,700 acre-ft, Sept. 12, 13, elevation, 90.97 ft; minimum contents, 50,620 acre-ft, Aug. 27, elevation, 80.46 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

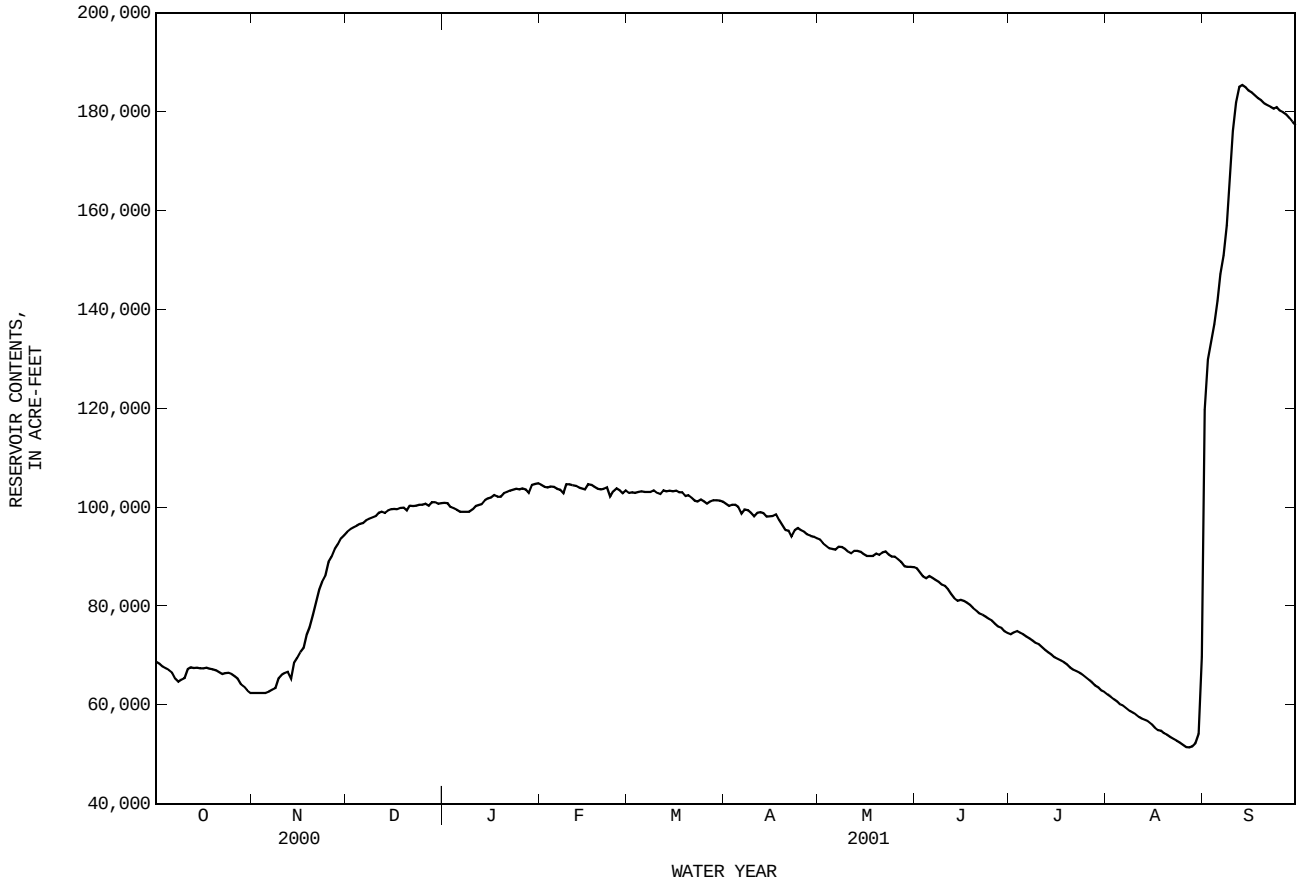
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68710	62390	95040	100900	104500	102900	100700	93400	87590	74240	62100	119700
2	68280	62380	95560	100800	104100	103000	100200	92710	86800	74640	61640	129900
3	67740	62380	95870	100000	104000	102900	100500	92220	85970	74900	61090	133500
4	67420	62400	96240	99750	104200	103100	100500	91670	85590	74570	60640	137000
5	67060	62420	96580	99420	104100	103200	100000	91570	86010	74260	60100	141700
6	66560	62660	96760	99060	103700	103100	98680	91400	85650	73790	59830	147200
7	65350	63050	97300	99070	103500	103100	99530	92030	85240	73410	59300	150900
8	64670	63350	97610	99030	102800	103100	99380	91940	84850	72970	58790	157000
9	65040	65360	97910	99040	104600	103400	98850	91520	84320	72540	58360	167000
10	65370	66040	98160	99540	104600	102900	98130	90970	84010	72240	58050	176100
11	67220	66430	98840	100200	104400	102600	98850	90660	83400	71660	57550	181900
12	67600	66660	99050	100400	104300	103400	99010	91140	82440	71110	57150	185000
13	67460	65290	98820	100600	104000	103200	98770	91180	81600	70650	56880	185400
14	67500	68450	99340	101400	103800	103300	98100	90980	81050	70190	56630	184900
15	67380	69490	99560	101800	103600	103200	98140	90480	81280	69570	56100	184300
16	67380	70610	99670	102000	104600	103300	98230	90150	81080	69290	55420	183900
17	67490	71440	99580	102400	104500	103000	98550	90100	80650	68920	54910	183300
18	67330	74240	99860	102100	104100	103000	97450	90130	80240	68610	54760	182700
19	67200	75720	99900	102100	103700	102200	96380	90560	79540	68140	54250	182300
20	66980	78120	99290	102800	103600	102400	95350	90290	79020	67540	53910	181700
21	66590	80740	100300	103100	103700	101900	95230	90830	78490	67090	53470	181300
22	66250	83310	100200	103300	104000	101300	94070	91030	78230	66790	53070	181000
23	66410	84890	100300	103500	102100	101100	95330	90400	77800	66480	52740	180600
24	66460	86080	100500	103700	103200	101500	95770	90010	77380	66090	52340	180900
25	66240	88870	100500	103600	103800	101100	95330	89980	77060	65590	51890	180200
26	65780	90000	100700	103800	103400	100700	94950	89490	76410	65090	51480	179900
27	65300	91570	100300	103600	102800	101100	94430	88920	75840	64550	51380	179400
28	64230	92440	101000	102900	103400	101400	94170	88080	75530	63870	51620	178700
29	63680	93670	101000	104500	---	101400	94010	87940	74840	63480	52230	178000
30	62950	94350	100700	104700	---	101300	93710	87940	74530	62840	54130	177300
31	62430	---	100800	104800	---	101100	---	87850	---	62570	69650	---

08210500 Lake Corpus Christi near Mathis, TX--Continued

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	66320	74160	98940	101700	103800	102400	97410	90570	81080	69280	56500	169800
MAX	68710	94350	101000	104800	104600	103400	100700	93400	87590	74900	69650	185400
MIN	62430	62380	95040	99030	102100	100700	93710	87850	74530	62570	51380	119700
(+)	81.94	84.97	85.47	85.77	85.67	85.49	84.92	84.43	83.22	81.95	82.54	90.48
(@)	-6570	+31920	+6450	+4000	-1400	-2300	-7390	-5860	-13320	-11960	+7080	+107650

CAL YR 2000 MAX 150700 MIN 62380 (@) -49500
WTR YR 2001 MAX 185400 MIN 51380 (@) 108300

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



WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Mar. 1971 to Sept. 1976, Mar. 1999 to current year.
BIOCHEMICAL DATA: Mar. 1971 to Sept. 1976.
PESTICIDE DATA: Mar. 1999 to current year.

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

280238097521301 -- Lk Corpus Christi Site AC

DATE	TIME	RESER-VOIR STORAGE (AC-FT) (00054)	SAM-PLING DEPTH (FEET) (00003)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TRANS-PAR-ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
JAN													
30...	1439	105000	1.00	643	8.5	15.5	.55	10.0	101	201	34	62.3	10.9
JAN													
30-30	1439	--	--	--	--	--	--	--	--	--	--	--	--
30...	1441	--	10.0	643	8.5	14.5	--	9.6	94.6	--	--	--	--
30...	1443	--	20.0	644	8.4	14.0	--	9.4	91.6	--	--	--	--
30...	1445	--	32.0	648	8.4	14.0	--	8.7	84.8	199	30	62.6	10.3
JUN													
13...	1600	81400	1.00	680	8.4	29.5	.30	6.3	87.4	203	28	61.5	11.8
JUN													
13-13	1600	--	--	--	--	--	--	--	--	--	--	--	--
13...	1602	--	10.0	680	8.4	29.5	--	6.2	82.5	--	--	--	--
13...	1604	--	20.0	680	8.4	29.5	--	5.7	75.8	--	--	--	--
13...	1606	--	28.0	682	8.3	29.0	--	4.8	63.3	202	29	61.2	11.8
13...	1608	--	30.0	--	--	--	--	--	--	--	--	--	--

280238097521301 -- Lk Corpus Christi Site AC

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
JAN													
30...	57.1	1.75	37.0	8.48	0	203	166	43.0	72.2	.2	18.3	373	--
JAN													
30-30	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	53.4	1.65	35.7	8.47	0	206	169	42.8	73.0	.2	17.5	370	--
JUN													
13...	59.1	1.81	37.6	9.25	0	213	178	47.0	78.8	.2	19.7	392	2
JUN													
13-13	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	1
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	60.9	1.87	38.3	9.32	0	211	176	46.9	80.8	.2	19.8	395	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

280238097521301 -- Lk Corpus Christi Site AC

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JAN													
30...	1	.31	9.2	122	<.06	<.04	<.8	.17	2.7	<10	.10	12.3	.5
JAN													
30-30	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	<1	.33	9.3	119	<.06	<.04	<.8	.16	2.6	<10	E.07	11.8	3.2
JUN													
13...	<1	.32	9.0	133	<.06	<.04	<.8	.20	1.2	<10	<.08	14.8	--
JUN													
13-13	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	<1	.33	9.3	133	<.06	<.04	<.8	.14	1.6	<10	<.08	15.5	.5
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

08210500 Lake Corpus Christi near Mathis, TX--Continued

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

280238097521301 -- Lk Corpus Christi Site AC

DATE	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)	2,4,5-T DIS-SOLVED (UG/L) (39742)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)
JAN													
30...	<.23	2.1	.45	<2.4	<1.0	372	13.3	2	1.27	--	--	--	--
JAN													
30-30	--	--	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	<.23	2.1	.42	<2.4	<1.0	348	11.0	1	1.28	--	--	--	--
JUN													
13...	M	2.1	.15	<2.0	<1.0	385	9.4	<1	1.40	--	--	--	--
JUN													
13-13	<.01	--	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	<.01	2.1	.06	<2.0	<1.0	390	9.4	<1	1.41	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

280238097521301 -- Lk Corpus Christi Site AC

DATE	SILVEX, DIS-SOLVED (UG/L) (39762)	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	DNOC WAT,FLT GF 0.7U REC (UG/L) (49299)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL-UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALDI-CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA-RB SUL-FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.03	<.11	<.25	<.004	<.05	<.002	<.27	<.20	<.02	<.005	.061	<.050	<.010
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.22	<.16	<.25	<.004	<.34	<.002	<.21	<.20	<.07	<.005	.124	<.050	<.010
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

280238097521301 -- Lk Corpus Christi Site AC

DATE	BENTA-ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BRO-MACIL, WATER, DISS, REC (UG/L) (04029)	BRO-MOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39787)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.04	<.09	<.07	<.002	<.02	<.041	<.29	<.020	--	<.13	<.005	<.006	<.42
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.04	<.09	<.07	<.002	<.02	<.041	<.29	<.020	--	<.13	<.005	<.006	<.42
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	<.6	--	--	--	--

280238097521301 -- Lk Corpus Christi Site AC

DATE	CYANAZINE, WATER, DISS, REC (UG/L) (04041)	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L) (04040)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG) (39571)	DIAZINON, DISSOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLOBENIL, WATER, FLTRD, GF 0.7U REC (UG/L) (49303)	DICHLORPROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DIELDRIN DISSOLVED (UG/L) (39381)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DISULFOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.018	<.07	<.003	E.010	--	<.005	<.04	<.05	<.05	<.005	<.09	<.021	<.06
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.018	<.07	<.003	E.005	--	.007	<.07	<.05	<.06	<.005	<.09	<.021	<.06
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	<.6	--	--	--	--	--	--	--	--

280238097521301 -- Lk Corpus Christi Site AC

DATE	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHALFLURALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG) (39399)	ETHOPROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FENURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUOMETURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DISSOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LINURON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG) (39531)	MALATHION, DISSOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.002	<.009	--	<.005	<.07	<.06	<.003	<.004	<.02	<.035	--	<.027	<.08
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.002	<.009	--	<.005	<.07	<.06	<.003	<.004	<.02	<.035	--	E.005	<.10
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	<.6	--	--	--	--	--	--	--	<.6	--	--

280238097521301 -- Lk Corpus Christi Site AC

DATE	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METHIOCARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METHOMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METOLACHLOR WATER DISSOLV (UG/L) (39415)	METRIBUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOLINATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROPAMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEBURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NORFLURAZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORYZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG) (39541)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.13	<.07	<.31	<.013	<.006	<.002	<.007	<.02	<.04	<.54	<.14	<.003	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.13	<.07	<.02	E.012	<.006	<.003	<.007	<.03	<.04	<.28	<14.4	<.003	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	<.6

08210500 Lake Corpus Christi near Mathis, TX--Continued

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

280238097521301 -- Lk Corpus Christi Site AC

DATE	PARA-THION, DIS-SOLVED (UG/L) (39542)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG) (39601)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.007	--	<.006	<.002	<.010	<.011	<.09	<.015	<.010	<.011	--	<.09	<.12
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.007	--	<.006	<.002	<.010	<.011	<.09	<.015	<.010	<.011	<.023	<1.04	<.12
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	<.6	--	--	--	--	--	--	--	--	--	--	--

280238097521301 -- Lk Corpus Christi Site AC

DATE	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
JAN									
30...	--	--	--	--	--	--	--	--	--
JAN									
30-30	<.004	<.011	<.016	<.034	<.017	<.005	<.002	<.07	E.007
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
JUN									
13...	--	--	--	--	--	--	--	--	--
JUN									
13-13	<.004	<.011	<.016	<.034	<.017	<.005	<.002	<.20	<.009
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--

280656097542801 -- Lk Corpus Christi Site BC

DATE	TIME	SAM-PLING DEPTH (FEET) (00003)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TRANS-PAR-ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)	2,4,5-T DIS-SOLVED (UG/L) (39742)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)
JAN													
30...	1526	1.00	617	8.5	17.5	.37	9.1	95.6	--	--	--	--	--
JAN													
30-30	1526	--	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002
30...	1528	10.0	619	8.4	15.5	--	8.8	88.6	--	--	--	--	--
30...	1530	21.0	632	8.3	15.5	--	8.2	82.6	--	--	--	--	--
JUN													
13...	1520	1.00	685	8.3	30.0	.21	7.7	103	<1	--	--	--	--
JUN													
13-13	1520	--	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002
13...	1522	10.0	684	8.3	30.0	--	7.3	97.9	--	--	--	--	--
13...	1524	19.0	685	8.2	30.0	--	6.9	92.6	--	--	--	--	--

280656097542801 -- Lk Corpus Christi Site BC

DATE	SILVEX, DIS-SOLVED (UG/L) (39762)	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	DNOC WAT,FLT GF 0.7U REC (UG/L) (49299)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL-UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALDI-CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA-RB SUL-FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.03	<.14	<.25	<.004	<.05	<.002	<.21	<.20	<.12	<.005	.076	<.050	<.010
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.03	<.12	<.25	<.004	<.10	<.002	<.21	<.20	<.04	<.005	.142	<.050	<.010
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

280656097542801 -- Lk Corpus Christi Site BC

DATE	BENTA-ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BRO-MACIL, WATER, DISS, REC (UG/L) (04029)	BRO-MOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.04	<.09	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.006	<.42	<.018
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.04	<.11	<.07	<.002	<.02	<.041	<.29	<.020	<.13	<.005	<.006	<.42	<.018
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

280656097542801 -- Lk Corpus Christi Site BC

DATE	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLO-BENIL, WATER, FLTRD, GF 0.7U REC (UG/L) (49303)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.07	<.003	E.009	<.005	<.04	<.05	<.05	<.005	<.09	<.021	<.06	<.002	<.009
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.07	<.003	E.006	<.015	<.06	<.05	<.06	<.005	<.09	<.021	<.06	<.002	<.009
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

280656097542801 -- Lk Corpus Christi Site BC

DATE	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.005	<.10	<.06	<.003	<.004	<.02	<.035	<.027	<.08	<.13	<.07	<1.74	<.013
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.005	<.07	<.06	<.003	<.004	<.02	<.035	E.013	<.08	<.13	<.07	<.02	E.008
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

280656097542801 -- Lk Corpus Christi Site BC

DATE	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.006	<.002	<.007	<.02	<.04	<.47	<.10	<.003	<.007	<.006	<.002	<.010	<.011
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.006	<.002	<.007	<.02	<.04	<.28	<5.40	<.003	<.007	<.006	<.002	<.010	<.011
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

280656097542801 -- Lk Corpus Christi Site BC

DATE	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.09	<.015	<.010	<.011	--	<.32	<.12	<.004	<.011	<.016	<.034	<.017	<.005
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.09	<.015	<.010	<.011	<.023	<1.23	<.12	<.004	<.011	<.016	<.034	<.017	<.005
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

08210500 Lake Corpus Christi near Mathis, TX--Continued

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

280656097542801 -- Lk Corpus Christi Site BC

DATE	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
JAN			
30...	--	--	--
JAN			
30-30	<.002	<.07	E.007
30...	--	--	--
30...	--	--	--
JUN			
13...	--	--	--
JUN			
13-13	<.002	<.10	<.009
13...	--	--	--
13...	--	--	--

281411097564801 -- Lk Corpus Christi Site EC

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)	2,4,5-T DISSOLVED (UG/L) (39742)	2,4-D, DISSOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	2,6-DIETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	SILVEX, DISSOLVED (UG/L) (39762)
JAN													
30...	1300	1.00	669	8.5	16.5	10.7	110	--	--	--	--	--	--
JAN													
30-30	1300	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002	<.03
30...	1302	4.00	668	8.4	15.0	10.4	104	--	--	--	--	--	--
30...	1304	8.00	668	8.3	15.0	10.0	99.6	--	--	--	--	--	--
JUN													
13...	1730	1.00	701	8.2	31.5	6.3	86.7	<1	--	--	--	--	--
JUN													
13-13	1730	--	--	--	--	--	--	--	<.04	<.11	<.10	<.002	<.03
13...	1732	9.00	700	8.2	31.5	5.4	74.3	--	--	--	--	--	--
13...	1732	10.0	--	--	--	--	--	--	--	--	--	--	--

281411097564801 -- Lk Corpus Christi Site EC

DATE	3HYDRXY CARBOFURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	DNOC WAT,FLT GF 0.7U REC (UG/L) (49299)	ACETOCHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFLUORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALACHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDICARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALDICARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICARB SULFOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALPHA BHC DISSOLVED (UG/L) (34253)	ATRAZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZINPHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BENFLURALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENTAZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.20	<.25	<.004	<.05	<.002	<.21	<.20	<.02	<.005	.134	<.050	<.010	<.04
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.20	<.25	<.004	<.12	<.002	<.29	<.20	<.02	<.005	.032	<.050	<.010	<.04
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

08210500 Lake Corpus Christi near Mathis, TX--Continued

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

281411097564801 -- Lk Corpus Christi Site EC

DATE	BRO-MACIL, WATER, DISS, REC (UG/L) (04029)	BRO-MOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39787)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.09	<.07	<.002	<.02	<.041	<.29	<.020	--	<.13	<.005	<.006	<.42	<.018
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.09	<.07	<.002	<.02	<.041	<.29	<.020	--	<.13	<.005	<.006	<.42	<.018
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	<.4	--	--	--	--	--

281411097564801 -- Lk Corpus Christi Site EC

DATE	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39571)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLO-BENIL, WATER, FLTRD, GF 0.7U REC (UG/L) (49303)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.07	<.003	E.007	--	<.005	<.04	<.05	<.05	<.005	<.17	<.021	<.06	<.002
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.07	<.003	E.003	--	<.005	<.07	<.05	<.05	<.005	<.09	<.021	<.06	<.002
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	<.4	--	--	--	--	--	--	--	--	--

281411097564801 -- Lk Corpus Christi Site EC

DATE	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39399)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39531)	MALA-THION, DIS-SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.009	--	<.005	<.07	<.06	<.003	<.004	<.02	<.035	--	<.027	<.08	<.13
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.009	--	<.005	<.07	<.06	<.003	<.004	<.02	<.035	--	E.008	<.08	<.13
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	<.4	--	--	--	--	--	--	--	<.4	--	--	--

281411097564801 -- Lk Corpus Christi Site EC

DATE	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39541)	PARA-THION, DIS-SOLVED (UG/L) (39542)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	<.07	<3.47	<.013	<.006	<.002	<.007	<.02	<.04	<.28	<.11	<.003	--	<.007
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	<.07	<.02	E.005	<.006	<.002	<.007	<.12	<.04	<.28	<7.42	<.003	--	<.007
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	<.4	--

281411097564801 -- Lk Corpus Christi Site EC

DATE	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG) (39601)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30-30	--	<.006	<.002	<.010	<.011	<.09	<.015	<.010	<.011	<.023	<.09	<.12	<.004
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13-13	--	<.006	<.002	<.010	<.011	<.09	<.015	<.010	<.011	<.023	<.43	<.12	<.004
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	<.4	--	--	--	--	--	--	--	--	--	--	--	--

281411097564801 -- Lk Corpus Christi Site EC

DATE	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
JAN								
30...	--	--	--	--	--	--	--	--
JAN								
30-30	<.011	<.016	<.034	<.017	<.005	<.002	<.07	<.009
30...	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--
JUN								
13...	--	--	--	--	--	--	--	--
JUN								
13-13	<.011	<.016	<.034	<.017	<.005	<.002	<.07	<.009
13...	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--

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08211000 Nueces River near Mathis, TX

LOCATION.--Lat 28°02'17", long 97°51'36", San Patricio-Jim Wells County line, Hydrologic Unit 12110111, at downstream side of bridge on State Highway 359, 0.6 mi downstream from Wesley E. Seale Dam, 4 mi southwest of Mathis, and at mile 46.7.

DRAINAGE AREA.--16,660 mi^2, of which 16,656 mi^2 is above Wesley E. Seale Dam.

PERIOD OF RECORD.--Aug. 1939 to current year.
Water-quality records.--Chemical data: Oct. 1947 to Sept. 1991. Specific conductance: Oct. 1947 to Sept. 1991. Water temperature: Oct. 1947 to Sept. 1991.

GAGE.--Water-stage recorder. Datum of gage is 26.53 ft above sea level. Aug. 5, 1939, to Aug. 29, 1984, on left bank 9 ft upstream at datum 1.0 ft higher. Aug. 29 to Nov. 5, 1984, on left bank 9 ft upstream at present datum. Nov. 5, 1984, to Aug. 5, 1987, on left bank 154 ft downstream at present datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. Since installation of gage in water year 1939, at least 10% of contributing drainage area has been regulated. Upstream from Lake Corpus Christi, flow is affected by recharge to permeable formations, small diversions, and minor regulation. Water for municipal and industrial uses at the City of Corpus Christi is released from Lake Corpus Christi above gage and is diverted from river at Calallen 34 mi downstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of about 41 ft, present datum, occurred Sept. 20, 1919, from information by Texas and New Orleans Railroad Co. and is the second highest known. Maximum stage since at least 1888, that of Sept. 24, 1967.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128	467	93	175	224	224	82	114	112	122	172	669
2	153	466	92	220	146	148	107	122	116	122	146	78
3	178	464	91	267	77	85	147	124	111	82	146	140
4	183	471	92	280	77	85	115	123	106	59	145	142
5	167	469	92	283	77	86	98	121	102	58	96	106
6	150	293	91	286	78	83	98	112	101	55	86	99
7	136	137	92	217	80	81	99	109	110	62	123	100
8	116	106	91	110	92	81	134	114	100	72	162	92
9	110	101	91	100	107	81	119	95	76	78	147	82
10	101	102	91	96	107	81	112	80	65	95	142	83
11	93	101	91	86	107	81	111	82	78	124	142	82
12	93	101	86	86	100	82	99	83	98	145	142	82
13	124	102	88	86	93	81	104	83	105	166	142	53
14	113	92	103	86	84	94	104	99	109	165	148	65
15	109	85	104	86	84	100	104	133	84	144	150	77
16	104	86	104	107	84	97	100	161	67	140	158	92
17	105	86	104	90	84	106	97	190	94	129	165	131
18	116	88	104	87	84	174	97	175	99	123	166	130
19	88	88	104	86	120	163	97	164	103	121	160	130
20	89	89	104	86	137	156	100	161	123	123	154	131
21	94	90	95	86	95	157	103	136	143	110	148	124
22	117	89	94	87	95	157	104	110	108	113	148	77
23	86	89	94	86	103	157	107	108	72	117	148	74
24	99	88	94	86	137	157	120	96	95	127	148	56
25	206	87	95	86	137	157	130	91	96	143	140	40
26	269	85	114	86	137	157	124	112	86	143	130	109
27	311	85	134	86	137	178	98	132	103	142	125	274
28	412	84	137	86	186	224	95	114	115	143	117	274
29	423	94	165	87	---	224	104	98	61	143	110	295
30	450	102	176	122	---	224	128	101	114	156	74	343
31	460	---	175	183	---	166	---	108	---	172	105	---
TOTAL	5383	4887	3281	4001	3069	4127	3237	3651	2952	3694	4285	4230
MEAN	174	163	106	129	110	133	108	118	98.4	119	138	141
MAX	460	471	176	286	224	224	147	190	143	172	172	669
MIN	86	84	86	86	77	81	82	80	61	55	74	40
AC-FT	10680	9690	6510	7940	6090	8190	6420	7240	5860	7330	8500	8390

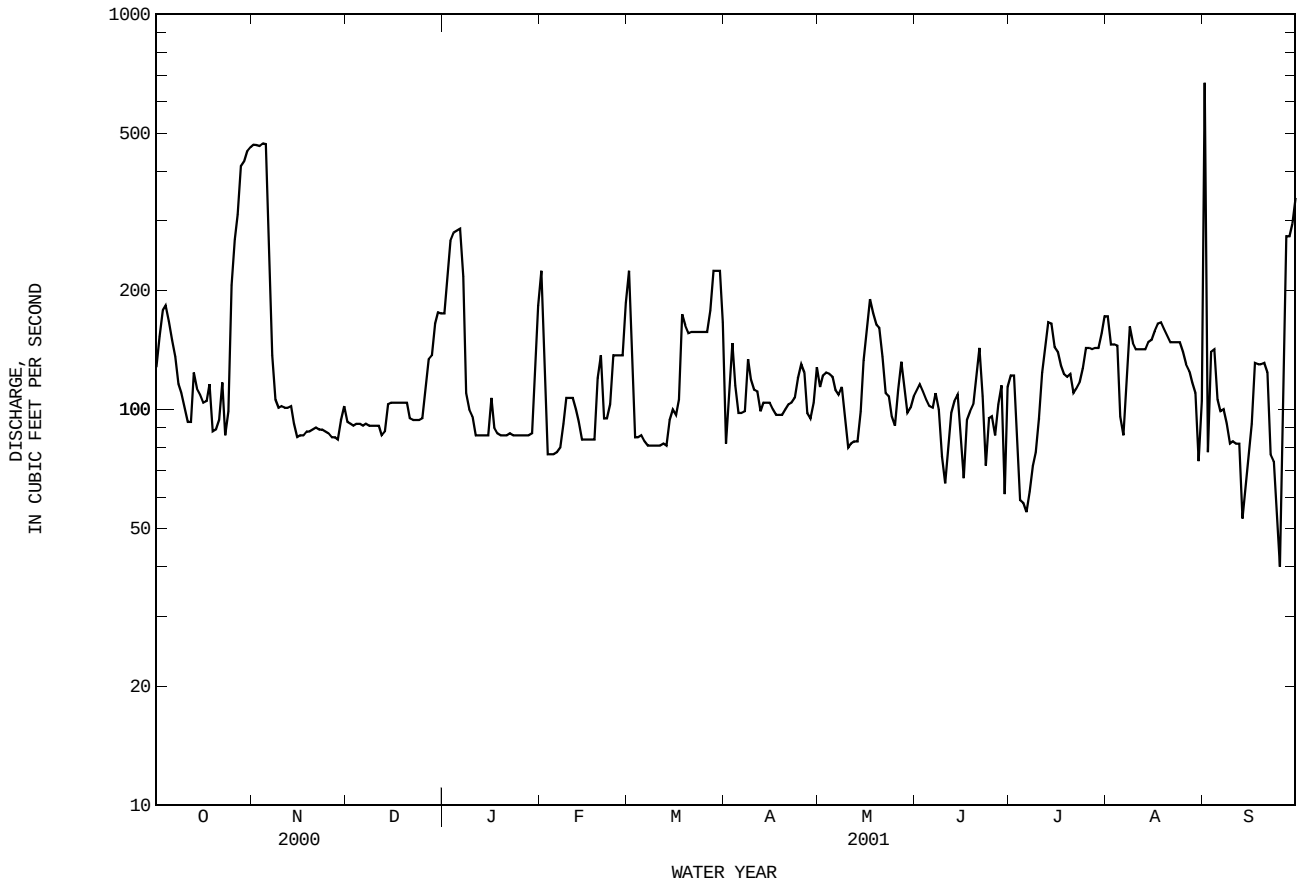
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2001, BY WATER YEAR (WY)

MEAN	1216	421	197	291	324	277	426	1171	1253	808	511	1469
MAX	14850	4552	1871	4994	5165	4377	4639	10500	8204	10440	10050	24950
(WY)	1972	1977	1977	1958	1958	1958	1977	1941	1987	1942	1971	1967
MIN	55.3	31.0	27.9	28.1	24.3	31.0	37.3	39.3	43.7	67.0	41.6	44.0
(WY)	1953	1940	1940	1940	1942	1948	1948	1948	1948	1951	1943	1945

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1939 - 2001	
ANNUAL TOTAL	58231		46797			
ANNUAL MEAN	159		128		699	
HIGHEST ANNUAL MEAN					2167	1967
LOWEST ANNUAL MEAN					104	1964
HIGHEST DAILY MEAN	471	Nov 4	669	Sep 1	125000	Sep 25 1967
LOWEST DAILY MEAN	41	Mar 16	40	Sep 25	6.8	Aug 15 1940
ANNUAL SEVEN-DAY MINIMUM	60	Jan 9	67	Jul 3	15	Aug 9 1940
MAXIMUM PEAK FLOW			1510	Sep 1	i138000	Sep 24 1967
MAXIMUM PEAK STAGE			10.05	Sep 1	a48.70	Sep 24 1967
ANNUAL RUNOFF (AC-FT)	115500		92820		506200	
10 PERCENT EXCEEDS	393		175		1170	
50 PERCENT EXCEEDS	126		106		130	
90 PERCENT EXCEEDS	74		82		53	

i From indirect measurement of peak flow.
a From floodmark.

08211000 Nueces River near Mathis, TX--Continued



08211200 Nueces River at Bluntzer, TX
(Partial-record station)

LOCATION.--Lat 27°56'15", long 97°46'32", Nueces County, Hydrologic Unit 12110111, on right bank, at downstream end of bridge on Farm Road 666, 1.2 mi south of San Patricio, 5.5 mi upstream from Cayamon Creek, and 10.3 mi northwest of Calallen.

DRAINAGE AREA.--16,772 mi^2.

PERIOD OF RECORD.--Jan. 1966 to Feb. 1967, Mar. 1992 to current year (daily mean discharges below base discharge). Prior to Oct. 1994, published as "above Calallen".

GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to Mar. 27, 1992, at same site at datum 6.04 ft higher. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Since installation of gage in Jan. 1966, at least 10% of contributing drainage area has been regulated.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 27.18 ft, Mar. 29, 1992; minimum discharge, 56 ft^3/s, Sept. 26, 27, 2001, gage height, 6.59 ft.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, unknown, Sept. 1; minimum discharge, 56 ft^3/s, Sept. 26, 27, gage height, 6.59 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151	458	104	198	208	217	162	125	117	131	176	e750
2	154	464	96	201	235	235	106	120	121	145	182	e240
3	181	465	97	254	122	129	138	123	125	134	154	e280
4	192	482	97	289	88	94	171	124	124	94	168	e280
5	197	483	97	298	88	94	125	127	116	79	143	215
6	185	487	97	300	89	95	114	128	113	75	100	164
7	178	256	96	298	90	92	112	127	112	71	85	132
8	160	161	97	196	88	90	141	118	120	75	126	122
9	143	103	97	110	103	90	143	119	108	86	155	112
10	140	99	97	106	105	90	137	99	92	82	137	101
11	129	99	97	97	106	90	125	97	90	110	135	96
12	124	99	95	92	108	90	128	98	101	125	134	96
13	127	97	93	91	100	92	113	97	115	157	135	95
14	138	96	100	93	97	91	118	97	118	167	135	73
15	132	88	107	92	92	102	117	114	122	165	141	72
16	130	87	108	98	92	101	116	135	92	160	143	85
17	125	87	108	105	92	101	111	174	95	152	156	98
18	137	92	108	95	92	133	110	185	107	144	166	134
19	122	92	107	94	94	181	110	177	112	126	170	138
20	113	89	108	93	131	169	110	181	115	132	168	138
21	113	89	106	93	119	165	112	173	152	130	156	139
22	121	90	101	93	100	163	114	134	164	117	145	134
23	119	90	100	93	100	165	114	117	108	119	142	99
24	111	91	101	93	114	165	115	112	99	118	150	92
25	136	91	101	93	130	167	134	105	113	132	152	77
26	248	91	103	93	136	169	142	100	108	140	139	58
27	283	92	130	93	141	173	125	130	104	141	130	138
28	348	92	141	93	146	223	110	139	121	141	140	258
29	399	93	152	93	---	251	106	114	115	142	144	271
30	426	102	188	93	---	249	121	109	86	143	230	298
31	444	---	198	155	---	248	---	111	---	162	392	---
TOTAL	5706	5305	3427	4285	3206	4514	3700	3909	3385	3895	4829	4985
MEAN	184	177	111	138	114	146	123	126	113	126	156	166
MAX	444	487	198	300	235	251	171	185	164	167	392	750
MIN	111	87	93	91	88	90	106	97	86	71	85	58
AC-FT	11320	10520	6800	8500	6360	8950	7340	7750	6710	7730	9580	9890

e Estimated

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08211500 Nueces River at Calallen, TX
(Partial-record station)

LOCATION.--Lat 27°52'29", long 97°37'31", Nueces County, Hydrologic Unit 12110111, below the Cunningham pumping station in Corpus Christi, 200 ft upstream from Calallen Dam, 1.0 mi northwest of Calallen, about 1.9 mi downstream from bridge on Interstate Highway 37, about 7.0 mi upstream from Nueces Bay, and about 0.5 mi upstream from Missouri-Pacific Railroad bridge.

DRAINAGE AREA.--16,920 mi^2.

PERIOD OF RECORD.--Oct. 1983 to Sept. 1989 (maximum annual gage height and discharge). Oct. 1989 to current year (daily mean discharges below base discharge of 2,570 ft^3/s).

REVISED RECORDS.--WSP 1312: Data Aug. 1915 to Mar. 1919 unreliable and should not be used.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 0.84 ft above sea level. Prior to June 15, 2000, water-stage recorder at site 0.5 mi upstream from Calallen Dam at same datum. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since installation of gage in Oct. 1989, at least 10% of contributing drainage area has been regulated. There are numerous diversions above station for agricultural, municipal, and industrial supply. The cities of Corpus Christi, San Patricio, and Robstown have a combined withdrawal capacity of 205,500 gallons per minute.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,780 ft^3/s, June 11, 1987, gage height, 9.25 ft, from rating extended above 2,500 ft^3/s; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,320 ft^3/s, Aug. 31, gage height, 6.45 ft; minimum discharge, 0.00 ft^3/s, on many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	384	8.1	64	107	85	71	.00	.00	.00	.01	938
2	.00	413	17	78	159	160	10	.00	.00	e.00	5.3	776
3	.00	403	23	134	104	127	2.2	.00	.44	e27	9.9	221
4	.00	576	17	221	35	39	27	.00	3.1	21	22	103
5	.00	473	17	248	18	8.6	30	4.6	1.6	1.5	31	85
6	7.9	483	16	205	19	15	16	19	.00	.00	1.5	74
7	34	239	16	239	17	15	26	24	.00	.00	.00	44
8	44	86	23	172	17	5.3	27	8.8	.00	.00	.00	32
9	25	57	30	59	11	3.9	22	22	15	.00	.00	25
10	23	17	8.8	46	12	12	12	9.4	21	.00	.00	15
11	13	13	13	52	20	15	13	.00	6.5	.00	.00	4.3
12	15	30	16	21	24	.71	30	.00	.00	.00	.00	19
13	.01	20	16	30	16	1.3	22	.00	.00	.00	.00	9.7
14	3.5	24	15	36	8.1	.00	6.8	.00	.00	.00	.00	.39
15	17	15	8.8	23	2.2	2.3	15	.00	.00	.07	.00	.00
16	13	12	35	13	3.3	14	8.8	.00	.00	9.8	.00	.00
17	8.5	9.3	34	31	13	6.1	4.1	.00	.00	16	.00	.00
18	11	16	20	42	2.6	18	1.2	.05	.00	7.5	.00	.00
19	16	29	7.8	22	.00	63	7.8	11	.00	.00	.00	.00
20	.15	15	32	18	.35	31	.00	32	.00	.72	.03	.00
21	.00	.00	25	25	34	23	.04	28	.00	6.3	.00	.00
22	.00	5.8	9.4	33	11	7.0	1.2	28	.00	.00	.00	19
23	.00	17	10	21	2.1	21	.00	21	.00	.00	.00	23
24	.00	3.2	27	14	.00	43	.01	16	.00	.00	.00	21
25	.00	4.0	21	27	8.0	73	9.5	2.4	.00	.00	.05	32
26	44	13	5.1	31	28	48	6.7	.00	.00	.00	5.2	7.9
27	119	19	22	9.2	45	65	11	.00	.00	.00	.00	2.6
28	199	4.5	19	20	60	93	9.4	.07	.00	.00	12	71
29	317	.68	8.0	32	---	175	.00	2.2	.00	.00	31	109
30	336	24	36	18	---	178	.00	.12	.00	.00	58	133
31	361	---	55	34	---	166	---	.00	---	.00	593	---
TOTAL	1607.06	3405.48	611.0	2018.2	776.65	1514.21	389.75	228.64	47.64	89.89	768.99	2764.89
MEAN	51.8	114	19.7	65.1	27.7	48.8	13.0	7.38	1.59	2.90	24.8	92.2
MAX	361	576	55	248	159	178	71	32	21	27	593	938
MIN	.00	.00	5.1	9.2	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	3190	6750	1210	4000	1540	3000	773	454	94	178	1530	5480

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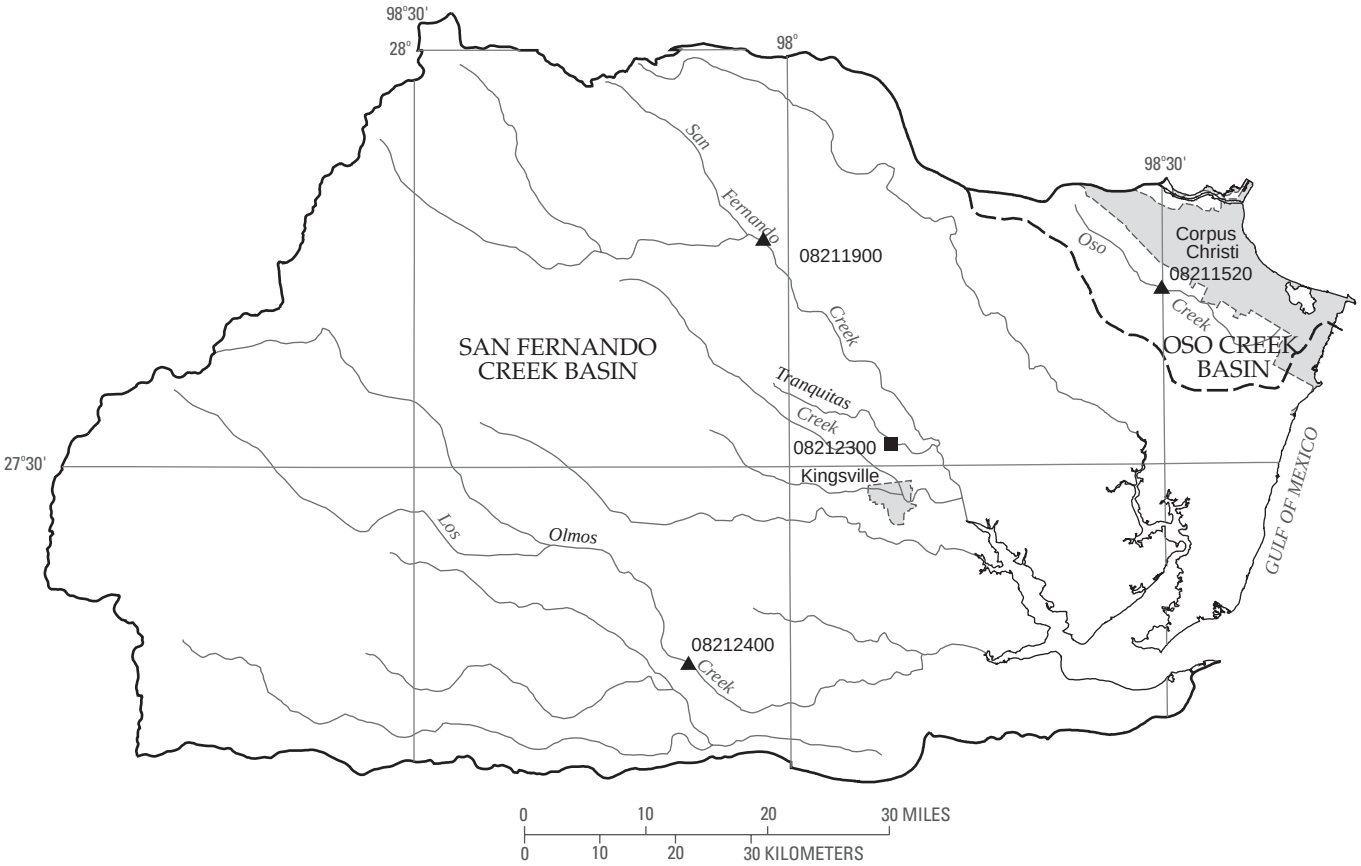


EXPLANATION

08212400 ▲ **Surface-water continuous station and number**

08212300 ■ **Surface-water partial record/stage only station and number**

Figure 8.--Map showing location of gaging stations in the Oso Creek and San Fernando Creek Basins

08211520 Oso Creek at Corpus Christi, TX 294
08211900 San Fernando Creek at Alice, TX 296
08212300 Tranquitas Creek at Kingsville, TX 341
08212400 Los Olmos Creek near Falfurias, TX 298

08211520 Oso Creek at Corpus Christi, TX

LOCATION.--Lat 27°42'40", long 97°30'06", Nueces County, Hydrologic Unit 12110202, on left downstream end of bridge on Farm Road 763, 1.5 mi south of intersection of Farm Roads 763 and 665, 1.6 mi downstream from mouth of West Oso Creek, and 1.9 mi southwest of intersection of Farm Road 665 and State Highway 357.

DRAINAGE AREA.--90.3 mi^2.

PERIOD OF RECORD.--Sept. 1972 to current year.
Water-quality records.--Chemical data: July 1972 to Aug. 1988. Biochemical data: July 1972 to Aug. 1988. Pesticide data: July 1972 to July 1981.

GAGE.--Water-stage recorder. Datum of gage is 1.91 ft below sea level. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. No known regulation or diversions. An undetermined amount of water from oil-field operations enters the stream upstream from station at various points.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 24.5 ft occurred in May 1968, from information by local resident.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.0	7.4	4.2	1.7	1.4	4.3	.69	.83	.55	.19	631
2	1.3	1.0	4.3	2.6	4.4	2.4	3.5	.75	.63	6.3	.18	551
3	1.2	1.2	2.7	1.7	3.5	4.1	3.3	.75	.48	7.9	1.2	368
4	1.1	31	2.3	1.6	3.4	3.5	3.1	.79	.48	3.5	.29	173
5	1.2	868	2.0	1.8	3.8	2.8	3.1	.61	.46	2.0	.22	171
6	5.4	651	1.7	1.8	3.2	2.7	3.0	.53	.45	1.1	.19	118
7	45	358	1.6	1.6	2.7	2.7	2.4	11	1.3	.71	6.5	49
8	70	128	1.5	1.5	2.4	2.3	2.1	3.3	4.4	.49	1.5	20
9	26	59	1.5	1.4	2.0	3.0	2.1	2.3	7.9	.39	.22	159
10	16	32	1.6	2.7	1.5	2.2	2.2	2.4	4.3	.37	.19	392
11	15	20	1.8	5.7	1.2	1.8	1.7	1.8	3.2	.32	.17	70
12	19	13	1.8	4.5	1.5	1.9	.76	1.3	1.5	.30	.16	27
13	13	8.1	e1.7	3.9	1.8	1.9	.71	.90	.89	.28	.15	13
14	9.5	5.2	e1.7	3.0	1.8	1.7	.67	4.7	.70	.26	.15	6.8
15	5.9	3.6	1.6	2.5	1.8	1.9	.64	5.1	.51	.24	.14	4.1
16	3.4	3.2	1.4	5.5	1.6	1.9	.62	2.5	.42	.24	.15	3.3
17	2.4	3.4	1.2	8.5	1.2	1.9	.66	1.4	.39	.25	.15	3.1
18	2.1	3.9	1.2	8.4	1.1	1.8	.61	1.2	.39	.25	.15	2.8
19	1.6	9.5	1.5	9.2	1.4	2.6	.62	1.2	.38	.24	.15	2.3
20	1.2	7.8	1.7	5.5	1.6	2.2	.76	1.3	.43	.24	.15	1.8
21	1.1	8.7	1.8	3.9	1.6	1.7	.74	2.8	.52	.23	.16	1.7
22	1.0	5.6	1.8	3.2	1.7	1.9	.71	8.6	1.5	.25	.16	2.4
23	.95	3.7	1.8	2.8	2.1	2.1	.64	4.1	2.1	.25	.16	7.4
24	1.2	2.5	1.8	2.2	1.8	2.1	.65	4.2	.85	.25	.15	4.8
25	1.1	2.1	1.9	2.0	1.4	1.7	.68	2.9	2.1	.25	.14	3.1
26	1.1	2.0	9.3	1.9	1.3	1.8	.69	1.2	6.0	.23	.14	2.2
27	1.1	2.0	32	1.8	1.5	5.5	.67	.77	.92	.21	.14	1.9
28	1.1	1.9	25	1.8	1.7	18	.58	.67	.46	.21	7.3	1.9
29	.98	1.6	9.5	1.8	---	13	.53	.69	.41	.20	33	1.8
30	.96	1.4	4.1	1.9	---	8.6	.55	.81	.37	.19	112	1.8
31	.97	---	2.6	1.8	---	6.4	---	.87	---	.19	107	---
TOTAL	253.46	2239.4	133.8	102.7	56.7	109.5	43.29	72.13	45.27	28.39	272.55	2795.2
MEAN	8.18	74.6	4.32	3.31	2.03	3.53	1.44	2.33	1.51	.92	8.79	93.2
MAX	70	868	32	9.2	4.4	18	4.3	11	7.9	7.9	112	631
MIN	.95	1.0	1.2	1.4	1.1	1.4	.53	.53	.37	.19	.14	1.7
AC-FT	503	4440	265	204	112	217	86	143	90	56	541	5540

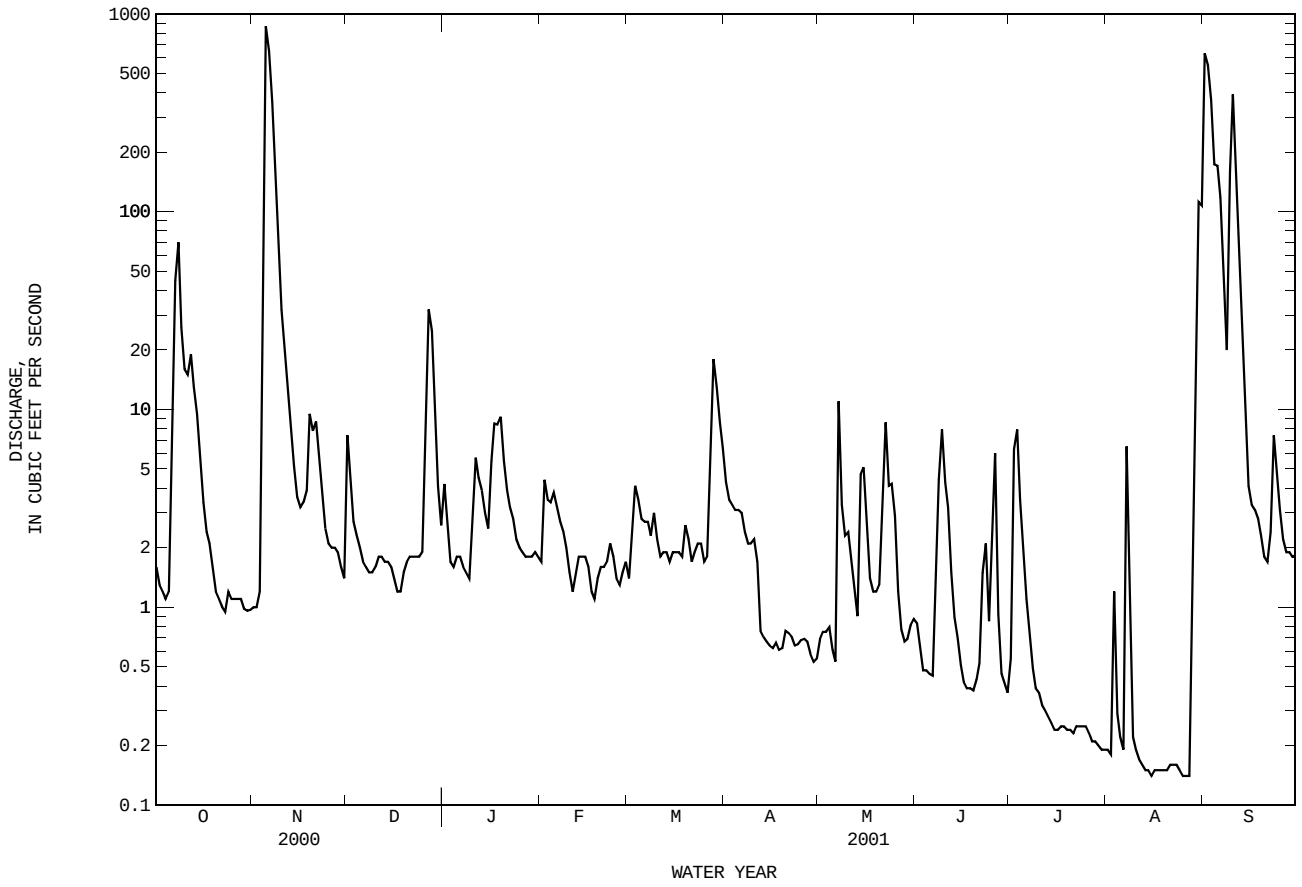
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2001, BY WATER YEAR (WY)

MEAN	69.2	21.6	13.7	11.6	19.1	17.2	19.7	29.6	49.8	21.8	26.7	45.1
MAX	477	119	181	130	238	128	176	185	379	339	454	228
(WY)	1998	1982	1992	1984	1982	1995	1997	1993	1993	1976	1980	1979
MIN	1.26	1.40	1.15	1.33	1.29	.89	1.05	1.34	1.09	.86	1.07	1.56
(WY)	1991	1994	2000	2000	1975	1988	1975	1998	1998	1996	1997	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1972 - 2001	
ANNUAL TOTAL	4223.35		6152.39			
ANNUAL MEAN	11.5		16.9		28.8	
HIGHEST ANNUAL MEAN					54.3	1992
LOWEST ANNUAL MEAN					3.03	1989
HIGHEST DAILY MEAN	868	Nov 5	868	Nov 5	6160	Aug 11 1980
LOWEST DAILY MEAN	.90	Jul 10	.14	Aug 15	.14	Aug 15 2001
ANNUAL SEVEN-DAY MINIMUM	.93	Jul 10	.15	Aug 13	.15	Aug 13 2001
MAXIMUM PEAK FLOW			1080	Nov 5	12100	Aug 10 1980
MAXIMUM PEAK STAGE			18.54	Nov 5	29.37	Aug 10 1980
ANNUAL RUNOFF (AC-FT)	8380		12200		20850	
10 PERCENT EXCEEDS	5.8		12		18	
50 PERCENT EXCEEDS	1.4		1.8		2.3	
90 PERCENT EXCEEDS	1.0		.25		1.2	

e Estimated

08211520 Oso Creek at Corpus Christi, TX--Continued



08211900 San Fernando Creek at Alice, TX

LOCATION.--Lat 27°46'20", long 98°02'00", Jim Wells County, Hydrologic Unit 12110204, on left bank 34 ft downstream from downstream bridge of two bridges on State Highways 44 and 359, 0.5 mi downstream from confluence of San Diego and Chiltipin Creeks, 2.3 mi upstream from head of Pintas Creek, and 2.7 mi northeast of Alice.

DRAINAGE AREA.--507 mi^2.

PERIOD OF RECORD.--Dec. 1964 to Mar. 1987, Apr. 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is 160.05 ft above sea level. Prior to Mar. 1987 at datum 1.63 ft higher at same site. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. San Diego Creek joins Chiltipin Creek below Lake Alice to form San Fernando Creek. Since installation of gage in Dec. 1964, at least 10% of contributing drainage area has been regulated. Flow is affected at times by discharge from the flood-detention pools of ten floodwater-retarding structures. These structures control runoff from 170 mi^2 in the San Diego-Rosita drainage basins. Records furnished by city of Alice show that sewage effluent is discharged into San Diego Creek 1.3 mi upstream, which comprises most of the low flow.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.29	.79	.94	2.4	1.1	1.6	1.2	1.3	.75	.97	.93	3160
2	.53	.85	.57	2.5	1.4	1.9	1.2	.90	1.3	.76	.31	775
3	1.1	.70	1.4	3.0	1.1	1.6	1.3	.24	1.5	.94	1.1	289
4	.89	1.0	1.6	2.8	1.1	1.3	.90	.22	1.1	1.0	.66	171
5	.25	1.1	1.5	2.8	1.2	1.3	.42	1.0	1.1	.73	.59	112
6	.62	3.3	1.6	2.1	1.0	1.4	.95	1.2	1.0	.33	.56	45
7	1.2	1.7	1.6	3.0	1.2	.94	.69	1.6	.26	1.0	.70	14
8	1.0	1.7	1.0	1.5	1.4	.79	1.1	1.7	1.1	1.0	.93	4.0
9	1.1	1.7	1.5	3.1	1.4	1.3	.79	1.6	1.4	.97	.96	2.1
10	1.3	1.4	1.4	3.7	1.2	1.3	1.3	1.6	1.4	1.0	.27	1.6
11	1.1	1.4	1.5	3.4	1.2	1.3	1.0	1.3	1.2	.78	.24	1.1
12	.79	1.4	1.3	3.1	1.4	1.3	.60	1.5	.91	.14	.89	.64
13	.85	1.0	1.4	3.0	1.4	1.4	1.3	1.6	1.1	.41	.77	.47
14	.85	1.4	1.5	2.8	1.3	.95	1.3	1.1	.26	.66	.52	.52
15	.86	1.2	1.6	2.9	1.5	.77	1.2	1.3	.09	.67	.38	1.0
16	.90	1.6	1.5	2.8	1.3	1.2	1.1	1.1	.92	.78	.37	.99
17	.73	1.5	1.6	2.7	.72	1.2	.83	1.1	1.0	.78	.50	1.0
18	.67	1.9	1.7	2.6	1.1	.62	.55	.92	.62	1.1	.37	.63
19	.84	1.8	1.4	2.8	.96	1.3	1.1	.75	.26	.60	.51	.60
20	.87	1.6	.73	2.0	1.2	.98	.83	1.0	.54	.61	1.2	.93
21	.86	1.0	1.8	2.0	1.0	1.3	1.1	.49	.12	.61	.97	.91
22	.64	1.5	1.5	2.0	1.1	.76	1.3	1.7	.57	.70	1.0	1.2
23	.93	1.6	2.1	2.0	1.5	1.2	1.4	1.7	.56	.70	.77	1.1
24	.91	1.5	2.1	1.7	1.6	.87	1.4	1.8	.16	1.2	.74	.67
25	.93	1.5	2.1	1.0	1.6	.69	.48	1.6	.76	.79	.57	.57
26	.92	1.5	2.4	1.5	1.5	1.3	.89	1.6	1.0	.20	2.8	.98
27	.94	1.5	2.0	1.2	1.0	1.5	.93	1.3	.88	.81	2.0	1.0
28	.65	1.5	1.4	.91	1.6	1.4	1.2	.31	.81	.59	13	.72
29	.81	1.5	1.0	1.3	---	1.3	1.3	1.2	.27	.65	6.7	.93
30	.91	1.5	2.3	1.2	---	1.3	1.5	1.1	.85	.76	5.8	.93
31	.84	---	1.6	.89	---	1.3	---	.22	---	.64	4290	---
TOTAL	26.08	43.64	47.64	70.70	35.08	37.37	31.16	36.05	23.79	22.88	4337.11	4590.59
MEAN	.84	1.45	1.54	2.28	1.25	1.21	1.04	1.16	.79	.74	140	153
MAX	1.3	3.3	2.4	3.7	1.6	1.9	1.5	1.8	1.5	1.2	4290	3160
MIN	.25	.70	.57	.89	.72	.62	.42	.22	.09	.14	.24	.47
AC-FT	52	87	94	140	70	74	62	72	47	45	8600	9110

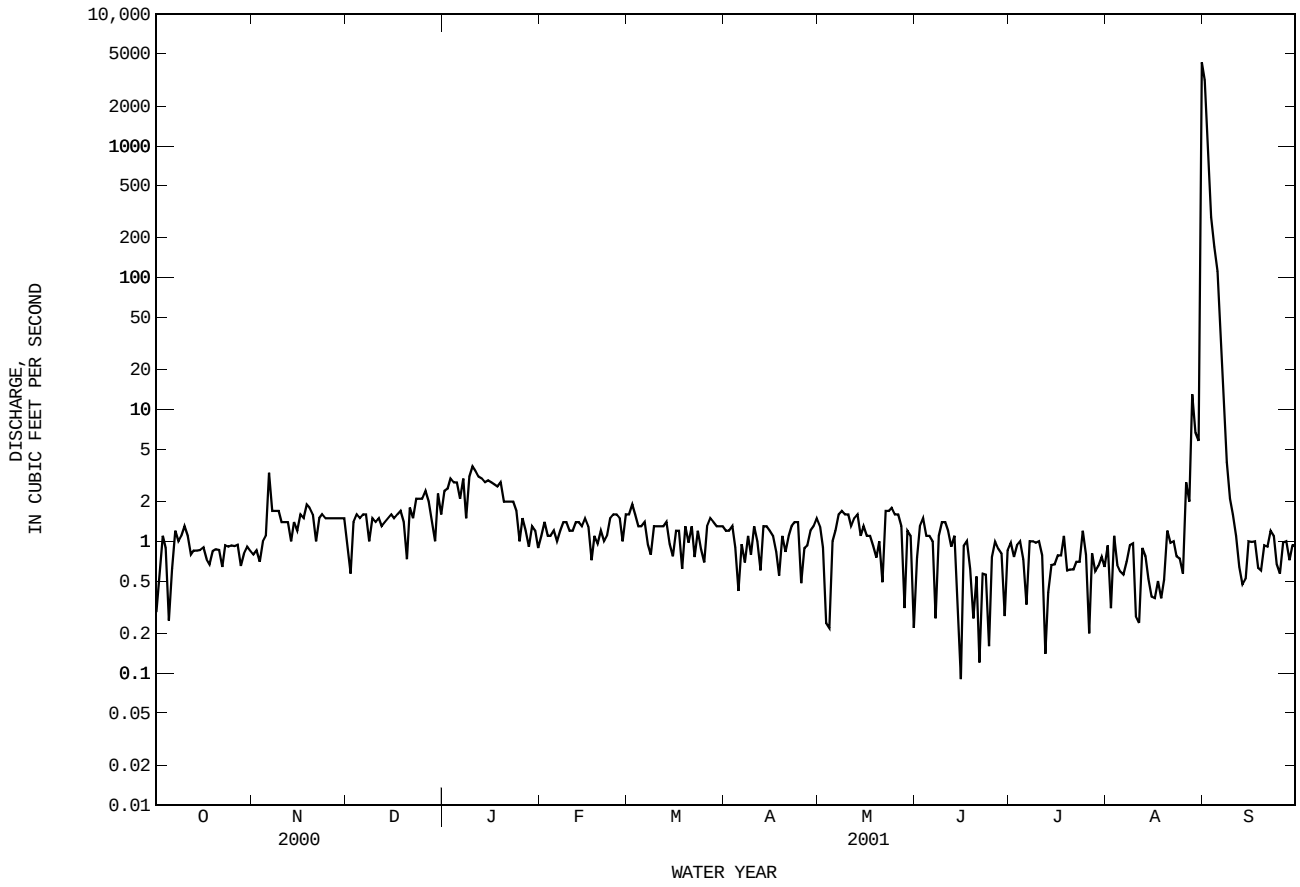
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2001h, BY WATER YEAR (WY)

MEAN	43.6	3.98	2.61	2.86	3.19	3.32	7.31	15.7	8.93	10.4	31.5	113
MAX	827	27.8	13.3	17.0	18.5	28.6	93.7	96.4	59.8	188	403	1419
(WY)	1972	1972	1977	1980	1969	1965	1985	1985	1981	1976	1980	1971
MIN	.84	.95	.93	.92	.84	.94	.72	1.16	.79	.63	.69	.70
(WY)	2001	2000	2000	2000	2000	2000	2000	2001	2001	2000	2000	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1965 - 2001h	
ANNUAL TOTAL	374.79		9302.09			
ANNUAL MEAN	1.02		25.5		21.7	
HIGHEST ANNUAL MEAN					126	1971
LOWEST ANNUAL MEAN					.94	2000
HIGHEST DAILY MEAN	8.6	May 21	4290	Aug 31	22200	Sep 12 1971
LOWEST DAILY MEAN	.17	Sep 30	.09	Jun 15	.09	Jun 15 2001
ANNUAL SEVEN-DAY MINIMUM	.46	Apr 23	.40	Jun 18	.39	Aug 22 1965
MAXIMUM PEAK FLOW			11800	Aug 31	26800	Sep 12 1971
MAXIMUM PEAK STAGE			14.68	Aug 31	16.51	Sep 12 1971
ANNUAL RUNOFF (AC-FT)	743		18450		15730	
10 PERCENT EXCEEDS	1.6		2.1		4.0	
50 PERCENT EXCEEDS	.90		1.1		1.9	
90 PERCENT EXCEEDS	.47		.57		1.0	

h See PERIOD OF RECORD paragraph.

08211900 San Fernando Creek at Alice, TX--Continued



08212400 Los Olmos Creek near Falfurias, TX

LOCATION.--Lat 27°15'51", long 98°08'08", Brooks County, Hydrologic Unit 12110205, at downstream side of bridge on U.S. Highway 281 and 2.6 mi north of Falfurrias.

DRAINAGE AREA.--480 mi^2, of which 4.5 mi^2 probably is noncontributing.

PERIOD OF RECORD.--Jan. 1967 to Sept. 1983, Mar. 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is 116.58 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. No known regulation or diversions. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1929, 15.0 ft Sept. 13, 1951, from information by Texas Department of Transportation.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	29
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	504
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	806
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	240
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	14
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.2
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	6.0
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.0
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.61
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.69
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.9
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.6
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.2
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.5
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.46
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.01
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	4.4	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	4.40	1627.46
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.14	54.2
MAX	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	4.4	806
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	8.7	3230

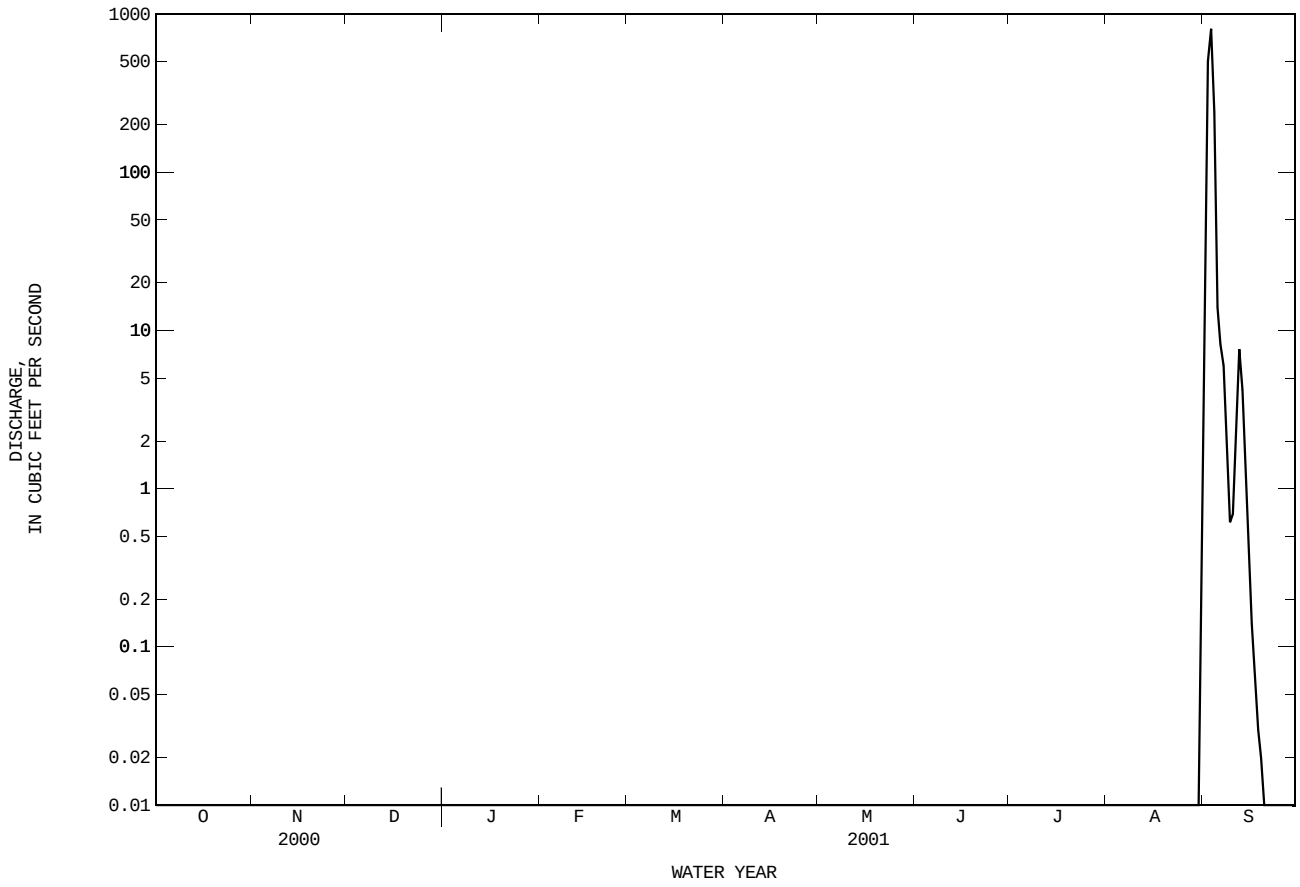
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2001h, BY WATER YEAR (WY)

MEAN	1.59	.38	.13	.13	.12	3.50	.33	11.0	5.24	3.71	8.11	51.5
MAX	8.95	4.89	.75	.69	.67	50.8	3.31	146	52.8	36.1	62.5	491
(WY)	1977	1977	1970	1970	1970	1974	1979	1982	1973	1976	1980	1967
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1973	1971	1971	1972	1973	1971	1971	1971	1980	1972	1972	1972

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1967 - 2001h	
ANNUAL TOTAL	917.45		1631.87			
ANNUAL MEAN	2.51		4.47		5.27	
HIGHEST ANNUAL MEAN					34.1	1971
LOWEST ANNUAL MEAN					.000	1983
HIGHEST DAILY MEAN	393	May 5	806	Sep 3	3790	Sep 14 1971
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Aug 10 1970
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Sep 4 1970
MAXIMUM PEAK FLOW			886	Sep 3	5300	Sep 13 1971
MAXIMUM PEAK STAGE			9.78	Sep 3	12.66	Sep 13 1971
ANNUAL RUNOFF (AC-FT)	1820		3240		3820	
10 PERCENT EXCEEDS	.00		.00		.68	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

h See PERIOD OF RECORD paragraph.

08212400 Los Olmos Creek near Falfurias, TX--Continued



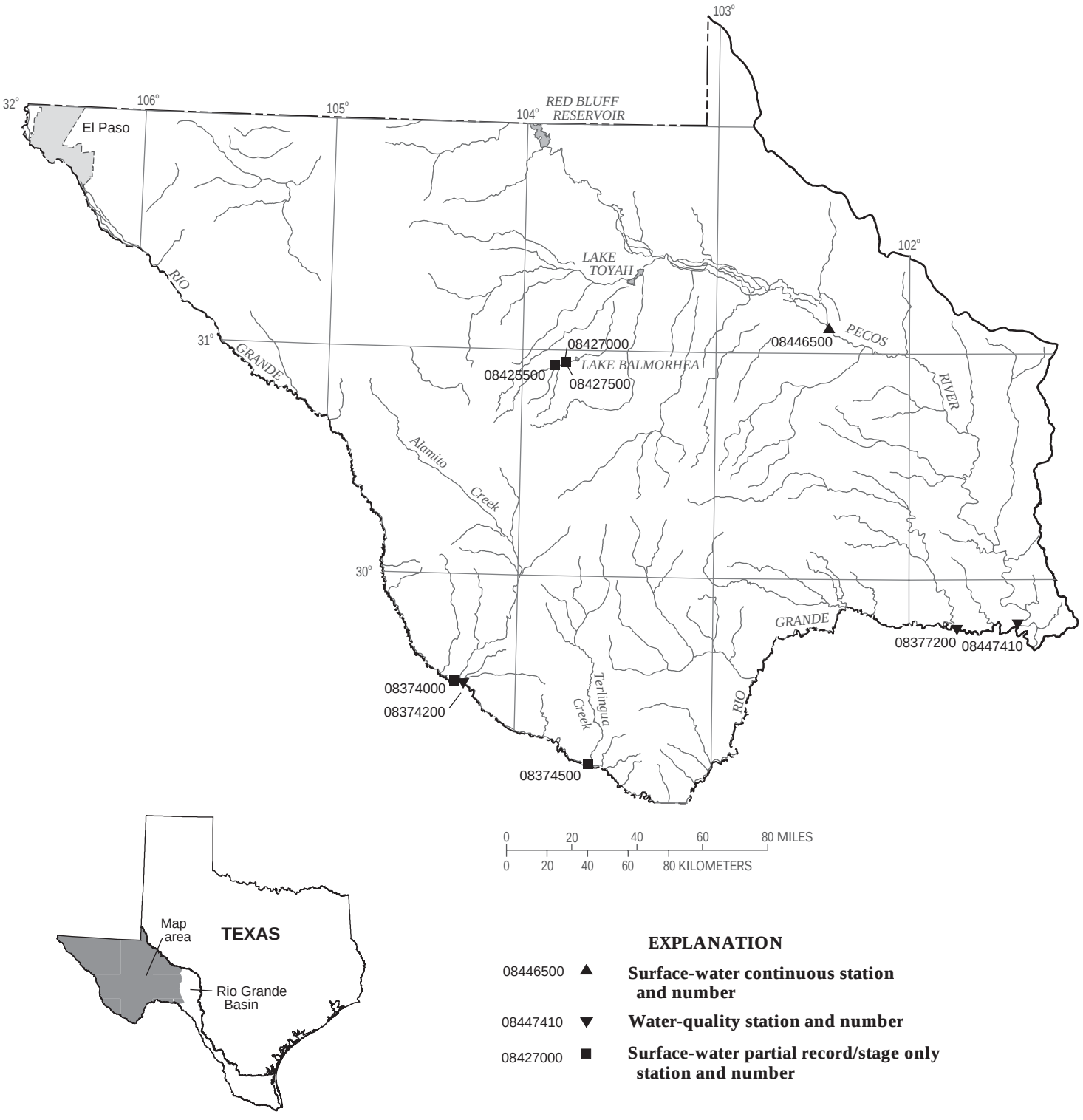


Figure 9.--Map showing location of gaging stations in the first section of the Rio Grande Basin

08374000	Alamito Creek near Presidio, TX	342
08374200	Rio Grande below Rio Conchos near Presidio, TX	302
08374500	Terlingua Creek near Terlingua, TX	342
08377200	Rio Grande at Foster Ranch near Langtry, TX	306
08425500	Phantom Lake Springs near Toyahvale, TX	339
08427000	Giffin Springs at Toyahvale, TX	340
08427500	San Aolomon Springs at Toyahvale, TX	340
08446500	Pecos River near Girvin, TX	310
08447410	Pecos River near Langtry, TX	312

08374200 Rio Grande below Rio Conchos near Presidio, TX
(National stream-quality accounting network)

LOCATION.--Lat 29°31'10", long 104°17'10", Presidio County, Hydrologic Unit 13040203, at gaging station 0.4 miles downstream from Alamito Creek and 8.9 river miles downstream from the International Highway bridge between Presidio, Texas and Ojinaga, Chihuahua.

DRAINAGE AREA.-- 66,200 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Apr. 1999 to current year.
BIOCHEMICAL DATA: Apr. 1999 to current year.
PESTICIDE DATA: Aug. 1999 to current year.
SEDIMENT DATA: Apr. 1999 to current year.

REMARKS.--Discharges published in the table were obtained directly from rating table furnished by International Boundary and Water Commission. Records of daily mean discharge for water year 2001 are given in International Boundary and Water Commission Water Bulletins Nos. 70 and 71. Since 1999, quality assurance data for this station may be obtained from the U.S. Geological Survey Texas District office upon request.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR-BID-ITY (NTU) (00076)	TURBID-ITY LAB HACH 2100AN (NTU) (99872)	UV ABSORB-ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB-ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
NOV													
28...	1110	463	35	39	.099	.073	13.0	119	8.1	3110	10.0	393	628
JAN													
23...	1240	858	130	240	.064	.045	9.9	90.5	8.3	2060	10.5	245	411
FEB													
27...	1220	245	30	53	.099	.073	13.9	144	8.5	3140	16.0	--	562
APR													
24...	1200	219	--	--	--	--	10.3	115	7.9	2970	20.0	350	561
JUN													
05...	1220	62	--	140	.084	.060	9.0	119	7.8	3590	29.5	519	718
JUL													
24...	1100	77	--	380	--	--	7.1	93.5	7.9	2230	28.5	312	478
AUG													
28...	1140	237	--	260	.089	.066	7.8	98.3	7.6	2870	27.0	398	574
SEP													
25...	1120	102	--	59	--	--	8.4	96.4	8.1	2970	22.0	538	716

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
NOV													
28...	180	42.4	11.1	7.75	445	60.3	235	286	0	517	.8	20.5	555
JAN													
23...	124	23.9	8.75	6.08	282	59.5	169	202	0	199	2.2	23.3	553
FEB													
27...	159	39.0	11.1	8.20	445	62.9	--	--	--	496	1.2	7.5	663
APR													
24...	167	34.4	10.8	7.30	396	60.2	215	258	0	405	1.5	19.7	692
JUN													
05...	209	46.9	11.5	8.61	529	61.2	203	243	0	485	1.4	21.2	966
JUL													
24...	148	25.3	9.03	5.92	297	57.0	170	202	0	209	1.4	22.0	653
AUG													
28...	175	32.3	10.8	7.35	404	60.1	178	215	0	427	1.2	20.4	663
SEP													
25...	227	36.2	10.2	6.44	396	54.2	181	217	0	326	1.4	25.0	890

08374200 Rio Grande below Rio Conchos near Presidio, TX--Continued
(National stream-quality accounting network)

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

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN,PAR TICULTE WAT FLT SUSP (MG/L AS N) (49570)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
NOV													
28...	2000	1930	V.070	.59	.98	2.28	2.38	.098	--	3.35	--	.449	V.387
JAN													
23...	1420	1320	<.041	.25	1.2	--	.786	E.005	.462	2.02	.098	<.060	.032
FEB													
27...	2050	1930	<.041	.43	1.4	--	<.047	<.006	.504	--	--	<.060	<.018
APR													
24...	2030	1860	--	--	--	--	--	--	--	--	--	--	--
JUN													
05...	2480	2390	<.040	.24	.85	--	E.039	<.006	.669	--	--	<.060	<.020
JUL													
24...	1530	1470	--	--	--	--	--	--	--	--	--	--	--
AUG													
28...	1980	1840	<.040	.31	1.4	.367	.376	.009	1.1	1.77	--	<.060	<.020
SEP													
25...	2100	2020	<.040	.29	.78	.168	.179	.011	.379	.956	--	<.060	<.020

DATE	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, INORG + ORGANIC PARTIC. TOTAL (MG/L AS C) (00694)	CARBON, INOR-GANIC, PARTIC. TOTAL (MG/L AS C) (00688)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC-ULATE TOTAL (MG/L AS C) (00689)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
NOV													
28...	.497	--	--	4.9	--	<1	.12	7.2	67.2	<.06	455	E.04	<.8
JAN													
23...	.283	12	4.5	3.6	7.3	2	.71	17.6	102	<.06	470	.04	1.8
FEB													
27...	.184	4.9	1.4	5.3	3.5	<1	.29	3.7	76.5	<.06	486	.04	<.8
APR													
24...	--	--	--	--	--	2	.46	2.1	106	<.06	494	.07	<.8
JUN													
05...	.166	7.4	.6	5.8	6.8	2	.41	3.3	98.3	<.10	629	E.05	<.8
JUL													
24...	--	--	--	--	--	5	.06	3.9	103	<.06	429	E.03	E.4
AUG													
28...	.637	21	12	V5.6	9.2	<2	.45	3.4	189	<.10	465	E.04	.8
SEP													
25...	.141	7.2	.1	--	7.1	<2	E.05	2.0	68.1	<.10	533	E.04	E.4

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV													
28...	.47	2.0	<30	<.08	195	V21.8	6.5	.35	<2.4	<1.0	3040	3.1	2
JAN													
23...	.47	2.7	<30	.08	154	2.9	11.4	.95	.7	<1.0	2470	11.1	5
FEB													
27...	.95	3.0	<30	.16	183	60.8	11.5	1.15	1.2	<1.0	2760	4.2	2
APR													
24...	.69	3.7	<30	E.07	163	11.7	13.4	.91	1.1	<1.0	2850	5.6	3
JUN													
05...	.70	3.5	<30	<.20	188	49.3	13.7	2.73	1.4	<2.0	3500	5.2	3
JUL													
24...	.40	5.2	<10	.08	103	1.8	8.8	<.06	1.8	<1.0	2280	6.2	3
AUG													
28...	.39	6.5	<10	.16	138	1.7	13.0	<.30	1.0	<2.0	2950	8.0	4
SEP													
25...	.04	5.0	<30	1.72	142	.3	10.2	<.10	E.6	<2.0	264	19.5	--

08374200 Rio Grande below Rio Conchos near Presidio, TX--Continued
(National stream-quality accounting network)

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

DATE	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)
NOV													
28...	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006
JAN													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
27...	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	E.006	<.003	<.006
APR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
05...	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	E.025	<.005	E.006	<.003	<.006
JUL													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
28...	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	E.015	<.003	<.006
SEP													
25...	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006

DATE	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)
NOV													
28...	.018	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	E.001
JAN													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
27...	E.004	<.005	<.021	<.005	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013
APR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
05...	<.005	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013
JUL													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
28...	<.005	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	.050	<.006	E.003
SEP													
25...	<.005	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013

DATE	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)
NOV													
28...	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011
JAN													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
27...	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	E.004	<.004	<.010	<.011
APR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
05...	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011
JUL													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
28...	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	.015	<.004	<.010	<.011
SEP													
25...	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011

08374200 Rio Grande below Rio Conchos near Presidio, TX--Continued
(National stream-quality accounting network)

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

DATE	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
NOV												
28...	<.023	<.011	<.016	<.034	<.017	<.005	<.002	<.009	5.64	97	63	79
JAN												
23...	--	--	--	--	--	--	--	--	12.3	88	594	1380
FEB												
27...	<.023	<.011	<.016	<.034	<.017	<.005	<.002	<.009	5.76	100	57	38
APR												
24...	--	--	--	--	--	--	--	--	8.87	98	633	374
JUN												
05...	<.023	<.011	<.016	<.034	<.017	<.005	<.002	<.009	9.01	98	247	41
JUL												
24...	--	--	--	--	--	--	--	--	8.09	97	604	126
AUG												
28...	<.023	<.011	<.016	E.034	<.017	<.005	<.002	<.009	7.88	100	1050	672
SEP												
25...	<.023	<.011	<.016	<.034	<.017	<.005	<.002	<.009	5.04	99	203	56

08377200 Rio Grande at Foster Ranch near Langtry, TX
(National stream-quality accounting network)

LOCATION.--Lat 29°46'50", long 101°45'20", Val Verde County, Hydrologic Unit 13040212, at gaging station 0.1 mi downstream from Terrell-Val Verde County line, 12.3 mi west of Langtry, and 597.2 mi downstream from the American Dam at El Paso.

DRAINAGE AREA.--80,742 mi^2, United States and Mexico; from International Boundary and Water Commission Water Bulletin No. 44.

PERIOD OF RECORD.--
CHEMICAL DATA: Apr. 1944 to current year.
BIOCHEMICAL DATA: Oct. 1975 to Aug. 1982, Oct. 1995 to current year.
PESTICIDE DATA: July 1975 to June 1982, Oct. 1995 to current year.
SEDIMENT DATA: Oct. 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Oct. 1974 to Sept. 1981 (local observer).
WATER TEMPERATURE: Oct. 1974 to Sept. 1981 (local observer).

REMARKS.--Discharges published in the table were obtained directly from rating table furnished by International Boundary and Water Commission. Records of daily mean discharge for water year 2001 are given in International Boundary and Water Commission Water Bulletins Nos. 70 and 71. Since Sept. 1995, suspended sediment chemistry and quality assurance data for this station may be obtained from the U.S. Geological Survey Texas District Office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,110 microsiemens/cm, Dec. 4, 1974; minimum daily, 225 microsiemens/cm, May 2, 1981.
WATER TEMPERATURE: Maximum daily, 32.0°C, June 13, 1977, July 25, 26, 1979, July 4, 1980, and June 8, 1981; minimum daily, 9.0°C, Jan. 12, 1975, Jan. 8, 1976, and Jan. 18, 1981.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR-BID-ITY (NTU) (00076)	TURBID-ITY LAB HACH 2100AN (NTU) (99872)	UV ABSORB-ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB-ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
NOV													
15...	1300	651	1800	--	.046	.034	9.2	92.2	--	937	13.5	151	269
JAN													
30...	1400	958	--	--	.052	.038	10.2	104	8.1	1780	14.5	208	378
APR													
03...	1200	313	42	58	.031	.022	7.3	90.7	8.0	1560	23.5	196	350
MAY													
01...	1130	313	62	120	.049	.036	7.8	95.1	8.0	2130	22.5	295	447
JUN													
12...	1100	202	--	26	.030	.020	7.1	96.4	8.2	1180	28.0	151	287
JUL													
10...	1030	146	--	39	.028	.020	6.9	90.3	8.1	849	26.5	108	250
AUG													
07...	1100	330	--	880	.100	.076	6.7	89.6	8.1	680	28.0	44	184
SEP													
11...	1130	215	--	49	.047	.034	7.4	94.4	8.1	1350	25.5	194	336

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
NOV													
15...	82.4	14.9	4.18	2.52	94.8	43.1	118	144	0	68.5	.9	14.2	233
JAN													
30...	110	24.3	8.21	5.09	227	56.1	170	203	2	171	1.9	20.9	451
APR													
03...	94.0	27.4	6.21	4.20	180	52.4	154	188	0	193	1.2	18.2	340
MAY													
01...	122	33.6	8.37	5.58	270	56.4	144	176	4	281	1.2	19.7	506
JUN													
12...	73.4	24.7	5.99	3.25	126	48.4	137	163	2	107	1.3	20.6	287
JUL													
10...	62.4	22.5	4.86	2.11	76.3	39.5	143	171	2	56.0	1.2	20.1	189
AUG													
07...	56.8	9.94	4.58	2.10	65.2	42.9	140	168	2	31.4	1.2	17.1	140
SEP													
11...	101	19.9	6.57	3.33	140	47.0	144	173	0	123	1.1	20.1	335

08377200 Rio Grande at Foster Ranch near Langtry, TX--Continued
(National stream-quality accounting network)

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

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN,PAR TICULTE WAT FLT SUSP (MG/L AS N) (49570)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)
NOV 15...	625	589	.015	.15	3.5	.911	.913	.002	.135	3.53	--	4.46	.028
JAN 30...	1200	1120	.008	.20	.94	.752	.755	.003	.191	.933	.682	1.70	--
APR 03...	1010	958	.025	.13	.33	.652	.655	.003	.108	.302	.192	.982	--
MAY 01...	1430	1340	.039	.19	.41	.401	.404	.003	.148	.375	.132	.818	--
JUN 12...	754	732	.019	.14	.24	.476	.481	.005	.116	.221	.062	.721	--
JUL 10...	548	523	.014	E.10	.26	.548	.555	.007	--	.250	.067	.819	--
AUG 07...	436	418	.018	.22	1.0	1.39	1.40	.009	.202	1.00	.683	2.42	--
SEP 11...	864	836	.027	.14	.37	.631	.633	.002	.113	.342	.042	1.00	--

DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, INORG + ORGANIC PARTIC. TOTAL (MG/L AS C) (00694)	CARBON, INOR-GANIC, PARTIC. TOTAL (MG/L AS C) (00688)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC-ULATE TOTAL (MG/L AS C) (00689)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, DIS-SOLVED (UG/L AS B) (01020)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
NOV 15...	.007	.009	1.84	--	--	1.7	--	E1.2	145	<10	53.1	<2.4	1470
JAN 30...	.039	E.004	.281	9.7	4.0	2.5	5.6	10.3	431	<10	138	2.3	2250
APR 03...	E.003	<.007	.058	3.7	<.1	1.5	3.6	3.1	307	<10	119	1.3	2200
MAY 01...	<.006	<.007	.092	4.5	<.1	2.1	4.5	3.7	359	<10	123	1.2	2620
JUN 12...	E.003	<.007	.037	2.0	<.1	1.4	2.0	3.8	251	<10	84.5	1.6	2010
JUL 10...	E.003	<.007	.040	2.0	<.1	1.3	2.0	3.1	175	<10	60.0	1.3	1720
AUG 07...	.008	E.006	.647	21	15	2.6	6.4	2.7	132	<10	34.1	1.6	1040
SEP 11...	<.006	<.007	.092	3.7	<.1	2.0	3.6	2.9	235	<10	70.7	1.6	1890

DATE	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)
NOV 15...	E5.0	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003
JAN 30...	8.1	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003
APR 03...	6.5	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003
MAY 01...	7.4	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	E.007	<.003
JUN 12...	8.0	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003
JUL 10...	6.4	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003
AUG 07...	7.7	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003
SEP 11...	6.6	<.002	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003

08377200 Rio Grande at Foster Ranch near Langtry, TX--Continued
(National stream-quality accounting network)

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

DATE	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L) (04040)	DIAZINON, DISSOLVED (UG/L) (39572)	DIELDRIN DISSOLVED (UG/L) (39381)	DISULFOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHALFLURALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHOPROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DISSOLVED (UG/L) (39341)	LINURON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALATHION, DISSOLVED (UG/L) (39532)	METHYL AZINPHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARATHION WAT FLT 0.7 U GF, REC (UG/L) (82667)
NOV 15...	<.006	<.005	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006
JAN 30...	<.006	<.005	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006
APR 03...	<.006	<.005	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006
MAY 01...	<.006	E.004	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006
JUN 12...	<.006	<.005	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006
JUL 10...	<.006	<.005	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006
AUG 07...	<.006	E.003	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006
SEP 11...	<.006	<.005	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006

DATE	METOLACHLOR WATER DISSOLV (UG/L) (39415)	METRIBUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOLINATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROPAMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	P,P' DDE DISSOLV (UG/L) (34653)	PARATHION, DISSOLVED (UG/L) (39542)	PEBULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDIMETHALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PERMETHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PROMETON, WATER, DISS, REC (UG/L) (04037)	PRONAMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPACHLOR, WATER, DISS, REC (UG/L) (04024)
NOV 15...	<.013	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010
JAN 30...	<.013	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010
APR 03...	<.013	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010
MAY 01...	<.013	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010
JUN 12...	<.013	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010
JUL 10...	<.013	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010
AUG 07...	<.013	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010
SEP 11...	<.013	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010

DATE	PROPANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PROPARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SIMAZINE, WATER, DISS, REC (UG/L) (04035)	TEBUTHIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TERBACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TERBUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIOBENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIALLATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRIFLURALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)
NOV 15...	<.011	<.023	<.011	<.016	<.034	<.017	<.005	<.002	<.009	100	3230	5680
JAN 30...	<.011	<.023	<.011	<.016	<.034	<.017	<.005	<.002	<.009	100	391	1010
APR 03...	<.011	<.023	<.011	<.016	<.034	<.017	<.005	<.002	<.009	100	71	60
MAY 01...	<.011	<.023	<.011	<.016	<.034	<.017	<.005	<.002	<.009	99	107	90
JUN 12...	<.011	<.023	<.011	<.016	<.034	<.017	<.005	<.002	<.009	98	41	22
JUL 10...	<.011	<.023	<.011	<.016	<.034	<.017	<.005	<.002	<.009	100	55	22
AUG 07...	<.011	<.023	<.011	<.016	<.034	<.017	<.005	<.002	<.009	100	817	728
SEP 11...	<.011	<.023	<.011	<.016	<.034	<.017	<.005	<.002	<.009	100	138	80

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08446500 Pecos River near Girvin, TX

LOCATION.--Lat 31°06'47", long 102°25'02", Pecos County, Hydrologic Unit 13070001, on right bank 2.1 mi upstream from Comanche Creek, 3.8 mi northwest of Girvin, and 7.2 mi upstream from bridge on U.S. Highway 67.

DRAINAGE AREA.--29,560 mi^2 approximately, for contributing area of supplementary gage 7.2 mi downstream.

PERIOD OF RECORD.--Aug. 1939 to current year.
Water-quality records.--Chemical data: Oct. 1939 to June 1941, Oct. 1946 to Sept. 1947, Oct. 1953 to Aug. 1982. Pesticide data: May 1968 to July 1974. Specific conductance: Oct. 1939 to June 1941, Oct. 1946 to Sept. 1947, Oct. 1953 to Sept. 1982. Water temperature: Oct. 1953 to Jan. 1959, Mar. 1964 to Sept. 1982.

GAGE.--Water-stage recorder with concrete control and measuring flume. Elevation of gage is 2,290 ft above sea level from topographic map. Supplementary water-stage recorder, 7.2 mi downstream at datum 2,269.65 ft above sea level, used as regular gage prior to July 17, 1951, is now used only for peaks exceeding about 750 ft^3/s. Satellite telemeter at station.

REMARKS.--Records good except those for Oct. 23-30, which are fair, and those for estimated daily discharges, which are poor. Since installation of gage in water year 1939, at least 10% of contributing drainage area has been regulated. There are also numerous diversions above station for irrigation.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1932 occurred Oct. 5, 1941.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	15	22	20	20	19	16	32	20	6.3	9.7	30
2	14	16	22	20	20	20	17	36	22	6.6	7.9	30
3	13	16	22	20	20	21	16	37	25	5.6	6.8	29
4	12	17	22	20	20	21	16	37	25	6.4	6.4	29
5	12	17	22	20	20	20	15	34	24	13	12	27
6	12	16	21	20	20	21	15	28	22	13	19	25
7	13	17	21	20	19	20	15	26	20	11	17	24
8	12	18	21	20	20	21	15	25	19	9.0	14	23
9	12	18	21	20	20	20	15	26	17	8.2	13	24
10	12	18	21	21	19	19	14	27	15	7.8	12	24
11	12	18	21	22	19	19	14	26	14	7.4	13	26
12	12	19	21	21	19	18	13	21	14	6.9	14	26
13	12	23	21	21	20	18	14	15	13	6.6	15	24
14	12	26	21	21	20	18	14	16	14	6.3	18	23
15	13	24	21	21	20	18	13	25	13	6.2	18	22
16	36	24	21	20	20	18	13	20	13	6.1	23	34
17	45	24	20	21	19	18	13	13	11	5.8	92	25
18	34	25	20	21	19	18	13	11	11	5.8	51	23
19	32	25	20	21	19	18	15	9.5	9.9	5.6	32	20
20	20	26	20	20	19	18	15	9.0	9.7	5.7	29	19
21	16	25	20	20	19	17	14	8.8	9.3	5.6	20	20
22	18	25	20	20	20	17	14	8.7	9.1	5.3	22	19
23	16	24	20	20	19	17	13	8.7	9.5	7.4	27	20
24	22	24	20	20	20	17	13	9.5	15	11	27	e15
25	32	23	20	19	19	17	13	11	16	11	26	e15
26	36	23	21	20	19	17	13	14	12	10	32	e15
27	36	23	20	20	19	17	13	16	9.8	15	29	e15
28	29	23	21	21	19	17	13	15	8.3	18	29	e15
29	20	23	21	21	---	17	14	16	7.5	15	31	e15
30	17	22	20	21	---	17	25	17	6.8	14	28	e15
31	16	---	20	21	---	17	---	19	---	12	26	---
TOTAL	613	637	644	633	546	570	436	617.2	434.9	273.6	719.8	671
MEAN	19.8	21.2	20.8	20.4	19.5	18.4	14.5	19.9	14.5	8.83	23.2	22.4
MAX	45	26	22	22	20	21	25	37	25	18	92	34
MIN	12	15	20	19	19	17	13	8.7	6.8	5.3	6.4	15
AC-FT	1220	1260	1280	1260	1080	1130	865	1220	863	543	1430	1330

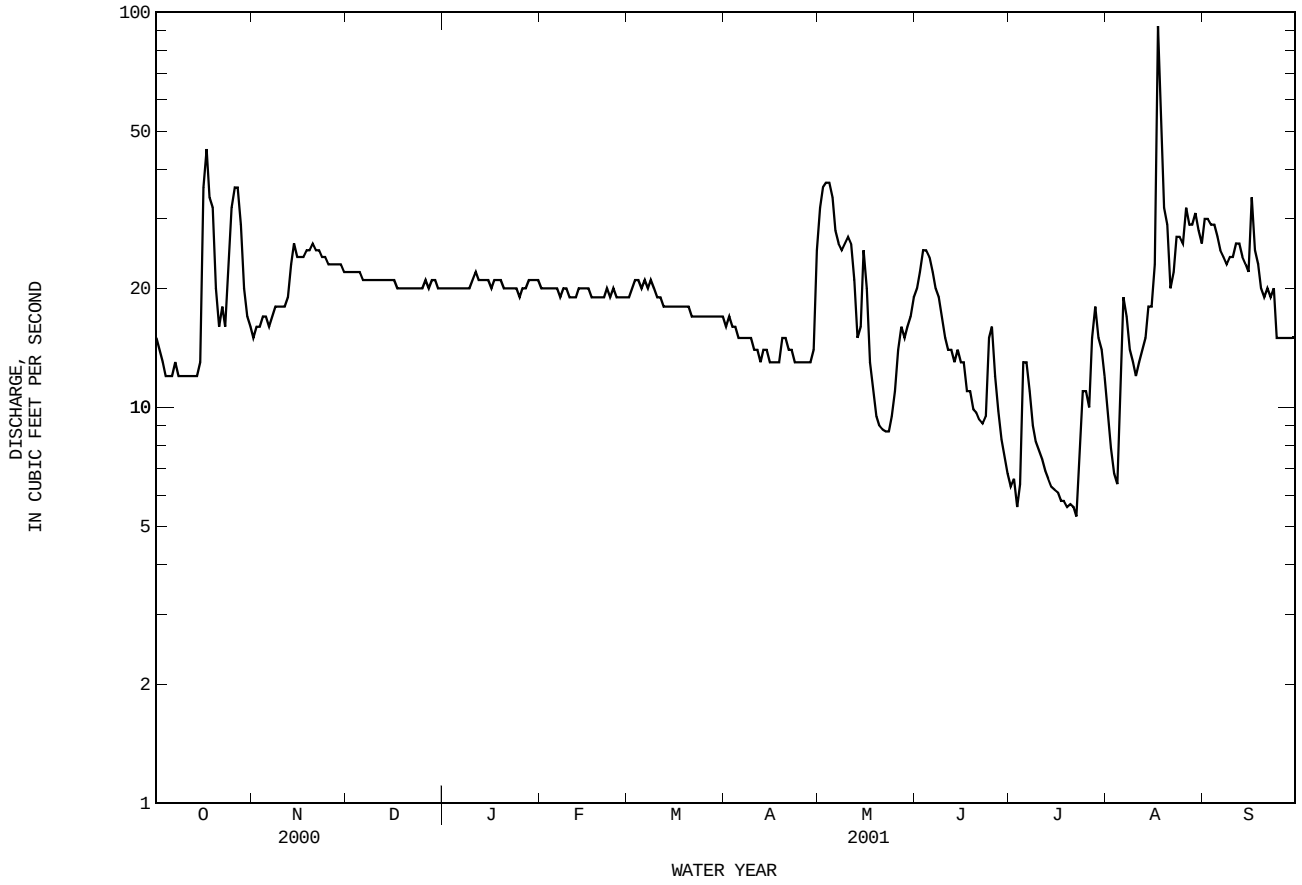
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2001, BY WATER YEAR (WY)

MEAN	192	103	66.9	63.0	53.7	45.0	35.6	45.3	98.7	46.0	34.1	63.3
MAX	8506	3007	1192	935	769	314	142	538	3556	813	376	1168
(WY)	1942	1942	1942	1942	1942	1942	1957	1942	1941	1941	1941	1941
MIN	9.52	13.0	15.7	18.3	14.5	16.7	11.3	7.62	2.84	3.86	4.13	6.05
(WY)	1980	1974	1984	1984	1982	1966	1985	1985	1983	1964	1969	1983

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1939 - 2001	
ANNUAL TOTAL	9353.9		6795.5			
ANNUAL MEAN	25.6		18.6		70.7	
HIGHEST ANNUAL MEAN					1386	1942
LOWEST ANNUAL MEAN					16.2	1984
HIGHEST DAILY MEAN	1670	Mar 24	92	Aug 17	19400	Oct 5 1941
LOWEST DAILY MEAN	7.6	May 30	5.3	Jul 22	1.9	Jun 19 1982
ANNUAL SEVEN-DAY MINIMUM	8.3	May 25	5.7	Jul 16	2.3	Jul 1 1983
MAXIMUM PEAK FLOW			125	Aug 17	k20000	Oct 5 1941
MAXIMUM PEAK STAGE			1.95	Aug 17	pk20.49	Oct 5 1941
ANNUAL RUNOFF (AC-FT)	18550		13480		51200	
10 PERCENT EXCEEDS	28		26		84	
50 PERCENT EXCEEDS	19		19		28	
90 PERCENT EXCEEDS	13		9.7		11	

e Estimated
k From supplementary gage.
p Observed.

08446500 Pecos River near Girvin, TX--Continued



08447410 Pecos River near Langtry, TX
(National stream-quality accounting network)

LOCATION.--Lat 29°48'10", long 101°26'45", Val Verde County, Hydrologic Unit 13070008, at gaging station 7.4 mi east of Langtry, and 15.0 mi upstream from confluence with the Rio Grande.

DRAINAGE AREA.--35,179 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Oct. 1954 to current year.
BIOCHEMICAL DATA: Oct. 1974 to current year.
PESTICIDE DATA: July 1975 to June 1982, Oct. 1995 to current year.
SEDIMENT DATA: Oct. 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Oct. 1970 to Sept. 1976 and Oct. 1980 (local observer), Nov. 1980 to Sept. 1985.
WATER TEMPERATURE: Oct. 1970 to Sept. 1976 and Oct. 1980 (local observer), Nov. 1980 to Sept. 1985.

INSTRUMENTATION.--Water-quality monitor Nov. 1980 to Sept. 1985.

REMARKS.--Discharges published in the table were obtained directly from rating table furnished by International Boundary and Water Commission. Records of daily mean discharge for water year 2001 are given in International Boundary and Water Commission Water Bulletins Nos. 70 and 71. Since Oct. 1995, suspended sediment chemistry and quality assurance data for this station may be obtained from the U.S. Geological Survey Texas District Office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 6,000 microsiemens/cm, Mar. 21, 22, 1981; minimum, 230 microsiemens/cm, Oct. 11, 1981.
WATER TEMPERATURE: Maximum, 32.5°C, June 8, 1981; minimum, 1.5°C, Dec. 26, 27, 1983.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR-BID-ITY (NTU) (00076)	TURBID-ITY LAB HACH 2100AN (NTU) (99872)	UV ABSORB-ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB-ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
NOV													
16...	1240	365	.4	--	.048	.035	9.7	96.8	8.4	2090	13.0	307	475
JAN													
31...	1340	185	.7	1.9	.024	.018	10.1	97.6	8.3	3280	12.0	481	636
APR													
04...	1200	148	1.4	1.6	.028	.021	7.3	91.1	8.0	3520	23.5	531	664
MAY													
02...	1100	112	.5	16	.029	.021	8.0	101	8.1	3330	24.0	507	617
JUN													
13...	1030	78	--	1.2	.034	.023	6.8	94.5	7.9	2750	29.0	402	498
JUL													
11...	1030	64	--	.8	.037	.026	6.7	91.3	8.0	2520	28.5	361	457
AUG													
08...	1030	56	--	1.6	.036	.025	6.6	90.0	8.1	2430	29.0	342	434
SEP													
12...	1100	94	--	1.6	.045	.033	7.6	100	8.2	2230	27.0	297	410

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
NOV													
16...	116	44.7	5.32	5.01	250	53.2	168	202	2	399	.7	14.8	268
JAN													
31...	142	67.3	7.10	7.06	408	58.1	155	189	0	685	.8	11.3	419
APR													
04...	142	74.2	7.86	8.05	475	60.7	133	162	0	785	.8	9.1	461
MAY													
02...	127	72.0	7.43	7.63	434	60.3	110	134	0	752	.8	7.8	429
JUN													
13...	101	58.9	7.33	6.92	354	60.4	96	116	0	606	.8	11.1	343
JUL													
11...	92.5	54.2	6.14	6.75	331	60.9	96	114	1	556	.8	11.1	316
AUG													
08...	85.7	52.8	6.02	6.68	319	61.2	92	109	1	544	.9	14.8	316
SEP													
12...	86.2	46.7	5.73	6.01	279	59.4	115	137	0	464	.8	12.5	289

08447410 Pecos River near Langtry, TX--Continued
(National stream-quality accounting network)

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

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN,PAR TICULTE WAT FLT SUSP (MG/L AS N) (49570)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
NOV 16...	1260	1210	<.041	.23	.22	.964	.970	.006	--	1.19	<.006	<.007	E.002
JAN 31...	1970	1840	<.041	.13	.23	--	.806	E.005	.134	1.03	<.006	<.007	E.003
APR 04...	2120	2040	<.041	.20	.29	.250	.256	.006	.112	.546	<.006	<.007	.004
MAY 02...	2110	1900	<.041	.23	.23	--	.052	E.003	<.022	.285	<.006	<.007	.005
JUN 13...	1620	1540	<.040	.31	.35	--	<.050	<.006	.027	--	E.003	<.007	.004
JUL 11...	1470	1430	<.040	.26	.31	--	.053	<.006	<.022	.364	<.006	<.007	<.004
AUG 08...	1410	1400	E.036	.30	.29	--	<.050	<.006	.032	--	<.006	<.007	<.004
SEP 12...	1310	1250	E.035	.26	.36	--	.090	E.005	<.022	.451	<.006	<.007	.004

DATE	CARBON, INORG + ORGANIC PARTIC. TOTAL (MG/L AS C) (00694)	CARBON, INOR-GANIC, PARTIC. TOTAL (MG/L AS C) (00688)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC-ULATE TOTAL (MG/L AS C) (00689)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)
NOV 16...	--	--	1.7	--	--	--	<2.0	--	--	159	--	--	--
JAN 31...	.7	<.1	1.9	.7	<1	.09	.5	39.0	<.06	106	<.04	1.3	.16
APR 04...	.3	<.1	1.6	.3	--	--	1.3	--	--	220	--	--	--
MAY 02...	.5	<.1	2.4	.5	1	.13	1.1	75.7	<.06	239	<.04	<.8	.28
JUN 13...	.2	<.1	3.4	.2	--	--	1.6	--	--	215	--	--	--
JUL 11...	.3	<.1	2.7	.3	<2	.10	1.2	70.2	<.10	201	E.06	<.8	.22
AUG 08...	.3	<.1	3.2	.3	--	--	.6	--	--	194	--	--	--
SEP 12...	.3	<.1	2.7	.3	<1	.09	1.3	65.1	<.06	177	<.04	<.8	.17

DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)
NOV 16...	--	<10	--	45.4	--	--	--	<2.4	--	1810	7.2	--	<.002
JAN 31...	1.1	<30	<.08	32.5	.6	3.2	.70	.9	<1.0	2600	3.5	<1	<.002
APR 04...	--	<30	--	66.2	--	--	--	.7	--	2750	6.8	--	<.002
MAY 02...	2.6	<10	E.07	67.9	3.8	6.0	<.06	.6	<1.0	2580	9.3	3	<.002
JUN 13...	--	<30	--	53.4	--	--	--	E.5	--	2130	7.4	--	<.002
JUL 11...	2.6	<30	<.20	47.0	5.0	4.8	<.10	E.6	<2.0	1940	6.8	2	<.002
AUG 08...	--	<10	--	52.4	--	--	--	.7	--	1900	4.8	--	<.002
SEP 12...	2.9	<10	E.06	44.4	2.2	5.2	<.06	.9	<1.0	1720	6.5	3	<.002

08447410 Pecos River near Langtry, TX--Continued
(National stream-quality accounting network)

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

DATE	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)
NOV													
16...	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	<.005
JAN													
31...	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	V.003
APR													
04...	<.004	<.002	<.005	E.001	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	<.005
MAY													
02...	<.004	<.002	<.005	E.001	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	E.004
JUN													
13...	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	<.005
JUL													
11...	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	<.005
AUG													
08...	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	E.002
SEP													
12...	<.004	<.002	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	<.005

DATE	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV													
16...	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006
JAN													
31...	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006
APR													
04...	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006
MAY													
02...	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006
JUN													
13...	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006
JUL													
11...	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006
AUG													
08...	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006
SEP													
12...	<.005	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.050	<.006	<.013	<.006

DATE	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)
NOV													
16...	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023
JAN													
31...	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	--
APR													
04...	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023
MAY													
02...	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023
JUN													
13...	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023
JUL													
11...	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023
AUG													
08...	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023
SEP													
12...	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023

08447410 Pecos River near Langtry, TX--Continued
(National stream-quality accounting network)

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

DATE	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
NOV											
16...	<.011	<.016	<.034	<.017	<.005	<.002	<.009	--	77	6	5.9
JAN											
31...	<.011	<.016	<.034	<.017	<.005	<.002	<.009	1.83	52	4	2.0
APR											
04...	<.011	<.016	<.034	<.017	<.005	<.002	<.009	--	66	4	1.6
MAY											
02...	<.011	<.016	<.034	<.017	<.005	<.002	<.009	3.14	46	3	.91
JUN											
13...	<.011	<.016	<.034	<.017	<.005	<.002	<.009	--	89	2	.42
JUL											
11...	<.011	<.016	<.034	<.017	<.005	<.002	<.009	2.25	33	3	.52
AUG											
08...	<.011	<.016	<.034	<.017	<.005	<.002	<.009	--	31	2	.30
SEP											
12...	<.011	<.016	<.034	<.017	<.005	<.002	<.009	2.16	81	2	.51

Del
Rio
Laredo
McAllen
Harlingen
Brownsville

08475000 Rio Grande near Brownsville, TX--Continued
(National stream-quality accounting network)

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

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)
AUG 29...	40.0	20.7	6.2	<.06	<.3	<1.0	1190	3.6	4	<.002	<.004	<.002	<.005

DATE	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)
AUG 29...	.010	<.010	<.002	E.022	<.020	<.005	<.018	<.003	E.002	.083	<.005	<.021	<.002

DATE	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	P,P' DDE DISSOLV (UG/L) (34653)
AUG 29...	<.009	<.005	<.003	<.004	<.035	E.016	<.050	<.006	<.013	<.006	<.002	<.007	<.003

DATE	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)
AUG 29...	<.007	<.002	<.010	<.006	<.011	<.015	<.004	<.010	<.011	<.023	<.011	<.016	<.034

DATE	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
AUG 29...	<.017	<.005	<.002	<.009	1.60	100	1	.55

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The U.S. Geological Survey collects limited streamflow data at sites other than continuous stream-gaging stations 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. 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 2001

Station number	Station name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Guadalupe River Basin				
08168000	Hueco Springs near New Braunfels, TX	Lat 29º45'33", long 98º08'23", Comal County, two springs located 400 and 500 ft west of the Guadalupe River, 600 ft downstream from the mouth of Elm Creek, and 4.2 mi north of New Braunfels.	--	1944-2001	10-05-00 11-30-00 01-12-01 03-12-01 04-27-01 06-25-01 08-10-01	2.24 94.0 101 111 98.8 101 57.2
08177818	San Antonio Springs at San Antonio, TX	Lat 29º27'56", long 98º28'04", Bexar County, just below Hildebrand Ave. in San Antonio.	--	1951-52, 1959-62, 1972, 1974-77, 1979-2001	11-22-00 01-03-01 02-01-01 03-21-01 03-21-01 05-24-01 07-06-01 09-19-01	16.2 25.3 47.1 52.2 52.1 35.3 0 22.7
08178090	San Pedro Springs at San Antonio, TX	Lat 29º26'42", long 98º30'06", Bexar County, at San Pedro Park in San Antonio.	--	1933-35, 1951-52, 1958-61, 1966, 1971, 1974-77, 1979-2001	11-22-00 01-03-01 02-01-01 03-21-01 05-22-01 05-24-01 07-06-01 09-19-01	7.30 6.65 10.1 12.2 12.1 10.8 4.80 9.11
		Nueces River Basin				
08204000	Leona River Springflow near Uvalde TX	Lat 29º09'15", long 99º44'35", Uvalde County, at old road crossing on White's Ranch, 2.0 mi downstream from Cooks Slough, and 4.7 mi southeast of Uvalde.	--	1939-65†, 1966-2001	10-02-00 12-08-00 01-24-01 03-13-01 05-16-01 06-19-01 08-16-01	7.07 21.4 9.75 26.3 6.39 5.10 4.26
		Rio Grande Basin				
08425500	Phantom Lake Spring near Toyahvale, TX	Lat 30º56'01", long 103º50'43", Jeff Davis County, 375 ft downstream from source of spring, 3.5 mi southwest of Toyahvale, and 7.0 mi southwest of Balmorhea.	--	1931-33†, 1934, 1941, 1942-66†, 1967-2001	10-11-00 11-28-01 01-22-01 03-28-01 05-22-01 07-10-01 08-28-01	0.03 0.01 0.04 0.03 <0.01 0 0

See footnote at end of table.

Discharge measurements made at low-flow partial-record station during water year 2001--Continued

Station number	Station name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Rio Grande Basin--Continued				
08427000	Giffin Springs at Toyahvale, TX	Lat 30°56'51", long 103°47'19", Reeves County, 2,000 ft northwest of post office in Toyahvale.	--	1919, 1922-25, 1932-33✞, 1941-86, 1988-2001	10-11-00 11-28-00 01-22-01 03-28-01 05-22-01 07-10-01 08-28-01	4.11 3.74 4.08 3.71 3.86 4.51 4.47
08427500	San Solomon Springs at Toyahvale, TX	Lat 30°56'34", long 103°47'16", Reeves County, measurement of total spring flow from all canals at Balmorhea State Park, and 4.0 mi southwest of Balmorhea.	--	1919, 1922-25, 1931-33✞, 1934-36, 1941-65✞, 1966-86, 2001	01-22-01 03-28-01 05-22-01 07-10-01 08-28-01	26.9 24.9 26.5 24.0 26.1

✞ Operated as a continuous-record station.

1/ Measurements furnished by International Boundary and Water Commission.

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 inspection 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 2001

Station name and number	Location	Period of record	Water Year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
		Guadalupe River Basin						
San Antonio River at Navarro St., San Antonio, TX 08177900	Lat 29°25'50", long 98°29'24", Bexar County, at bridge on Navarro Street in San Antonio. Drainage area is unknown.	1973-2001	08-30-01	*635.59	--	10-17-98	*643.72	--
San Pedro Creek at Santa Rosa St., San Antonio, TX 08178100	Lat 29°25'51", long 98°29'49", Bexar County, at bridge on Santa Rosa Street in San Antonio. Drainage area is unknown.	1973-2001	05-04-01	-638.96	--	07-16-90	*648.38	--
Martinez Creek at Fredericksburg Rd., San Antonio, TX 08178350	Lat 29°27'22", long 98°31'04", Bexar County, at bridge on Fredericksburg Road in San Antonio. Drainage area is unknown.	1973-2001	06-15-01	*681.18	--	10-17-98	*685.46	--
		San Fernando Creek Basin						
Tranquitas Creek at Kingsville, TX 08212300	Lat 27°31'33", long 97°52'02", Kleberg County, at bridge on U.S. Highway 77 Business Route in Kingsville, 4.9 mi upstream from San Fernando Creek, and 5.9 mi downstream from Tranquitas Dam. Drainage area is 48.5 mi^2.	1965-82, 1984-90, 1992-2001	--	2.51	--	08-10-80	6.88	--

* Elevation, in feet above sea level.
✞ Operated as a continuous-record station.
a From floodmark.
i From indirect measurement of peak flow.

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table:

Discharge measurements made at miscellaneous sites during water year 2001

Station number	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
Rio Grande Basin						
Alamito Creek nr Presidio, TX 08374000	Rio Grande	Lat 29º31'25", long 104º17'15", Presidio County on downstream side of highway bridge on FM 170, about 0.25 mi upstream from the confluence with the Rio Grande, and about 6 mi southeast of Presidio.	1,504	1999-2001	10-11-00 11-28-00 01-23-01 03-27-01 05-22-01 07-10-01 08-28-01	0.50 0.61 0.65 0.39 0.16 0.60 0.08
Terlingua Creek nr Terlingua, TX 08374500	Rio Grande	Lat 29º11'50", long 103º36'20", Brewster County, on left bank, 2.6 mi upstream from the confluence with the Rio Grande, and about 8.5 mi south of Terlingua.	1,070	1999-2001	11-28-00 01-23-01 03-27-01 05-21-01 07-09-01 08-27-01	2.18 1.99 1.43 1.22 1.22 1.45
Devils River at Pafford Crossing nr Comstock, TX 08449400	Rio Grande	Lat 29º40'35", long 101º00'00", Val Verde County, on left bank, about 11.5 mi east of Comstock, and about 25.5 mi upstream from the confluence with the Rio Grande.	3,961	1999-2001	02-01-01 04-06-01 05-04-01 06-15-01 07-09-01 08-06-01	381 337 313 257 243 224

✞ Operated as a continuous-record station.

1/ Measurements furnished by International Boundary and Water Commission.

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