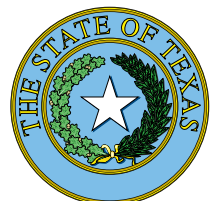
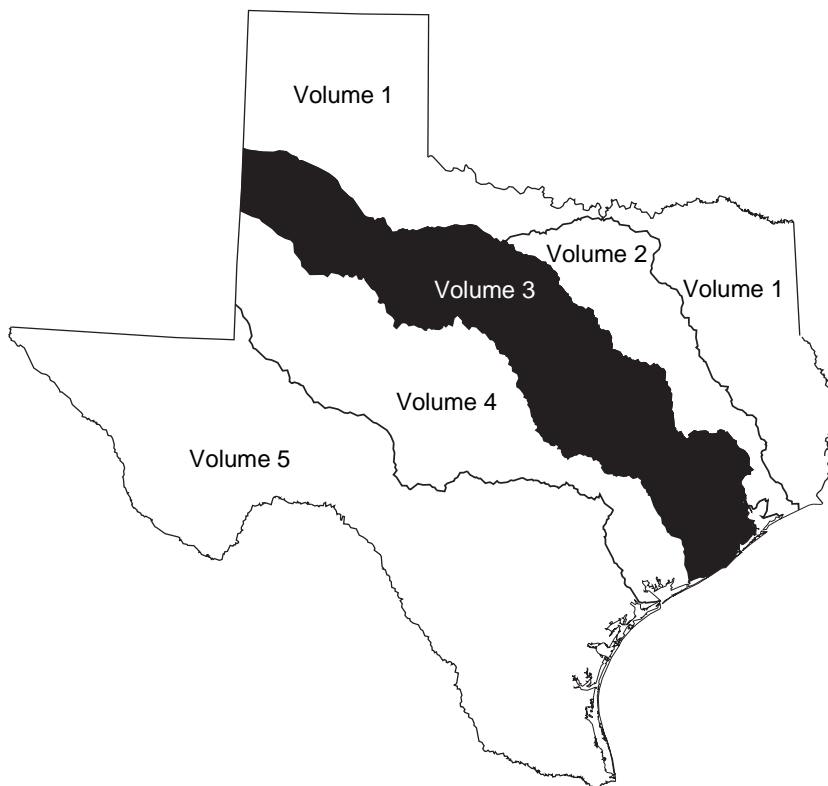


Water Resources Data Texas Water Year 1999

Volume 3. San Jacinto River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins

By S.C. Gandara, W.J. Gibbons, D.L. Barbie and R.E. Jones

Water-Data Report TX-99-3



UNITED STATES DEPARTMENT OF THE INTERIOR

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2000

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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This report was prepared in cooperation with the State of Texas and other agencies under the supervision of Jayne E. May, District Data Chief.

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13. ABSTRACT <i>(Maximum 200 words)</i> Water-resources data for the 1999 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 3 contains records for water discharge at 78 gaging stations; stage only at 7 gaging stations; stage and contents at 28 lakes and reservoirs; water quality at 27 gaging stations; and data for 48 partial-record stations comprised of 19 flood-hydrograph, 8 low-flow, and 17 crest-stage, and 4 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.			
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GAGING STATIONS, IN DOWNSTREAM ORDER,
FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

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

	Station number	Page
WESTERN GULF OF MEXICO BASINS		
CEDAR BAYOU BASIN		
Cedar Bayou near Crosby (d) -----	08067500	30
SAN JACINTO RIVER BASIN		
West Fork San Jacinto River:		
Lake Conroe near Conroe (e) (c) (t) -----	08067600	32
West Fork San Jacinto River below Lake Conroe near Conroe (d) -----	08067650	40
West Fork San Jacinto River near Conroe (d) -----	08068000	42
West Fork San Jacinto River above Lake Houston near Porter (d) (c) (b) (t) -----	08068090	44
Spring Creek near Spring (d) (c) (b) (t) -----	08068500	48
Cypress Creek at Katy-Hockley Road near Hockley (d) -----	08068720	52
Cypress Creek at House and Hahl Road near Cypress (d) -----	08068740	54
Little Cypress Creek near Cypress (d) -----	08068780	56
Cypress Creek at Grant Road near Cypress (d) -----	08068800	58
Cypress Creek at Stuebner Airline Road near Westfield (d) -----	08068900	60
Cypress Creek near Westfield (d) (c) (b) (t) -----	08069000	62
East Fork San Jacinto River near Cleveland (d) -----	08070000	66
East Fork San Jacinto River near New Caney (d) (c) (b) (t) -----	08070200	68
Caney Creek near Splendora (d) (c) (b) (t) -----	08070500	76
San Jacinto River:		
Peach Creek at Splendora (d) -----	08071000	80
Luce Bayou above Lake Houston near Huffman (d) (c) (b) (t) -----	08071280	82
Lake Houston near Sheldon (e) (c) (b) (t) -----	08072000	86
San Jacinto River near Sheldon (e) -----	08072050	96
Buffalo Bayou near Katy (d) -----	08072300	98
Barker Reservoir near Addicks (e) -----	08072500	100
South Mayde Creek:		
Bear Creek near Barker (d) -----	08072730	102
Langham Creek at West Little York Road near Addicks (d) -----	08072760	104
Addicks Reservoir near Addicks (e) -----	08073000	106
Buffalo Bayou near Addicks (d) -----	08073500	108
Buffalo Bayou at West Belt Drive, Houston (d) -----	08073600	110
Buffalo Bayou at Piney Point (d) -----	08073700	112
Buffalo Bayou at Houston (d) (c) (t) -----	08074000	114
Whiteoak Bayou:		
Cole Creek at Deihl Road, Houston (d) -----	08074150	124
Brickhouse Gulley at Costa Rica Street, Houston (d) -----	08074250	126
Whiteoak Bayou at Houston (d) -----	08074500	128
Whiteoak Bayou at Main Street, Houston (e) -----	08074598	130
Buffalo Bayou at McKee Street, Houston (e) (c) (t) -----	08074610	132
Buffalo Bayou at Turning Basin, Houston (e) (c) (t) -----	08074710	142
Brays Bayou:		
Keegans Bayou at Roark Road near Houston (d) -----	08074800	152
Brays Bayou at Houston (d) -----	08075000	154
Sims Bayou at Hiram Clarke Street, Houston (d) -----	08075400	156
Sims Bayou at Houston (d) -----	08075500	158
Berry Bayou at Forest Oaks Street, Houston (e) -----	08075650	160
Vince Bayou at Pasadena (d) -----	08075730	162
Hunting Bayou at Interstate Highway 610, Houston (d) -----	08075770	164
Greens Bayou near U.S. Highway 75 near Houston (d) -----	08075900	166
Greens Bayou near Houston (d) -----	08076000	168
Garners Bayou near Humble (d) -----	08076180	170
Halls Bayou at Houston (d) -----	08076500	172
Greens Bayou at Ley Road, Houston (d) -----	08076700	174
CLEAR CREEK BASIN		
Clear Creek near Friendswood (d) -----	08077600	176
COASTAL BASIN		
Moses Lake-Galveston Bay near Texas City (e) -----	08077650	178

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

vii

	Station number	Page
WESTERN GULF OF MEXICO BASINS--Continued		
HIGHLAND BAYOU BASIN		
Highland Bayou Diversion Channel near Hitchcock (e) -----	08077690	180
Highland Bayou near Hitchcock (e) -----	08077695	182
LaMarque Levee Pump Station near LaMarque (e) -----	08077740	184
LaMarque Gravity Drain near LaMarque (e) -----	08077752	184
CHOCOLATE BAYOU BASIN		
Chocolate Bayou near Alvin (d) -----	08078000	188
BRAZOS RIVER BASIN		
Double Mountain Fork Brazos River (head of Brazos River):		
Double Mountain Fork Brazos River at Justiceburg (d) (c) (t) -----	08079600	192
Lake Alan Henry Reservoir near Justiceburg (e) -----	08079700	198
Double Mountain Fork Brazos River near Aspermont (d) (c) (t) -----	08080500	200
Salt Fork Brazos River:		
White River Reservoir near Spur (e) -----	08080910	204
Salt Fork Brazos River near Aspermont (d) -----	08082000	206
Brazos River:		
Brazos River at Seymour (d) (c) (t) -----	08082500	210
Millers Creek near Munday (d) -----	08082700	214
Millers Creek Reservoir near Bomarton (e) -----	08082800	216
Clear Fork Brazos River near Roby (d) -----	08083100	220
Lake Sweetwater near Sweetwater (e) -----	08083200	222
Lake Abilene near Buffalo Gap (e) -----	08083270	224
Fort Phantom Hill Reservoir near Nugent (e) -----	08083500	226
Clear Fork Brazos River at Nugent (d) -----	08084000	228
Paint Creek:		
Lake Stamford near Haskell (e) -----	08084500	230
California Creek near Stamford (d) -----	08084800	232
Clear Fork Brazos River at Fort Griffin (d) -----	08085500	234
Hubbard Creek below Albany (d) (c) (t) -----	08086212	236
Big Sandy Creek above Breckenridge (d) (c) (t) -----	08086290	244
Hubbard Creek Reservoir near Breckenridge (e) (c) (t) -----	08086400	252
Brazos River near South Bend (d) -----	08088000	260
Salt Creek:		
Lake Graham near Graham (e) -----	08088400	262
Possum Kingdom Lake near Graford (e) -----	08088500	264
Brazos River near Graford (d) -----	08088610	266
Brazos River near Palo Pinto (d) -----	08089000	268
Brazos River near Dennis (d) -----	08090800	270
Lake Granbury near Granbury (e) -----	08090900	272
Brazos River near Glen Rose (d) (c) (t) -----	08091000	278
Paluxy River at Glen Rose (d) -----	08091500	282
Squaw Creek Reservoir near Glen Rose (e) -----	08091730	284
Squaw Creek near Glen Rose (d) -----	08091750	286
Nolan River:		
Lake Pat Cleburne near Cleburne (e) -----	08091900	288
Nolan River at Blum (d) (c) (t) -----	08092000	292
Lake Whitney near Whitney (e) (c) (t) (b) -----	08092500	296
Brazos River at Whitney Dam near Whitney (c) (t) -----	08092600	310
Brazos River near Aquilla (d) -----	08093100	312
Aquilla Lake above Aquilla (e) -----	08093350	314
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North Bosque River at Hico (d) -----	08094800	318
North Bosque River near Clifton (d) -----	08095000	320
North Bosque River at Valley Mills (d) (c) (t) -----	08095200	322
South Bosque River:		
Middle Bosque River near McGregor (d) (c) (t) -----	08095300	326
Hog Creek near Crawford (d) -----	08095400	330
Waco Lake near Waco (e) (c) (b) (t) -----	08095550	332
Bosque River near Waco (c) (t) -----	08095600	344
Brazos River at Waco (d) -----	08096500	346

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

	Station number	Page
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BRAZOS RIVER BASIN--Continued		
Brazos River near Highbank (d) -----	08098290	348
Leon Reservoir near Ranger (d) -----	08099000	350
Leon River near De Leon (d) -----	08099100	352
Sabana River near De Leon (d) -----	08099300	354
Proctor Lake near Proctor (e) -----	08099400	356
Leon River near Hamilton (d) -----	08100000	358
Leon River at Gatesville (d) -----	08100500	360
Cowhouse Creek at Pidcoke (d) -----	08101000	362
Belton Lake near Belton (e) -----	08102000	364
Leon River near Belton (d) -----	08102500	366
Lampasas River near Kempner (d) -----	08103800	368
Rocky Creek:		
South Fork Rocky Creek near Briggs (d) -----	08103900	370
Stillhouse Hollow Lake near Belton (e) -----	08104050	372
Lampasas River near Belton (d) -----	08104100	374
Little River near Little River (d) -----	08104500	376
Lake Georgetown near Georgetown (e) -----	08104650	378
North Fork San Gabriel River near Georgetown (d) -----	08104700	380
South Fork San Gabriel River at Georgetown (d) -----	08104900	382
Berry Creek near Georgetown (d) -----	08105100	384
Granger Lake near Granger (e) -----	08105600	386
San Gabriel River at Laneport (d) -----	08105700	388
Little River near Rockdale (d) -----	08106350	390
Little River at Cameron (d) -----	08106500	392
Brazos River at State Highway 21 near Bryan (d) -----	08108700	396
Middle Yegua Creek (head of Yegua Creek) near Dime Box (d) -----	08109700	398
East Yegua Creek near Dime Box (d) -----	08109800	400
Somerville Lake near Somerville (e) -----	08109900	402
Davidson Creek near Lyons (d) -----	08110100	404
Navasota River above Groesbeck (d) -----	08110325	406
Big Creek near Freestone (d) -----	08110430	408
Lake Limestone near Marquez (e) -----	08110470	410
Navasota River near Easterly (d) -----	08110500	412
Navasota River at OSR near Bryan (d) -----	08110800	414
Brazos River near Hempstead (d) -----	08111500	416
Brazos River at Richmond (d) (c) (t) -----	08114000	418
Big Creek near Needville (d) -----	08115000	422
Brazos River near Rossharon (d) -----	08116650	424
SAN BERNARD RIVER BASIN		
San Bernard River near Boling (d) -----	08117500	428

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in Texas have been discontinued. Daily stream-flow 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)
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
Panther Branch near Conroe (e)	08068400	25.9	1974-76, 1980-88
Swale No. 8 at Woodlands (e)	08068438	0.55	1975-76, 1980-88
Panther Branch near Spring (e)	08068450	34.5	1972-76, 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 at Splendor (d)	08071000	117	1944-77
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 (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 Whiteoak Bayou at Trimble Street, Houston (e)	08074540	18.0	1980-84
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 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
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

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
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, 1971-72
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
Millers Creek Reservoir near Bomartin (d)	08082800	240	1975-94
North Elm Creek near Throckmorton (e)	08082900	3.58	1965-77
Elm Creek near Proffitt (e)	08082950	275	1969-85
Brazos River near Graham (d)	08083000	16,830	1916-20
Clear Fork Brazos River at Hawley (d)	08083240	1,416	1968-89

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
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
Cat Claw Creek at Abilene (d)	08083420*	13	1971-79
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
Panter 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	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
Lake Mexia near Mexia (e)	08110300	196	1961-86
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,

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Navasota River near College Station (d)	08111010	1,809	1994-97
Burton Creek at Villa Maria Road, Bryan (d)	08111025	1.33	1977-85
Hudson Creek near Bryan (d)	08111050	1.94	1968-70
Winkleman Creek near Brenham (e)	08111100	0.75	1968-70
Piney Creek near Bellville (e)	08111600	30.7	1965-73
			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	08116400	8.65	1959-79
Dry Creek near Richmond (d)	08116500	12.20	1947-50,
			1957-58

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

The following stations were discontinued as continuous-record surface-water-quality stations prior to the 1999 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)
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
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
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
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
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
Brazos River at Morris Sheppard Dam near Graford	08088600	23,596	SC	1942-91,

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

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Station name	Station number	Drainage area (mi ²)	Type of record	Period of record (water years)
			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

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WATER RESOURCES DATA—TEXAS, 1999

VOLUME 3

SAN JACINTO RIVER BASIN, BRAZOS RIVER BASIN, SAN BERNARD RIVER BASIN, AND INTERVENING COASTAL BASINS

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with Federal, State, and City agencies, obtains a large amount of data pertaining to the water resources of Texas each water year. Such data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the U.S. Geological Survey, the data are published annually in 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 3 contains records for water discharge at 78 gaging stations; stage only at 7 gaging stations; stage and contents at 28 lakes and reservoirs; and water quality at 27 gaging stations. Also included are data for 48 partial-record stations comprised of 19 flood-hydrograph, 8 low-flow, 17 crest stage, and 4 miscellaneous 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-99-3." 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 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 1999 are:

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

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

Texas Water Development Board, G.E. Kretschmar, 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 Authority; Brazos River Authority; Canadian Municipal Water Authority; Coastal Water Authority; Colorado River Municipal Water District; Dallas Public Works Department; Dallas Water Utilities; Edwards Underground Water District; 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 Council of Governments; North Central Texas Municipal Water Authority; Northeast Texas Municipal Water District; North Texas Municipal Water District; Pecos River Commission; Red Bluff Water Power Control District; Red River Authority; Sabine River Authority of Texas; Sabine River Compact Administration; San Antonio City Public Service Board; San Antonio 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 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 normal during water year 1999.

Conservation storage in 77 selected reservoirs throughout the State, with a combined conservation capacity of 34,481,000 acre-feet, increased from 75 percent at the end of September 1998 to 76 percent at the end of September 1999. Records from these reservoirs indicate that storage decreased in 42, increased in 34, and remained the same in 1.

The area for which water resources data are presented in volume 3 includes the San Jacinto River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins. The area described in volume 3 and the location of selected streamflow-gaging stations in the area are shown in figure 1.

Streamflow

In the area covered in volume 3, streamflow averaged normal during water year 1999. Streamflow for water year 1999 and for the period of record at six selected stations (fig. 1) for which data are included in volume 3 is presented in table 1.

At the four long-term hydrologic index stations in the State, monthly mean streamflow during water year 1999 was normal. Monthly mean discharges for water year 1999 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 North Bosque River near Clifton had above normal streamflow during November and December, below normal streamflow during May, August, and September and normal streamflow for the remaining 7 months. Streamflow at the station Neches River near Rockland was above normal during October through February and normal for the remaining 7 months. The station North Concho River near Carlsbad had normal streamflow for each month of water year 1999.

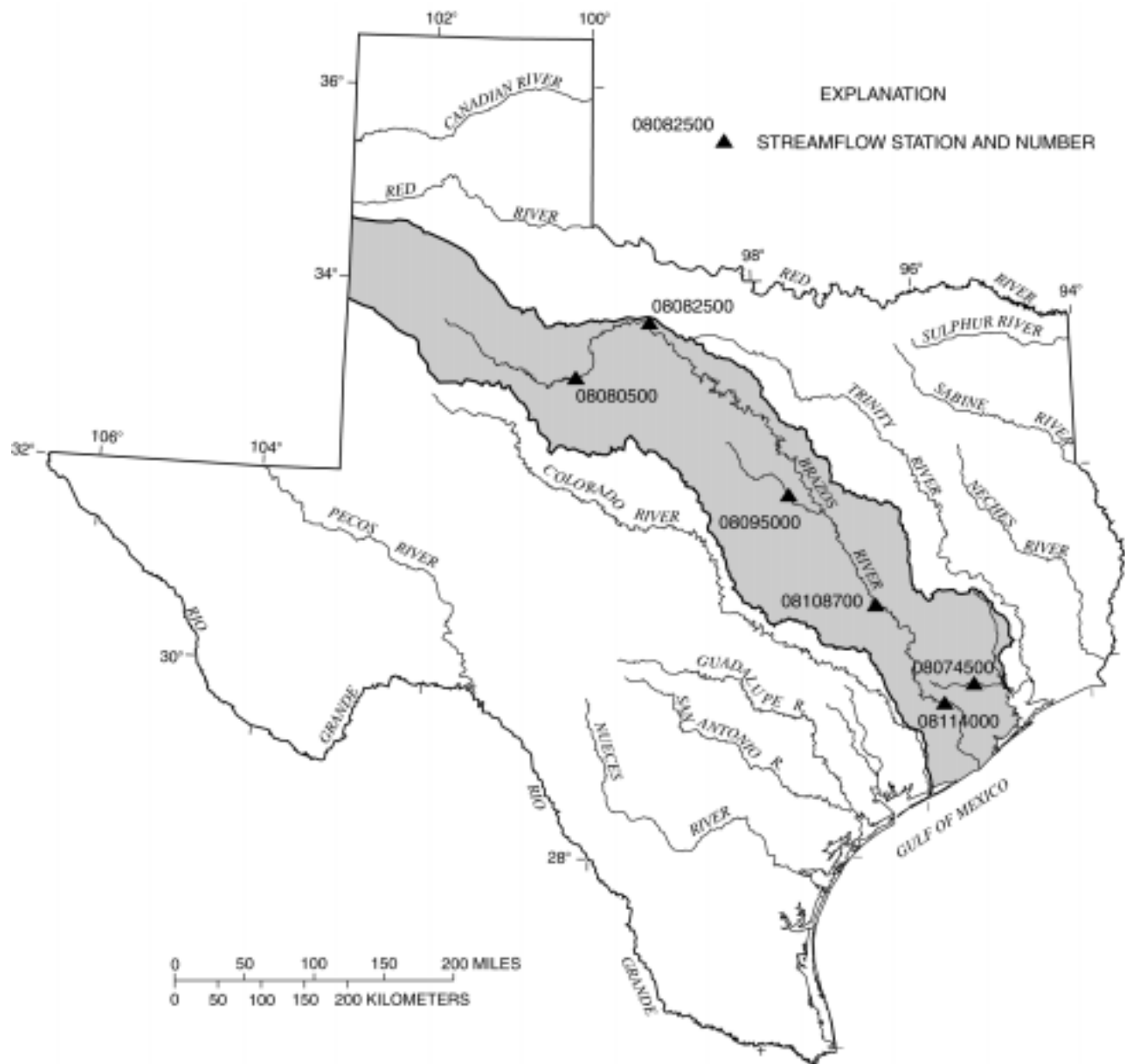


Figure 1. Area of Texas covered by volume 3 (shaded) and location of selected streamflow stations in volume 3.

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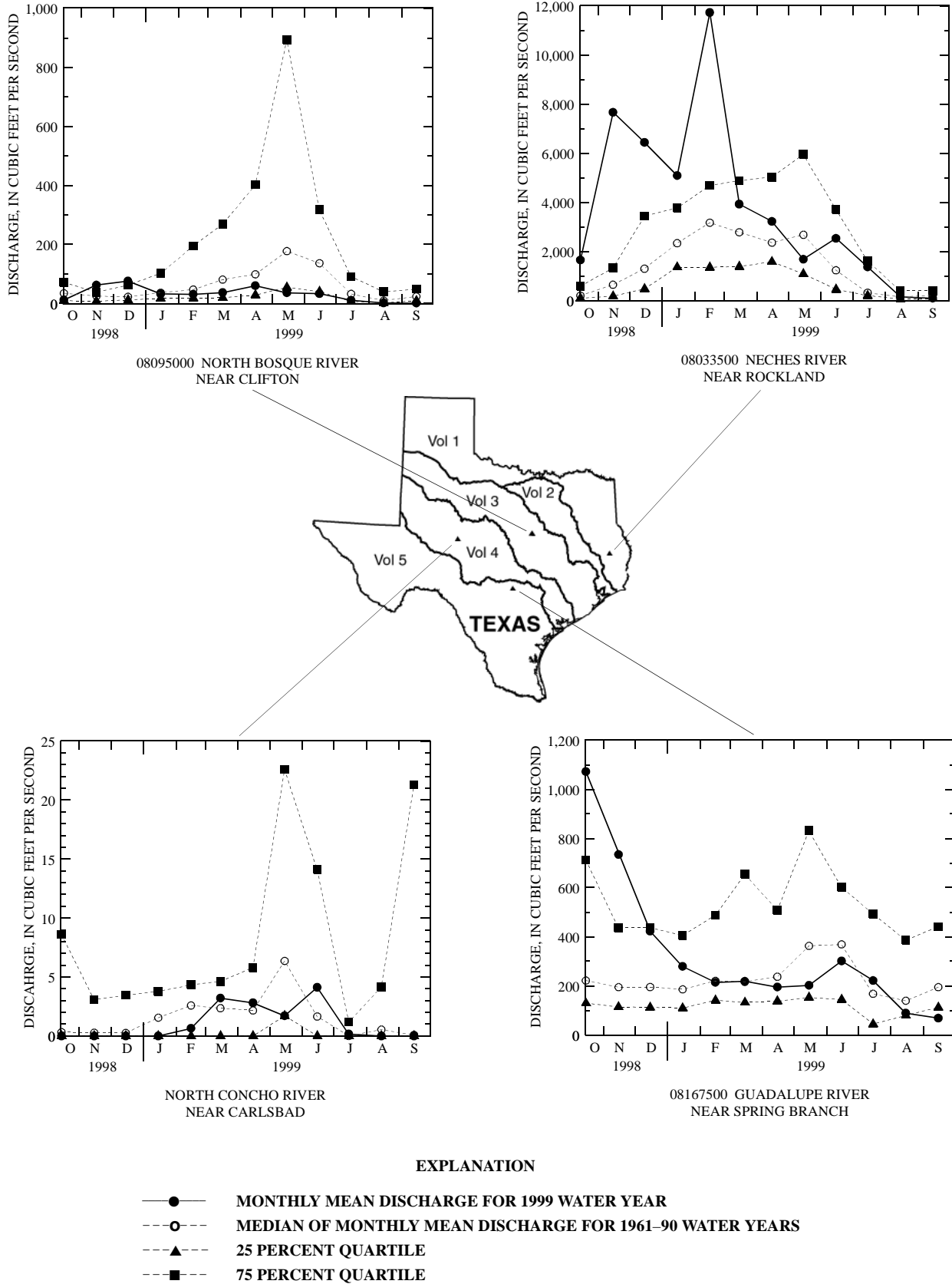


Figure 2. Monthly mean discharges at four long-term hydrologic index stations during 1999 water year and median of the monthly mean discharges for 1961-90 water years.

Streamflow for the station Guadalupe River near Spring Branch was above normal during October through December, below normal during September and normal for the remaining 8 months.

Conservation storage in 21 selected reservoirs in this area of the State, with a total combined conservation capacity of 3,805,000 acre-feet, increased from 79 percent of capacity at the end of September 1998 to 81 percent at the end of September 1999. Records from these reservoirs indicate that storage increased in 9 and decreased in 12.

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 in which discharge is controlled by reservoirs, the dissolved-solids concentrations may remain relatively constant despite substantial fluctuations in precipitation and runoff.

Table 1. Streamflow at six selected stations

Station no. and name	Discharge during 1999 water year (cubic feet per second)			Discharge during period of record (cubic feet per second)		
	Maximum instantaneous	Minimum daily mean	Mean	Maximum instantaneous	Minimum daily mean	Mean
<u>San Jacinto River Basin</u>						
08074500 Whiteoak Bayou at Houston, Tex.	9,770	32	169	25,100	0.20	103 (1936-99)
<u>Brazos River Basin</u>						
08080500 Double Mountain Fork Brazos River nr Aspermont, Tex.	18,800	0	129	18,800	0	55.3 (1994-99)
08082500 Brazos River at Seymour, Tex.	12,500	0	260	95,400	0	283 (1964-99)
08095000 North Bosque River near Clifton, Tex. ^{1/}	1,570	.4	32.8	200,000	.01	243 (1968-99)
08108700 Brazos River at State Hwy. 21 near Bryan, Tex.	78,600	125	3,824	78,600	125	5,290 (1993-99)
08114000 Brazos River at Richmond, Tex.	80,300	353	8,251	119,000	55	7,621 (1941-99)
^{1/} Hydrologic index station.						

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 hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nation's largest river basins--the Mississippi, Columbia, Colorado, and Rio Grande. The network consists of 40 stations. 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 remobilization 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 is available through the world wide web at:

<http://water.usgs.gov/nasqan/>

The National Atmospheric Deposition Program/National Trends Network (NAPD/NTN) provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the lead federal agency, the USGS works together with over 100 organizations to accomplish the following objectives; (1) Provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of over 200 precipitation chemistry monitoring sites. (2) Provide the mechanism to evaluate the effectiveness of the significant reduction in SO₂ emissions that began in 1995 as implementation of the Clean Air Act Amendments (CAAA) occurred. (3) Provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO₂ and NO_x scheduled to begin in 2000.

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.

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 two NAWQA Programs operating in Texas; the Trinity NAWQA and the South Central Texas NAWQA.

Additional information about the NAWQA Program is available through the world wide web at:

http://water.usgs.gov/nawqa/nawqa_home.html

<http://tx.usgs.gov/trin>

<http://tx.usgs.gov/sctx>

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 1999 water year that began October 1, 1998, and ended September 30, 1999. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, and water-quality data for surface water. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

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

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 indentation in the “List of Stations” in the front of this report. Each indentation represents one rank. This downstream order and system of indentation shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station, such as 08057000, which appears just to the left

of the station name, includes the 2-digit Part number “08” plus the 6-digit downstream-order number “057000.” The Part number designates the major river basin; for example, Part “08” is the Western Gulf of Mexico basin.

Records of Stage and Water Discharge

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

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 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

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

Other Records Available

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

Records of Surface-Water Quality

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

Classification of Records

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

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

Arrangement of Records

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

On-Site Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. 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. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed under “PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS” which appears at the end of the introductory text. Detailed information on collecting, treating, and shipping samples may be obtained from the Texas Office of the Central Region Office.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (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.

Additional information about the NASQAN program is available through the world wide web at:

<http://water.usgs.gov/public/nasqan/>

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 (1999) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter. If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter and could reflect contamination introduced during some phase of the procedure.

Data Presentation

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

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

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

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

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

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

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

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

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

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

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at mis-

cellaneous 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.
K	Results based on colony count outside the acceptance range (non-ideal colony count).
L	Biological organism count less than 0.5 percent (Organism may be observed rather than counted).
D	Biological organism count equal to or greater than 15 percent (dominant).
&	Biological organism estimated as dominant.
V	Analyte was detected in both the environmental sample and the associated blanks.

Dissolved Trace-Element Concentrations

NOTE: Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (mg/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 mg/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/NTN Coordination Office, Colorado State University, Fort Collins, CO 80523 (303-491-5643).

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:

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.

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.

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 be 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:

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.

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

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

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 the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 325,851 gallons or 1,233 cubic meters.

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

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

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

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

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

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warm-blooded animals and those that inhabit soils. They are characterized as aerobic or fac-

ultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which 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 ± 1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

Fecal streptococcal bacteria are bacteria found in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria 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 ± 1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

Benthic organisms (invertebrates) are the group of animals 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 the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. Ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m³), and periphyton and benthic organisms in grams per square meter (g/m²).

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

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

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

Bottom material: See “Bed material”.

Cells/volume refers to the number of plankton cells or natural units counted using a microscope and grid or counting cell. Results are generally reported as cells or units per milliliter.

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.

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

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

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

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

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

Cubic foot per second (ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic foot per second per day [(ft³/s)/d] is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,447 cubic meters.

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

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

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

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

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

Dissolved-solids concentration of water is determined either analytically by the “residue-on-evaporation” method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to reflect the change.

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

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

Extractable organic halides (EOX) are organic compounds which contain halogen atoms such as chlorine. These organic compounds are semi-volatile and extractable by ethyl acetate from air-dried stream bottom 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 stream bottom sediments.

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

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

Supplementary gage is a gage used to obtain additional data. A supplementary gage may be used in place of the principal gage if the latter is isolated or cut

off from the channel, or registers only above (or below) a certain gage height. One or more supplementary gages may be used on bypass channels or overflow channels, or on streams that flow in several channels, each of which is rated independently.

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

High tide is the maximum height reached by each rising tide.

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

Low tide is the minimum height reached by each falling tide.

Mean high tide is the average of all high tides over a specified period.

Mean low tide is the average of all low tides over a specified period.

Mean water level is the average of all tides over a specified period.

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.

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

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

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

Microsiemens per centimeter ($\mu\text{S/cm}$, US/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 solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

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 eye-bolt.

Organism is any living entity.

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

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

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

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

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

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

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

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

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

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

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

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

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

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL of sample).

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

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

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

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some

forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

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

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

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

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

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

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To

achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

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

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

Sea level was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports and refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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

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

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

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

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

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

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft³/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. 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 discharge or concentration.

Suspended total residue at 105 °C concentration is the concentration of suspended sediment in the sampled zone expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). A small aliquot of the sample is used for the analysis.

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

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. 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 total-sediment discharge.

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

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 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.

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

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

Substrate is the physical surface upon which an organism lives.

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

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with

clean streamside rocks) and multiplate samplers (made of hard-board) for benthic organism collection, and plexiglass strips for periphyton collection.

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

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

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

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

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

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

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

Synoptic Studies 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.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchal scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata*, is the following:

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

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

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

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

Tons per day (T/DAY) is the rate representing a mass of 1 ton of a constituent in streamflow passing a cross section in 1 day. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

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

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

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

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

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

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

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

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

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

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.

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.

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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. Schaffranek, 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 Gibbs, 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-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. 49 pages.
- 9-A7. *National Field Manual for the Collection of Water-Quality Data: Five-Day Biochemical Oxygen Demand*, by G.C. Delzer and S.W. McKenzie: USGS-TWRI Book 9, Chapter A7.2. 1999. 28 pages.
- 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.

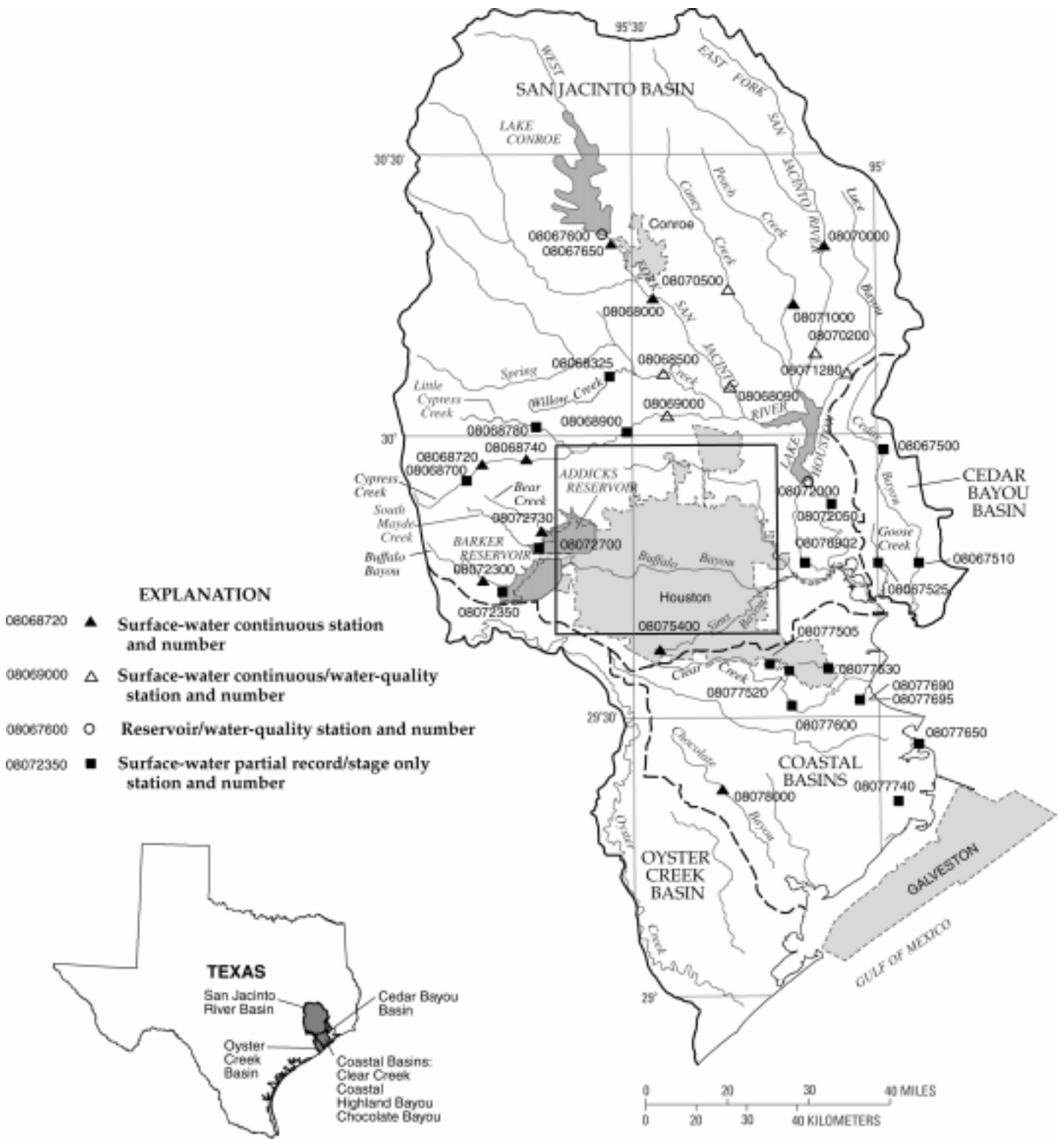
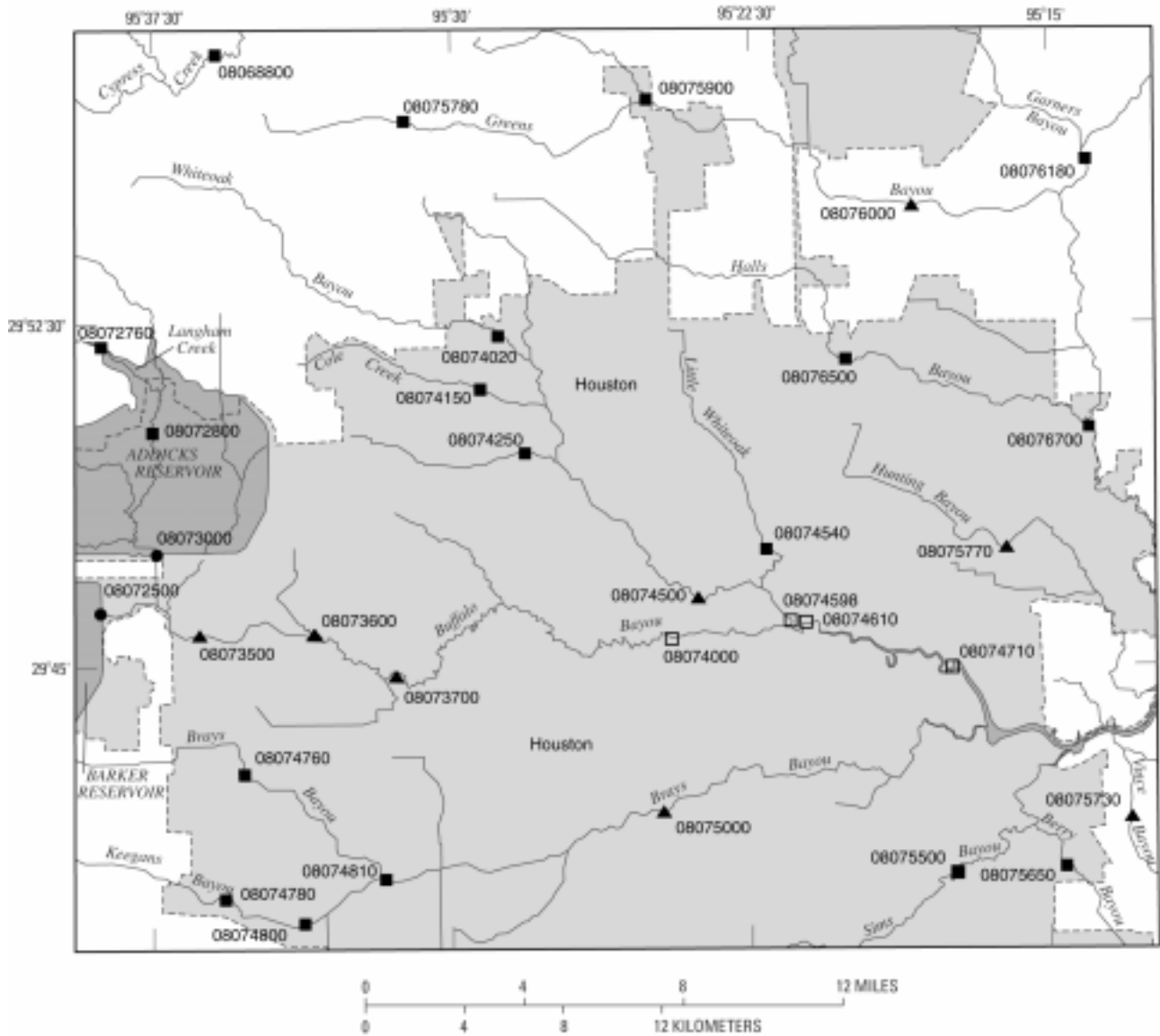


Figure 3.--Map showing location of gaging stations in the San Jacinto and Coastal River Basins



EXPLANATION

- 08073500 ▲ Surface-water continuous station and number
- 08073600 △ Surface-water continuous/water-quality station and number
- 08073000 ● Reservoir station and number
- 08074780 ■ Surface-water partial record/stage only station and number
- 08074610 □ Surface-water partial record/stage only/water-quality station and number

Figure 4.--Map showing location of gaging stations in the Houston inset of the San Jacinto River Basin

08067500	Cedar Bayou near Crosby, TX	30
08067510	Cedar Bayou near Baytown, TX	435
08067525	Goose Creek at Baytown, TX	435
08067600	Lake Conroe near Conroe, TX	32
08067650	West Fork San Jacinto River below Lake Conroe, TX	40
08068000	West Fork San Jacinto River near Conroe, TX	42
08068090	West Fork San Jacinto River above Lake Houston near Porter, TX	44
08068325	Willow Creek near Tomball, TX	435
08068500	Spring Creek near Spring, TX	48
08068700	Cypress Creek at Sharp Road near Hockley, Tx	435
08068720	Cypress Creek at Katy-Hockley Road near Hockley, TX	52
08068740	Cypress Creek at House and Hahl Road near Cypress, TX	54
08068780	Little Cypress Creek near Cypress, TX	56
08068800	Cypress Creek at Grant Road near Cypress, TX	58
08068900	Cypress Creek at Steubner Airline Road near Westfield, TX	60
08069000	Cypress Creek near Westfield, TX	62
08070000	East Fork San Jacinto River near Cleveland, TX	66
08070200	East Fork San Jacinto River near New Caney, TX	68
08070500	Caney Creek near Splendora, TX	76
08071000	Peach Creek at Splendora, TX	80
08071280	Luce Bayou above Lake Houston near Huffman, TX	82
08072000	Lake Houston near Sheldon, TX	86
08072050	San Jacinto River near Sheldon, TX	96
08072300	Buffalo Bayou near Katy, TX	98
08072350	Buffalo Bayou near Fulshear, TX	435
08072500	Barker Reservoir near Addicks, TX	100
08072700	South Mayde Creek near Addicks, TX	435
08072730	Bear Creek near Barker, TX	102
08072760	Langham Creek at West Little York near Addicks, TX	104
08072800	Langham Creek near Addicks, TX	435
08073000	Addicks Reservoir near Addicks, TX	106
08073500	Buffalo Bayou near Addicks, TX	108
08073600	Buffalo Bayou at West Belt Drive, Houston, TX	110
08073700	Buffalo Bayou at Piney Point, TX	112
08074000	Buffalo Bayou at Houston, TX	114
08074020	Whiteoak Bayou at Alabonson Road at Houston, TX	435
08074150	Cole Creek at Deihl Road, Houston, TX	124
08074250	Brickhouse Gulley at Costa Rica Street, Houston, TX	126
08074500	Whiteoak Bayou at Houston, TX	128
08074540	Little Whiteoak Bayou at Trimble Street at Houston, TX	435
08074598	Whiteoak Bayou at Main Street, Houston, TX	130
08074610	Buffalo Bayou at McKee Street, Houston, TX	132
08074710	Buffalo Bayou at Turning Basin, Houston, TX	142
08074760	Brays Bayou at Alief, TX	435
08074780	Keegans Bayou at Keegan Road near Houston, TX	435
08074800	Keegans Bayou at Roark Road near Houston, TX	152
08074810	Brays Bayou at Gessner Drive, Houston, TX	436

08075000	Brays Bayou at Houston, TX	154
08075400	Sims Bayou at Hiram Clarke Street, Houston, TX	156
08075500	Sims Bayou at Houston, TX	158
08075650	Berry Bayou at Forest Oaks Street, Houston, TX	160
08075730	Vince Bayou at Pasadena, TX	162
08075770	Hunting Bayou at Interstate Highway 610, Houston, TX	164
08075780	Greens Bayou at Cutten Road near Houston, TX	436
08075900	Greens Bayou at U.S. Highway 75 near Houston, TX	166
08076000	Greens Bayou near Houston, TX	168
08076180	Garners Bayou near Humble, TX	170
08076500	Halls Bayou at Houston, TX	172
08076700	Greens Bayou at Ley Road, Houston, TX	174
08076902	Carpenters Bayou at Interstate Highway 10 near Channelview, TX	436
08077505	Beamer Street Ditch at Houston, TX	436
08077520	Turkey Creek near Friendswood, TX	436
08077600	Clear Creek near Friendswood, TX	176
08077630	Horsepen Bayou at Bay Area Boulevard, Houston, TX	436
08077650	Moses Lake-Galveston Bay near Texas City, TX	178
08077690	Highland Bayou Diversion Channel near Hitchcock, TX	180
08077695	Highland Bayou near Hitchcock, TX	182
08077740	LaMarque Levee Pump Station near LaMarque, TX	184
08078000	Chocolate Bayou near Alvin, TX	188

CEDAR BAYOU BASIN

08067500 CEDAR BAYOU NEAR CROSBY, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°58'21", long 94°59'08", Liberty County, Hydrologic Unit 12040203, on right bank at downstream side of bridge on U.S. Highway 90 and 6.6 mi northeast of Crosby.

DRAINAGE AREA.--64.9 mi².

PERIOD OF RECORD.--Mar to Aug 1946, Mar 1963 to Feb 1964, May to Aug 1971 (discharge measurements only), Oct 1971 to Sep 1991 (daily mean discharge), Oct 1991 to current year (peak discharges greater than base discharge).

Water-quality records.--Chemical data: May 1971 to Sep 1979. Biochemical data: May 1971 to Sep 1979. Pesticide data: May 1971 to Sep 1979.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 31.31 ft above sea level. Satellite telemeter at station.

REMARKS.--Records fair. Stage-discharge relationship is affected by seasonal vegetation during most years. No known regulation. Low flow is sustained by drainage from irrigated lands. There are diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--20 years (water years 1972-91), 78.7 ft³/s (57,020 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,800 ft³/s Oct 18, 1994 (gage height, 28.33 ft); no flow occasionally during pumping season of some years.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	2315	3,390	23.53	Dec 12	0200	2,680	21.79
Nov 14	1200	2,730	21.91	Sep 2	1645	1,480	17.95

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SAN JACINTO RIVER BASIN

08067600 LAKE CONROE NEAR CONROE, TX

LOCATION.--Lat 30°21'30", long 95°33'39", Montgomery County, Hydrologic Unit 12040101, at service outlet tower at Conroe Dam on West Fork San Jacinto River, 140 ft upstream from centerline of dam, and 7.4 mi west of Conroe.

DRAINAGE AREA.--445 mi².

WATER-CONTENT RECORDS

PERIOD OF RECORD.--Jan 1973 to current year.

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

REMARKS.--Records good. The lake is formed by an earthfill dam 11,300 ft long, including a controlled spillway. The dam was completed Sep 1, 1972, and deliberate impoundment began Jan 9, 1973. Water is used for municipal and industrial purposes in the Houston metropolitan area. A small diversion is also made for cooling purposes at the Gulf State Utilities generating plant on Lewis Creek Reservoir near Conroe. A spillway with five 40- x 30-foot tainter gates is located near the center of dam. Low-flow releases are made through a separate multi-gated inlet tower. The tower has three gated openings and one uncontrolled opening. It is connected to a stilling basin and a concrete weir by a 14-foot-diameter conduit through the dam. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	212.0
Design flood.....	205.5
Top of tainter gates.....	202.5
Top of conservation pool (uncontrolled tower outlet).....	201.0
Crest of spillway (sill of tainter gates).....	173.0
Lowest gated outlet (invert).....	144.5

COOPERATION.--The capacity table, furnished by the Texas Water Development Board dated Jul 19, 1996, is based on a survey of Apr 1996.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 534,900 acre-ft, Oct 17, 1994 (elevation, 205.61 ft); minimum since normal operating level was reached, 336,900 acre-ft, Jan 11, 1989 (elevation, 196.17 ft).

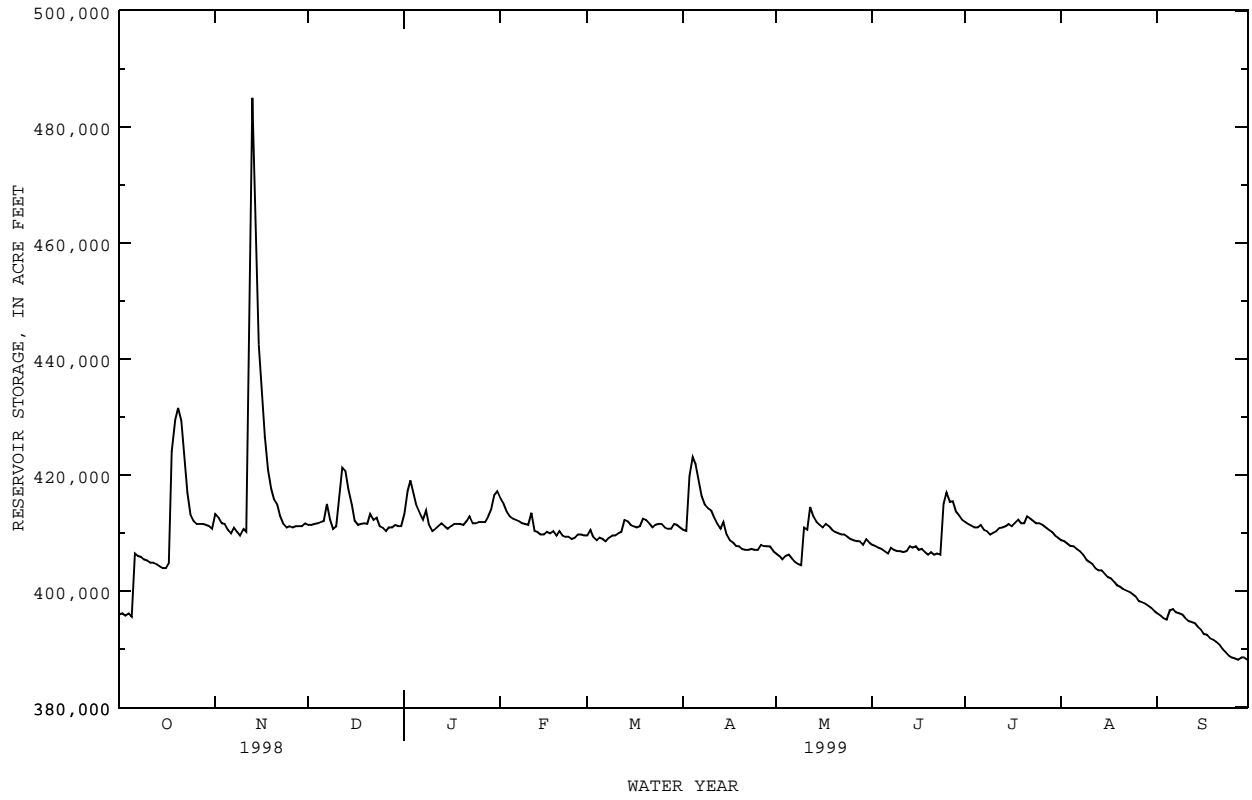
EXTREMES FOR CURRENT YEAR.--Maximum contents, 486,700 acre-ft, Nov 13 (elevation, 204.18 ft); minimum contents, 387,600 acre-ft, Sep 28 (elevation, 199.51 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	396000	413300	411400	413300	416000	409600	410600	406500	408000	411900	408800	396200
2	396200	412700	411400	417200	415100	410600	410400	406100	407800	411600	408600	395800
3	395800	411700	411600	419100	413700	409400	419900	405500	407500	411300	408200	395400
4	396200	411600	411700	416800	412900	408800	423100	406100	407300	411000	407800	395100
5	395600	410600	411900	414700	412500	409200	421900	406300	406900	411000	407700	396700
6	406500	410000	412100	413300	412300	409000	419100	405700	406500	411400	407300	396900
7	406100	411000	415100	412300	412100	408600	416400	405100	407500	410600	406900	396400
8	405900	410200	412300	413900	411700	409200	414900	404700	407100	410400	406300	396200
9	405500	409600	410800	411400	411600	409600	414300	404500	406900	409800	405500	396000
10	405300	410800	411200	410400	411400	409600	413900	411000	406900	410100	405100	395400
11	404900	410200	416400	410800	413500	410000	412700	410600	406700	410400	404700	394900
12	404900	443900	421300	411200	410400	410200	411600	414500	406900	410900	404000	394700
13	404700	485000	420700	411700	410200	412300	410800	412900	407800	411000	403600	394500
14	404300	464600	417600	411200	409800	412100	411900	411900	407500	411200	403600	393900
15	404000	442500	414900	410800	409800	411400	409800	411400	407700	411600	403000	393400
16	404000	434000	412100	411200	410200	411200	408800	411000	407100	411200	402400	392600
17	404900	426700	411400	411600	410000	411000	408400	411600	407300	411700	402200	392500
18	424100	420900	411600	411600	410400	411200	407800	411200	406700	412300	401600	391900
19	429600	417600	411700	411600	409600	412500	407700	410600	406300	411700	401000	391700
20	431600	415800	411600	411400	410400	412300	407300	410200	406700	411700	400800	391300
21	429400	414900	413300	412100	409600	411700	407100	410000	406300	412900	400400	390800
22	422900	412900	412300	412900	409400	411000	407100	409800	406500	412500	400100	390000
23	417000	411600	412700	411700	409400	411400	407300	409800	406300	412100	399900	389500
24	413100	411000	411200	411700	409000	411600	407100	409400	415100	411700	399500	388900
25	412100	411200	411000	411900	409200	411600	407100	409000	417000	411700	399100	388600
26	411600	411000	410400	411900	409800	411000	408000	408800	415400	411400	398300	388400
27	411600	411200	411000	411900	409800	410800	407800	408600	415500	411000	398100	388200
28	411600	411200	411000	412900	409600	410800	407700	408600	413700	410600	397900	388600
29	411400	411200	411400	414100	---	411600	407700	408000	413100	410200	397500	388600
30	411200	411700	411200	416600	---	411400	406900	409000	412300	409600	397100	388200
31	410800	---	411200	417200	---	411000	---	408400	---	409200	396600	---
MAX	431600	485000	421300	419100	416000	412500	423100	414500	417000	412900	408800	396900
MIN	395600	409600	410400	410400	409000	408600	406900	404500	406300	409200	396600	388200
(+)	200.72	200.77	200.74	201.05	200.66	200.78	200.52	200.60	200.80	200.64	199.99	199.54
(@)	+14100	+900	-500	+6000	-7600	+1400	-4100	+1500	+3900	-3100	-12600	-8400
CAL YR 1998	MAX 485000	MIN 383200	(@) -6400									
WTR YR 1999	MAX 485000	MIN 388200	(@) -8500									

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

08067600 LAKE CONROE NEAR CONROE, TX--Continued



SAN JACINTO RIVER BASIN

08067600 LAKE CONROE NEAR CONROE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Sep 1973 to current year.

BIOCHEMICAL DATA: Sep 1973 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

302127095335501 - LAKE CONROE 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 SATUR- ATION (00301)	HARD- NESS TOTAL AS CACO3 (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
FEB											
16...	1050	410000	1.00	165	7.6	16.0	1.30	8.7	88	54	5
16...	1052	--	5.00	165	7.4	15.5	--	8.5	85	--	--
16...	1054	--	10.0	165	7.4	15.5	--	8.2	82	--	--
16...	1056	--	20.0	165	7.3	15.5	--	8.1	81	--	--
16...	1058	--	30.0	165	7.3	15.5	--	8.0	80	--	--
16...	1100	--	40.0	165	7.2	15.5	--	8.0	80	--	--
16...	1102	--	53.5	165	7.1	15.0	--	7.7	77	54	6
JUN											
29...	1015	414000	1.00	185	8.2	29.0	.90	6.6	87	60	4
29...	1017	--	10.0	185	7.5	28.0	--	5.3	68	--	--
29...	1019	--	20.0	185	7.3	28.0	--	3.8	49	--	--
29...	1021	--	30.0	190	7.2	27.0	--	2.7	34	--	--
29...	1023	--	40.0	200	7.5	24.0	--	2.7	32	--	--
29...	1025	--	50.0	220	7.4	23.0	--	2.7	32	65	--
SEP											
08...	1030	397000	1.00	195	7.8	29.5	.99	4.3	57	65	--
08...	1032	--	5.00	195	7.7	29.5	--	4.2	55	--	--
08...	1034	--	10.0	195	7.7	29.5	--	4.0	53	--	--
08...	1036	--	20.0	195	7.6	29.0	--	3.6	47	--	--
08...	1038	--	30.0	210	7.6	29.0	--	2.8	37	--	--
08...	1040	--	40.0	230	7.7	25.0	--	2.3	28	--	--
08...	1042	--	50.0	255	7.7	24.0	--	2.3	28	70	--

302127095335501 - LAKE CONROE SITE AC

DATE	CALCIUM DIS- SOLVED (MG/L) AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L) AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K) (00935)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)	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)
FEB											
16...	19	1.6	9.0	.5	2.6	49	6.7	13	<.10	7.3	90
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	19	1.7	9.0	.5	2.6	48	6.4	13	<.10	7.6	89
JUN											
29...	21	1.8	9.8	.5	2.9	56	4.8	15	.10	4.3	94
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	23	1.9	9.7	.5	2.9	75	1.1	15	<.10	9.8	115
SEP											
08...	23	1.9	11	.6	3.1	67	4.2	16	<.10	6.8	107
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	25	2.0	9.8	.5	3.3	110	1.2	15	<.10	13	144

08067600 LAKE CONROE NEAR CONROE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

302127095335501 - LAKE CONROE SITE AC

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB											
16...	--	<.010	.104	<.020	--	.35	<.050	<.010	--	<10	E2.4
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	<.010	.112	<.020	--	.47	<.050	<.010	--	<10	5.1
16...	--	--	--	--	--	--	--	--	--	--	--
16...	.118	.013	.131	<.020	--	.39	<.050	<.010	--	<10	11
JUN											
29...	--	<.010	.072	<.020	--	.37	<.050	<.010	--	E9.0	79
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	<.010	.072	.063	.35	.41	<.050	.015	.05	210	986
29...	--	<.010	.076	.235	.36	.59	E.038	.036	.11	760	1610
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	<.010	.068	1.18	.31	1.5	.322	.366	1.1	1800	2440
SEP											
08...	--	<.010	<.050	.197	.37	.57	<.050	<.010	--	E8.4	107
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	<.010	<.050	.163	.39	.55	<.050	<.010	--	69	400
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	<.010	<.050	1.16	.46	1.6	.103	.093	.29	1400	3050
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	<.010	<.050	3.97	.83	4.8	.636	.708	2.2	2300	3640

302132095333701 - LAKE CONROE SITE AL

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)
FEB								
16...	1115	1.00	165	7.6	16.0	1.20	8.7	89
16...	1117	10.0	165	7.4	15.5	--	8.3	84
16...	1119	20.0	165	7.4	15.5	--	8.3	84
16...	1121	30.0	165	7.4	15.5	--	8.3	84
16...	1123	40.0	165	7.4	15.5	--	8.3	84
16...	1125	55.0	165	7.2	15.5	--	7.9	80
JUN								
29...	1048	1.00	185	8.3	29.0	--	6.8	89
29...	1050	10.0	185	7.9	28.5	--	6.0	78
29...	1052	20.0	185	7.7	27.5	--	3.8	49
29...	1054	30.0	190	7.6	27.0	--	2.6	33
29...	1056	40.0	200	7.6	24.0	--	2.6	31
29...	1058	50.0	215	7.6	23.0	--	2.6	31
29...	1100	61.0	230	7.4	22.5	--	2.6	30
SEP								
08...	1100	1.00	195	8.8	30.0	.90	7.2	96
08...	1102	10.0	195	8.1	29.5	--	5.6	74
08...	1104	20.0	195	8.1	29.5	--	5.5	73
08...	1106	30.0	195	7.7	29.5	--	3.6	48
08...	1108	40.0	200	7.7	29.0	--	3.2	42
08...	1110	50.0	230	7.8	26.0	--	2.2	27
08...	1112	62.0	265	7.7	23.5	--	2.2	26

SAN JACINTO RIVER BASIN

08067600 LAKE CONROE NEAR CONROE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

302245095365301 - LAKE CONROE 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 (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
FEB								
16...	1030	1.00	170	7.9	16.0	.80	8.0	81
16...	1032	10.0	170	7.6	16.0	--	7.8	79
16...	1034	20.0	170	7.4	16.0	--	7.0	71
16...	1036	27.5	170	7.0	16.0	--	7.0	71
JUN								
29...	0957	10.0	185	7.9	28.5	--	6.0	78
29...	0959	20.0	185	7.3	28.0	--	3.8	49
29...	1001	29.0	190	7.1	27.5	--	2.6	33
29...	1055	1.00	180	8.6	29.5	--	7.2	95
SEP								
08...	1015	1.00	195	8.3	30.5	.70	6.2	83
08...	1017	10.0	195	7.9	30.0	--	6.0	80
08...	1019	20.0	195	7.9	30.0	--	5.6	74
08...	1021	27.5	195	7.3	30.0	--	3.4	45

302323095341201 - LAKE CONROE SITE CC

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 (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
FEB								
16...	1135	1.00	165	7.4	16.0	1.10	8.2	83
16...	1137	10.0	165	7.4	15.5	--	8.2	82
16...	1139	20.0	165	7.3	15.5	--	8.1	81
16...	1141	30.0	165	7.3	15.5	--	8.1	81
16...	1143	40.0	165	7.3	15.5	--	8.0	80
16...	1145	53.0	165	7.2	15.5	--	7.9	79
JUN								
29...	1115	1.00	185	8.6	29.0	--	7.2	95
29...	1117	10.0	185	8.4	29.0	--	6.8	89
29...	1119	20.0	185	8.0	28.5	--	6.1	79
29...	1121	30.0	190	7.4	27.0	--	2.6	33
29...	1123	40.0	195	7.5	25.0	--	2.7	33
29...	1125	54.0	220	7.4	23.0	--	2.6	31
SEP								
08...	1130	1.00	195	8.8	30.5	.90	8.8	118
08...	1132	10.0	195	8.6	30.0	--	6.7	89
08...	1134	20.0	195	8.3	29.5	--	6.0	79
08...	1136	30.0	195	8.1	29.5	--	5.4	71
08...	1138	40.0	200	7.9	29.0	--	2.8	37
08...	1140	50.0	240	7.9	25.5	--	2.3	28
08...	1142	60.0	270	7.9	24.5	--	2.3	28

302320095334001 - LAKE CONROE SITE CL

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 (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
FEB								
16...	1155	1.00	165	7.8	16.0	1.20	8.8	89
16...	1157	10.0	165	7.5	15.5	--	8.3	83
16...	1159	20.0	165	7.4	15.5	--	8.2	82
16...	1201	30.0	165	7.3	15.5	--	8.2	82
16...	1203	40.0	165	7.4	15.5	--	8.2	82
16...	1205	44.5	165	7.4	15.5	--	8.1	81
JUN								
29...	1135	1.00	185	8.6	29.0	--	7.1	93
29...	1137	10.0	185	8.5	29.0	--	7.0	92
29...	1139	20.0	185	8.4	28.5	--	6.7	87
29...	1141	30.0	195	7.4	26.0	--	2.6	32
29...	1143	41.0	200	7.4	25.0	--	2.7	33
SEP								
08...	1150	1.00	195	9.1	30.5	.80	7.9	106
08...	1152	10.0	195	9.0	30.0	--	7.3	97
08...	1154	20.0	195	8.8	30.0	--	6.7	89
08...	1156	30.0	195	8.4	29.5	--	5.8	76
08...	1158	42.5	195	8.3	29.5	--	5.7	75

08067600 LAKE CONROE NEAR CONROE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

302448095374101 - LAKE CONROE SITE DC

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 OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED OXYGEN, DIS- SOLVED (MG/L) (00301)
FEB								
16...	1220	1.00	165	8.0	16.5	1.00	9.1	93
16...	1222	10.0	165	7.6	16.0	--	8.5	86
16...	1224	20.0	165	7.3	16.0	--	8.1	82
16...	1226	28.0	165	7.2	16.0	--	8.0	81
JUN								
29...	1200	1.00	180	9.0	30.0	--	7.7	103
29...	1202	10.0	185	7.9	29.0	--	5.2	68
29...	1204	20.0	185	7.5	28.5	--	3.7	48
29...	1206	27.0	195	7.4	28.0	--	2.6	34
SEP								
08...	1215	1.00	195	9.0	31.0	.78	6.8	92
08...	1217	10.0	200	7.9	30.0	--	5.2	69
08...	1219	20.0	200	7.9	30.0	--	2.4	32
08...	1221	27.0	200	7.9	30.0	--	2.4	32

302607095360901 - LAKE CONROE SITE EC

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 OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED OXYGEN, DIS- SOLVED (MG/L) (00301)	HARD- NESS TOTAL (MG/L CACO3) (00900)	HARD- NESS NONCARB FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
FEB											
16...	1240	1.00	165	7.6	16.5	.90	8.6	87	53	2	19
16...	1242	10.0	165	7.4	16.0	--	8.4	84	--	--	--
16...	1244	20.0	165	7.4	16.0	--	8.4	84	--	--	--
16...	1246	30.0	165	7.4	16.0	--	8.4	84	--	--	--
16...	1248	42.0	165	7.4	16.0	--	8.3	83	54	5	19
JUN											
29...	1225	1.00	180	8.7	29.5	--	7.1	94	60	4	21
29...	1227	10.0	185	8.4	29.0	--	6.5	85	--	--	--
29...	1229	20.0	185	8.3	29.0	--	6.3	83	--	--	--
29...	1231	30.0	185	7.7	28.5	--	3.9	51	--	--	--
29...	1233	40.0	215	7.6	24.5	--	2.6	32	64	--	23
SEP											
08...	1233	1.00	195	8.8	30.0	.60	6.5	86	66	--	23
08...	1235	10.0	195	8.7	30.0	--	6.3	84	--	--	--
08...	1237	20.0	195	8.4	30.0	--	5.3	70	--	--	--
08...	1239	30.0	195	8.3	30.0	--	5.2	69	--	--	--
08...	1241	40.0	200	8.1	30.0	--	3.9	52	66	2	23

302607095360901 - LAKE CONROE SITE EC

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)	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)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)
FEB											
16...	1.6	8.9	.5	2.6	51	5.6	14	<.10	7.7	90	.066
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	1.6	8.9	.5	2.6	49	5.4	14	<.10	7.2	88	--
JUN											
29...	1.8	10	.6	3.9	56	5.5	16	.10	4.8	98	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	1.9	9.8	.5	2.9	75	.88	16	.10	8.0	112	--
SEP											
08...	1.9	11	.6	3.1	67	4.3	17	.11	7.5	108	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	1.9	11	.6	3.0	64	4.2	17	<.10	7.7	106	--

SAN JACINTO RIVER BASIN

08067600 LAKE CONROE NEAR CONROE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

302607095360901 - LAKE CONROE SITE EC

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, DIS- SOLVED (MG/L AS P04) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB										
16...	.010	.076	<.020	--	.38	<.050	<.010	--	<10	E1.6
16...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
16...	<.010	.090	<.020	--	.36	<.050	<.010	--	11	6.5
JUN										
29...	<.010	.069	<.020	--	.41	E.037	.012	.04	E5.5	63
29...	--	--	--	--	--	--	--	--	--	--
29...	<.010	.073	.042	.35	.40	<.050	.015	.05	160	651
29...	--	--	--	--	--	--	--	--	--	--
29...	<.010	.067	.545	.16	.70	.130	.045	.14	1600	2690
SEP										
08...	<.010	<.050	<.020	--	.38	<.050	<.010	--	<10	7.6
08...	--	--	--	--	--	--	--	--	--	--
08...	<.010	<.050	.021	.35	.37	<.050	<.010	--	<10	16
08...	--	--	--	--	--	--	--	--	--	--
08...	<.010	<.050	.115	.34	.46	<.050	<.010	--	<10	40

302714095372201 - LAKE CONROE 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 (PER- CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)
FEB								
16...	1305	1.00	165	7.8	17.0	.80	8.9	93
16...	1307	10.0	165	7.4	16.5	--	8.2	84
16...	1309	20.0	165	7.3	16.5	--	8.1	83
JUN								
29...	1250	1.00	180	8.9	30.0	--	7.6	102
29...	1252	10.0	185	8.4	29.5	--	6.3	84
29...	1254	20.0	185	7.9	29.5	--	5.1	68
SEP								
08...	1315	1.00	195	9.2	32.0	.55	8.0	110
08...	1317	10.0	195	9.0	30.5	--	7.0	94
08...	1319	22.0	200	8.5	30.5	--	5.6	75

303129095360501 - LAKE CONROE SITE GC

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 (PER- CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	HARD- NESS TOTAL (MG/L CACO3) (00900)	HARD- NESS NONCARE DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
FEB											
16...	1350	1.00	160	7.8	17.0	.60	8.8	92	52	8	18
16...	1352	10.0	165	7.2	16.0	--	7.9	81	--	--	--
16...	1354	20.0	165	7.2	16.0	--	7.9	81	--	--	--
16...	1356	28.5	165	7.1	16.0	--	7.9	81	51	10	17
JUN											
29...	1330	1.00	155	8.5	31.0	--	7.1	96	43	--	15
29...	1332	10.0	150	7.5	29.5	--	5.1	68	--	--	--
29...	1334	20.0	140	7.2	29.0	--	3.6	47	42	3	14
SEP											
08...	1354	1.00	200	9.3	32.0	.40	8.4	115	63	1	22
08...	1356	10.0	205	8.3	30.5	--	4.8	64	--	--	--
08...	1358	25.0	205	8.2	30.5	--	3.6	48	66	--	23

08067600 LAKE CONROE NEAR CONROE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

303129095360501 - LAKE CONROE SITE GC

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	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)
FEB										
16...	1.7	9.6	.6	2.8	44	6.5	15	<.10	9.4	90
16...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
16...	1.8	10	.6	3.1	41	8.4	17	<.10	12	96
JUN										
29...	1.4	9.1	.6	2.8	46	4.3	15	.11	6.5	82
29...	--	--	--	--	--	--	--	--	--	--
29...	1.5	8.9	.6	7.3	39	4.2	17	<.10	8.7	86
SEP										
08...	2.0	12	.6	3.1	62	4.5	18	.10	11	110
08...	--	--	--	--	--	--	--	--	--	--
08...	2.0	12	.6	3.2	71	4.5	18	.11	11	117

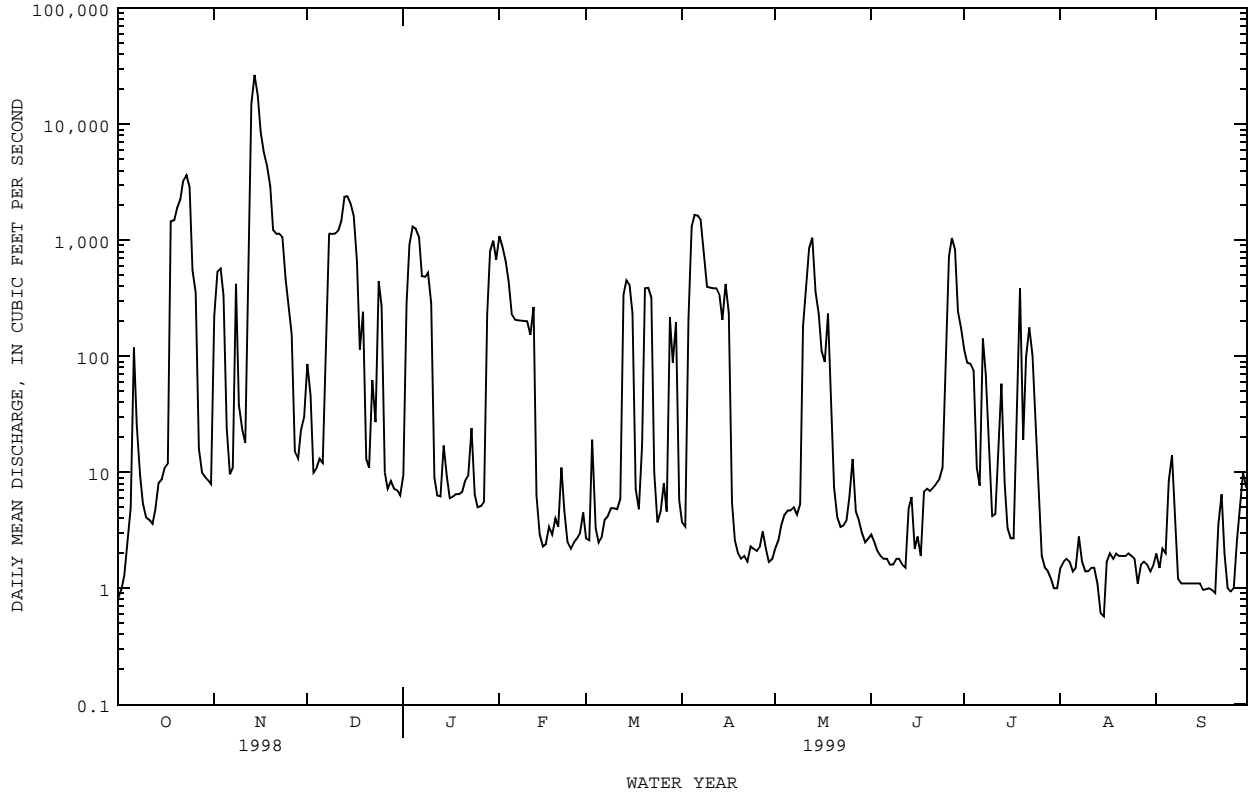
303129095360501 - LAKE CONROE SITE GC

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB										
16...	<.010	<.050	<.020	--	.43	E.043	<.010	--	28	E2.0
16...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
16...	<.010	.112	<.020	--	.56	<.050	.019	.06	77	6.3
JUN										
29...	<.010	.068	<.020	--	.35	<.050	.016	.05	16	24
29...	<.010	.077	.045	.40	.44	E.036	.026	.08	35	109
29...	<.010	.082	.138	.51	.64	.084	.043	.13	53	127
SEP										
08...	<.010	<.050	.020	.50	.52	E.036	.022	.07	<10	4.7
08...	<.010	<.050	<.020	--	.39	<.050	<.010	--	<10	34
08...	<.010	<.050	.100	.40	.50	<.050	<.010	--	<10	43

08067650 WEST FORK SAN JACINTO RIVER BELOW LAKE CONROE NEAR CONROE, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1974 - 1999h
ANNUAL TOTAL	226399.91		160805.16		
ANNUAL MEAN	620		441		243
HIGHEST ANNUAL MEAN					595
LOWEST ANNUAL MEAN					43.6
HIGHEST DAILY MEAN	26500	Nov 14	26500	Nov 14	43900
LOWEST DAILY MEAN	.04	Sep 5	.57	Aug 15	.00
ANNUAL SEVEN-DAY MINIMUM	.14	Aug 31	1.0	Sep 14	.00
INSTANTANEOUS PEAK FLOW			27700	Nov 14	56000
INSTANTANEOUS PEAK STAGE			39.85	Nov 14	42.68
ANNUAL RUNOFF (AC-FT)	449100		319000		176000
10 PERCENT EXCEEDS	1470		1050		1160
50 PERCENT EXCEEDS	8.8		7.4		8.8
90 PERCENT EXCEEDS	.44		1.5		.00

h See PERIOD OF RECORD paragraph.



SAN JACINTO RIVER BASIN

08068000 WEST FORK SAN JACINTO RIVER NEAR CONROE, TX

LOCATION.--Lat 30°14'40", long 95°27'25", Montgomery County, Hydrologic Unit 12040101, near right bank at downstream side of pier of bridge on Interstate Highway 45 and U.S. Highway 75, 300 ft upstream from Missouri Pacific Railroad Co. bridge, 3.5 mi downstream from Lake Creek, 4.2 mi south of Conroe, and at mile 79.

DRAINAGE AREA.--828 mi².

PERIOD OF RECORD.--May 1924 to Sep 1927, Jul 1939 to current year.

Water-quality records.--Chemical data: Mar 1959 to Sep 1994. Biochemical data: Mar 1959 to Sep 1994. Pesticide data: May 1975 to Jun 1982. Sediment data: Feb 1966 to Sep 1967, Oct 1974 to Sep 1994. Specific conductance: Oct 1961 to Sep 1990. Water temperature: Oct 1961 to Sep 1990. Dissolved oxygen: Aug 1979 to May 1981.

REVISED RECORDS.--WSP 1058: 1926. WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 95.03 ft above sea level. May 7, 1924 to Sep 30, 1927, nonrecording gage at railroad bridge 300 ft downstream at datum 30.10 ft higher. Jul 13, 1939 to Sep 30, 1963, water-stage recorder at datum 5.0 ft higher. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since Jan 9, 1973, at least 10% of contributing drainage area has been regulated by Lake Conroe (station 08067600), capacity 518,200 acre-ft, 14.5 mi upstream from station. There are no large diversions above station.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--36 years (water years 1925-27, 1940-72), prior to regulation by Lake Conroe, 477 ft³/s (345,600 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1925-27, 1940-72).--Maximum discharge, 110,000 ft³/s Nov 25, 1940 (gage height, 30.85 ft), present datum, from rating curve extended above 43,000 ft³/s on basis of velocity-area studies; no flow Jun 14, 1956, and Sep 19 to Oct 1, 1965, result of temporary dams. Maximum stage since at least Dec 1913, that of Nov 25, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in Dec 1913 reached a stage of 30.2 ft, present site and datum, from information by Missouri Pacific Railroad Co., discharge 101,000 ft³/s, from rating curve as explained above.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	279	214	145	1160	56	82	42	48	222	31	21
2	9.3	849	294	384	1090	54	73	41	40	149	31	27
3	8.9	823	195	826	785	62	72	41	36	128	31	40
4	13	687	189	2620	590	54	1160	42	35	120	34	20
5	29	258	201	2870	386	48	2330	42	32	85	30	18
6	207	194	189	1550	299	47	3010	38	31	56	29	121
7	510	164	209	782	293	46	1890	36	31	125	27	35
8	153	520	1510	652	288	46	1120	33	34	150	29	26
9	105	433	1460	654	283	51	585	32	37	74	27	22
10	62	220	1470	544	280	50	520	225	44	154	26	18
11	40	202	2090	205	204	50	494	764	60	95	25	16
12	32	2460	2470	160	480	78	479	1190	51	68	23	15
13	26	22200	3250	147	127	470	467	1790	141	89	23	15
14	22	49900	4700	138	84	692	286	810	191	83	22	16
15	16	36000	3400	139	75	583	498	487	118	58	27	14
16	18	22100	1850	125	71	475	444	280	119	47	25	14
17	25	14900	1210	122	70	168	132	245	90	39	28	13
18	5430	7930	385	119	68	104	85	301	76	41	28	12
19	11200	3740	539	114	63	84	74	216	55	390	28	12
20	9400	1830	269	111	62	327	68	109	60	211	26	13
21	5470	1420	230	111	69	481	64	72	72	71	24	12
22	4930	1340	251	111	67	515	60	61	55	240	24	13
23	4380	1270	231	112	58	261	56	54	60	200	24	14
24	3010	905	424	106	54	130	53	51	50	112	24	13
25	1350	571	542	93	53	91	51	47	89	83	24	13
26	769	502	219	90	54	75	52	46	515	59	23	12
27	401	296	175	89	55	71	59	49	1260	50	22	13
28	271	251	168	147	56	143	55	81	1090	44	27	14
29	235	230	163	658	---	234	50	46	664	40	23	25
30	214	244	153	1120	---	293	46	43	293	36	21	21
31	197	---	146	731	---	114	---	58	---	33	20	---
TOTAL	48543.0	172718	28796	15775	7224	5953	14415	7372	5477	3352	806	638
MEAN	1566	5757	929	509	258	192	481	238	183	108	26.0	21.3
MAX	11200	49900	4700	2870	1160	692	3010	1790	1260	390	34	121
MIN	8.9	164	146	89	53	46	46	32	31	33	20	12
AC-FT	96290	342600	57120	31290	14330	11810	28590	14620	10860	6650	1600	1270

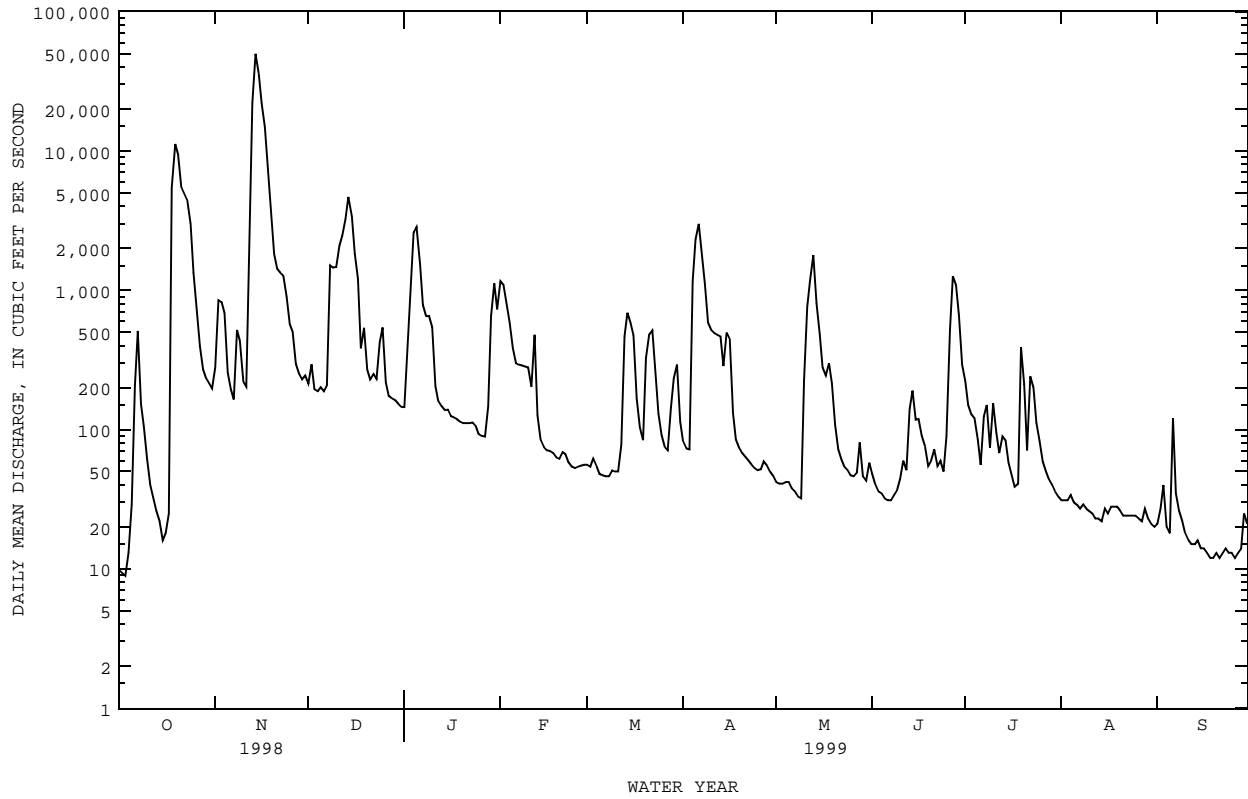
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1999hz, BY WATER YEAR (WY)

	566	613	675	943	914	666	737	704	623	117	78.1	236
MEAN	566	613	675	943	914	666	737	704	623	117	78.1	236
MAX	7836	5757	2064	3360	3258	1705	4185	4153	2609	392	368	1945
(WY)	1995	1999	1977	1998	1992	1995	1979	1983	1979	1989	1983	1979
MIN	18.8	25.7	31.4	44.5	40.9	34.2	34.5	37.6	26.1	19.0	18.9	21.0
(WY)	1991	1991	1981	1981	1996	1996	1996	1978	1996	1996	1981	1990

08068000 WEST FORK SAN JACINTO RIVER NEAR CONROE, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1973 - 1999hz	
ANNUAL TOTAL	443381.0		311069.0			
ANNUAL MEAN	1215		852		570	
HIGHEST ANNUAL MEAN					1444	
LOWEST ANNUAL MEAN					95.6	
HIGHEST DAILY MEAN	49900	Nov 14	49900	Nov 14	97200	Oct 18 1994
LOWEST DAILY MEAN	8.9	Oct 3	8.9	Oct 3	8.9	Oct 3 1998
ANNUAL SEVEN-DAY MINIMUM	12	Sep 28	13	Sep 16	11	Aug 18 1981
INSTANTANEOUS PEAK FLOW			55200		115000	
INSTANTANEOUS PEAK STAGE			27.81		32.30	
ANNUAL RUNOFF (AC-FT)	879400		617000		413200	
10 PERCENT EXCEEDS	2490		1260		1500	
50 PERCENT EXCEEDS	103		95		95	
90 PERCENT EXCEEDS	20		23		24	

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



SAN JACINTO RIVER BASIN

08068090 WEST FORK SAN JACINTO RIVER ABOVE LAKE HOUSTON NEAR PORTER, TX

LOCATION.--Lat 30°05'09", long 95°17'59", Montgomery County, Hydrologic Unit 12040101, on left bank, 4.4 mi southwest of Porter, 5.0 mi upstream from Spring Creek and 6.2 mi northwest of Humble.

DRAINAGE AREA.--962 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Occasional low-flow measurements, at site 1.7 mi downstream, water years 1968-72, 1974-75. Feb to Mar 1984 (discharge measurements only), May 1984 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 33 ft above sea level, from topographic map and levels. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since installation of gage in 1984, at least 10% of contributing drainage area has been regulated by Lake Conroe (08067600), capacity 518,200 acre-ft, 34.3 mi upstream of station. During periods of low base flow into Lake Houston, occasional releases are made from Lake Conroe in order to maintain water levels in Lake Houston (station 08072000), which has several large diversions. There are no large diversions upstream from station. There is only minor wastewater effluent being discharged by the city of Conroe and by other smaller communities into the river upstream from station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	156	308	207	1070	93	134	59	102	254	e41	33
2	39	684	328	553	1280	91	116	56	82	178	e39	34
3	39	821	301	761	1010	88	107	55	74	138	37	37
4	48	734	256	2170	809	97	680	57	68	126	36	42
5	69	370	289	3380	565	88	2040	57	64	118	37	33
6	99	165	271	2070	364	85	3120	54	60	101	35	53
7	623	129	245	1200	340	82	2610	51	58	159	34	70
8	371	178	1360	888	326	83	1670	49	64	204	34	40
9	173	599	1890	795	322	86	886	49	67	156	34	33
10	127	245	1630	738	317	88	638	91	73	140	33	30
11	89	200	2870	426	302	87	568	1100	90	143	32	28
12	71	1610	4410	235	403	116	545	1220	104	103	32	27
13	66	24600	3580	210	325	1300	536	2950	120	86	31	26
14	60	51300	4780	197	146	1160	430	1500	451	107	31	26
15	55	e66900	4420	186	122	886	417	743	293	85	31	25
16	49	e43800	2460	178	116	640	508	426	242	73	32	24
17	52	e23700	1770	170	120	380	290	286	175	66	32	24
18	7440	e11300	759	163	112	185	122	249	127	63	35	24
19	16600	e7080	613	159	105	150	102	313	100	133	34	24
20	13300	e3630	504	158	101	216	93	181	83	381	33	24
21	9050	e1710	325	154	103	510	86	120	90	121	33	24
22	6980	e1560	298	156	105	523	81	100	94	134	32	23
23	5660	1540	328	146	105	464	76	91	110	193	32	24
24	4090	1310	334	150	94	206	74	84	127	139	35	25
25	2180	799	653	135	92	142	72	80	119	94	33	24
26	792	675	438	130	111	115	78	76	326	72	33	25
27	512	514	245	130	102	103	78	77	978	57	32	25
28	250	371	223	129	98	104	73	236	1230	e53	31	26
29	215	324	215	378	---	277	69	142	950	e50	34	51
30	183	307	203	1070	---	259	63	102	361	e47	31	41
31	149	---	192	932	---	278	---	97	---	e44	30	---
TOTAL	69473	247311	36498	18354	9065	8982	16362	10751	6882	3818	1039	945
MEAN	2241	8244	1177	592	324	290	545	347	229	123	33.5	31.5
MAX	16600	66900	4780	3380	1280	1300	3120	2950	1230	381	41	70
MIN	39	129	192	129	92	82	63	49	58	44	30	23
AC-FT	137800	490500	72390	36410	17980	17820	32450	21320	13650	7570	2060	1870

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1999, BY WATER YEAR (WY)

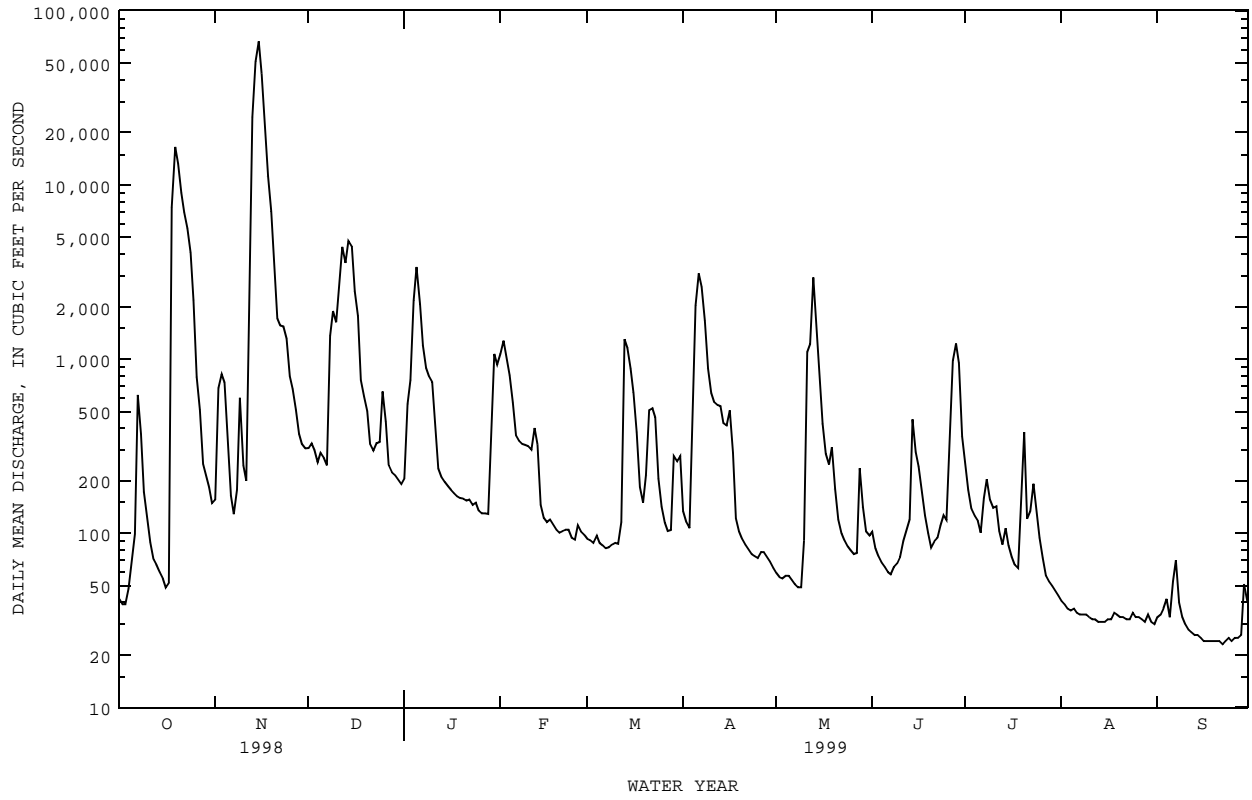
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	1052	934	914	1254	1150	961	698	638	754	135	91.2	107				
MAX	10910	8244	1881	3199	3763	2041	2229	2174	3169	536	223	323				
(WY)	1995	1999	1992	1998	1992	1992	1991	1993	1993	1989	1995	1996				
MIN	22.2	29.8	42.7	138	69.3	57.4	73.0	59.4	31.8	24.6	30.5	31.5				
(WY)	1991	1991	1990	1996	1996	1996	1986	1988	1998	1998	1990	1999				

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1984 - 1999

ANNUAL TOTAL	560239	429480														
ANNUAL MEAN	1535	1177								727						
HIGHEST ANNUAL MEAN										1694						1995
LOWEST ANNUAL MEAN										157						1996
HIGHEST DAILY MEAN	66900	Nov 15	66900	Nov 15	113000	Oct 19	1994									
LOWEST DAILY MEAN	21	Jul 11	23	Sep 22	15	Sep 12	1995									
ANNUAL SEVEN-DAY MINIMUM	22	Jul 8	24	Sep 16	17	Sep 6	1995									
INSTANTANEOUS PEAK FLOW			72600	Nov 14	130000	Oct 18	1994									
INSTANTANEOUS PEAK STAGE			38.70	Nov 14	40.10	Oct 18	1994									
ANNUAL RUNOFF (AC-FT)	1111000	851900			526900											
10 PERCENT EXCEEDS	3230	1550			1930											
50 PERCENT EXCEEDS	137	134			115											
90 PERCENT EXCEEDS	27	33			33											

e Estimated

08068090 WEST FORK SAN JACINTO RIVER ABOVE LAKE HOUSTON NEAR PORTER, TX--Continued



WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Feb 1984 to current year.
 BIOCHEMICAL DATA: Feb 1984 to current year.
 PESTICIDE DATA: Feb 1984 to Sep 1990.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, SOLVED CENT SATUR-ATION (00301)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)
APR 20...	1305	93	403	8.2	25.0	10.4	126	28	K8	83
JUL 27...	1218	57	434	8.3	32.5	8.8	121	120	130	86
AUG 23...	0940	33	763	7.6	28.5	7.1	92	88	120	100

DATE	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
APR 20...	4	28	3.1	37	2	3.7	79	14	61	.15
JUL 27...	6	29	3.2	46	2	3.3	80	12	69	.19
AUG 23...	--	34	4.7	103	4	5.4	110	26	150	.33

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)
APR 20...	17	215	--	<.010	.842	.025	1.6	.69	.28
JUL 27...	15	228	.544	.013	.557	<.020	1.5	--	--
AUG 23...	23	420	.922	.074	.996	.112	1.9	.76	.35

DATE	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04) (00660)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
APR 20...	.31	.71	.192	.104	.095	.29	6.9	13	17
JUL 27...	.27	.90	.263	.074	.077	.24	8.1	<10	15
AUG 23...	.47	.87	.532	.473	.408	1.3	7.4	<10	7.2

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SAN JACINTO RIVER BASIN

08068500 SPRING CREEK NEAR SPRING, TX

LOCATION.--Lat 30°06'37", long 95°26'10", Harris-Montgomery County line, Hydrologic Unit 12040102, near right bank at downstream side of the northbound feeder road of Interstate Highway 45, .85 mi, upstream from Missouri Pacific Railroad bridge, 2.4 mi northeast of Spring, Harris County and 4 mi downstream from Willow Creek.

DRAINAGE AREA.--409 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Apr 1939 to current year. From 1975 to 1995 published as Spring Creek at Spring (station 08068520).

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 72.6 ft above sea level. Prior to Jan 5, 1946, nonrecording gage, and Jan 6, 1946, to Feb 19, 1965, water-stage recorder at datum 5.5 ft higher. Feb 16, 1976 to Sep 30, 1995, water-stage recorder at former site 3.6 mi downstream at datum 10.43 ft lower; unadjusted for land-surface subsidence. Radio telemeter at station. Satellite telemeter at station.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1879, 34.3 ft, May 30, 1929, from floodmarks identified by local residents, discharge, 48,300 ft³/s.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 20	0300	21,700	30.06	May 12	1900	2,930	12.70
Nov 14	1800	30,200	32.29				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

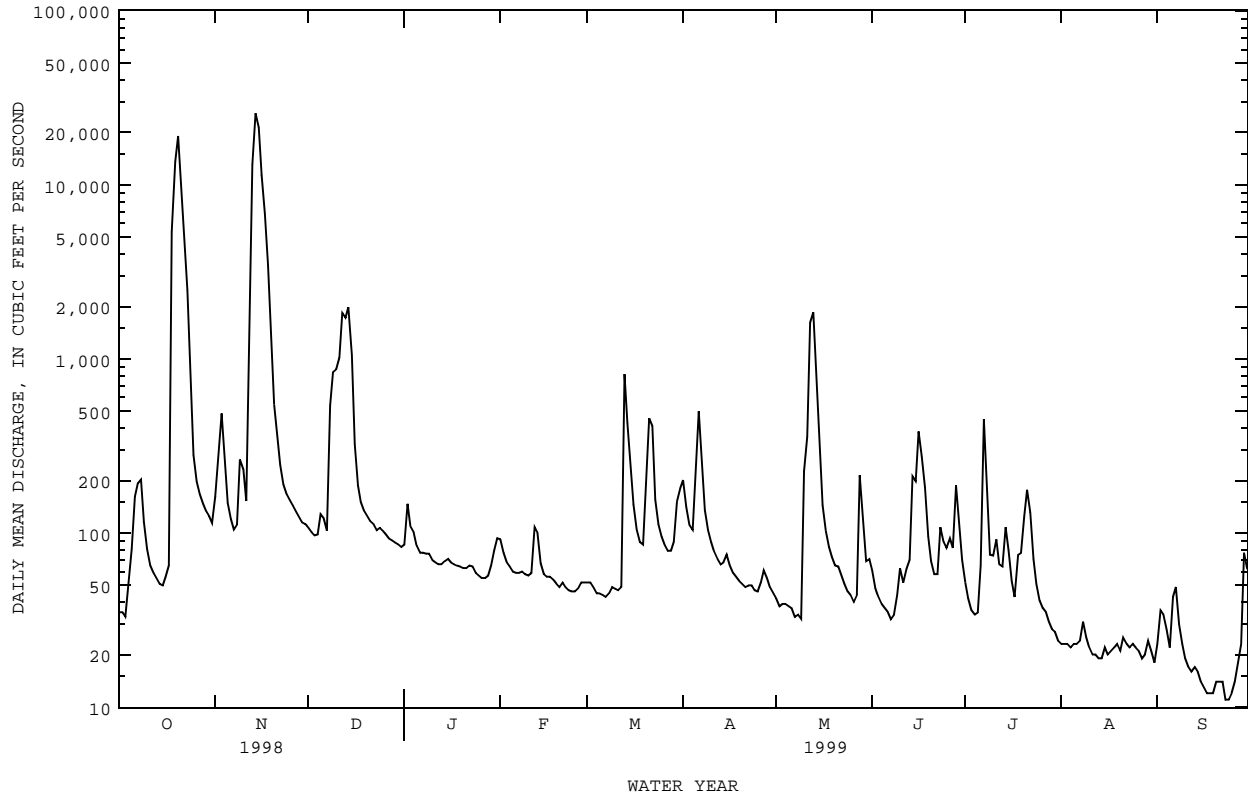
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	162	107	86	92	52	201	42	61	52	23	23
2	35	289	101	147	77	52	141	38	48	42	23	36
3	33	486	97	109	68	49	111	39	43	36	23	34
4	51	271	98	101	64	45	104	39	39	34	22	28
5	81	149	128	85	60	45	246	38	37	35	23	22
6	162	120	121	77	59	44	501	37	35	65	23	43
7	193	105	103	77	59	43	280	33	32	450	24	49
8	203	112	540	76	60	45	136	34	34	171	31	30
9	116	264	840	76	58	49	104	32	44	75	25	23
10	81	231	870	70	57	48	88	227	63	74	22	19
11	65	153	1020	68	59	47	78	359	52	92	20	17
12	59	1590	1840	66	108	49	71	1620	62	66	20	16
13	55	13100	1720	66	100	817	66	1850	70	64	19	17
14	51	25800	1980	69	67	428	68	779	212	108	19	16
15	50	21400	1050	71	58	249	75	356	198	80	22	14
16	56	11400	323	68	56	146	65	145	383	53	20	13
17	65	6870	188	66	56	105	59	103	274	43	21	12
18	5350	3450	150	65	54	89	56	83	183	75	22	12
19	13600	1220	134	64	51	86	53	73	96	77	23	12
20	19100	549	125	63	49	179	51	65	69	124	21	14
21	10700	363	117	63	52	457	49	64	58	177	25	14
22	5700	246	113	65	49	413	50	57	58	131	23	14
23	2480	190	104	64	47	156	50	51	108	71	22	11
24	664	167	107	59	46	112	47	46	89	51	23	11
25	282	154	103	57	46	95	46	44	82	41	22	12
26	198	144	98	55	48	85	52	40	93	37	21	14
27	166	133	93	55	52	79	61	44	82	35	19	18
28	147	123	91	57	52	79	55	214	187	31	20	23
29	134	115	88	65	---	89	49	127	112	28	24	77
30	125	113	86	80	---	152	45	69	70	27	21	62
31	114	---	83	93	---	180	---	71	---	24	18	---
TOTAL	60151	89469	12618	2283	1704	4564	3058	6819	2974	2469	684	706
MEAN	1940	2982	407	73.6	60.9	147	102	220	99.1	79.6	22.1	23.5
MAX	19100	25800	1980	147	108	817	501	1850	383	450	31	77
MIN	33	105	83	55	46	43	45	32	32	24	18	11
AC-FT	119300	177500	25030	4530	3380	9050	6070	13530	5900	4900	1360	1400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1999, BY WATER YEAR (WY)

MEAN	220	295	244	344	363	239	346	344	289	91.1	72.0	125
MAX	5189	2982	1949	1710	1932	1164	2106	1541	1519	577	1208	1184
(WY)	1995	1999	1941	1979	1992	1997	1979	1993	1973	1946	1945	1979
MIN	3.06	3.55	8.88	4.52	13.1	11.6	13.2	9.10	6.57	5.58	2.84	3.86
(WY)	1957	1957	1957	1957	1957	1971	1971	1956	1971	1956	1956	1956

08068500 SPRING CREEK NEAR SPRING, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1939 - 1999	
ANNUAL TOTAL	247717		187499		248	
ANNUAL MEAN	679		514		819	
HIGHEST ANNUAL MEAN					13.4	
LOWEST ANNUAL MEAN					1941	
HIGHEST DAILY MEAN	25800	Nov 14	25800	Nov 14	55900	Oct 18 1994
LOWEST DAILY MEAN	17	Aug 1	11	Sep 23	1.1	Oct 23 1956
ANNUAL SEVEN-DAY MINIMUM	18	Jul 27	13	Sep 18	1.6	Oct 20 1956
INSTANTANEOUS PEAK FLOW			30200	Nov 14	76500	Oct 18 1994
INSTANTANEOUS PEAK STAGE			32.29	Nov 14	39.56	Oct 18 1994
ANNUAL RUNOFF (AC-FT)	491300		371900		179700	
10 PERCENT EXCEEDS	1050		361		424	
50 PERCENT EXCEEDS	80		66		43	
90 PERCENT EXCEEDS	23		22		11	



SAN JACINTO RIVER BASIN

08068500 SPRING CREEK NEAR SPRING, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Aug 1983 to current year.
 BIOCHEMICAL DATA: Aug 1983 to current year.
 PESTICIDE DATA: Aug 1983 to Sep 1990.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, SATUR-ATION (00301)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
APR 20...	0910	52	477	7.3	20.5	7.8	87	92	120	60
JUL 27...	0808	36	448	7.5	27.5	6.4	81	140	150	56
AUG 24...	1244	21	587	8.2	29.5	8.5	112	180	120	57
SEP 09...	0910	23	--	--	--	--	--	--	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS FIX END FIELD (MG/L) CAC03 (00936)	SULFATE SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
APR 20...	18	3.5	67	4	5.0	100	16	63	.24
JUL 27...	17	3.2	63	4	4.9	100	13	57	.26
AUG 24...	17	3.3	96	6	6.4	140	20	78	.37
SEP 09...	--	--	--	--	--	--	--	--	--

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, DIS-SOLVED TOTAL (MG/L AS N) (00600)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)
APR 20...	16	264	3.10	.041	3.14	.066	4.0	.85	.67
JUL 27...	14	249	3.45	.048	3.50	.073	4.1	.54	.54
AUG 24...	16	346	4.44	.083	4.52	.151	5.3	.66	.66
SEP 09...	--	--	3.47	.051	3.52	.090	4.4	.81	.61

DATE	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
APR 20...	.74	.91	.842	.688	.671	2.1	9.2	260	94
JUL 27...	.61	.61	.755	.717	.680	2.1	7.2	28	69
AUG 24...	.81	.81	1.22	1.24	1.10	3.4	6.4	17	72
SEP 09...	.69	.90	1.10	.964	.954	2.9	--	--	--

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SAN JACINTO RIVER BASIN

08068720 CYPRESS CREEK AT KATY-HOCKLEY ROAD NEAR HOCKLEY, TX

LOCATION.--Lat 29°57'00", long 95°48'29", Harris County, Hydrologic Unit 12040102, on left bank at bridge on Katy-Hockley Road, 3.3 mi downstream from station 08068700, 5.6 mi southeast of Hockley, and 6.3 mi upstream from station 08068740.

DRAINAGE AREA.--110 mi².

PERIOD OF RECORD.--Jun 1975 to Jul 1983, Feb 1984 to current year.

GAGE.--Water-stage recorder and crest-stage gage. A concrete weir located 0.9 mi downstream from the gage, washed out on Aug 11, 1991. Datum of gage is 100.00 ft above sea level. Radio telemeter at station. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. No known regulation. Considerable diversions and return flow from irrigation occurs upstream from station, especially during the period Apr through Oct. Stage-discharge relationship affected by seasonal vegetal growth during most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--A flood in Jun 1960 reached a stage of 62.0 ft, from information by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	49	13	5.7	5.2	3.5	e40	e.10	5.1	.91	2.9	.00
2	3.1	158	12	7.0	4.3	3.6	e25	e.05	1.6	.47	7.2	.00
3	2.8	74	10	7.4	4.0	3.8	e15	e.10	e.10	.25	2.9	.00
4	2.9	42	11	6.4	3.9	3.8	e10	e.05	e.01	e.10	2.1	.00
5	4.2	28	18	5.0	3.7	3.2	e8.0	e.01	e.10	5.2	2.3	.00
6	12	21	14	6.2	3.7	2.4	e12	e.00	.28	9.9	.68	.00
7	48	17	14	6.3	5.0	1.5	6.7	e.00	e.10	3.1	.27	.00
8	16	30	272	5.1	4.4	.90	5.0	e.00	.20	.80	.23	.00
9	8.7	41	415	4.7	3.7	1.0	4.3	e.00	22	9.0	.26	.00
10	4.3	27	185	4.3	3.8	1.4	3.4	.86	5.8	3.1	.20	.00
11	4.9	19	280	3.8	4.4	1.4	3.2	23	.67	.95	.12	.00
12	3.9	127	498	3.1	3.7	2.3	2.8	22	1.3	.81	e.05	.00
13	2.3	1240	538	3.2	3.2	7.0	2.2	29	1.7	.88	e.01	.00
14	1.6	1780	246	4.0	2.9	20	2.0	12	7.6	7.9	e.00	.00
15	1.2	1740	91	3.4	2.7	6.0	1.6	2.7	9.8	19	e.00	.00
16	.92	1580	54	3.3	3.4	3.1	1.3	1.1	2.0	2.7	e.00	.00
17	4.8	1410	36	3.3	4.0	2.3	.82	2.3	7.6	1.8	.00	.00
18	1400	1160	31	2.9	3.8	1.9	.40	1.5	6.9	1.8	.00	.00
19	2190	605	25	2.6	3.6	51	.25	.86	3.4	3.3	.00	.00
20	1950	231	18	2.7	4.8	139	e.10	.40	1.7	6.1	.00	.00
21	1720	106	14	2.5	3.5	39	e.05	.33	.59	12	.00	.00
22	1480	74	12	4.1	2.7	14	e.01	.23	.37	13	.00	.00
23	1220	55	9.9	5.4	2.4	9.4	e.00	e.10	.68	13	.00	.00
24	650	38	9.5	4.8	2.4	5.0	e.00	.05	6.0	12	.00	.00
25	230	31	8.7	4.2	2.8	3.0	e.00	e.01	2.0	6.0	.00	.00
26	132	25	7.4	4.8	3.7	e2.0	e.10	e.00	3.2	2.6	.00	.00
27	109	20	6.4	3.8	3.2	e1.7	.18	e.00	8.9	3.2	.00	.00
28	80	15	5.9	3.9	3.5	e50	.35	11	1.6	.65	.00	.00
29	56	14	5.0	6.3	---	e100	.25	14	.46	.50	.00	.00
30	39	14	4.3	7.3	---	e80	.20	17	1.1	2.1	.00	.00
31	32	---	6.4	6.8	---	e60	---	10	---	2.8	.00	---
TOTAL	11414.32	10771	2870.5	144.3	102.4	623.20	145.21	148.75	102.86	145.92	19.22	0.00
MEAN	368	359	92.6	4.65	3.66	20.1	4.84	4.80	3.43	4.71	.62	.000
MAX	2190	1780	538	7.4	5.2	139	40	29	22	19	7.2	.00
MIN	.92	14	4.3	2.5	2.4	.90	.00	.00	.01	.10	.00	.00
AC-FT	22640	21360	5690	286	203	1240	288	295	204	289	38	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1999h, BY WATER YEAR (WY)

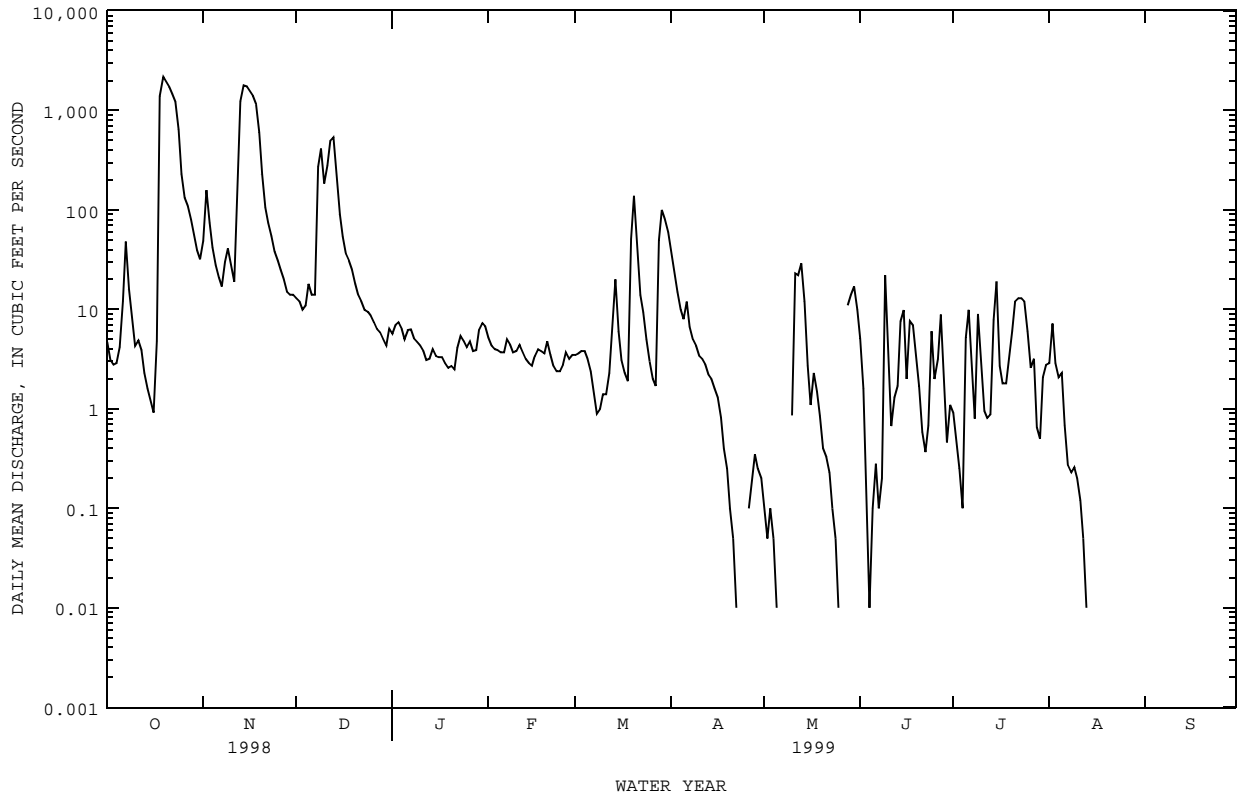
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	56.0	63.2	73.9	100	88.9	53.1	66.7	84.6	92.5	16.1	5.09	32.4													
MAX	368	359	257	508	534	196	344	377	375	98.7	24.8	358													
(WY)	1999	1999	1977	1979	1992	1992	1991	1993	1987	1979	1994	1979													
MIN	.090	.091	.000	.85	.000	.48	.10	.004	.22	.000	.019	.000													
(WY)	1989	1978	1989	1990	1976	1996	1987	1996	1988	1998	1988	1999													

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1975 - 1999h

ANNUAL TOTAL	40818.14	26487.68	
ANNUAL MEAN	112	72.6	60.7
HIGHEST ANNUAL MEAN			186
LOWEST ANNUAL MEAN			5.01
HIGHEST DAILY MEAN	2190	Oct 19	2240
LOWEST DAILY MEAN	.00	May 16	.00
ANNUAL SEVEN-DAY MINIMUM	.00	May 16	.00
INSTANTANEOUS PEAK FLOW			2290
INSTANTANEOUS PEAK STAGE			63.49
ANNUAL RUNOFF (AC-FT)	80960	52540	43960
10 PERCENT EXCEEDS	274	58	120
50 PERCENT EXCEEDS	6.4	3.4	3.0
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

08068720 CYPRESS CREEK AT KATY-HOCKLEY ROAD NEAR HOCKLEY, TX--Continued



SAN JACINTO RIVER BASIN

08068740 CYPRESS CREEK AT HOUSE AND HAHL ROAD NEAR CYPRESS, TX

LOCATION.--Lat 29°57'32", long 95°43'03", Harris County, Hydrologic Unit 12040102, on right bank at bridge on House and Hahl Road, 1.4 mi southwest of Cypress, and 6.3 mi downstream from station 08068720.

DRAINAGE AREA.--131 mi².

PERIOD OF RECORD.--Jun 1975 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 100.00 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. No known regulation. Stage-discharge relationship affected by seasonal vegetal growth during most years. Considerable diversions and return flow from irrigation occurs upstream from station, especially during the period Apr through Oct.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1908, about 49 ft in 1937, from information by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	109	86	37	13	5.9	62	1.3	2.9	2.9	2.7	11
2	7.5	342	80	39	11	8.1	39	1.2	.84	2.7	8.6	7.4
3	4.2	215	76	41	9.9	7.6	25	3.0	.31	2.2	22	23
4	4.8	100	81	39	9.6	4.8	15	1.5	.22	1.9	18	13
5	9.6	72	94	34	12	4.5	13	.95	.40	2.9	30	3.6
6	32	59	82	34	9.3	4.2	29	.67	.46	17	20	.83
7	53	53	86	37	9.9	3.7	20	.59	.71	70	31	.82
8	23	57	419	35	11	5.0	12	.73	77	19	22	.68
9	10	88	553	32	9.4	8.1	6.3	.99	287	204	8.5	.61
10	7.8	64	450	32	12	6.7	3.8	18	174	27	16	.59
11	6.8	52	483	30	9.1	5.4	2.7	42	40	10	26	.66
12	7.9	250	623	27	8.7	5.9	2.3	264	13	8.7	17	.64
13	16	2100	680	25	8.0	28	2.1	293	13	6.6	7.4	.87
14	20	3100	509	26	8.1	37	2.0	119	43	7.2	2.8	.82
15	13	4330	344	27	6.7	18	1.8	5.4	52	43	1.4	.70
16	6.9	3910	257	23	6.6	11	1.4	3.4	108	14	1.5	.84
17	7.9	2820	177	24	7.0	7.6	1.7	3.0	14	9.7	2.8	.56
18	2390	2060	111	22	6.2	5.9	1.3	2.8	12	17	12	.60
19	5740	1420	87	20	5.9	226	.90	2.0	7.5	26	2.6	.76
20	7640	673	71	19	8.3	426	1.0	1.8	7.3	25	1.0	.65
21	5060	383	62	18	9.5	266	1.4	1.3	14	68	4.4	.50
22	3350	279	57	16	5.9	82	1.6	1.3	14	49	6.0	.24
23	2490	229	51	14	5.3	33	1.2	1.1	7.0	30	6.1	.29
24	1590	188	47	15	5.0	18	1.3	1.0	7.7	25	15	.18
25	735	153	46	17	5.7	5.6	2.1	.80	9.8	16	8.7	.12
26	520	126	41	14	6.0	2.8	2.7	.87	11	9.7	2.4	.08
27	399	110	38	12	6.1	2.4	9.4	.78	18	5.2	1.0	.15
28	281	95	36	12	5.3	64	2.3	5.0	12	4.3	1.1	.12
29	197	88	40	14	---	127	1.2	12	4.4	1.9	1.2	5.5
30	135	92	33	13	---	108	1.5	10	3.3	1.5	1.4	9.2
31	99	---	34	16	---	78	---	34	---	2.7	1.3	---
TOTAL	30863.6	23617	5834	764	230.5	1616.2	267.00	833.48	954.84	730.1	301.9	85.01
MEAN	996	787	188	24.6	8.23	52.1	8.90	26.9	31.8	23.6	9.74	2.83
MAX	7640	4330	680	41	13	426	62	293	287	204	31	23
MIN	4.2	52	33	12	5.0	2.4	.90	.59	.22	1.5	1.0	.08
AC-FT	61220	46840	11570	1520	457	3210	530	1650	1890	1450	599	169

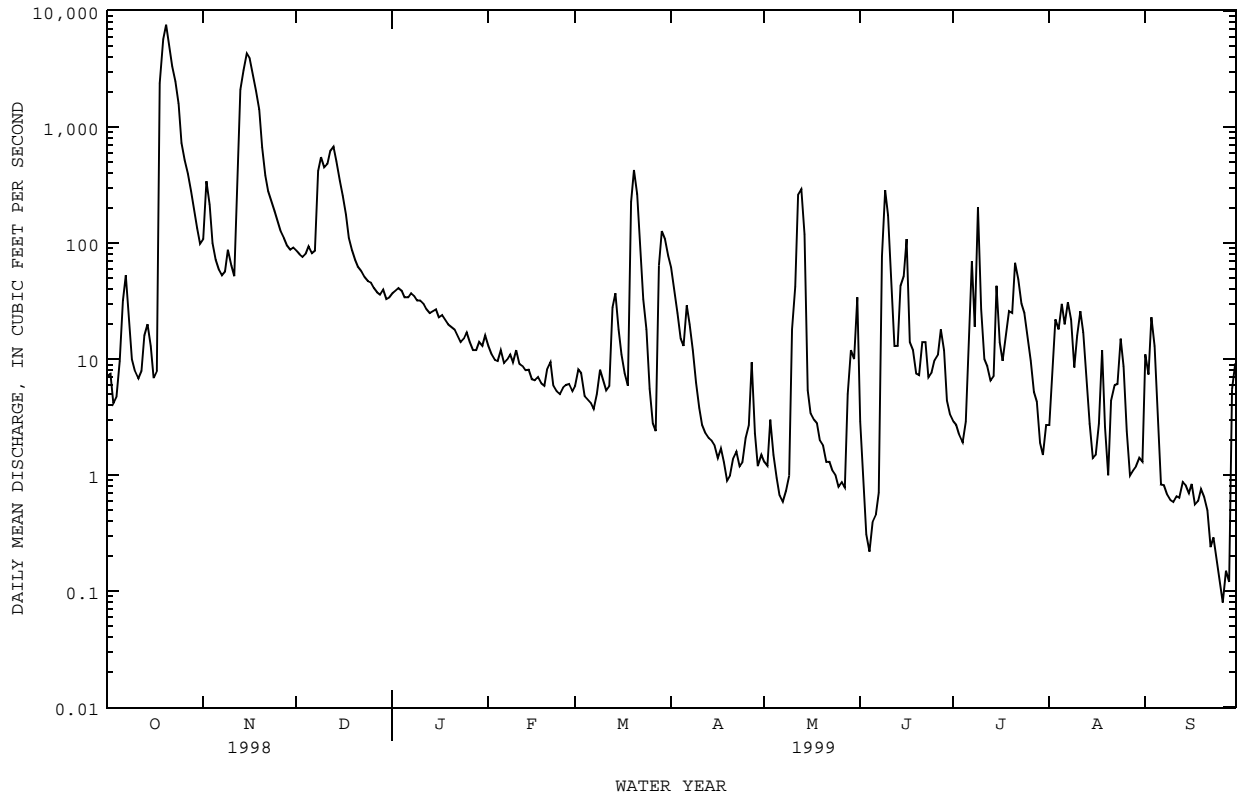
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1999, BY WATER YEAR (WY)

MEAN	91.9	92.3	103	125	114	69.0	89.4	113	128	25.0	15.8	53.6
MAX	996	787	336	685	649	257	463	513	625	120	214	537
(WY)	1999	1999	1977	1979	1992	1995	1991	1993	1993	1979	1983	1979
MIN	.95	.27	.26	1.65	.065	1.27	.16	.35	.93	1.20	1.55	.86
(WY)	1989	1978	1989	1996	1976	1986	1987	1996	1988	1996	1988	1988

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1975 - 1999

ANNUAL TOTAL	83444.09	66097.63	
ANNUAL MEAN	229	181	84.4
HIGHEST ANNUAL MEAN			255
LOWEST ANNUAL MEAN			9.49
HIGHEST DAILY MEAN	7640	7640	7640
LOWEST DAILY MEAN	.41 Sep 2	.08 Sep 26	.00 Mar 3 1976
ANNUAL SEVEN-DAY MINIMUM	.48 Aug 29	.17 Sep 22	.00 Jan 3 1978
INSTANTANEOUS PEAK FLOW		9710	9710
INSTANTANEOUS PEAK STAGE		48.45	48.45
ANNUAL RUNOFF (AC-FT)	165500	131100	61150
10 PERCENT EXCEEDS	529	253	177
50 PERCENT EXCEEDS	10	12	5.9
90 PERCENT EXCEEDS	.82	.93	.35

08068740 CYPRESS CREEK AT HOUSE AND HAHL ROAD NEAR CYPRESS, TX--Continued



SAN JACINTO RIVER BASIN

08068780 LITTLE CYPRESS CREEK NEAR CYPRESS, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°00'57", long 95°41'50", Harris County, Hydrologic Unit 12040102, on right bank at downstream side of bridge on Cypress-Rosehill Road, 3.2 mi north of Cypress, and 6.9 mi upstream from mouth.

DRAINAGE AREA.--41.0 mi².

PERIOD OF RECORD.--May 1982 to Sep 30, 1992 (daily mean discharge), Oct 1, 1992 to current year (peak discharges greater than base discharge).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 80.00 ft above sea level, 1973 adjustment. Radio telemeter at station. Satellite telemeter at station.

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

AVERAGE DISCHARGE.--10 years (water years 1983-92) 24.0 ft³/s (17,370 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 4,520 ft³/s Oct 18, 1994 (gage height 81.41 ft).

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	1830	3,500	80.58	Nov 13	1200	2,720	79.83

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SAN JACINTO RIVER BASIN

08068800 CYPRESS CREEK AT GRANT ROAD NEAR CYPRESS, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°58'24", long 95°35'54", Harris County, Hydrologic Unit 12040102, on right bank at downstream side of bridge on Grant Road and 6.0 mi east of Cypress.

DRAINAGE AREA.--214 mi².

PERIOD OF RECORD.--May 1982 (discharge measurements only), Oct 1982 to Sep 30, 1992 (daily mean discharge), Oct 1, 1992 to current year (peak discharges greater than base discharge).

GAGE.--Water-stage recorder. Datum of gage is 80.00 ft above sea level, 1973 adjustment. Radio telemeter at station. Satellite telemeter at station.

REMARKS.--Records good. No known regulation or diversions. Base flow sustained by effluent from urbanized areas and drainage from irrigated farming areas in the basin.

AVERAGE DISCHARGE.--10 years (water years 1983-92) 116 ft³/s (83,910 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,500 ft³/s Oct 18, 1994 (gage height 47.38 ft).

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 19	1115	8,300	46.28	Nov 14	1045	6,380	45.06

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SAN JACINTO RIVER BASIN

08068900 CYPRESS CREEK AT STUEBNER-AIRLINE ROAD NEAR WESTFIELD, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°00'23", long 95°30'42", Harris County, Hydrologic Unit 12040102, on right bank at downstream side of bridge on Stuebner-Airline Road, 1.3 mi upstream from Spring Gulley, and 6.5 mi west of Westfield.

DRAINAGE AREA.--248 mi².

PERIOD OF RECORD.--Jun 1982 to May 1986, Feb to Sep 1987 (gage heights and discharge measurements only), Oct 1987 to Sep 1989 (daily mean discharge), Oct 1989 to Sep 1992 (annual maximum gage height and discharge), Oct 1992 to current year (peak discharges greater than base discharge).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 70.00 ft above sea level, 1973 adjustment. Radio telemeter at station. Satellite telemeter at station.

REMARKS.--Records fair. No known regulation or diversions. Low flow is sustained by wastewater effluent from urbanized areas and drainage from irrigated farm land.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft³/s Oct 19, 1994 (gage height, 39.61 ft).

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	1145	11,100	38.56	Nov 14	1245	8,430	36.64
Oct 19	2400	11,100	38.59	Nov 17	0500	4,400	31.51
Oct 23	0615	3,870	30.28	Nov 19	1145	2,100	25.07
Nov 13	0645	7,960	36.24	May 12	1215	3,380	29.26

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SAN JACINTO RIVER BASIN

08069000 CYPRESS CREEK NEAR WESTFIELD, TX

LOCATION.--Lat 30°02'08", long 95°25'43", Harris County, Hydrologic Unit 12040102, on left bank at downstream side of downstream bridge on Interstate Highway 45 and U.S. Highway 75, 0.9 mi upstream from Senger Gully, 1.8 mi northwest of Westfield, 2.0 mi upstream from Missouri Pacific Railroad Co. bridge, and 11.0 mi upstream from mouth.

DRAINAGE AREA.--285 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Jul 1944 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 63.89 ft above sea level, unadjusted for land-surface subsidence. Prior to Mar 17, 1951, water-stage recorder at upstream side of bridge at datum 12.00 ft higher. Radio telemeter at station. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation or diversions. Low flow is maintained by wastewater effluent. Channel below gage was rectified in 1950-51, 1975, and 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 34 ft May 1929 (discharge, 26,000 ft³/s), present datum, from information by local resident. Flood in Nov 1940 reached a stage of about 32 ft, present datum (discharge, 15,000 ft³/s), from information by Texas Department of Transportation.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	1500	12,500	27.90	May 12	1345	4,400	16.17
Nov 13	0730	10,700	25.83				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

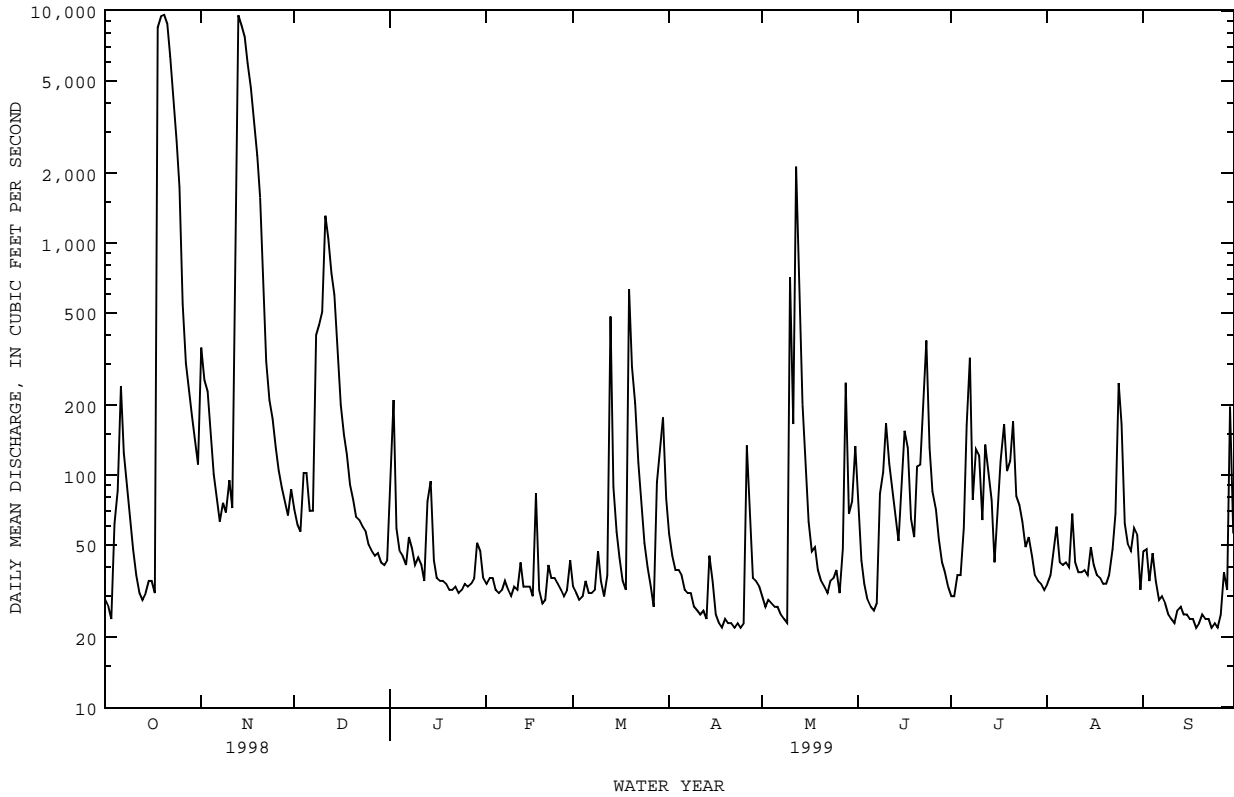
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	354	71	82	34	33	56	30	76	30	34	47
2	27	256	61	210	36	31	45	27	43	30	37	48
3	24	229	57	59	36	29	39	29	34	37	46	35
4	62	155	102	47	32	30	39	28	29	37	60	46
5	86	101	102	45	31	35	37	27	27	59	42	35
6	241	78	70	41	32	31	32	27	26	164	41	29
7	125	63	70	54	35	31	31	25	28	320	42	30
8	92	76	400	48	32	32	31	24	83	78	40	28
9	69	69	443	41	30	47	27	23	103	129	68	25
10	48	95	506	44	33	35	26	712	167	121	42	24
11	37	72	1310	41	32	30	25	166	112	64	38	23
12	31	2260	1050	35	42	37	26	2130	85	135	38	26
13	29	9560	740	77	33	482	24	844	65	102	39	27
14	31	8640	599	94	33	89	45	202	52	78	37	25
15	35	7710	339	43	33	57	35	112	85	42	49	25
16	35	5940	201	36	30	44	25	63	155	67	41	24
17	31	4680	149	35	83	35	23	47	131	115	37	24
18	8490	3340	123	35	32	32	22	49	65	166	36	22
19	9490	2390	91	34	28	631	24	39	54	104	34	23
20	9620	1570	78	32	29	294	23	35	109	115	34	25
21	8760	577	66	32	41	204	23	33	111	170	37	24
22	6360	309	64	33	36	113	22	31	218	81	48	24
23	4050	211	60	31	36	76	23	35	380	74	68	22
24	2750	175	57	32	34	51	22	36	131	63	249	23
25	1740	131	50	34	32	40	23	39	85	49	166	22
26	545	105	47	33	30	33	134	31	71	54	62	25
27	304	88	45	34	32	27	71	48	53	45	50	38
28	231	76	46	36	43	93	36	250	42	37	47	32
29	180	67	42	51	---	127	35	68	38	35	59	197
30	142	87	41	47	---	177	33	77	33	34	55	56
31	111	---	43	36	---	79	---	133	---	32	32	---
TOTAL	53805	49464	7123	1532	990	3085	1057	5420	2691	2667	1708	1054
MEAN	1736	1649	230	49.4	35.4	99.5	35.2	175	89.7	86.0	55.1	35.1
MAX	9620	9560	1310	210	83	631	134	2130	380	320	249	197
MIN	24	63	41	31	28	27	22	23	26	30	32	22
AC-FT	106700	98110	14130	3040	1960	6120	2100	10750	5340	5290	3390	2090

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1999, BY WATER YEAR (WY)

	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	196	189	193	238	238	126	210	273	245	84.2	61.5	140																																												
MAX	1768	1788	931	1168	1322	787	1133	1260	1157	588	563	862																																												
(WY)	1995	1947	1992	1979	1992	1997	1973	1953	1960	1960	1945	1961																																												
MIN	.13	.023	.15	.60	1.39	.21	1.50	1.77	1.64	.26	.087	1.21																																												
(WY)	1957	1956	1951	1951	1951	1956	1963	1956	1958	1958	1948	1956																																												

08069000 CYPRESS CREEK NEAR WESTFIELD, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1944 - 1999	
ANNUAL TOTAL	180826		130596		183	
ANNUAL MEAN	495		358		510	
HIGHEST ANNUAL MEAN					7.53	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	9620	Oct 20	9620	Oct 20	15600	Oct 8 1949
LOWEST DAILY MEAN	24	May 16	22	Apr 18	.00	Aug 3 1948
ANNUAL SEVEN-DAY MINIMUM	24	May 15	23	Apr 18	.00	Aug 3 1948
INSTANTANEOUS PEAK FLOW			12500	Oct 18	22100	Oct 8 1949
INSTANTANEOUS PEAK STAGE			27.90	Oct 18	33.44	Oct 8 1949
ANNUAL RUNOFF (AC-FT)	358700		259000		132400	
10 PERCENT EXCEEDS	1060		306		409	
50 PERCENT EXCEEDS	57		45		27	
90 PERCENT EXCEEDS	28		27		1.6	



SAN JACINTO RIVER BASIN

08069000 CYPRESS CREEK NEAR WESTFIELD, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Mar 1959 to Apr 1964, Oct 1977 to Jun 1978, Aug 1983 to current year.
 BIOCHEMICAL DATA: Aug 1983 to current year.
 PESTICIDE DATA: Aug 1983 to Sep 1990.
 SEDIMENT DATA: Oct 1976 to Sep 1979, Oct 1986 to Apr 1990.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
APR 20...	0820	24	824	8.5	23.0	11.1	130	72	84	110
JUL 27...	0745	45	586	7.8	31.0	6.0	81	1000	210	82
AUG 24...	1144	117	421	7.4	28.5	4.2	54	3500	2300	66

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS-FIX END CAC03 (MG/L) (39036)	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)
APR 20...	34	5.3	123	5	11	210	31	100	.57
JUL 27...	26	4.2	84	4	7.7	140	1.2	69	.49
AUG 24...	21	3.1	56	3	6.8	110	15	50	.25

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L AS N) (70301)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, DIS-SOLVED (MG/L AS N) (00607)
APR 20...	13	480	7.09	.113	7.21	.047	8.4	1.2	.82
JUL 27...	17	319	4.20	.147	4.34	.209	5.6	1.1	.64
AUG 24...	11	244	2.69	.070	2.76	.101	4.0	1.2	.75

DATE	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
APR 20...	.87	1.2	2.32	2.05	2.05	6.3	7.4	14	4.9
JUL 27...	.85	1.3	1.47	1.35	1.28	3.9	8.3	11	11
AUG 24...	.85	1.3	1.11	1.01	.988	3.0	10	16	6.2

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SAN JACINTO RIVER BASIN

08070000 EAST FORK SAN JACINTO RIVER NEAR CLEVELAND, TX

LOCATION.--Lat 30°20'11", long 95°06'14", Liberty County, Hydrologic Unit 12040103, near left bank at downstream side of bridge on State Highway 105, 1,880 ft downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 1.2 mi west of Cleveland, and 4.3 mi downstream from Winter Creek.

DRAINAGE AREA.--325 mi².

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

Water-quality records.--Chemical data: Sep 1961 to Apr 1964, Jan 1968 to Sep 1989. Biochemical data: Aug 1983 to Sep 1989. Pesticide data: Jan to Aug 1984.

GAGE.--Water-stage recorder. Datum of gage is 107.98 ft above sea level. Prior to Sep 13, 1955, at site 1,800 ft upstream at datum 5.00 ft higher. Satellite telemeter at station.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 5, 1935, reached a stage of 23.6 ft (discharge, 53,500 ft³/s), present site and datum, from information by local residents.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 20	0830	10,200	18.07	Apr 5	1845	5,320	16.55
Nov 14	0245	29,700	21.72	Jun 27	0745	12,600	18.63
Dec 13	1645	4,040	15.60				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

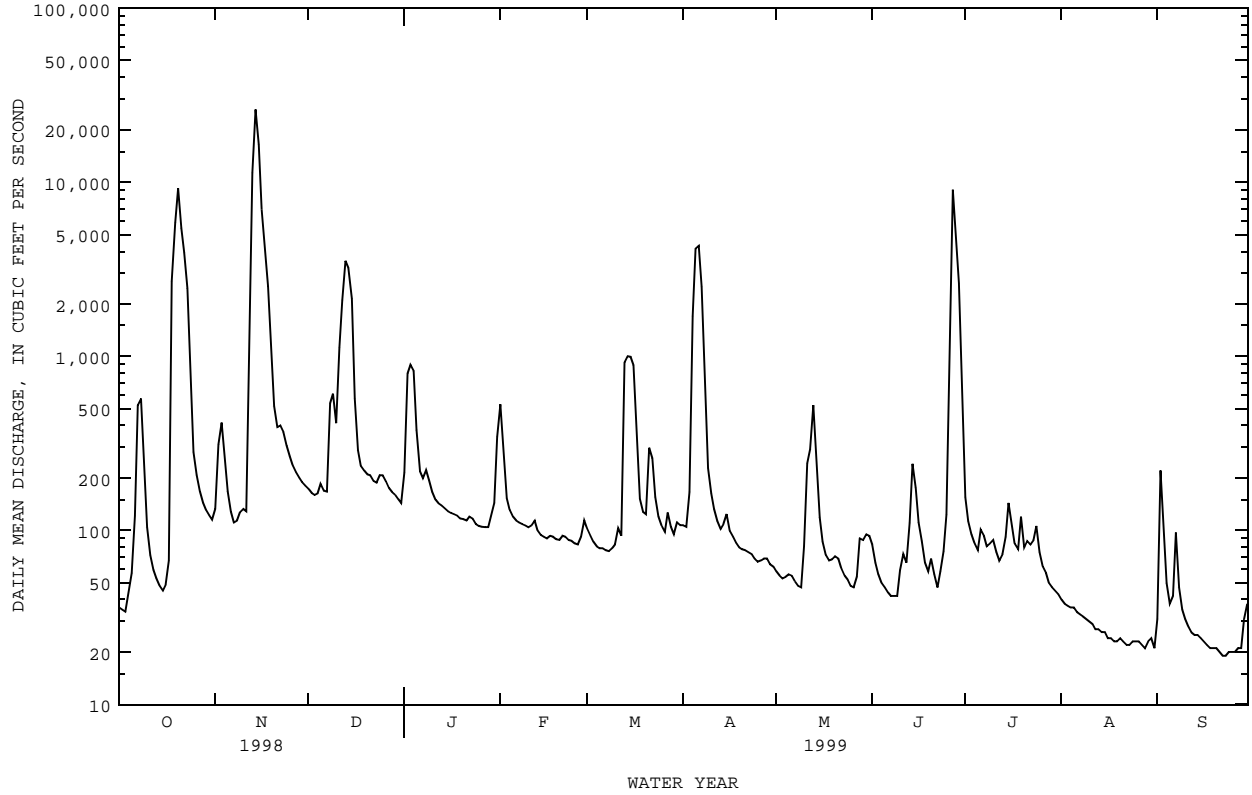
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	133	173	215	529	102	107	58	83	155	40	31
2	35	312	164	794	277	93	105	55	65	113	38	221
3	34	416	160	893	153	86	166	53	56	95	37	101
4	44	280	163	824	131	81	1700	54	50	84	36	50
5	57	168	185	378	120	79	4150	56	47	77	36	38
6	121	128	169	218	114	79	4310	55	44	101	34	42
7	526	111	167	199	111	77	2510	51	42	93	33	97
8	573	114	536	222	109	76	632	48	42	81	32	47
9	274	127	608	194	107	79	228	47	42	84	31	35
10	105	133	413	166	104	83	163	81	59	88	30	31
11	72	129	1120	150	107	103	132	243	73	75	29	28
12	59	924	2100	143	114	93	113	293	65	67	27	26
13	53	11300	3540	139	100	928	102	522	110	73	27	25
14	48	26200	3220	134	94	1000	109	255	241	92	26	25
15	45	16500	2140	129	92	992	124	119	175	144	26	24
16	49	6970	572	126	90	888	99	86	111	108	24	23
17	67	4040	289	124	93	366	92	72	87	84	24	22
18	2700	2530	234	122	92	152	85	67	65	78	23	21
19	5880	1080	220	117	89	128	80	68	58	120	23	21
20	9240	518	210	116	88	124	78	71	69	80	24	21
21	5460	393	207	114	93	298	77	69	56	87	23	20
22	3950	401	193	120	92	259	75	60	47	83	22	19
23	2460	366	188	117	88	156	73	55	58	88	22	19
24	686	307	207	109	87	120	69	52	76	106	23	20
25	282	266	207	106	84	106	66	48	123	75	23	20
26	208	236	191	105	83	98	67	47	1050	62	23	20
27	168	216	175	104	92	127	69	54	9050	57	22	21
28	144	201	166	104	114	105	69	90	4790	50	21	21
29	131	189	160	121	---	95	64	88	2630	47	23	31
30	122	181	151	144	---	111	62	95	507	45	24	38
31	115	---	143	344	---	107	---	93	---	43	21	---
TOTAL	33744	74869	18371	6891	3447	7191	15776	3105	19971	2635	847	1158
MEAN	1089	2496	593	222	123	232	526	100	666	85.0	27.3	38.6
MAX	9240	26200	3540	893	529	1000	4310	522	9050	155	40	221
MIN	34	111	143	104	83	76	62	47	42	43	21	19
AC-FT	66930	148500	36440	13670	6840	14260	31290	6160	39610	5230	1680	2300
CFSM	3.35	7.68	1.82	.68	.38	.71	1.62	.31	2.05	.26	.08	.12
IN.	3.86	8.57	2.10	.79	.39	.82	1.81	.36	2.29	.30	.10	.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1999, BY WATER YEAR (WY)

	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	167	297	272	389	394	274	347	297	267	88.6	51.5	84.4																																																	
MAX	2964	3101	1613	1745	1336	748	2302	1473	2023	676	939	894																																																	
(WY)	1995	1941	1941	1998	1992	1973	1945	1983	1973	1989	1983	1961																																																	
MIN	5.61	9.58	14.6	13.0	20.3	17.1	15.5	18.1	12.0	5.70	5.51	4.46																																																	
(WY)	1957	1957	1957	1957	1971	1971	1971	1963	1954	1971	1956	1956																																																	

08070000 EAST FORK SAN JACINTO RIVER NEAR CLEVELAND, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1939 - 1999	
ANNUAL TOTAL	236313		188005			
ANNUAL MEAN	647		515		242	
HIGHEST ANNUAL MEAN					733	1941
LOWEST ANNUAL MEAN					22.8	1971
HIGHEST DAILY MEAN	26200	Nov 14	26200	Nov 14	44200	Oct 18 1994
LOWEST DAILY MEAN	12	Jul 31	19	Sep 22	3.0	Aug 23 1956
ANNUAL SEVEN-DAY MINIMUM	13	Jul 27	20	Sep 20	3.2	Aug 19 1956
INSTANTANEOUS PEAK FLOW			29700		63000	Oct 18 1994
INSTANTANEOUS PEAK STAGE			21.72		24.57	Oct 18 1994
ANNUAL RUNOFF (AC-FT)	468700		372900		175500	
ANNUAL RUNOFF (CFSM)	1.99		1.58		.75	
ANNUAL RUNOFF (INCHES)	27.05		21.52		10.13	
10 PERCENT EXCEEDS	1250		618		490	
50 PERCENT EXCEEDS	100		100		50	
90 PERCENT EXCEEDS	20		27		14	



SAN JACINTO RIVER BASIN

08070200 EAST FORK SAN JACINTO RIVER NEAR NEW CANEY, TX

LOCATION.--Lat 30°08'43", long 95°07'27", Montgomery County, Hydrologic Unit 12040103, on right bank at downstream side of bridge on Farm Road 1485, 1.0 mi upstream from Church House Gully, 5.5 mi east of New Caney, and 5.9 mi upstream from Caney Creek.

DRAINAGE AREA.--388 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Water years 1952-58, 1969-76, 1983-84 (occasional low-flow measurements), May 1984 to current year (daily mean discharges).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 43.98 ft above sea level (Texas Department of Transportation benchmark). Radio telemeter at station. Satellite telemeter at station.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jun 1973 reached a stage of 29.6 ft, from floodmark on left bank, identified by local resident. Flood in Nov 1940 may have been slightly higher.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,600 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	2030	9,880	21.73	Dec 14	2030	3,610	15.75
Oct 21	0115	10,200	21.91	Apr 7	0100	4,810	17.51
Oct 23	2130	3,770	15.55	Jun 28	1430	7,190	20.39
Nov 14	2330	33,100	28.70				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

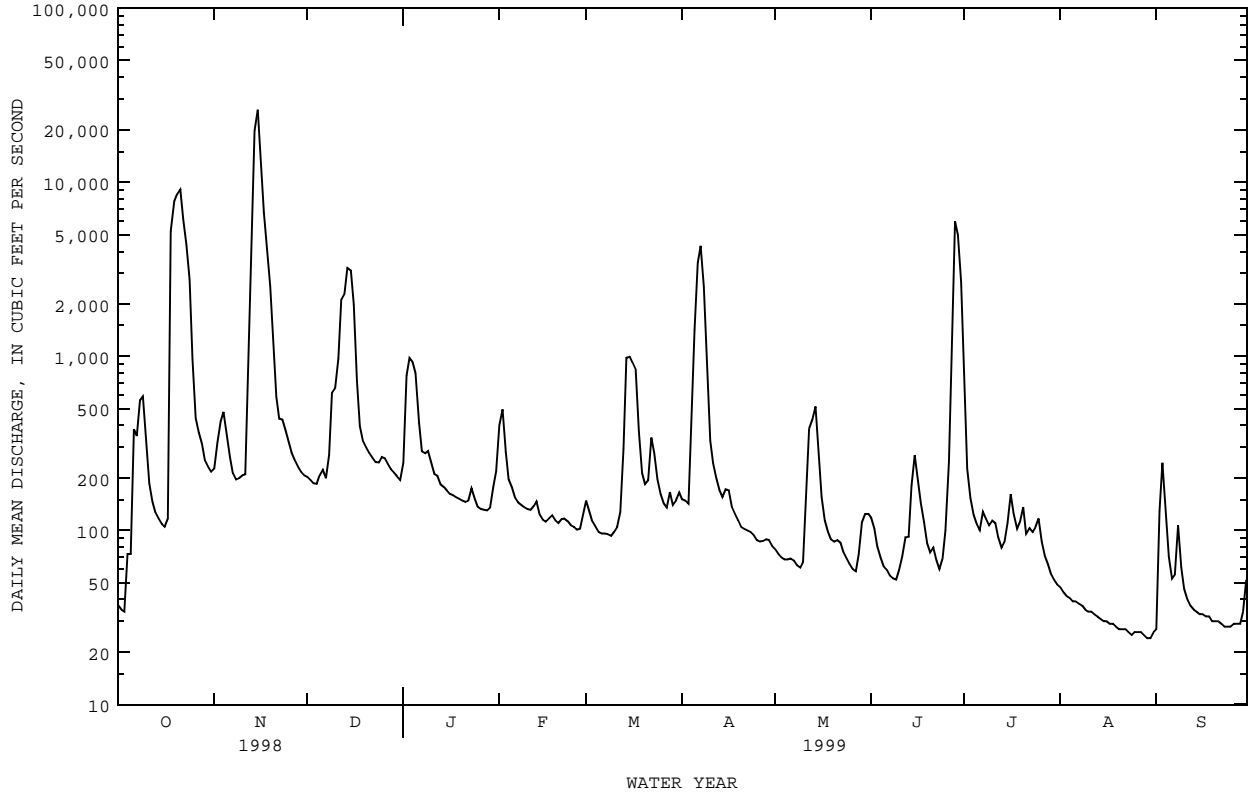
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	226	203	245	402	148	151	78	118	753	47	27
2	35	320	194	775	495	129	148	73	102	226	44	129
3	34	421	186	975	285	113	142	70	81	154	42	244
4	73	479	185	922	196	104	403	68	70	123	41	128
5	73	362	207	798	177	98	1420	68	62	108	39	71
6	381	265	223	416	154	96	3450	69	59	100	39	53
7	348	213	199	284	145	96	4300	67	55	128	38	56
8	559	196	272	277	140	95	2510	63	53	117	37	107
9	590	199	621	286	136	93	836	61	52	107	35	61
10	325	207	661	244	133	98	328	66	59	114	34	46
11	186	210	973	211	131	105	243	144	71	110	34	40
12	146	734	2130	206	138	128	199	384	91	91	33	37
13	127	5380	2300	184	147	296	170	432	92	80	32	35
14	117	19800	3210	178	123	978	155	515	181	87	31	34
15	109	26100	3120	169	115	994	172	275	270	110	30	33
16	105	13600	2000	162	112	919	170	156	199	161	30	33
17	117	6760	719	159	117	835	135	114	144	125	29	32
18	5250	4240	398	155	122	370	124	98	112	102	29	32
19	7770	2520	325	152	114	213	114	89	84	112	28	30
20	8540	1190	298	148	110	185	105	86	75	136	27	30
21	9140	588	279	146	116	194	102	88	80	96	27	30
22	6160	437	262	148	117	341	100	85	67	103	27	29
23	4380	433	246	174	113	279	98	75	60	98	26	28
24	2760	375	245	152	107	197	94	69	69	104	25	28
25	964	318	264	137	105	161	88	64	100	117	26	28
26	442	279	259	133	101	142	86	60	249	86	26	29
27	364	252	241	131	102	135	87	58	860	71	26	29
28	313	231	224	130	125	166	89	73	5980	64	25	29
29	252	217	214	135	---	140	88	111	4990	56	24	34
30	231	207	203	178	---	149	81	124	2670	52	24	52
31	217	---	194	219	---	165	---	124	---	49	26	---
TOTAL	50145	86759	21055	8629	4378	8162	16188	3907	17155	3940	981	1574
MEAN	1618	2892	679	278	156	263	540	126	572	127	31.6	52.5
MAX	9140	26100	3210	975	495	994	4300	515	5980	753	47	244
MIN	34	196	185	130	101	93	81	58	52	49	24	27
AC-FT	99460	172100	41760	17120	8680	16190	32110	7750	34030	7810	1950	3120
CFSM	4.17	7.45	1.75	.72	.40	.68	1.39	.32	1.47	.33	.08	.14
IN.	4.81	8.32	2.02	.83	.42	.78	1.55	.37	1.64	.38	.09	.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1999, BY WATER YEAR (WY)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	363	349	421	594	549	499	347	310	372	147	45.9	63.1				
MAX	2843	2892	1036	1857	1557	981	958	1330	1596	849	189	186				
(WY)	1995	1999	1998	1998	1992	1992	1991	1989	1986	1989	1995	1996				
MIN	15.7	20.6	31.2	99.5	74.0	55.2	68.8	42.3	28.5	18.0	20.8	17.6				
(WY)	1989	1991	1990	1986	1996	1996	1986	1996	1996	1998	1990	1988				

08070200 EAST FORK SAN JACINTO RIVER NEAR NEW CANEY, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1984 - 1999	
ANNUAL TOTAL	279747		222873		338	
ANNUAL MEAN	766		611		101	
HIGHEST ANNUAL MEAN					660	
LOWEST ANNUAL MEAN					1995	
HIGHEST DAILY MEAN	26100	Nov 15	26100	Nov 15	46600	Oct 19 1994
LOWEST DAILY MEAN	12	Aug 1	24	Aug 29	9.8	Nov 1 1990
ANNUAL SEVEN-DAY MINIMUM	13	Jul 29	25	Aug 24	10	Oct 29 1990
INSTANTANEOUS PEAK FLOW			33100	Nov 14	74100	Oct 19 1994
INSTANTANEOUS PEAK STAGE			28.70	Nov 14	33.00	Oct 19 1994
ANNUAL RUNOFF (AC-FT)	554900		442100		245000	
ANNUAL RUNOFF (CFSM)	1.98		1.57		.87	
ANNUAL RUNOFF (INCHES)	26.82		21.37		11.84	
10 PERCENT EXCEEDS	1680		835		812	
50 PERCENT EXCEEDS	132		131		87	
90 PERCENT EXCEEDS	20		34		25	



WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Aug 1983 to current year.
 BIOCHEMICAL DATA: Aug 1983 to current year.
 PESTICIDE DATA: Aug 1985 to Sep 1990.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Jun 1984 to current year.
 WATER TEMPERATURE: Jun 1984 to current year.

INSTRUMENTATION.--Water-quality monitor since Jun 1984.

REMARKS.--Interruption in the record was caused by malfunctions of the instrument. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and a regression relation between each chemical constituent and specific conductance. New regression equations were developed based on data from water years 1990 to 1999. The standard error of estimate for dissolved solids is 5%, chloride is 13%, sulfate is 34% and for hardness is 15%. Regression equations developed for this station may be obtained from the U.S. Geological Survey District Office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 870 microsiemens, May 7, 1985; minimum, 19 microsiemens, Nov 17, 1992.
 WATER TEMPERATURE: Maximum, 32.0°C, Jun 29, 1996; minimum, 1.0°C, Dec 24, 1989.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 330 microsiemens, Feb 1; minimum, 20 microsiemens, Oct 18.
 WATER TEMPERATURE: Maximum, 31.2°C, Aug 10, 13; minimum, 7.6°C, Dec 26-27.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, SATUR-ATION (MG/L) (00301)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL AS CACO3 (MG/L) (00900)
APR 20...	1050	106	192	6.8	18.5	8.1	87	84	190	45
JUL 27...	0950	70	217	7.2	28.0	5.7	73	110	620	56
AUG 23...	1135	26	193	6.7	28.5	6.8	88	68	210	40

DATE	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)	SODIUM, DIS-SOLVED (MG/L) AS NA (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L) AS K (00935)	ALKA-LINITY WAT DIS-FIX END FIELD CAC03 (MG/L) (39036)	SULFATE SOLVED (MG/L) AS SO4 (00945)	CHLO-RIDE, DIS-SOLVED (MG/L) AS CL (00940)
APR 20...	7	15	2.1	15	1	1.5	38	4.4	29
JUL 27...	12	18	2.3	17	1	1.9	44	5.3	31
AUG 23...	2	13	2.0	19	1	1.5	38	3.5	31

DATE	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)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) AS N (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)	NITRO-GEN, NITRO-TOTAL (MG/L) AS N (00600)	NITRO-GEN, ORGANIC TOTAL (MG/L) AS N (00605)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L) AS N (00607)
APR 20...	<.10	16	107	<.010	.187	.024	.65	.44	.22
JUL 27...	<.10	17	120	<.010	.170	<.020	.41	--	--
AUG 23...	<.10	14	106	<.010	<.050	<.020	--	--	--

SAN JACINTO RIVER BASIN

08070200 EAST FORK SAN JACINTO RIVER NEAR NEW CANEY, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
APR 20...	.25	.46	.075	<.050	.022	.07	7.3	200	58
JUL 27...	.24	.24	.054	<.050	.019	.06	7.9	27	58
AUG 23...	.14	.23	E.044	<.050	<.010	--	3.5	E8.5	51

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1998 TO SEPTEMBER 1999

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- SIEMENS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT. 1998	50145	53	32	4340	6.6	889	2.7	360	14
NOV. 1998	86759	54	33	7740	6.7	1580	2.8	646	14
DEC. 1998	21055	96	57	3230	13	757	4.0	228	24
JAN. 1999	8629	149	87	2020	23	536	5.0	116	36
FEB. 1999	4378	210	119	1400	36	431	4.7	55.4	48
MAR. 1999	8162	152	88	1940	24	531	4.8	105	36
APR. 1999	16188	101	60	2610	14	629	4.0	176	25
MAY 1999	3907	164	94	996	26	276	4.9	52.2	39
JUNE 1999	17155	68	41	1890	9.2	427	3.0	141	17
JULY 1999	3940	123	72	769	19	197	4.4	47.2	30
AUG. 1999	981	194	111	293	33	86.2	5.0	13.2	45
SEPT 1999	1574	137	80	341	21	87.4	4.9	20.9	33
TOTAL	222873	**	**	27580	**	6420	**	1960	**
WTD.AVG.	611	77	46	**	11	**	3.3	**	19

SAN JACINTO RIVER BASIN

08070200 EAST FORK SAN JACINTO RIVER NEAR NEW CANEY, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	185	178	182	144	135	141	178	174	177	153	143	149
2	181	178	180	137	131	134	180	177	179	143	104	117
3	178	173	175	139	112	129	181	179	180	108	100	104
4	176	73	146	158	111	131	182	179	180	135	107	122
5	141	95	119	157	144	149	184	180	181	137	133	135
6	149	48	96	156	142	147	181	170	174	137	133	135
7	103	75	89	170	156	163	181	164	172	142	137	139
8	126	83	108	171	165	169	178	165	170	150	141	144
9	114	103	107	165	161	163	176	116	142	147	145	146
10	164	114	140	165	160	163	173	126	158	149	146	147
11	168	163	166	160	158	159	158	82	126	155	148	151
12	163	157	159	159	48	131	85	43	74	161	154	158
13	160	158	159	48	42	44	58	43	50	165	153	160
14	165	160	163	49	42	46	71	56	65	169	165	167
15	170	165	167	45	43	44	74	69	72	171	169	170
16	169	163	167	49	43	44	---	---	e80	174	171	172
17	167	160	164	53	47	51	---	---	e89	177	174	175
18	166	20	64	59	52	55	105	94	99	180	177	179
19	31	22	27	72	59	64	111	105	108	184	180	182
20	37	27	31	88	72	79	117	111	115	186	183	184
21	45	37	41	104	88	97	120	117	119	187	185	186
22	55	42	48	116	104	110	126	120	123	189	186	188
23	64	54	60	123	116	120	133	126	130	191	189	189
24	73	63	68	134	123	127	135	132	133	191	188	189
25	88	73	79	144	134	139	137	134	136	193	190	192
26	105	88	96	150	144	146	145	137	141	197	193	194
27	118	105	110	157	150	152	148	145	147	202	196	199
28	118	111	113	162	155	159	149	147	148	206	202	204
29	130	116	124	166	161	164	150	148	149	208	206	207
30	138	130	135	175	165	170	151	148	150	210	208	210
31	145	138	143	---	---	---	153	150	152	209	201	205
MONTH	185	20	117	175	42	120	---	---	133	210	100	168
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	330	199	242	237	214	226	186	180	182	200	195	198
2	291	168	203	214	201	207	180	172	175	197	194	196
3	177	168	172	207	196	200	184	171	176	200	197	198
4	185	175	181	225	199	213	198	128	178	205	199	201
5	190	184	188	248	223	235	128	57	90	213	204	207
6	193	170	184	259	246	253	74	52	60	218	212	215
7	197	190	193	263	247	253	82	69	77	222	216	219
8	203	196	199	253	242	247	99	75	83	222	217	220
9	203	198	201	253	235	244	122	97	110	219	214	217
10	207	200	204	238	226	232	147	122	134	215	205	209
11	210	202	205	231	224	227	160	147	155	208	195	204
12	221	205	209	232	220	226	172	160	167	198	100	135
13	218	202	211	221	153	191	183	172	178	129	104	118
14	211	193	200	186	83	114	185	180	182	140	113	121
15	220	210	214	140	91	120	186	182	184	139	114	130
16	226	217	220	134	109	117	187	180	183	183	139	160
17	227	224	226	109	100	103	185	180	182	204	182	195
18	239	220	225	121	102	110	183	175	179	205	198	201
19	228	219	223	145	121	134	188	182	184	200	194	197
20	226	218	221	159	145	151	195	185	189	194	190	192
21	224	218	221	164	159	162	208	195	202	192	186	189
22	231	213	222	202	163	177	210	204	207	188	182	186
23	234	222	226	198	167	176	208	203	205	183	178	180
24	237	222	225	169	167	167	209	201	203	180	174	177
25	231	220	223	173	169	171	208	202	206	197	179	189
26	226	220	223	177	172	174	212	208	211	198	196	197
27	232	225	228	181	177	180	215	211	214	201	196	199
28	240	230	235	179	176	178	220	215	218	197	189	193
29	---	---	---	196	179	185	218	205	214	189	167	181
30	---	---	---	204	196	202	205	198	200	182	147	170
31	---	---	---	198	186	193	---	---	---	147	135	140
MONTH	330	168	212	263	83	186	220	52	171	222	100	185

08070200 EAST FORK SAN JACINTO RIVER NEAR NEW CANEY, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	148	138	145	75	56	68	194	177	184	187	166	184
2	138	131	135	89	75	82	189	176	181	166	83	133
3	167	135	151	104	89	97	199	177	186	139	85	109
4	173	164	167	114	104	109	207	189	198	94	85	89
5	195	172	185	123	114	118	203	190	195	---	---	e99
6	195	181	185	129	123	126	201	189	193	---	---	e113
7	189	185	187	135	128	131	203	189	195	124	121	122
8	199	187	194	136	134	135	204	190	196	146	124	138
9	205	199	202	134	129	131	205	191	196	140	127	134
10	207	195	203	134	127	129	204	191	196	159	127	143
11	199	193	196	143	134	138	205	191	196	131	128	129
12	196	181	189	159	142	151	202	190	193	---	---	e135
13	186	146	171	170	159	165	205	190	195	---	---	e142
14	146	107	132	171	161	167	208	191	196	---	---	e151
15	196	107	136	161	155	158	206	192	197	166	155	160
16	211	139	171	172	147	155	207	192	198	167	165	166
17	139	128	132	172	148	155	211	194	200	168	164	166
18	161	129	143	178	155	168	211	195	199	173	167	169
19	200	156	177	184	162	176	208	194	200	176	172	174
20	224	195	211	170	158	164	211	195	201	178	175	177
21	217	185	198	158	133	148	210	195	200	177	173	175
22	203	179	185	133	119	126	208	195	199	174	170	172
23	194	179	185	146	131	140	210	195	200	171	168	170
24	222	188	201	154	145	148	210	193	201	170	167	169
25	258	222	240	182	154	170	205	183	188	172	169	171
26	232	129	161	215	182	204	199	182	188	---	---	e170
27	149	74	101	229	208	215	201	194	198	---	---	e172
28	74	40	49	237	226	233	194	189	191	---	---	e172
29	46	37	41	---	---	---	191	187	189	174	167	170
30	59	46	53	---	---	---	189	187	188	170	161	166
31	---	---	---	---	---	---	188	185	186	---	---	---
MONTH	258	37	161	---	---	---	211	176	194	---	---	151

e Estimated

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	28.0	26.0	27.0	21.7	20.9	21.3	20.3	19.1	19.7	14.1	11.7	12.8
2	27.1	25.4	26.3	20.9	19.7	20.5	19.8	19.2	19.4	15.7	13.9	15.0
3	27.9	25.9	26.7	19.9	19.1	19.5	20.2	19.4	19.7	13.9	10.9	12.2
4	27.0	25.3	26.1	19.1	18.2	18.7	20.6	19.5	20.0	10.9	9.1	10.1
5	27.1	24.9	25.9	18.2	16.9	17.5	21.2	20.1	20.6	9.1	7.9	8.4
6	26.4	22.5	24.1	16.9	15.9	16.4	21.1	20.3	20.7	9.4	8.0	8.7
7	23.2	21.8	22.5	16.3	15.5	15.9	21.8	20.7	21.1	11.4	9.4	10.4
8	22.0	20.8	21.5	17.1	16.1	16.6	20.7	18.2	19.5	13.4	11.4	12.6
9	21.1	20.0	20.6	18.2	16.8	17.5	18.2	15.9	16.9	13.5	12.3	13.1
10	21.2	19.6	20.3	18.5	17.6	18.1	15.9	14.2	15.2	12.3	10.9	11.7
11	20.9	19.5	20.2	17.6	16.7	17.1	14.2	11.8	13.1	11.7	10.3	11.0
12	22.3	20.3	21.2	16.7	13.9	15.5	11.8	11.3	11.5	12.2	10.8	11.4
13	22.6	20.4	21.5	13.9	13.4	13.6	11.3	10.8	11.0	13.3	11.8	12.5
14	22.5	20.3	21.4	13.7	13.4	13.5	11.0	10.5	10.7	13.0	12.4	12.7
15	22.6	20.5	21.5	14.1	13.4	13.7	10.6	10.1	10.3	12.6	11.5	12.0
16	23.2	21.6	22.4	14.9	14.1	14.5	---	---	e10.0	12.8	11.1	11.9
17	23.7	22.6	23.1	15.7	14.9	15.3	---	---	e10.5	14.3	12.3	13.3
18	23.7	22.4	22.9	16.5	15.7	16.0	11.4	10.5	11.0	14.7	13.1	13.8
19	22.4	21.7	22.1	17.6	16.5	17.1	12.7	11.4	12.0	15.2	13.3	14.2
20	21.7	21.3	21.4	18.0	17.6	17.9	14.1	12.5	13.3	16.0	14.3	15.2
21	21.3	20.7	21.0	17.7	16.6	17.3	15.6	14.1	15.0	17.1	15.8	16.5
22	20.7	19.8	20.2	16.6	16.2	16.4	15.2	13.3	14.3	18.2	16.7	17.4
23	19.8	18.5	19.1	16.7	16.1	16.4	13.3	11.1	12.2	16.9	15.3	16.3
24	18.5	18.0	18.2	17.3	16.4	16.8	11.1	9.6	10.4	15.6	14.2	14.9
25	19.0	18.0	18.5	18.2	17.0	17.5	9.6	8.3	9.0	15.4	13.6	14.5
26	19.7	18.4	19.0	19.0	17.8	18.4	8.5	7.6	8.0	15.8	13.7	14.7
27	20.2	18.9	19.5	19.7	18.5	19.0	8.8	7.6	8.2	16.5	14.9	15.7
28	20.8	19.5	20.1	19.9	18.8	19.3	10.1	8.7	9.3	17.2	16.1	16.7
29	20.9	20.1	20.5	20.0	18.9	19.5	11.0	9.4	10.1	18.3	17.2	17.8
30	21.5	20.4	20.9	20.7	19.6	20.0	11.2	10.0	10.5	18.5	17.1	17.8
31	21.8	20.6	21.2	---	---	---	11.8	10.4	11.1	17.3	16.0	16.7
MONTH	28.0	18.0	21.8	21.7	13.4	17.2	---	---	13.7	18.5	7.9	13.6

SAN JACINTO RIVER BASIN

08070200 EAST FORK SAN JACINTO RIVER NEAR NEW CANEY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	16.1	15.2	15.7	18.7	16.3	17.4	18.1	17.1	17.6	24.9	22.2	23.6
2	15.8	14.9	15.5	19.2	17.4	18.2	19.0	17.9	18.5	24.2	22.1	23.2
3	15.4	14.7	15.0	19.0	16.8	17.8	20.1	18.9	19.5	23.4	22.1	22.7
4	16.6	15.0	15.7	18.0	15.5	16.9	20.3	19.5	19.9	23.4	22.4	22.8
5	16.7	15.6	16.2	17.7	16.6	17.2	20.4	20.1	20.3	25.1	22.7	23.6
6	17.9	16.6	17.2	20.3	17.3	18.5	20.3	19.6	20.0	24.8	21.8	23.3
7	19.2	17.5	18.2	18.9	17.3	17.8	21.3	20.3	20.8	24.5	21.2	22.9
8	19.8	18.3	19.0	19.2	17.4	18.2	21.9	21.3	21.6	24.5	21.2	22.9
9	20.6	19.4	19.9	20.2	17.5	18.7	23.0	21.9	22.4	23.8	22.8	23.3
10	21.2	19.6	20.3	19.5	17.4	18.4	24.0	22.3	23.0	23.5	22.1	22.8
11	21.5	19.6	20.6	20.2	18.4	19.3	24.2	22.7	23.4	23.6	21.7	22.5
12	19.6	16.8	18.3	20.1	18.9	19.4	24.0	22.1	23.0	22.4	20.6	21.4
13	16.8	14.9	15.9	19.7	15.8	17.8	22.8	21.8	22.3	21.9	20.8	21.3
14	15.5	13.4	14.4	15.8	13.3	14.3	23.0	22.0	22.3	21.6	20.8	21.2
15	15.4	13.0	14.2	13.4	12.7	13.1	22.4	20.7	21.5	23.6	20.8	22.1
16	15.5	13.9	14.7	13.3	12.5	12.8	20.7	18.9	19.7	24.9	22.7	23.6
17	16.9	14.7	15.6	14.3	13.0	13.7	19.8	17.4	18.5	25.7	23.7	24.6
18	17.5	14.9	16.0	16.2	14.3	15.4	19.6	16.6	18.0	25.8	23.5	24.6
19	17.3	14.8	16.0	17.2	16.1	16.6	20.7	17.2	18.8	26.2	23.2	24.6
20	16.9	15.7	16.3	18.9	16.8	17.6	21.9	18.4	20.0	26.1	23.2	24.7
21	16.8	14.8	15.7	19.0	16.5	17.6	22.2	19.5	20.8	26.4	23.4	24.8
22	15.5	13.5	14.5	18.6	16.9	17.6	23.4	20.7	21.9	27.1	23.7	25.3
23	16.1	13.5	14.6	18.3	17.2	17.8	24.6	21.8	23.1	27.0	23.9	25.5
24	16.0	12.9	14.4	19.4	17.8	18.5	25.0	22.7	23.8	27.5	24.6	26.0
25	16.0	13.9	15.0	19.6	18.6	18.9	24.7	23.4	24.1	27.7	25.0	26.3
26	17.4	15.4	16.3	19.9	17.6	18.6	24.1	23.0	23.7	26.9	25.1	26.0
27	18.5	16.6	17.4	18.6	17.3	17.9	25.4	22.0	23.5	27.9	25.1	26.3
28	18.8	16.0	17.4	18.6	17.6	18.0	25.6	22.3	23.9	26.6	24.9	25.9
29	---	---	---	18.1	17.5	17.8	25.9	22.5	24.1	26.2	24.6	25.4
30	---	---	---	17.6	17.3	17.5	25.3	22.7	24.1	25.9	24.6	25.1
31	---	---	---	17.8	17.0	17.4	---	---	---	26.5	24.0	25.1
MONTH	21.5	12.9	16.4	20.3	12.5	17.3	25.9	16.6	21.5	27.9	20.6	24.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	27.4	24.8	25.9	28.9	27.8	28.2	30.5	28.1	29.2	27.6	26.2	27.0
2	28.1	25.4	26.5	29.4	27.6	28.3	29.6	28.0	28.8	27.1	25.4	26.0
3	28.2	25.5	26.8	29.5	27.5	28.3	30.6	28.0	29.1	27.3	25.4	26.4
4	28.8	25.8	27.2	28.9	27.4	28.1	30.4	27.8	29.0	27.8	25.8	26.6
5	28.7	26.2	27.4	28.4	27.0	27.7	30.7	27.8	29.2	28.7	26.0	27.2
6	29.4	26.5	27.8	28.8	26.7	27.5	30.1	28.0	29.1	28.1	26.3	27.2
7	28.6	26.6	27.7	29.0	26.4	27.6	30.3	27.7	29.0	28.4	26.3	27.4
8	27.6	26.3	26.9	29.0	27.0	27.9	30.6	27.9	29.2	28.7	26.6	27.5
9	27.3	25.8	26.6	27.8	26.8	27.2	30.8	28.1	29.4	28.8	26.1	27.4
10	27.7	25.6	26.5	29.1	26.6	27.6	31.2	28.3	29.7	28.3	25.9	27.1
11	27.7	25.4	26.5	28.6	26.6	27.5	31.0	28.4	29.7	28.1	25.4	26.7
12	27.3	25.4	26.3	28.1	26.7	27.4	30.7	28.3	29.5	28.4	25.7	27.0
13	26.4	25.5	25.9	27.5	26.3	26.9	31.2	28.3	29.7	28.2	25.4	26.8
14	27.2	25.1	25.9	28.6	25.8	27.1	31.1	28.5	29.8	27.8	25.4	26.6
15	26.1	25.1	25.5	28.4	25.7	27.0	31.1	28.3	29.7	27.1	24.4	25.8
16	26.2	24.7	25.4	28.2	26.5	27.2	30.3	27.3	28.9	26.3	23.2	24.8
17	27.0	24.7	25.7	27.7	26.3	27.0	30.0	27.7	28.9	26.0	23.2	24.6
18	27.6	25.0	26.2	28.0	26.3	27.1	30.2	27.5	28.9	25.7	22.8	24.3
19	27.9	25.1	26.4	28.1	26.4	27.1	30.3	27.5	28.9	25.6	22.5	24.1
20	27.0	25.3	26.2	28.2	26.1	27.1	30.6	28.0	29.2	25.8	22.7	24.2
21	28.2	25.6	26.8	27.2	26.3	26.7	30.6	28.0	29.2	25.7	23.6	24.6
22	27.8	26.0	26.9	28.3	25.6	26.7	30.1	28.1	29.1	24.4	22.1	23.3
23	27.6	25.9	26.7	28.9	26.0	27.3	29.9	28.1	29.1	23.3	20.4	22.0
24	28.3	26.0	27.1	29.5	26.6	27.9	29.7	28.0	28.9	23.3	20.2	21.8
25	27.4	26.6	26.8	29.6	27.6	28.4	30.4	27.6	29.0	23.4	21.5	22.4
26	27.7	26.3	26.7	29.7	27.3	28.4	31.0	28.0	29.4	24.6	21.9	23.2
27	26.6	26.0	26.3	30.0	27.0	28.4	30.4	28.2	29.4	24.5	22.4	23.4
28	27.3	26.6	26.9	30.4	27.4	28.8	29.9	27.7	28.9	25.0	23.3	24.0
29	27.8	27.3	27.6	30.3	27.9	29.1	29.7	27.6	28.7	24.5	22.2	23.3
30	28.0	27.8	27.9	30.5	28.1	29.3	29.8	27.4	28.5	23.4	21.1	22.1
31	---	---	---	30.3	27.9	29.1	29.0	27.2	28.0	---	---	---
MONTH	29.4	24.7	26.6	30.5	25.6	27.7	31.2	27.2	29.1	28.8	20.2	25.2

e Estimated

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SAN JACINTO RIVER BASIN

08070500 CANEY CREEK NEAR SPLENDORA, TX

LOCATION.--Lat 30°15'34", long 95°18'08", Montgomery County, Hydrologic Unit 12040103, on left bank at downstream side of bridge on Farm Road 2090, 4 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, and 8 mi west of Splendor.

DRAINAGE AREA.--105 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Jan 1944 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 118.44 ft above sea level. Prior to Jun 17, 1965, at site 170 ft upstream at datum 5.00 ft higher. Satellite telemeter at station.

REMARKS.--Records fair. No known regulation or diversions. Minimum discharge for period of record was caused by construction upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1885, 27.0 ft in Nov 1940, present site and datum, from information by local resident. Flood in May 1935 reached a stage of 24.3 ft, present site and datum, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	2345	6,870	20.64	Apr 5	0845	2,250	14.26
Nov 13	Uknow	11,200	22.55	Jun 27	0645	2,960	15.90
Dec 12	1900	1,760	12.90				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	74	78	68	60	46	44	30	56	46	29	23
2	24	217	76	200	56	45	42	28	41	41	29	25
3	25	106	75	314	54	45	46	27	35	38	28	30
4	27	70	77	103	53	43	576	27	33	35	28	28
5	30	63	84	79	52	43	1490	28	32	34	28	29
6	38	57	80	72	50	43	161	30	31	37	29	30
7	155	55	76	71	50	44	91	29	29	34	29	32
8	64	73	294	72	50	43	70	29	32	33	28	25
9	39	80	220	71	49	45	61	28	38	33	28	23
10	30	64	142	65	49	45	55	73	48	30	28	22
11	27	84	595	62	48	54	49	351	40	30	28	22
12	26	759	1440	61	57	110	45	345	36	30	28	21
13	25	e8250	587	61	52	569	43	576	70	30	27	21
14	25	e8000	177	61	48	214	45	117	143	31	27	21
15	25	e4480	129	59	47	84	59	69	72	31	27	21
16	24	1260	108	58	47	60	45	55	48	28	27	20
17	24	299	96	58	51	53	41	49	40	28	27	20
18	2690	203	89	58	49	49	38	45	36	65	26	20
19	5190	162	88	56	48	47	36	50	35	55	26	19
20	3120	143	85	55	47	60	35	46	32	41	26	20
21	1430	126	80	56	50	62	34	40	31	40	26	19
22	254	161	80	56	48	50	34	38	34	36	25	20
23	156	133	81	56	45	45	32	36	40	35	27	20
24	115	113	83	54	45	43	30	34	39	34	41	20
25	97	103	78	53	44	42	30	33	41	32	32	20
26	85	96	74	53	44	42	31	33	789	31	27	20
27	79	91	71	53	47	40	34	37	2020	31	25	21
28	73	90	69	53	48	39	34	64	131	30	25	22
29	69	85	69	59	---	40	33	45	70	30	24	26
30	67	82	67	74	---	52	31	93	53	29	24	23
31	64	---	65	73	---	49	---	67	---	29	24	---
TOTAL	14122	25579	5413	2344	1388	2246	3395	2552	4175	1087	853	683
MEAN	456	853	175	75.6	49.6	72.5	113	82.3	139	35.1	27.5	22.8
MAX	5190	8250	1440	314	60	569	1490	576	2020	65	41	32
MIN	24	55	65	53	44	39	30	27	29	28	24	19
AC-FT	28010	50740	10740	4650	2750	4450	6730	5060	8280	2160	1690	1350
CFSM	4.34	8.12	1.66	.72	.47	.69	1.08	.78	1.33	.33	.26	.22
IN.	5.00	9.06	1.92	.83	.49	.80	1.20	.90	1.48	.39	.30	.24

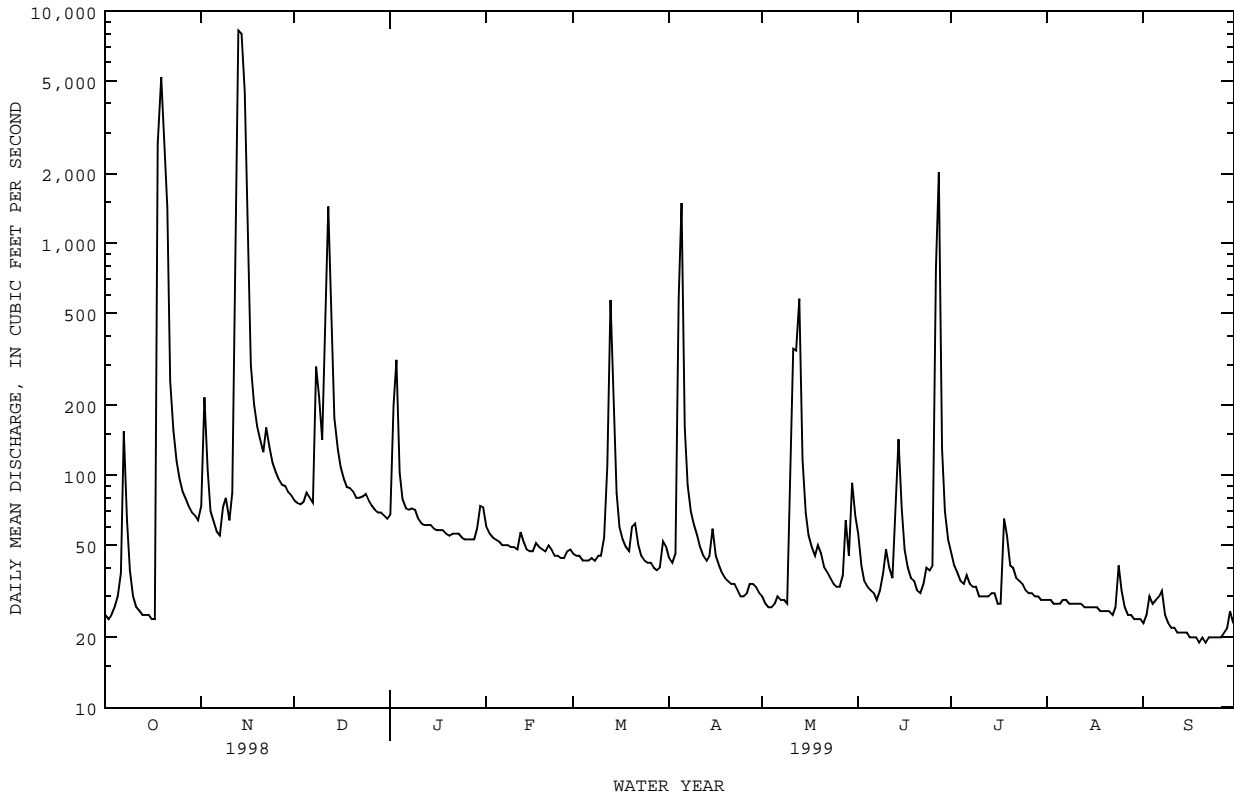
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1999h, BY WATER YEAR (WY)

	MEAN	70.0	87.9	87.0	123	123	88.4	109	100	94.4	38.2	27.9	38.7
MAX	895	853	277	497	368	245	606	542	843	190	262	296	
(WY)	1995	1999	1977	1995	1961	1973	1945	1983	1973	1979	1983	1961	
MIN	6.57	8.20	10.5	10.7	13.6	12.2	13.6	13.8	10.1	7.28	6.69	5.91	
(WY)	1957	1957	1957	1957	1971	1971	1971	1956	1954	1971	1956	1956	

08070500 CANEY CREEK NEAR SPLENDORA, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1944 - 1999h	
ANNUAL TOTAL	79525		63837		81.9	
ANNUAL MEAN	218		175		192	
HIGHEST ANNUAL MEAN					15.9	
LOWEST ANNUAL MEAN					1995	
HIGHEST DAILY MEAN	8250	Nov 13	8250	Nov 13	11100	Jun 14 1973
LOWEST DAILY MEAN	13	Aug 3	19	Sep 19	5.4	Sep 21 1956
ANNUAL SEVEN-DAY MINIMUM	14	Jul 20	20	Sep 16	5.5	Sep 21 1956
INSTANTANEOUS PEAK FLOW			11200	Nov 13	36000	Oct 17 1994
INSTANTANEOUS PEAK STAGE			e22.55	Nov 13	26.40	Oct 17 1994
ANNUAL RUNOFF (AC-FT)	157700		126600		59350	
ANNUAL RUNOFF (CFSM)	2.08		1.67		.78	
ANNUAL RUNOFF (INCHES)	28.17		22.62		10.60	
10 PERCENT EXCEEDS	237		143		114	
50 PERCENT EXCEEDS	40		46		28	
90 PERCENT EXCEEDS	17		25		12	

e Estimated
a From floodmark.



SAN JACINTO RIVER BASIN

08070500 CANEY CREEK NEAR SPLENDORA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Oct 1962 to Apr 1964, Aug 1983 to current year.
 BIOCHEMICAL DATA: Aug 1983 to current year.
 PESTICIDE DATA: Aug 1983 to Sep 1990.
 SEDIMENT DATA: Feb 1966, Apr 1973 to Mar 1975.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS./100 ML) (31673)	HARD-NESS TOTAL AS CACO3 (00900)
APR 20...	0955	36	137	6.9	18.5	8.6	92	120	500	36
JUL 27...	0854	31	131	7.4	25.5	7.4	90	160	1400	36
AUG 23...	1230	25	93	6.7	27.0	7.2	91	120	100	21

DATE	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) AS CA (00904)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	SODIUM, DIS-SOLVED (MG/L) AS NA (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L) AS K (00935)	ALKA-LINITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	CHLO-RIDE, DIS-SOLVED (MG/L) AS CL (00940)
APR 20...	2	12	1.7	9.6	.7	1.2	34	2.8	17
JUL 27...	2	11	1.7	8.7	.6	1.0	34	2.7	14
AUG 23...	1	5.9	1.4	7.8	.7	1.0	20	2.1	13

DATE	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) AS (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) AS N (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)	NITRO-GEN, TOTAL (MG/L) AS N (00600)	NITRO-GEN, ORGANIC TOTAL (MG/L) AS N (00605)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L) AS N (00607)
APR 20...	<.10	15	82	<.010	.433	.024	.72	.27	.13
JUL 27...	<.10	17	79	<.010	.391	<.020	.54	--	--
AUG 23...	<.10	15	59	<.010	.289	<.020	.45	--	--

DATE	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L) AS N (00623)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L) AS N (00625)	PHOS-PHORUS TOTAL (MG/L) AS P (00665)	PHOS-PHORUS DIS-SOLVED (MG/L) AS P (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) AS P (00671)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L) AS PO4 (00660)	CARBON, ORGANIC TOTAL (MG/L) AS C (00680)	IRON, DIS-SOLVED (UG/L) AS FE (01046)	MANGA-NESE, DIS-SOLVED (UG/L) AS MN (01056)
APR 20...	.15	.29	E.044	<.050	.021	.06	3.1	140	48
JUL 27...	.14	.15	E.031	<.050	.010	.03	2.9	E8.4	53
AUG 23...	E.10	.16	<.050	<.050	<.010	--	2.1	E8.9	34

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SAN JACINTO RIVER BASIN

08071000 PEACH CREEK AT SPLENDORA, TX

LOCATION.--Lat 30°13'57", long 95°10'05", Montgomery County, Hydrologic Unit 12040103, on left bank at downstream side of bridge on Farm Road 2090, about 1500 ft west of depot at Splendor, 2.5 mi upstream from Texas and New Orleans Railroad Co. bridge, 2.5 mi upstream from bridge on U.S. Highway 59, and 9.7 mi upstream from Caney Creek.

DRAINAGE AREA.--117 mi².

PERIOD OF RECORD.--Jan 1944 to Sep 1977, Apr 1999 to Sep 1999. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 81.61 ft above sea level. Prior to Oct. 1, 1965, at same site and 5.00 ft higher. Satellite telemeter at station.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1895, that occurred Oct 8, 1949. Flood of June 14, 1973, reached a stage of 22.57 ft, discharge 25,800 ft³/s. Flood in November 1940 reached a stage of 22.3 ft, discharge 24,700 ft³/s, from information by local resident. Flood of June 12, 1986 reached a stage of 20.92 ft, discharge 15,700 ft³/s.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 13	0400	1,140	13.61	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	---	---	---	---	---	---	---	35	98	47	23	26	
2	---	---	---	---	---	---	---	33	68	43	22	63	
3	---	---	---	---	---	---	---	32	53	39	22	63	
4	---	---	---	---	---	---	---	32	46	37	22	51	
5	---	---	---	---	---	---	---	34	44	42	23	37	
6	---	---	---	---	---	---	---	36	42	42	23	38	
7	---	---	---	---	---	---	---	33	37	60	21	47	
8	---	---	---	---	---	---	---	30	37	43	21	50	
9	---	---	---	---	---	---	---	28	40	38	21	34	
10	---	---	---	---	---	---	---	39	43	40	20	29	
11	---	---	---	---	---	---	---	177	73	42	20	27	
12	---	---	---	---	---	---	---	522	61	38	19	24	
13	---	---	---	---	---	---	---	947	68	38	18	23	
14	---	---	---	---	---	---	---	449	329	59	18	22	
15	---	---	---	---	---	---	---	148	126	68	18	22	
16	---	---	---	---	---	---	---	87	459	41	17	21	
17	---	---	---	---	---	---	---	70	171	38	17	21	
18	---	---	---	---	---	---	---	69	83	50	17	20	
19	---	---	---	---	---	---	---	68	61	58	17	20	
20	---	---	---	---	---	---	---	62	51	56	18	19	
21	---	---	---	---	---	---	---	53	46	45	18	19	
22	---	---	---	---	---	---	---	45	49	43	18	19	
23	---	---	---	---	---	---	---	44	45	49	18	20	
24	---	---	---	---	---	---	---	43	42	141	39	21	
25	---	---	---	---	---	---	---	40	40	114	34	49	
26	---	---	---	---	---	---	---	40	38	181	31	43	
27	---	---	---	---	---	---	---	49	40	173	29	34	
28	---	---	---	---	---	---	---	49	80	130	28	31	
29	---	---	---	---	---	---	---	43	64	72	27	29	
30	---	---	---	---	---	---	---	38	244	55	26	36	
31	---	---	---	---	---	---	---	155	---	24	29	---	
TOTAL	---	---	---	---	---	---	---	391	3781	2994	1301	723	895
MEAN	---	---	---	---	---	---	---	43.4	122	99.8	42.0	23.3	29.8
MAX	---	---	---	---	---	---	---	49	947	459	68	49	63
MIN	---	---	---	---	---	---	---	38	28	37	24	17	19
AC-FT	---	---	---	---	---	---	---	776	7500	5940	2580	1430	1780

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1999h, BY WATER YEAR (WY)

	64.0	73.1	75.3	113	114	79.7	99.6	89.7	80.0	39.1	23.7	35.2
MEAN	64.0	73.1	75.3	113	114	79.7	99.6	89.7	80.0	39.1	23.7	35.2
MAX (WY)	908	850	333	629	449	337	488	319	799	271	129	342
MIN (WY)	1950	1947	1975	1974	1961	1949	1945	1953	1973	1973	1945	1961
MIN (WY)	2.75	5.54	10.6	10.6	14.3	11.4	9.15	10.9	7.31	3.66	3.12	2.46
(WY)	1957	1957	1957	1957	1971	1971	1956	1971	1971	1971	1956	1956

SUMMARY STATISTICS

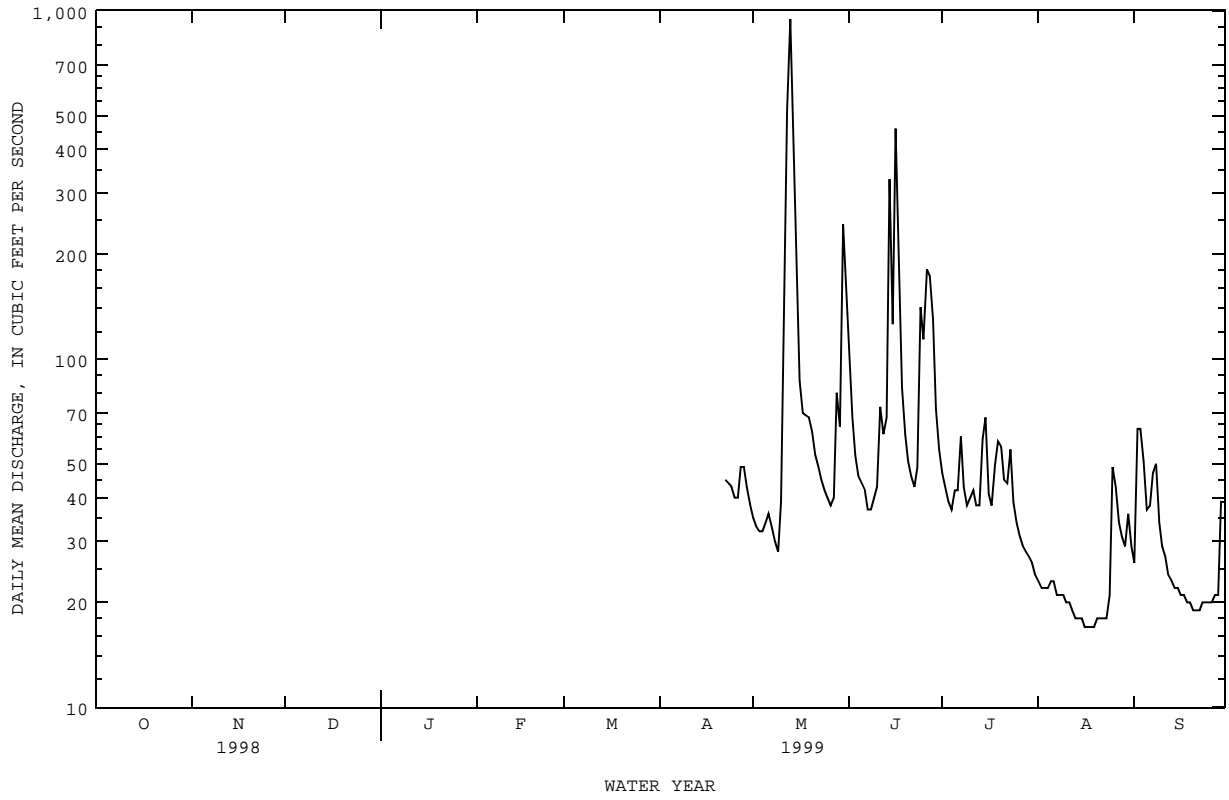
FOR 1999 WATER YEAR

WATER YEARS 1944 - 1999h

ANNUAL MEAN		73.5	
HIGHEST ANNUAL MEAN		213	1973
LOWEST ANNUAL MEAN		13.7	1956
HIGHEST DAILY MEAN	947	May 13	14400
LOWEST DAILY MEAN	17	Aug 16	1.1
ANNUAL SEVEN-DAY MINIMUM	17	Aug 13	1.2
INSTANTANEOUS PEAK FLOW	1140	May 13	28500
INSTANTANEOUS PEAK STAGE	13.61	May 13	22.73
ANNUAL RUNOFF (AC-FT)			53220
10 PERCENT EXCEEDS	109		127
50 PERCENT EXCEEDS	39		25
90 PERCENT EXCEEDS	20		8.2

h see PERIOD OF RECORD paragraph.

08071000 PEACH CREEK AT SPLENDORA, TX--Continued



SAN JACINTO RIVER BASIN

08071280 LUCE BAYOU ABOVE LAKE HOUSTON NEAR HUFFMAN, TX

LOCATION.--Lat 30°06'34", long 95°03'35", Liberty County, Hydrologic Unit 12040103, on left bank, in Tricontinental Pipeline Co. right-of-way, 1.1 mi upstream from Key Gully, 3.1 mi east of Huffman-Cleveland Road, and 6.3 mi northeast of Huffman.

DRAINAGE AREA.--218 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Water years, 1970, 1972, 1975 (occasional low-flow measurements, at site 2.2 mi downstream), Feb to Apr 1984 (discharge measurements only), May 1984 to current year (daily mean discharges).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 39.91 ft above sea level. Satellite telemeter at station.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 19	2400	16,000	31.40	Dec 13	2115	3,290	23.70
Nov 15	0500	10,700	28.92	Apr 7	2030	1,390	20.98

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	20	26	21	57	6.4	34	2.7	3.3	24	1.3	.65
2	1.9	59	20	105	47	16	29	2.4	3.1	11	1.0	164
3	1.9	84	19	386	35	20	21	2.0	2.4	7.1	.79	153
4	28	64	17	591	28	15	16	1.9	2.1	5.1	.67	174
5	85	46	15	680	21	10	118	2.0	1.6	4.1	.58	68
6	227	32	14	555	16	8.3	364	1.8	1.3	3.6	.45	34
7	264	20	27	269	13	6.8	1140	1.6	1.2	3.2	.38	20
8	167	30	51	112	11	6.1	1160	1.5	1.1	2.6	.30	8.6
9	107	41	66	116	10	6.2	688	1.5	1.5	3.4	.22	5.3
10	66	35	173	103	9.5	5.4	197	3.2	3.7	10	.17	3.3
11	24	31	869	79	9.1	4.8	57	5.3	3.5	8.5	.15	2.3
12	11	229	2130	60	8.3	4.8	28	49	4.3	10	.19	1.8
13	7.2	3970	2960	53	7.5	52	29	65	4.2	22	.17	1.5
14	4.9	9090	2980	184	8.6	242	23	102	5.4	24	.13	1.3
15	5.8	10300	2120	233	19	373	29	176	33	38	.17	1.0
16	5.5	7720	1300	143	13	477	35	96	22	64	.18	.79
17	5.8	4550	781	76	10	478	30	41	9.7	77	.15	.64
18	6470	2680	232	59	20	261	19	27	6.7	47	.45	.49
19	15200	1560	86	45	13	64	11	15	6.3	23	.35	.39
20	14200	960	66	37	11	49	8.5	10	4.8	14	.27	.31
21	9640	439	59	32	9.0	41	7.0	7.8	5.3	8.6	.28	.23
22	5360	139	53	29	13	34	6.1	6.3	3.9	6.2	.27	.18
23	2870	81	45	26	13	28	5.3	5.2	3.1	4.9	.23	.17
24	1580	67	38	32	9.9	20	4.7	4.6	2.8	3.9	.31	.14
25	857	58	34	37	8.1	15	4.1	3.9	15	3.0	.54	.16
26	223	49	32	29	7.5	12	4.0	3.5	57	2.5	.42	.15
27	64	41	30	21	6.8	9.7	4.0	3.4	97	2.0	.30	.13
28	43	34	27	16	6.3	8.3	4.0	2.9	102	1.6	.20	.12
29	32	27	24	14	---	7.7	3.4	3.4	80	2.8	.13	.14
30	23	26	22	17	---	18	2.8	3.2	45	2.7	.09	.22
31	16	---	19	35	---	31	---	3.1	---	1.8	.07	---
TOTAL	57592.3	42482	14335	4195	440.6	2330.5	4091.9	654.2	532.3	441.6	10.91	643.01
MEAN	1858	1416	462	135	15.7	75.2	136	21.1	17.7	14.2	.35	21.4
MAX	15200	10300	2980	680	57	478	1160	176	102	77	1.3	174
MIN	1.9	20	14	14	6.3	4.8	2.8	1.5	1.1	1.6	.07	.12
AC-FT	114200	84260	28430	8320	874	4620	8120	1300	1060	876	.22	1280
CFSM	8.52	6.50	2.12	.62	.07	.34	.63	.10	.08	.07	.00	.10
IN.	9.83	7.25	2.45	.72	.08	.40	.70	.11	.09	.08	.00	.11

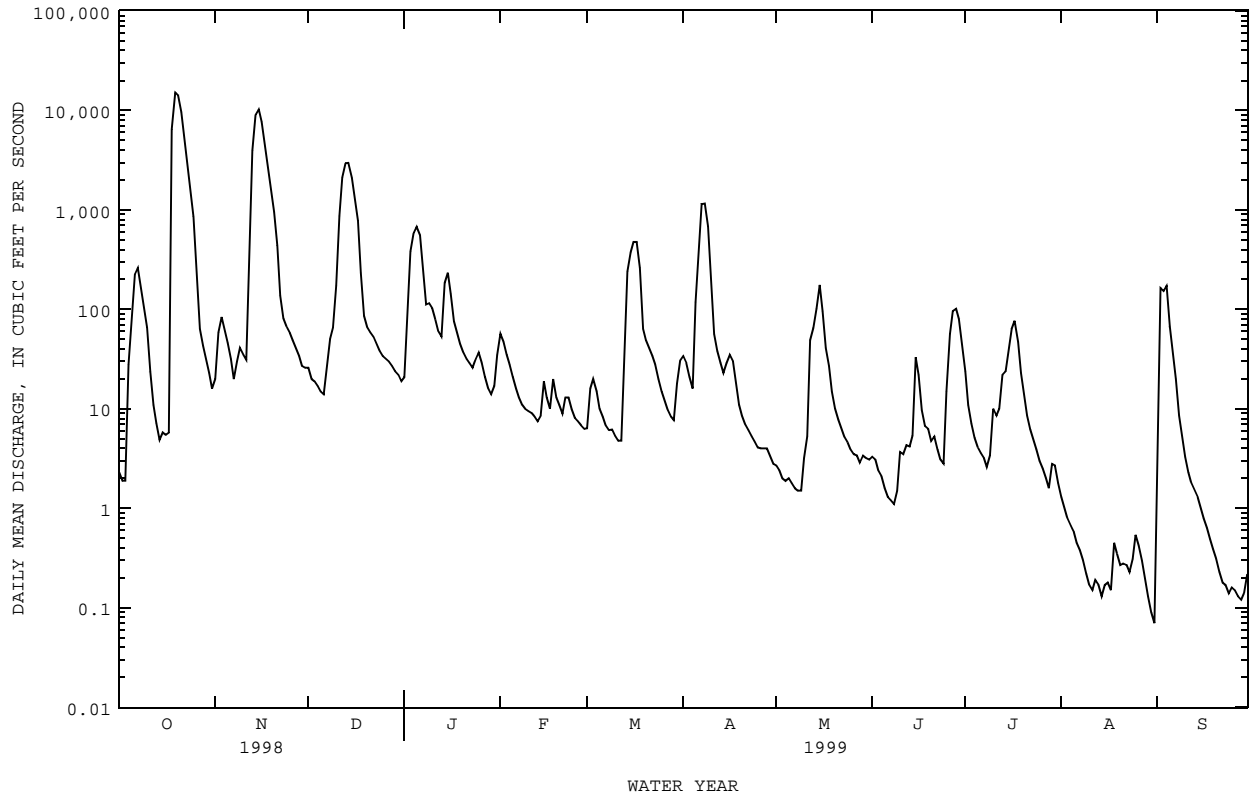
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1999, BY WATER YEAR (WY)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	350	175	270	272	307	341	218	231	368	54.7	10.6	44.8				
MAX	2988	1416	862	826	980	878	1047	2443	1965	334	103	394				
(WY)	1995	1999	1998	1992	1992	1993	1991	1989	1993	1987	1995	1996				
MIN	.009	.17	1.43	6.22	5.83	3.06	3.06	.57	.12	.008	.35	.034				
(WY)	1993	1989	1989	1989	1996	1996	1987	1998	1998	1998	1999	1992				

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1984 - 1999
ANNUAL TOTAL	161173.42	127749.32	
ANNUAL MEAN	442	350	223
HIGHEST ANNUAL MEAN			453
LOWEST ANNUAL MEAN			52.5
HIGHEST DAILY MEAN	15200	Oct 19	23000
LOWEST DAILY MEAN	.00	Jun 22	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 22	.00
INSTANTANEOUS PEAK FLOW		16000	25900
INSTANTANEOUS PEAK STAGE		31.40	35.08
ANNUAL RUNOFF (AC-FT)	319700	253400	161600
ANNUAL RUNOFF (CFSM)	2.03	1.61	1.02
ANNUAL RUNOFF (INCHES)	27.50	21.80	13.91
10 PERCENT EXCEEDS	885	266	418
50 PERCENT EXCEEDS	15	15	9.6
90 PERCENT EXCEEDS	.00	.45	.25

08071280 LUCE BAYOU ABOVE LAKE HOUSTON NEAR HUFFMAN, TX--Continued



WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Feb 1984 to current year.
 BIOCHEMICAL DATA: Feb 1984 to current year.
 PESTICIDE DATA: Feb 1984 to Sep 1990.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, SATUR-ATION (00301)	COLI-FORM, FECAL, UM-MF (100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
APR 20...	1145	8.5	159	6.5	18.5	6.1	65	96	210	31
JUL 27...	1033	2.1	105	7.1	27.0	3.5	44	80	170	26
AUG 23...	1050	.24	204	6.7	27.5	1.4	18	36	160	57

DATE	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)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
APR 20...	1	9.2	2.0	16	1	1.9	30	4.7	21
JUL 27...	--	7.9	1.6	9.4	.8	1.4	31	2.6	11
AUG 23...	--	18	3.1	14	.8	2.1	80	1.3	13

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CON-STI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE, DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA, DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, ORGANIC, TOTAL (MG/L AS N) (00605)	NITRO-GEN, ORGANIC, DIS-SOLVED (MG/L AS N) (00607)
APR 20...	<.10	8.5	85	<.010	.511	.037	1.5	.91	.56
JUL 27...	<.10	7.2	61	<.010	.146	.024	.86	.69	.58
AUG 23...	.12	4.5	104	<.010	<.050	<.020	--	--	--

DATE	NITRO-GEN, AM-MONIA + ORGANIC, DIS. (MG/L AS N) (00623)	NITRO-GEN, AM-MONIA + ORGANIC, TOTAL (MG/L AS N) (00625)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	CARBON, ORGANIC, TOTAL (MG/L AS C) (00680)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
APR 20...	.59	.94	.160	<.050	.019	.06	17	310	66
JUL 27...	.60	.71	.144	.068	.053	.16	14	230	128
AUG 23...	.47	.47	E.046	<.050	<.010	--	--	60	937

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LOCATION.--Lat 29°54'58", long 95°08'28", Harris County, Hydrologic Unit 12040101, at intake structure on San Jacinto River near right bank 100 ft upstream from Lake Houston Dam, 4.0 mi north of Sheldon, 4.6 mi upstream from bridge on U.S. Highway 90, and 18 mi northeast of Houston.

DRAINAGE AREA.--2,828 mi².

WATER-CONTENT RECORDS

PERIOD OF RECORD.--Apr 1954 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage at dam is 0.70 ft below sea level; unadjusted for land-surface subsidence. Satellite telemeter at station.

REMARKS.--Records good. The lake is formed by two earthfill embankment sections and a 3,160-foot long concrete spillway midway between the embankment sections. The dam was completed and storage began Apr 9, 1954. The spillway includes two tainter gates, 18.0 x 20.5 ft, that can be used for control of releases below gage heights of 44.5 ft and above 28.0 ft. In addition, there is a 36-inch-diameter sluice gate that is used for low-flow releases. Water is used for irrigation, municipal, and industrial supply in the Houston metropolitan area. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Gage height (feet)
Top of dam.....	63.0
Design flood.....	57.0
Crest of spillway.....	44.5
Crest of tainter gates (sill).....	28.0
Lowest gated outlet (invert).....	22.0

COOPERATION.--The capacity table is based on a bathymetric survey made in 1994 by Texas Water Development Board. Records of diversions may be obtained from the San Jacinto River Authority and the city of Houston.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 249,900 acre-ft, Oct 19, 1994 (gage height, 52.79 ft); minimum since first filling of lake in Aug 1954, 53,380 acre-ft, Dec 1, 1971 (gage height, 34.08 ft).

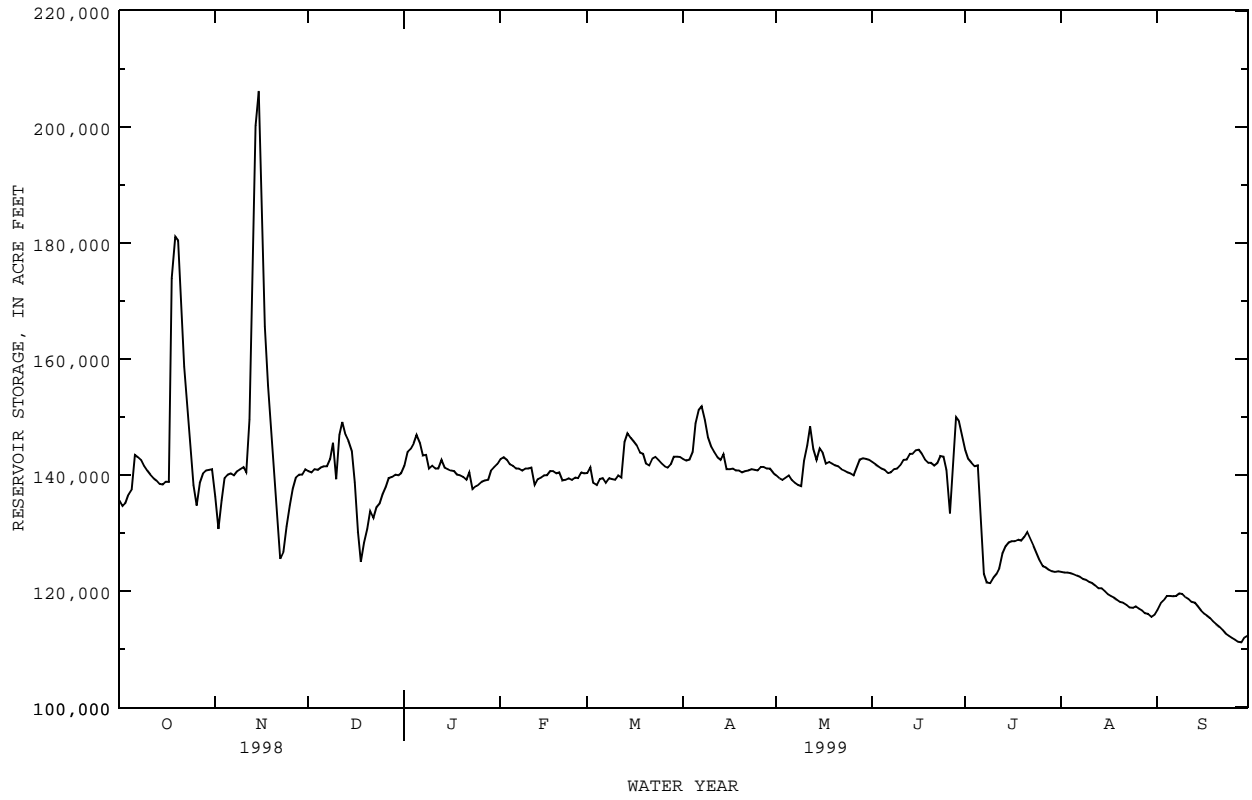
EXTREMES FOR CURRENT YEAR.--Maximum contents, 210,300 acre-ft, Nov 15 (gage height, 50.11 ft); minimum contents, 110,800 acre-ft, Sep 28-29 (gage height, 42.21 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	135700	136300	140700	141600	142800	140400	142800	140000	142300	144300	123300	116800
2	134700	130800	140500	144000	143100	141400	142500	139500	141900	142800	123200	117900
3	135200	135700	141000	144500	142700	138700	142700	139200	141500	142100	123200	118400
4	136700	139500	140900	145500	141900	138300	144000	139600	141100	141500	123100	119200
5	137600	140100	141300	146900	141600	139300	149000	140000	140900	141700	122900	119200
6	143500	140300	141500	145500	141100	139500	151300	139200	140400	132300	122700	119100
7	143100	140000	141500	143400	141100	138700	151900	138700	140500	123000	122500	119200
8	142600	140700	142800	143500	140800	139500	149600	138300	141000	121500	122100	119600
9	141600	141000	145600	141100	141100	139300	146500	138100	141100	121400	121900	119500
10	140800	141400	139300	141600	141100	139200	144900	142500	141700	122300	121600	119000
11	140100	140500	147000	141100	141300	140000	144000	145200	142600	123000	121400	118700
12	139500	149600	149200	141100	138400	139600	143100	148400	142700	124000	121000	118200
13	139100	181500	147000	142600	139300	145700	142700	144500	143700	126500	120500	118000
14	138500	200200	145900	141300	139600	147200	143700	142600	143700	127800	120500	117400
15	138400	206200	144100	141000	140000	146400	141000	144600	144300	128400	120000	116700
16	138900	182200	138800	140800	140000	145800	141000	143900	144400	128600	119500	116200
17	138800	165600	130300	140700	140700	145100	141100	142000	143700	128600	119200	115800
18	174000	155400	125100	140100	140700	143900	140800	142300	142700	128900	118900	115400
19	181100	147800	128400	140000	140300	143700	140800	142000	142100	128700	118500	114800
20	180400	141100	130800	139700	140500	142000	140500	141700	142100	129400	118100	114300
21	169700	133200	133800	139200	139100	141700	140700	141500	141700	130200	118000	113900
22	158700	125600	132600	140500	139200	142900	140800	141000	142100	129000	117600	113300
23	151700	126800	134500	137600	139500	143200	141000	140800	143300	127800	117200	112700
24	145100	131200	135200	138100	139200	142600	140900	140500	143200	126600	117100	112300
25	138300	134800	136700	138400	139600	142000	140800	140300	140900	125300	117400	112000
26	134800	137600	138000	138900	139500	141500	141400	140000	133400	124300	117000	111700
27	138700	139600	139500	139100	140500	141300	141400	141400	141400	124100	116700	111300
28	140300	140100	139700	139200	140300	141900	141100	142700	150000	123700	116200	111200
29	140800	140100	140100	140800	---	143200	141100	142900	149300	123400	116100	112000
30	140900	141000	140000	141400	---	143200	140400	142800	146700	123300	115600	112300
31	141000	---	140400	141900	---	143100	---	142600	---	123400	116000	---
MAX	181100	206200	149200	146900	143100	147200	151900	148400	150000	144300	123300	119600
MIN	134700	125600	125100	137600	138400	138300	140400	138100	133400	121400	115600	111200
(+)	45.03	45.03	44.98	45.10	44.97	45.20	44.98	45.16	45.50	43.48	42.74	42.36
(@)	+4500	0	-600	+1500	-1600	+2800	-2700	+2200	+4100	-23300	-7400	-3700
CAL YR 1998	MAX 206200	MIN 111900	(@) +4700									
WTR YR 1999	MAX 206200	MIN 111200	(@) -24200									

(+) Gage-height, in feet, at end of month.
(@) Change in elevation, in acre-feet.

08072000 LAKE HOUSTON NEAR SHELDON, TX--Continued



WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Jul 1961 to Apr 1964, Dec 1969 to current year.
 BIOCHEMICAL DATA: Aug 1983 to current year.
 PESTICIDE DATA: May 1968 to Aug 1972, Aug 1983 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

295516095080801 - LAKE HOUSTON 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 (DEG C) (00010)	TRANS- PAR- ENCY (SECCI DISK) (M) (00078)	OXYGEN, OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, SATUR- ATION (MG/L) (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL AS CACO3 (MG/L AS) (00900)
APR												
19...	0945	143000	1.00	200	7.5	21.5	.45	7.5	84	20	K10	45
19...	0947	--	10.0	200	7.4	21.5	--	5.9	66	--	--	--
19...	0949	--	20.0	200	7.3	21.0	--	5.6	62	--	--	--
19...	0951	--	35.0	200	7.2	21.0	--	5.6	62	--	--	46
JUL												
28...	1035	124000	1.00	180	7.4	31.0	.32	6.4	86	K1	K8	40
28...	1037	--	10.0	180	7.0	29.5	--	4.9	64	--	--	--
28...	1039	--	20.0	180	6.8	29.0	--	4.0	52	--	--	--
28...	1041	--	34.0	180	6.7	29.0	--	4.0	52	--	--	40
AUG												
24...	0945	116000	1.00	195	6.9	30.5	.40	5.4	73	K2	K1	44
24...	0947	--	10.0	195	6.9	30.5	--	5.2	70	--	--	--
24...	0949	--	20.0	195	6.8	30.5	--	5.0	67	--	--	--
24...	0951	--	30.0	195	6.7	30.0	--	4.6	62	--	--	--
24...	0953	--	41.0	195	6.6	30.0	--	2.7	36	--	--	44

295516095080801 - LAKE HOUSTON SITE AC

DATE	HARD- NESS NONCARB DISSOLV FLD. AS (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L) AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L) AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K) (00935)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)	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)
APR												
19...	4	15	2.1	18	1	2.7	41	7.3	24	<.10	5.1	101
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	5	15	2.1	18	1	2.8	41	7.3	24	<.10	5.4	101
JUL												
28...	--	13	1.8	16	1	2.8	42	6.8	20	.12	10	96
28...	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	13	1.7	16	1	2.8	41	6.4	20	.11	11	98
AUG												
24...	--	14	2.0	18	1	3.0	46	6.3	23	<.10	13	108
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	14	2.0	18	1	3.1	48	5.8	22	<.10	14	109

295516095080801 - LAKE HOUSTON SITE AC

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L) AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L) AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L) AS N) (00623)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) AS P) (00671)
APR												
19...	.353	.034	.387	.040	.97	.54	.42	.46	.58	.176	E.034	.054
19...	.360	.034	.394	.040	1.1	.65	.40	.44	.69	.165	<.050	.045
19...	.354	.034	.388	.045	1.1	.65	.43	.47	.70	.130	<.050	.045
19...	.350	.033	.383	.055	1.1	.65	.44	.49	.70	.148	E.040	.054
JUL												
28...	--	<.010	<.050	<.020	--	--	--	.35	.74	.156	E.049	.052
28...	--	<.010	.124	<.020	.65	--	--	.27	.53	.147	.058	.063
28...	--	<.010	.185	<.020	.71	--	--	<.10	.52	.174	<.050	.078
28...	--	<.010	.192	.031	.78	.55	.27	.30	.58	.206	.078	.088
AUG												
24...	--	<.010	<.050	<.020	--	--	--	.21	.48	.154	.074	.074
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	<.010	<.050	.034	--	.44	.40	.44	.48	.181	.104	.089
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	<.010	<.050	.147	--	.65	.46	.61	.79	.255	.153	.134

SAN JACINTO RIVER BASIN

08072000 LAKE HOUSTON NEAR SHELDON, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

295702095091401 - LAKE HOUSTON SITE BC

DATE	TIME	SAM-PLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TRANSPAR-ENCY (SECCHI DISK) (00078)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, (PER-CENT SATUR-ATION) (00301)
APR								
19...	1150	1.00	190	7.5	21.5	.30	7.2	81
19...	1152	10.0	190	7.5	21.5	--	7.0	79
19...	1154	20.0	175	7.5	21.5	--	7.0	79
19...	1156	30.0	175	7.4	21.0	--	6.8	76
19...	1158	40.0	175	7.3	21.0	--	6.7	74
JUL								
28...	1120	1.00	180	7.4	31.0	.25	6.5	87
28...	1122	10.0	185	7.0	30.0	--	4.9	65
28...	1124	20.0	185	6.9	29.5	--	3.5	46
28...	1126	33.0	185	6.8	9.5	--	3.0	26
AUG								
24...	1025	1.00	200	7.0	31.0	.30	6.0	81
24...	1027	10.0	200	6.9	30.5	--	5.6	75
24...	1029	20.0	200	6.9	30.5	--	5.6	75
24...	1031	30.0	200	6.9	30.5	--	5.5	74
24...	1033	37.5	200	6.9	30.5	--	5.5	74

295902095074201 - LAKE HOUSTON SITE CC

DATE	TIME	SAM-PLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TRANSPAR-ENCY (SECCHI DISK) (00078)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
APR										
19...	1208	1.00	170	7.6	21.5	.28	7.8	87	K2	K1
19...	1210	10.0	165	7.5	21.0	--	7.2	80	--	--
19...	1212	20.0	165	7.4	21.0	--	7.2	80	--	--
19...	1214	29.0	165	7.4	21.0	--	7.2	80	--	--
JUL										
28...	1148	1.00	190	7.3	32.0	.30	5.6	76	K6	K14
28...	1150	10.0	190	7.2	31.5	--	5.4	73	--	--
28...	1152	20.0	210	6.9	30.5	--	3.3	44	--	--
28...	1154	27.0	210	6.8	30.5	--	2.8	37	--	--
AUG										
24...	1040	1.00	230	7.2	31.0	.30	6.3	85	K1	K2
24...	1042	10.0	220	7.1	30.5	--	5.8	78	--	--
24...	1044	20.0	215	7.0	30.5	--	5.7	76	--	--
24...	1046	27.0	215	7.0	30.5	--	5.6	75	--	--

295902095074201 - LAKE HOUSTON SITE CC

DATE	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)	SODIUM, DIS-SOLVED (MG/L) AS NA (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L) AS K (00935)	ALKA-LINITY WAT DIS-FIX END FIELD CACO3 (MG/L) (39036)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	CHLO-RIDE, DIS-SOLVED (MG/L) AS CL (00940)
APR										
19...	42	6	14	1.9	14	.9	2.7	36	6.0	19
19...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
19...	42	4	14	1.9	13	.9	2.7	38	6.1	18
JUL										
28...	41	--	14	1.8	18	1	3.0	46	7.1	21
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	45	--	15	2.0	20	1	3.1	52	7.4	23
AUG										
24...	48	--	16	2.2	24	2	3.6	55	7.2	29
24...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
24...	43	--	14	2.0	21	1	3.3	54	6.8	26

08072000 LAKE HOUSTON NEAR SHELDON, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

295902095074201 - LAKE HOUSTON SITE CC

DATE	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)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)
APR									
19...	<.10	6.3	86	.280	.013	.293	.061	.42	.49
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	<.10	6.6	87	--	<.010	.277	.058	.40	.46
JUL									
28...	.12	11	104	--	<.010	<.050	<.020	--	.35
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	.12	12	115	.079	.011	.090	.207	.37	.57
AUG									
24...	.11	14	129	--	<.010	<.050	<.020	--	.32
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	.11	14	120	--	<.010	<.050	.030	.15	.18

295902095074201 - LAKE HOUSTON SITE CC

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, DIS- SOLVED (MG/L AS PO4) (00660)	CARBON, TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
APR									
19...	<.050	.054	.17	13	11	1.20	<.100	92	7.8
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	E.042	.052	.16	12	11	--	--	50	8.6
JUL									
28...	.073	.062	.19	8.8	6.9	21.9	1.50	11	37
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
28...	.132	.118	.36	9.8	7.1	--	--	73	327
AUG									
24...	.116	.107	.33	8.5	6.7	2.40	.200	E6.0	10
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
24...	.096	.089	.27	6.8	6.5	--	--	E5.8	66

300016095073401 - LAKE HOUSTON SITE DC

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 (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
APR								
19...	1235	1.00	160	7.6	21.5	.26	7.5	84
19...	1237	10.0	165	7.5	21.0	--	7.4	82
19...	1239	21.5	165	7.4	21.0	--	7.4	82
JUL								
28...	1215	1.00	195	7.6	32.5	.20	6.6	91
28...	1217	10.0	200	7.2	31.0	--	5.0	67
28...	1219	23.0	210	7.0	31.0	--	3.4	46
AUG								
24...	1120	1.00	225	7.2	31.5	.30	6.2	85
24...	1122	10.0	230	7.1	31.0	--	5.9	80
24...	1124	18.0	230	7.1	31.0	--	5.9	80

SAN JACINTO RIVER BASIN

08072000 LAKE HOUSTON NEAR SHELDON, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

300158095074601 - LAKE HOUSTON SITE EC

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, OXYGEN, SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR PER 100 ML (31673)	HARD-NESS TOTAL AS CACO3 (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (00904)
APR												
19...	1338	1.00	140	7.6	22.0	.31	7.5	85	K8	K8	37	5
19...	1340	10.0	145	7.7	21.0	--	7.5	83	--	--	--	--
19...	1342	18.0	145	7.6	20.5	--	7.3	80	--	--	41	6
JUL												
28...	1320	1.00	175	7.4	32.5	.30	6.1	84	K1	K10	40	1
28...	1322	10.0	195	7.0	32.5	--	4.8	66	--	--	--	--
28...	1324	18.0	175	6.9	31.0	--	4.6	62	--	--	41	--
AUG												
24...	1240	1.00	220	7.5	32.0	.30	7.1	98	K1	K16	47	--
24...	1242	10.0	225	7.1	31.0	--	5.6	76	--	--	--	--
24...	1244	18.8	225	7.1	31.0	--	5.5	74	--	--	45	--

300158095074601 - LAKE HOUSTON SITE EC

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	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)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
APR												
19...	12	1.7	10	.7	2.3	32	4.8	17	<.10	8.9	77	<.010
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	13	1.8	12	.8	2.5	35	5.7	19	<.10	7.9	84	<.010
JUL												
28...	13	1.9	16	1	2.3	39	6.1	21	.10	12	96	<.010
28...	--	--	--	--	--	--	--	--	--	--	--	--
28...	13	1.9	16	1	2.4	41	5.4	20	<.10	12	96	<.010
AUG												
24...	15	2.2	22	1	3.0	54	6.5	29	<.10	15	125	<.010
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	15	2.1	23	1	3.3	56	6.8	29	.11	15	128	<.010

300158095074601 - LAKE HOUSTON SITE EC

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, ORGANIC SOLVED (MG/L AS N) (00607)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
APR												
19...	.128	.028	.87	.71	.45	.48	.74	.097	<.050	.027	.08	15
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	.139	.034	1.2	.99	.47	.50	1.0	.138	<.050	.030	.09	14
JUL												
28...	<.050	<.020	--	--	--	.30	.81	.130	E.034	.033	.10	8.9
28...	--	--	--	--	--	--	--	--	--	--	--	--
28...	<.050	.095	--	.61	.30	.39	.70	.140	E.044	.049	.15	9.7
AUG												
24...	<.050	<.020	--	--	--	.11	.59	.135	.068	.049	.15	8.8
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	<.050	.032	--	.58	.33	.36	.61	.165	.131	.086	.26	8.6

08072000 LAKE HOUSTON NEAR SHELDON, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

300158095074601 - LAKE HOUSTON SITE EC

DATE	CARBON, ORGANIC DIS- SOLVED AS C (MG/L (00681)	CHLOR-A PHYTO- PLANK- TON CHROMO (UG/L (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO (UG/L (70954)	IRON, DIS- SOLVED AS FE (UG/L (01046)	MANGA- NESE, DIS- SOLVED AS MN (UG/L (01056)	PCB, TOTAL (UG/L (39516)	PCNS UNFILTR RECOVER (UG/L (39250)	ALDRIN, TOTAL (UG/L (39330)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L (39350)	P,P'- DDD UNFILTR RECOVER (UG/L (39360)	P,P'- DDE, UNFILTR RECOVER (UG/L (39365)	P,P'- DDT UNFILTR RECOVER (UG/L (39370)
APR												
19...	11	2.30	<.100	140	6.2	<.100	<.100	<.010	<.100	<.010	<.010	<.010
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	11	--	--	170	9.5	--	--	--	--	--	--	--
JUL												
28...	6.7	13.5	.970	92	36	<.100	<.100	<.010	<.100	<.010	<.010	<.010
28...	--	--	--	--	--	--	--	--	--	--	--	--
28...	6.8	--	--	130	180	--	--	--	--	--	--	--
AUG												
24...	6.3	4.40	.270	<10	7.2	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
24...	6.3	--	--	13	23	--	--	--	--	--	--	--

300158095074601 - LAKE HOUSTON SITE EC

DATE	DI- AZINON, TOTAL (UG/L (39570)	DI- ELDRIN TOTAL (UG/L (39380)	DISUL- FOTON UNFILTR RECOVER (UG/L (39011)	ENDO- SULFAN I TOTAL (UG/L (39388)	ENDRIN WATER UNFLTRD REC (UG/L (39390)	ETHION, TOTAL (UG/L (39398)	HEPTA- CHLOR, TOTAL (UG/L (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L (39420)	LINDANE TOTAL (UG/L (39340)	MALA- THION, TOTAL (UG/L (39530)	METH- OXY- CHLOR, TOTAL (UG/L (39480)
APR											
19...	.013	<.010	<.010	<.010	<.010	<.010	<.010	<.010	<.010	<.010	<.010
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
JUL											
28...	.031	<.010	<.010	<.010	<.010	<.010	<.010	<.010	<.010	<.010	<.010
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
AUG											
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--

300158095074601 - LAKE HOUSTON SITE EC

DATE	METHYL PARA- THION, TOTAL (UG/L (39600)	MIREX, TOTAL (UG/L (39755)	PARA- THION, TOTAL (UG/L (39540)	PER- THANE TOTAL (UG/L (39034)	PHORATE TOTAL (UG/L (39023)	SILVEX, TOTAL (UG/L (39760)	APHENE, TOTAL (UG/L (39400)	TOX- TRI- THION TOTAL (UG/L (39786)	2,4-D, TOTAL (UG/L (39730)	2,4-DP TOTAL (UG/L (82183)	2,4,5-T TOTAL (UG/L (39740)
APR											
19...	<.010	<.010	<.010	<.100	<.010	--	<1.00	<.010	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
JUL											
28...	<.010	<.010	<.010	<.100	<.010	<.010	<1.00	<.010	<.010	<.010	<.010
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
AUG											
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--

300209095091201 - LAKE HOUSTON 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, OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER AS CACO3) (31673)	HARD- NESS TOTAL (MG/L CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
APR												
19...	1300	1.00	275	9.3	22.0	.38	10.4	118	K16	K12	65	--
19...	1302	9.00	275	9.2	21.0	--	9.8	109	--	--	64	2
JUL												
28...	1240	1.00	285	8.8	32.5	.18	7.2	99	K4	22	57	--
28...	1242	8.00	280	8.5	32.0	--	6.1	83	--	--	--	--
28...	1244	8.70	280	8.5	32.0	--	6.1	83	--	--	55	--
AUG												
24...	1155	1.00	485	8.5	31.0	.30	5.4	73	K4	K10	77	--
24...	1157	7.00	535	8.5	31.0	--	5.3	72	--	--	81	--

SAN JACINTO RIVER BASIN

08072050 SAN JACINTO RIVER NEAR SHELDON, TX

LOCATION.--Lat 29°52'34", long 95°05'37", Harris County, Hydrologic Unit 12040104, on left bank at U.S. Highway 90 bridge, 0.3 mi downstream from Southern Pacific Railway Co. bridge, 1.5 mi east of Sheldon, 4.6 mi downstream from Lake Houston, and 21 mi northeast of Houston.

DRAINAGE AREA.--2,879 mi².

PERIOD OF RECORD.--Feb 1970 to current year (elevations prior to 1973; gage heights only, beginning 1973). Eleven discharge measurements, May 19, 1989 to Oct 19, 1995.

Water-quality records.--Chemical data: Feb 1970 to Sep 1972. Biochemical data: Feb 1970 to Sep 1972. Pesticide data: May 1971 to Sep 1972.

GAGE.--Water-stage recorder. Datum of gage is 0.69 ft below sea level, adjustment of 1973. Prior records unadjusted for land-surface subsidence. Radio telemeter at station. Satellite telemeter at station.

REMARKS.--Records good. Gage heights reflect tidal fluctuations.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 27.09 ft Oct 19, 1994; minimum, -2.52 ft Oct 28, 1985. A discharge measurement of 356,000 ft³/s was made near the peak of Oct 19, 1994 (gage height, 27.00 ft).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation since at least 1875, 31.5 ft Nov 26, 1940, at site 0.3 mi upstream at Southern Pacific Railway Co. bridge.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 19.87 ft, Nov 15; minimum gage height, -1.29 ft, Feb 12.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	2.76	.88	4.55	2.61	2.46	.61	3.43	1.40	2.46	.62	2.81	.91
2	3.10	1.14	3.69	1.52	2.75	.57	3.57	.27	2.50	.72	3.22	1.72
3	3.73	2.03	3.31	1.28	3.39	1.36	.86	-.53	2.78	1.51	2.35	.28
4	4.15	1.51	3.14	1.03	3.25	1.28	1.95	.08	2.81	1.10	4.06	1.82
5	4.52	3.16	2.70	.50	3.14	.86	2.77	1.38	2.86	1.74	4.03	2.34
6	3.99	1.98	3.15	.91	3.09	1.36	2.97	1.69	2.47	1.40	2.75	1.52
7	2.90	.85	3.46	1.63	3.15	1.29	2.79	1.34	2.64	1.38	4.12	1.33
8	2.84	.99	3.45	.83	2.07	.19	2.59	1.71	2.41	.94	4.44	2.90
9	2.99	1.16	2.91	1.74	2.49	1.23	2.18	-.16	2.60	.93	3.17	1.38
10	3.15	1.09	3.70	1.05	4.10	2.49	2.25	1.04	2.79	.88	3.01	.99
11	2.92	1.59	2.70	1.36	4.65	2.91	2.56	1.18	2.97	1.10	3.06	1.45
12	3.27	.94	4.90	2.60	5.32	4.65	2.50	.98	1.10	-1.29	3.89	1.43
13	2.74	.86	14.78	4.90	4.76	3.85	2.51	.89	2.10	-.18	3.85	.18
14	2.60	.88	18.68	14.78	4.28	3.57	2.19	.03	2.62	.49	.18	-.97
15	2.94	1.27	19.87	18.66	4.28	3.45	2.44	.33	2.72	1.22	1.94	-.39
16	3.83	1.86	19.67	16.92	3.85	2.30	2.76	.99	2.89	.98	2.62	1.27
17	4.29	2.96	16.92	13.20	3.06	1.59	2.82	1.03	2.81	.83	3.11	1.72
18	12.52	3.09	13.20	9.01	3.33	1.57	2.67	.42	2.99	1.26	2.72	1.36
19	16.37	12.52	9.01	5.68	3.29	.66	2.38	.60	2.70	1.04	3.00	1.71
20	16.45	16.16	5.70	3.18	2.75	.60	2.47	.84	3.50	1.80	2.22	.84
21	16.22	14.48	3.70	2.48	2.99	1.07	3.14	1.74	2.88	.66	1.99	.12
22	14.48	10.63	3.75	2.37	2.52	-.27	3.53	.86	3.76	1.36	2.68	.57
23	10.63	7.30	3.65	1.33	2.15	.41	1.31	-.74	3.74	1.62	2.90	1.04
24	7.30	4.86	2.98	1.01	1.96	.03	2.05	.50	2.75	.77	2.91	.90
25	5.13	3.42	2.99	1.15	1.71	.63	2.25	.54	3.04	1.22	2.42	.71
26	4.49	2.19	2.82	.91	2.12	.98	2.41	.71	3.13	1.18	3.24	.81
27	3.98	1.91	2.62	1.12	2.68	1.22	2.47	.79	3.22	1.40	3.65	1.55
28	3.57	1.77	2.59	1.39	2.52	.85	3.01	1.01	2.49	.49	3.84	1.76
29	3.36	1.80	2.96	1.46	2.11	.39	3.04	1.21	---	---	2.53	.89
30	3.45	2.09	3.15	1.63	2.60	.38	2.98	.19	---	---	2.64	1.24
31	3.73	2.33	---	---	2.83	.74	1.86	-.23	---	---	2.83	1.43
MONTH	16.45	.85	19.87	.50	5.32	-.27	3.57	-.74	3.76	-1.29	4.44	-.97

SAN JACINTO RIVER BASIN

08072300 BUFFALO BAYOU NEAR KATY, TX

LOCATION.--Lat 29°44'35", long 95°48'24", Fort Bend County, Hydrologic Unit 12040104, on left bank at bridge on Greenbush Road, 2.5 mi downstream from confluence of Willow Fork and Cane Island Branch of Buffalo Bayou, and 3.1 mi southeast of Katy.

DRAINAGE AREA.--63.3 mi².

PERIOD OF RECORD.--Jul 1977 to current year.

Water-quality records.--Chemical data: Jun 1978 to Sep 1981. Biochemical data: Jun 1978 to Sep 1981.

GAGE.--Water-stage recorder. Datum of gage is 75.02 ft above sea level, 1973 adjustment. Gage located at temporary site 250 ft upstream Jan 18 to Sep 30, 1985; all records adjusted to original site and datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. No known regulation or diversions. Stage-discharge relationship affected by seasonal vegetation during most years.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,150 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 19	1900	1,830	33.70	Nov 14	0830	1,470	32.52
Nov 13	0430	1,890	33.91	Nov 15	0100	1,550	32.79

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	71	12	6.9	4.2	2.9	32	6.7	24	10	4.8	2.8
2	18	107	11	22	3.2	2.9	21	6.4	16	15	4.4	2.7
3	17	62	11	9.3	3.1	2.5	16	6.9	12	15	10	3.5
4	23	34	14	7.5	3.1	2.5	15	7.0	10	16	11	3.2
5	27	20	12	6.4	2.9	2.7	12	7.0	11	16	13	3.3
6	153	16	11	7.5	2.7	2.7	13	7.5	8.9	47	9.2	2.7
7	113	12	9.2	8.7	2.9	2.6	9.4	6.1	8.2	55	4.7	2.6
8	56	10	114	9.0	3.1	2.8	8.5	5.5	9.5	28	3.0	2.7
9	33	7.6	69	9.5	2.8	2.8	7.7	5.8	10	21	3.2	3.1
10	25	7.8	54	8.7	2.7	2.5	7.2	46	13	18	2.6	3.0
11	20	8.2	161	8.1	2.7	2.7	6.9	50	16	16	3.5	3.0
12	19	307	203	7.7	2.4	6.4	6.9	38	33	15	3.1	3.1
13	27	1440	100	7.2	7.5	37	6.5	46	66	16	4.2	3.3
14	32	1240	60	8.6	7.5	3.8	9.3	21	48	15	2.8	4.1
15	23	1160	37	7.7	6.5	2.5	8.3	14	33	15	2.3	3.6
16	14	745	25	7.0	4.9	2.3	6.7	13	23	16	2.7	2.9
17	9.9	477	16	5.8	8.2	1.6	7.2	9.8	24	37	4.2	2.6
18	920	288	13	5.3	5.9	1.7	7.0	8.9	15	38	3.8	3.0
19	1260	175	12	15	4.9	378	7.9	8.4	10	25	2.9	3.4
20	1430	109	11	11	3.7	179	10	8.1	12	21	2.8	3.7
21	996	70	11	11	4.9	56	11	8.4	58	20	5.7	3.7
22	677	46	12	9.9	3.4	23	7.9	9.2	144	15	5.1	4.0
23	421	35	11	8.4	3.6	13	7.4	7.7	139	15	4.4	2.4
24	253	27	9.3	7.2	3.0	7.8	6.6	7.7	80	18	5.6	2.9
25	173	20	8.8	5.1	2.7	9.0	7.9	7.8	59	13	4.4	3.8
26	134	15	8.1	7.4	3.0	7.3	9.9	8.1	46	9.0	3.0	4.6
27	105	13	7.6	11	2.8	6.3	8.5	7.9	29	12	2.7	5.1
28	85	13	7.6	9.5	2.6	99	7.6	35	16	6.8	2.7	6.1
29	59	12	7.1	11	---	56	6.8	58	7.9	4.1	2.2	24
30	41	16	6.7	7.0	---	77	8.3	53	3.4	4.3	2.2	12
31	37	---	6.4	4.7	---	49	---	38	---	4.6	2.1	---
TOTAL	7224.9	6563.6	1050.8	271.1	110.9	1045.3	300.4	562.9	984.9	576.8	138.3	130.9
MEAN	233	219	33.9	8.75	3.96	33.7	10.0	18.2	32.8	18.6	4.46	4.36
MAX	1430	1440	203	22	8.2	378	32	58	144	55	13	24
MIN	9.9	7.6	6.4	4.7	2.4	1.6	6.5	5.5	3.4	4.1	2.1	2.4
AC-FT	14330	13020	2080	538	220	2070	596	1120	1950	1140	274	260

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1999, BY WATER YEAR (WY)

	MEAN	52.8	56.9	62.3	66.0	74.9	38.4	47.0	61.6	66.0	25.6	25.2	50.1
MAX	236	223	376	224	356	129	330	173	292	136	76.7	320	
(WY)	1995	1983	1992	1979	1992	1992	1991	1993	1993	1981	1989	1979	
MIN	2.07	4.95	2.17	4.64	2.64	1.57	2.91	2.36	2.73	3.43	4.46	1.90	
(WY)	1988	1981	1990	1986	1988	1981	1987	1996	1990	1994	1999	1982	

SUMMARY STATISTICS

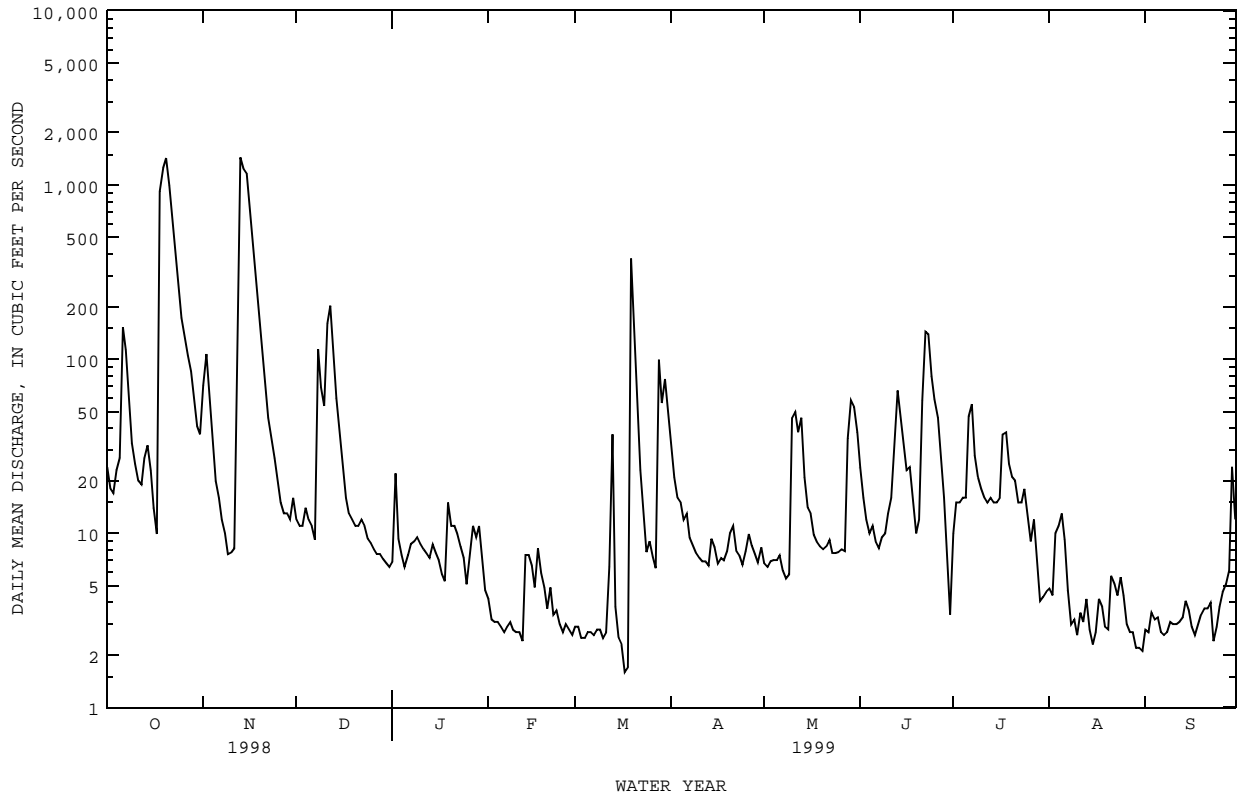
FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1977 - 1999

ANNUAL TOTAL	25982.4	18960.8	
ANNUAL MEAN	71.2	51.9	52.2
HIGHEST ANNUAL MEAN			137
LOWEST ANNUAL MEAN			12.4
HIGHEST DAILY MEAN	1440	Nov 13	2810
LOWEST DAILY MEAN	1.6	Sep 5	.29
ANNUAL SEVEN-DAY MINIMUM	2.1	Jul 5	.34
INSTANTANEOUS PEAK FLOW			3780
INSTANTANEOUS PEAK STAGE			38.85
ANNUAL RUNOFF (AC-FT)	51540	37610	37830
10 PERCENT EXCEEDS	138	69	107
50 PERCENT EXCEEDS	11	9.2	8.0
90 PERCENT EXCEEDS	2.6	2.8	1.6

08072300 BUFFALO BAYOU NEAR KATY, TX--Continued



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SAN JACINTO RIVER BASIN

08072730 BEAR CREEK NEAR BARKER, TX

LOCATION.--Lat 29°49'50", long 95°41'12", Harris County, Hydrologic Unit 12040104, on right bank at upstream side of bridge on Clay Road, 2.5 mi west of State Highway 6, and 4.1 mi upstream from mouth of Langham Creek.

DRAINAGE AREA.--21.5 mi².

PERIOD OF RECORD.--Jul 1977 to current year.

Water-quality records.--Chemical data: Jun 1978 to Sep 1981. Biochemical data: Jun 1978 to Sep 1981.

REVISED RECORDS.--WDR TX-88-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 100.00 ft above sea level. Mar 1, 1984, to Mar 12, 1985, at temporary site 1,100 ft downstream, same datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. No known regulation. Channel was rectified in 1981 and 1987 water years. Considerable diversions and return of irrigation water from area above station. Maximum gage height for period of record occurred prior to channel rectification.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	1100	1,380	10.44	Nov 14	0730	1,490	10.75
Oct 20	0530	1,620	11.10	May 12	1430	454	7.08
Nov 13	0430	1,870	11.75				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	56	17	2.4	1.4	1.3	5.0	1.3	2.3	1.5	18	3.3
2	1.5	54	6.0	24	1.3	1.3	3.1	5.1	2.2	1.2	9.9	1.2
3	1.3	39	4.2	3.7	1.2	1.2	2.3	9.1	1.4	1.1	6.3	1.6
4	1.7	24	4.3	2.3	1.2	1.2	1.9	6.1	1.1	1.1	5.2	2.1
5	11	11	4.8	2.0	1.2	1.5	1.6	3.0	.87	1.8	4.8	1.8
6	55	7.2	3.1	1.8	1.2	1.4	1.3	2.0	.72	3.4	5.9	.80
7	73	4.0	3.3	1.7	1.2	1.2	1.2	1.7	.81	35	8.7	.50
8	40	4.8	54	1.7	1.2	1.5	1.1	1.7	14	5.9	6.3	.41
9	19	4.1	32	1.7	1.1	1.5	.95	1.9	37	4.0	2.8	.18
10	9.0	3.3	16	1.6	1.1	1.5	.99	23	4.1	3.9	1.5	.08
11	5.6	2.6	105	1.6	1.0	1.8	.74	40	3.5	5.7	1.2	.06
12	4.2	327	133	1.5	.86	2.0	.76	198	54	5.1	5.8	.04
13	3.0	1320	81	1.5	.83	56	.84	103	23	2.9	2.2	.04
14	2.2	1170	50	1.7	.86	6.6	1.1	36	5.9	2.1	1.9	.03
15	1.9	1170	25	2.0	.97	3.6	.96	13	5.9	1.6	2.2	.03
16	1.6	1120	13	2.0	1.1	2.9	.95	4.9	6.2	1.3	2.1	.02
17	1.4	874	8.2	1.8	6.3	2.4	1.0	2.9	2.7	1.2	2.8	.02
18	756	473	6.5	1.5	1.6	2.2	.95	2.0	1.5	1.8	13	.03
19	1140	257	5.8	1.4	1.1	176	1.0	1.7	3.0	5.0	7.1	.04
20	1550	169	5.2	1.4	.98	90	1.2	1.7	2.6	45	2.3	.04
21	1360	119	4.6	1.4	.87	40	1.2	1.4	17	82	7.3	.06
22	1120	85	3.7	1.3	1.0	13	1.1	1.1	39	34	3.3	.07
23	736	63	3.3	1.2	.97	6.2	1.0	.88	38	20	2.1	.05
24	359	47	3.3	1.2	.90	3.8	1.2	.78	26	11	1.9	.04
25	211	35	2.8	1.3	1.0	2.5	1.2	.75	9.7	7.2	1.6	.07
26	150	23	2.5	1.4	1.1	2.0	3.0	.77	8.9	5.1	.73	.12
27	111	16	2.3	1.4	1.3	1.7	2.1	3.8	3.5	3.5	.56	.16
28	81	11	2.3	1.4	1.3	24	1.8	15	2.4	12	.55	.27
29	65	7.0	2.2	1.6	---	17	1.4	72	2.5	15	.40	2.4
30	54	6.1	2.0	1.5	---	28	1.2	63	2.0	15	1.3	5.0
31	42	---	2.0	1.4	---	10	---	6.1	---	11	.81	---
TOTAL	7968.2	7502.1	608.4	74.4	36.14	505.3	44.14	623.68	321.80	346.4	130.55	20.56
MEAN	257	250	19.6	2.40	1.29	16.3	1.47	20.1	10.7	11.2	4.21	.69
MAX	1550	1320	133	24	6.3	176	5.0	198	54	82	18	5.0
MIN	1.3	2.6	2.0	1.2	.83	1.2	.74	.75	.72	1.1	.40	.02
AC-FT	15800	14880	1210	148	72	1000	88	1240	638	687	259	41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1999, BY WATER YEAR (WY)

	33.2	31.9	25.7	24.6	25.6	14.8	16.8	26.8	27.7	10.0	11.8	22.9
MEAN	33.2	31.9	25.7	24.6	25.6	14.8	16.8	26.8	27.7	10.0	11.8	22.9
MAX	257	250	131	91.0	120	52.7	119	89.5	106	45.3	53.1	128
(WY)	1999	1999	1992	1979	1992	1993	1991	1983	1986	1983	1983	1979
MIN	.010	.034	.098	.75	.61	.26	.029	.51	.89	.64	.76	.10
(WY)	1989	1989	1990	1986	1988	1982	1987	1996	1998	1998	1990	1990

SUMMARY STATISTICS

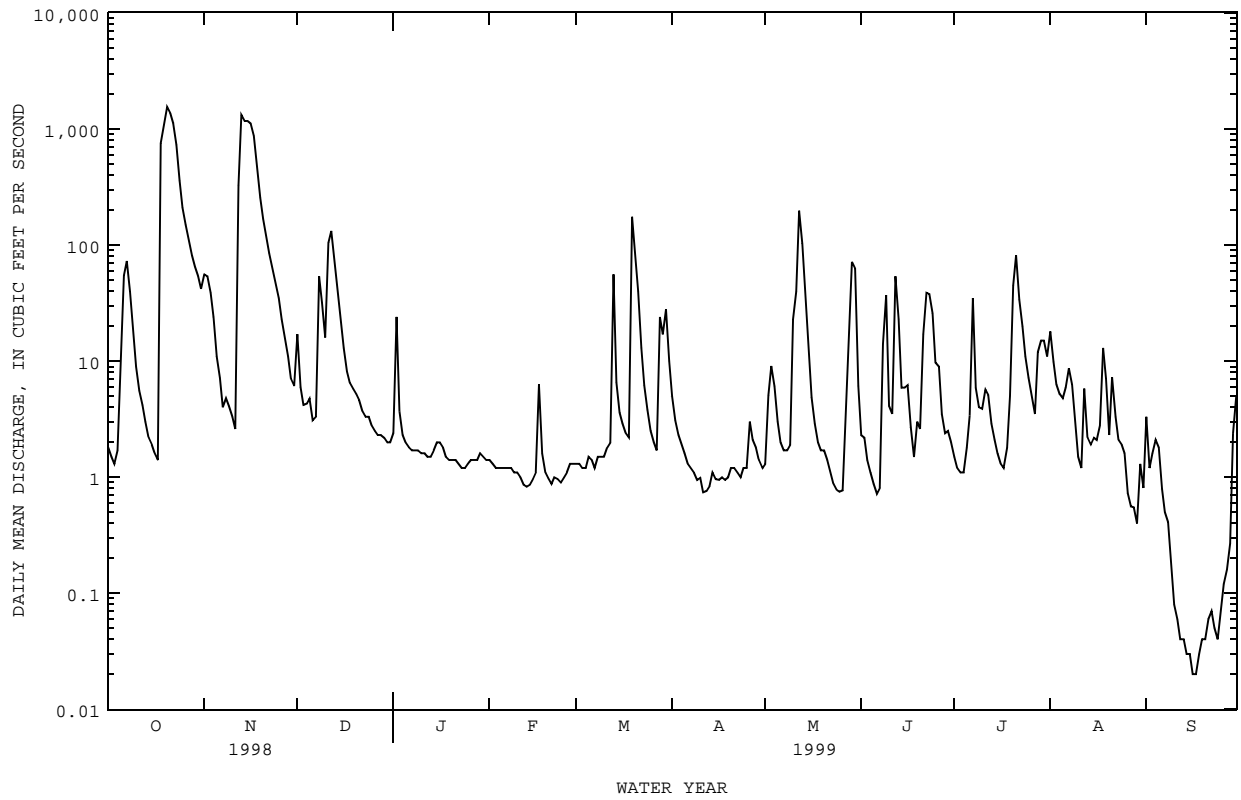
FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1977 - 1999

ANNUAL TOTAL	23234.39	18181.67	
ANNUAL MEAN	63.7	49.8	22.7
HIGHEST ANNUAL MEAN			49.8
LOWEST ANNUAL MEAN			4.45
HIGHEST DAILY MEAN	1550	Oct 20	1550
LOWEST DAILY MEAN	.00	Jun 14	.02
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 27	.03
INSTANTANEOUS PEAK FLOW			1870
INSTANTANEOUS PEAK STAGE			11.75
ANNUAL RUNOFF (AC-FT)	46090	36060	16460
10 PERCENT EXCEEDS	113	56	52
50 PERCENT EXCEEDS	3.8	2.3	1.9
90 PERCENT EXCEEDS	.03	.84	.05

08072730 BEAR CREEK NEAR BARKER, TX--Continued



SAN JACINTO RIVER BASIN

08072760 LANGHAM CREEK AT WEST LITTLE YORK ROAD NEAR ADDICKS, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°52'01", long 95°38'47", Harris County, Hydrologic Unit 12040104, at bridge on West Little York Road, 500 ft upstream from former site, 2.1 mi downstream from Dinners Creek, and 5.7 mi north of Addicks.

DRAINAGE AREA.--24.6 mi².

PERIOD OF RECORD.--Jul 1977 to Sep 1980 (daily mean discharge), Oct 1980 to Sep 1982 (peak discharges greater than base discharge and annual maximum), Oct 1982 to Sep 1989 (annual maximum), Oct 1989 to current year (peak discharges greater than base discharge).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 90.00 ft above sea level, 1973 adjustment. Satellite telemeter at station.

REMARKS.--Records good. No known regulation or diversion. Major channel rectification completed in the summer of 1998.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,820 ft³/s May 24, 1997 (gage height 22.62 ft); maximum gage height 24.42 ft Sep 19, 1979; no flow for a few days during period Jul to Sep 1977, and during the 1978 and 1980 water years.

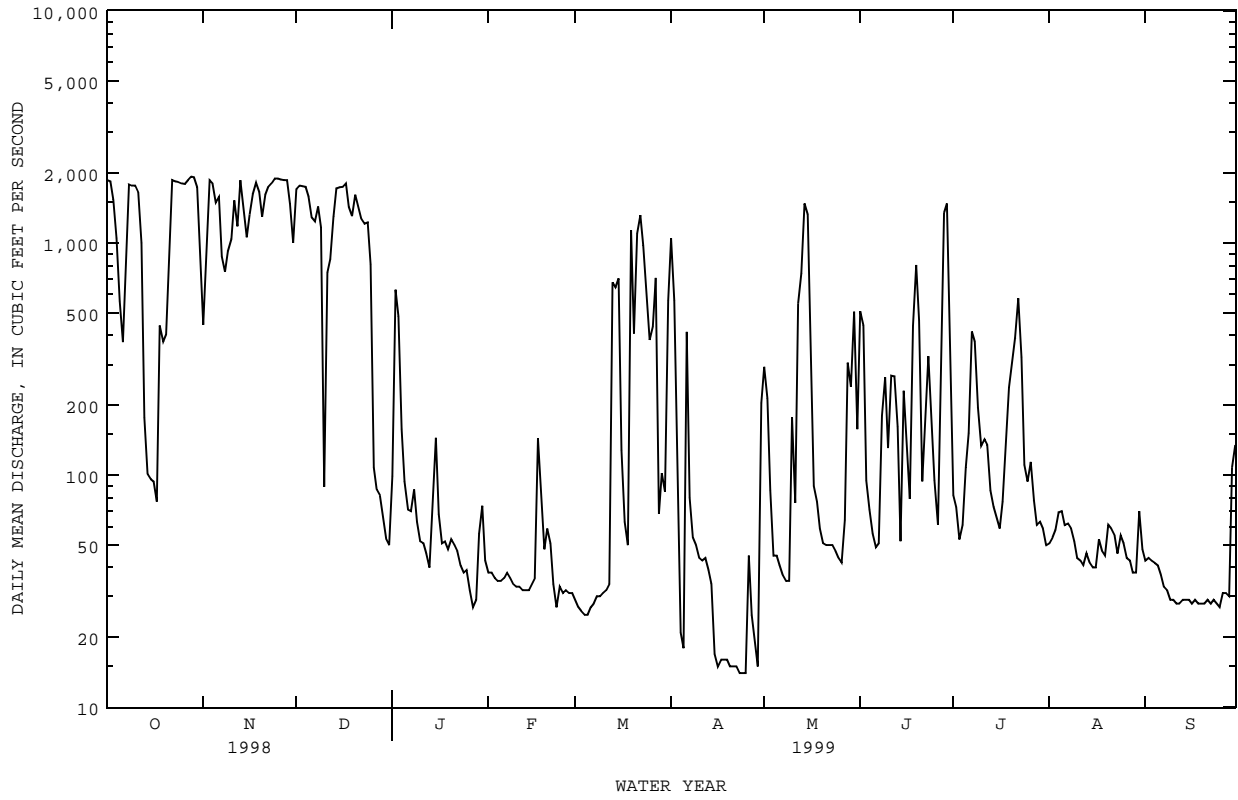
PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	1030	1,810	18.41	Nov 14	0730	1,350	17.49
Oct 19	2000	891	16.35	May 12	1330	985	16.61
Nov 13	0330	1,800	18.40				

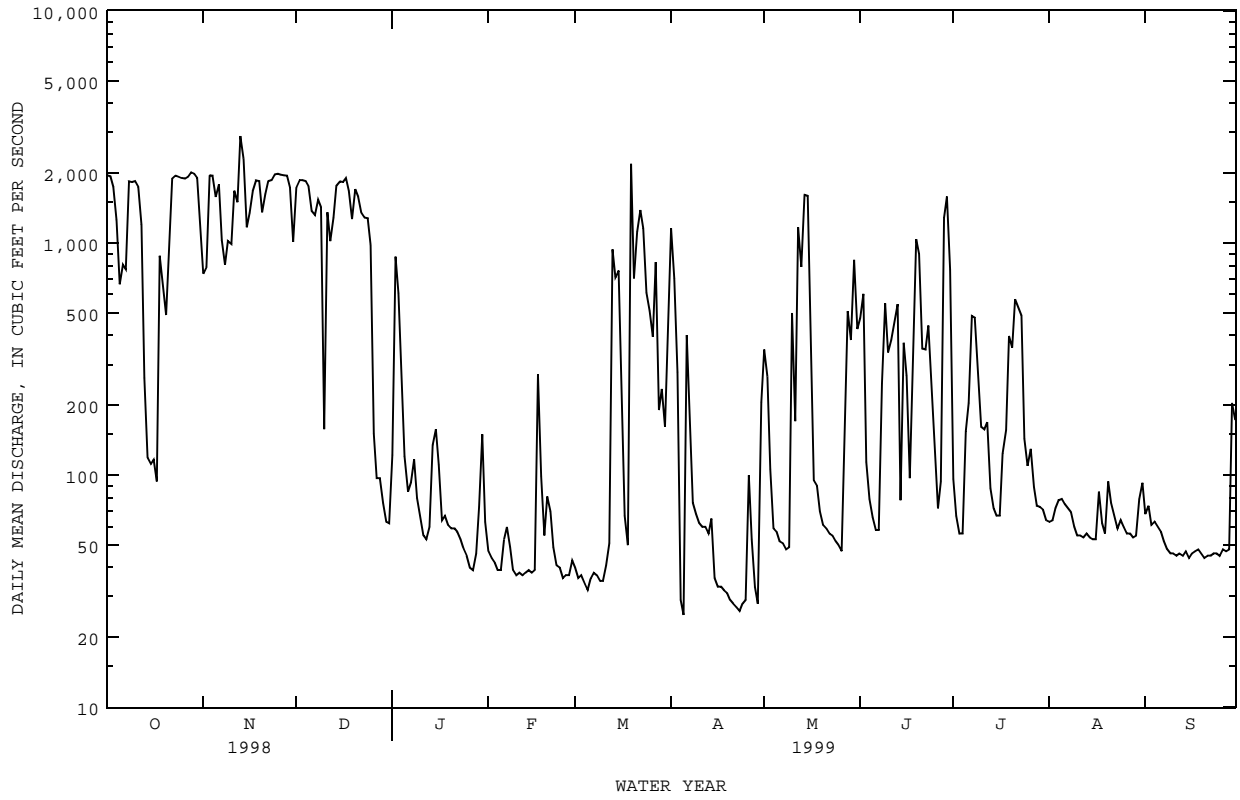
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08073500 BUFFALO BAYOU NEAR ADDICKS, TX--Continued



08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX--Continued



SAN JACINTO RIVER BASIN

08073700 BUFFALO BAYOU AT PINEY POINT, TX

LOCATION.--Lat 29°44'48", long 95°31'24", Harris County, Hydrologic Unit 12040104, on right bank at upstream side of bridge on Piney Point Road, village of Piney Point, 3.7 mi downstream from Rummel Creek, 7.2 mi downstream from Buffalo Bayou near Addicks (station 08073500), and 12.5 mi upstream from Buffalo Bayou at Houston (station 08074000).

DRAINAGE AREA.--317 mi².

PERIOD OF RECORD.--Oct 1963 to Sep 1976, Oct 1976 to Sep 1984 (gage heights only), Oct 1984 to current year.

Water-quality records.--Chemical data: Oct 1970 to Sep 1978. Biochemical data: Oct 1970 to Sep 1978. Pesticide data: Oct 1970 to Sep 1978.

GAGE.--Water-stage recorder. Datum of gage is 1.35 ft below sea level. Satellite telemeter at station.

REMARKS.--Records good. Since installation of gage in Oct 1963, at least 10% of contributing drainage area has been regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000), 14.0 and 13.8 mi upstream from gage, respectively (combined capacity, 315,900 acre-ft). No known diversions. Low flow is mostly sustained by wastewater effluent.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1920	828	1690	164	79	67	1150	320	411	143	83	86
2	1910	669	1870	922	76	64	723	258	658	110	85	103
3	1770	1940	1870	622	73	62	291	125	153	95	88	82
4	1280	1960	1850	260	72	59	57	67	115	96	101	83
5	708	1570	1790	150	70	58	48	67	97	167	101	78
6	1010	1810	1380	123	81	63	323	61	86	231	97	76
7	650	1090	1320	125	89	63	202	56	99	457	94	71
8	1800	813	1510	148	82	63	83	55	245	478	92	68
9	1820	1040	1500	114	70	63	75	57	708	271	83	63
10	1870	941	265	97	69	62	69	564	380	183	75	62
11	1760	1680	1580	85	68	67	66	268	428	165	73	62
12	1290	1670	1120	89	64	79	66	1170	531	189	71	62
13	317	3680	1250	109	63	996	62	809	721	118	74	63
14	134	2860	1730	167	64	710	105	1620	134	101	72	64
15	125	1240	1820	151	66	737	40	1650	340	94	70	62
16	124	1320	1800	161	67	294	35	556	388	99	70	63
17	122	1650	1900	99	318	98	35	136	147	144	93	63
18	e1000	1850	1750	100	133	81	35	128	331	175	91	65
19	e750	1910	1220	95	87	2360	35	106	1080	468	78	63
20	e550	1370	1690	93	108	934	33	96	1070	335	107	62
21	647	1580	1590	94	109	1050	32	92	544	603	116	61
22	1840	1860	1340	90	78	1340	32	91	426	459	90	62
23	1950	1870	1280	85	70	1190	30	90	454	554	81	64
24	1930	2010	1260	80	68	541	31	85	297	162	86	64
25	1920	2020	1050	78	64	576	31	81	185	132	87	63
26	1910	2010	218	75	66	306	92	80	122	144	79	65
27	1920	1990	131	72	66	795	74	141	92	118	77	67
28	2040	1980	132	75	68	261	42	556	1230	99	73	71
29	2030	1830	114	99	---	229	36	392	1640	96	75	236
30	1960	1010	99	170	---	215	160	795	916	97	95	168
31	1270	---	95	93	---	407	---	614	---	86	162	---
TOTAL	40327	50051	38214	4885	2388	13890	4093	11186	14028	6669	2719	2322
MEAN	1301	1668	1233	158	85.3	448	136	361	468	215	87.7	77.4
MAX	2040	3680	1900	922	318	2360	1150	1650	1640	603	162	236
MIN	122	669	95	72	63	58	30	55	86	86	70	61
AC-FT	79990	99280	75800	9690	4740	27550	8120	22190	27820	13230	5390	4610

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1999h, BY WATER YEAR (WY)

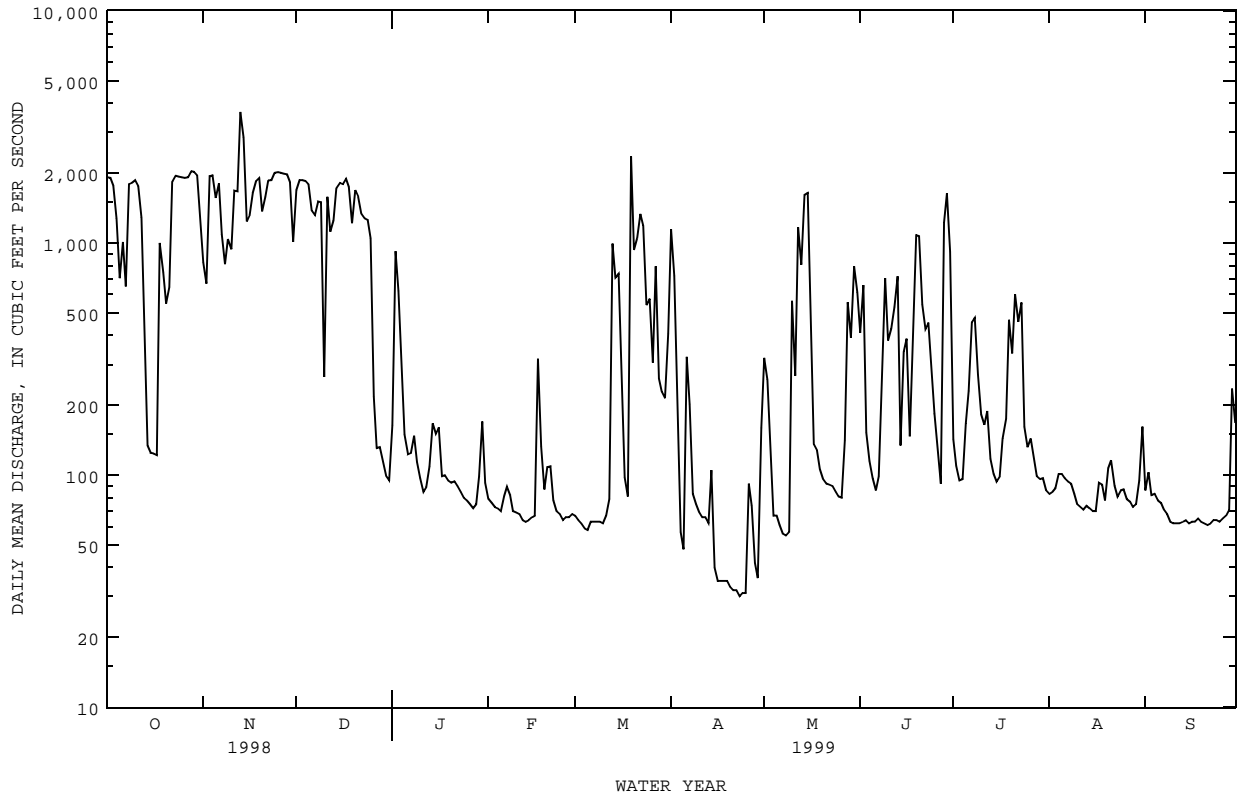
MEAN	330	377	342	341	381	369	317	422	459	243	190	285
MAX	1301	1668	1233	1156	1673	1804	1708	1584	1296	1027	534	958
(WY)	1999	1999	1999	1992	1992	1992	1992	1968	1992	1993	1989	1998
MIN	30.4	11.2	31.5	28.3	29.9	13.8	22.6	37.9	30.9	58.5	61.8	70.5
(WY)	1964	1967	1971	1971	1967	1967	1965	1964	1965	1965	1967	1988

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1964 - 1999h
ANNUAL TOTAL	222019	190772	
ANNUAL MEAN	608	523	336
HIGHEST ANNUAL MEAN			907
LOWEST ANNUAL MEAN			77.5
HIGHEST DAILY MEAN	4270	Sep 11	4740
LOWEST DAILY MEAN	40	Apr 17	6.0
ANNUAL SEVEN-DAY MINIMUM	42	May 1	7.0
INSTANTANEOUS PEAK FLOW			4460
INSTANTANEOUS PEAK STAGE			52.76
ANNUAL RUNOFF (AC-FT)	440400	378400	243500
10 PERCENT EXCEEDS	1850	1790	1020
50 PERCENT EXCEEDS	136	128	108
90 PERCENT EXCEEDS	48	63	32

e Estimated

h See PERIOD OF RECORD paragraph.

08073700 BUFFALO BAYOU AT PINEY POINT, TX--Continued



SAN JACINTO RIVER BASIN

08074000 BUFFALO BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°45'36", long 95°24'30", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of bridge on Shepherd Drive in Houston and 0.8 mi upstream from Waugh Drive.

DRAINAGE AREA.--358 mi², unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to Sep 1957 (daily mean discharge, Oct 1957 to Dec 1961 (high-water records and discharge measurements), Jan 1962 to Sep 1975 (daily mean discharge), Oct 1975 to current year (high-water records and discharge measurements).

REVISED RECORDS.--WSP 1732: Drainage area (former site).

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1.36 ft below sea level, 1973 adjustment; records unadjusted for land-surface subsidence. Prior to Jun 19, 1936, nonrecording gage, and Jun 19, 1936, to Jan 16, 1962, water-stage recorder at site 0.8 mi downstream at datum 4.08 ft lower. Jan 17, 1962, to Sep 30, 1973, auxiliary water-stage recorder 0.8 mi downstream. Water-stage recorder at Main Street (station 08074598) used as auxiliary gage after Sep 30, 1993. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. Although floodflows are regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000), 26.3 and 26.8 mi upstream, respectively (combined capacity, 315,900 acre-ft), flood peaks from the urbanized areas below these reservoirs are often independent of the regulation. Discharge is computed using a stage-fall-discharge relation for all storms that produce peak discharges above 2,000 ft³/s. Discharges below 1,000 ft³/s are computed or estimated following designated storm periods only. Low flow is mostly sustained by wastewater effluent from Houston suburbs. Gage heights are affected by tides, backwater from Whiteoak Bayou, and other streams.

AVERAGE DISCHARGE.--8 years (water years 1936-44) unregulated, 272 ft³/s (197,100 acre-ft/yr); 26 years (water years 1944-57, 1962-75) regulated, 274 ft³/s (198,500 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,400 ft³/s Sep 11, 1998 (gage height, 36.33 ft); minimum daily, 1.3 ft³/s May 24, 1939, Nov 5, 1950, occurred prior to urban development and accompanying wastewater effluent releases.

EXTREMES OUTSIDE PERIOD OF RECORD.--All flood data at site 0.8 mi downstream at present datum. Maximum gage height since at least 1835, 49.0 ft Dec 9, 1935 (discharge, 40,000 ft³/s); furnished by engineer for Harris County. Flood of May 31, 1929, reached a gage height of 43.5 ft (discharge, 19,000 ft³/s), at bridge on Capitol Avenue, affected by bridge; furnished by city of Houston.

EXTREMES FOR CURRENT.--Maximum discharge, 7,550 ft³/s Nov 13 at 0745 hours (gage height, 24.93 ft); minimum discharges not determined (affected by tides).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2070	1210	1630	---	---	---	---	---	---	---	---	---
2	2070	---	2010	---	---	---	---	---	---	---	---	---
3	2050	1930	2050	---	---	---	---	---	---	---	---	---
4	1530	2160	2030	---	---	---	---	---	---	---	---	---
5	---	1820	2000	---	---	---	---	---	---	---	---	---
6	1740	1960	1630	---	---	---	---	---	---	---	---	---
7	---	1510	1500	---	---	---	---	---	---	---	---	---
8	1780	---	1760	---	---	---	---	---	---	---	---	---
9	2000	---	1770	---	---	---	---	---	---	---	---	---
10	2030	---	---	---	---	---	---	1170	---	---	---	---
11	1980	1700	2460	---	---	---	---	---	---	---	---	---
12	1690	2370	2130	---	---	---	---	1800	---	---	---	---
13	---	6420	1280	---	---	1570	---	1440	1550	---	---	---
14	---	5490	1760	---	---	---	---	1590	---	---	---	---
15	---	2050	2000	---	---	---	---	1900	---	---	---	---
16	---	1380	1970	---	---	---	---	1030	---	---	---	---
17	---	1750	2040	---	---	---	---	---	---	---	---	---
18	2150	1950	2060	---	---	---	---	---	---	---	---	---
19	1800	2120	1350	---	---	3550	---	---	---	---	---	---
20	---	1620	1800	---	---	2840	---	---	1200	---	---	---
21	---	1580	1850	---	---	---	---	---	1220	---	---	---
22	---	1790	1980	---	---	---	---	---	---	---	---	---
23	2180	2020	1420	---	---	---	---	---	---	---	---	---
24	2160	2120	1170	---	---	---	---	---	---	---	---	---
25	2140	2170	1310	---	---	---	---	---	---	---	---	---
26	2120	2150	---	---	---	---	---	---	---	---	---	---
27	2110	2130	---	---	---	---	---	---	---	---	---	---
28	2230	2130	---	---	---	---	---	---	---	---	---	---
29	2230	2120	---	---	---	---	---	---	1840	---	---	---
30	2210	1340	---	---	---	---	---	---	1440	---	---	---
31	1710	---	---	---	---	---	---	1480	---	---	---	---

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Oct 1968 to Jul 1981, Apr 1986 to current year.
 BIOCHEMICAL DATA: Oct 1968 to Jul 1981.
 PESTICIDE DATA: Feb 1969 to Jul 1981.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Apr 1986 to current year.
 PH: Jun 1998 to Sep 1999.
 WATER TEMPERATURE: Apr 1986 to current year.
 DISSOLVED OXYGEN: Apr 1986 to current year.

INSTRUMENTATION.--Water-quality monitor since Apr 1986.

REMARKS.--Interruption in the record was caused by malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,080 microsiemens, Apr 22, 1999; minimum, 29 microsiemens, May 8, 1995.
 PH: Maximum, 9.3 units, Dec 28, 1998; minimum, 6.3 units, Oct 23, 1998.
 WATER TEMPERATURE: Maximum, 32.8°C, Jul 12, 1998; minimum, 4.5°C, Jan 13, 1997.
 DISSOLVED OXYGEN: Maximum, 16.5 mg/L, Apr 10, 1996; minimum, 0.1 mg/L, several days 1999.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,080 microsiemens, Apr 22; minimum, 73 microsiemens, Jan 1.
 PH: Maximum, 9.3 units, Dec 28; minimum, 6.3 units, Oct 23.
 WATER TEMPERATURE: Maximum, 32.3°C, Aug 14; minimum, 7.4°C, Dec 26.
 DISSOLVED OXYGEN: Maximum, 15.8 mg/L, Oct 24; minimum, 0.1 mg/L, Dec 17, 19-20, 27-28, Feb 4, 19-20, 23.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	133	123	126	184	108	135	177	95	118	705	73	553
2	143	132	136	277	125	193	107	99	101	388	193	264
3	157	139	143	228	84	91	110	101	104	356	298	316
4	209	153	168	89	82	85	114	105	108	424	330	371
5	233	173	205	97	87	92	122	111	114	517	424	472
6	261	113	172	94	87	90	140	122	132	588	509	546
7	333	159	263	126	93	104	143	131	138	631	543	600
8	273	190	200	172	126	149	---	---	---	641	524	609
9	233	207	217	144	117	128	---	---	---	650	582	614
10	233	203	218	163	128	144	---	---	---	687	650	676
11	206	189	195	148	114	120	316	97	197	738	678	707
12	229	196	204	165	80	127	203	109	165	767	707	741
13	340	227	277	91	81	85	190	160	164	776	466	728
14	545	340	434	97	75	87	164	151	158	634	470	534
15	604	545	567	131	97	118	162	155	159	597	472	537
16	623	591	609	137	113	122	165	155	160	689	489	609
17	638	566	603	113	97	104	183	163	170	684	592	643
18	600	128	296	98	89	93	185	177	181	717	684	705
19	221	144	174	96	87	91	215	177	200	764	717	739
20	265	171	228	115	91	106	177	159	165	750	724	735
21	280	162	222	105	93	98	166	151	159	782	736	763
22	162	99	114	98	87	91	175	163	170	798	774	788
23	101	92	98	94	86	91	196	174	179	818	798	810
24	98	91	95	94	88	91	212	194	201	826	813	821
25	98	90	93	99	90	93	282	210	236	834	816	824
26	97	88	92	99	91	96	426	282	349	826	808	817
27	94	87	91	100	92	96	593	426	522	834	810	821
28	91	84	87	100	92	96	601	491	551	848	825	837
29	90	84	87	110	91	96	655	592	629	838	794	826
30	91	84	87	202	110	155	688	655	673	821	511	735
31	119	90	100	---	---	---	738	684	718	734	507	574
MONTH	638	84	213	277	75	109	---	---	---	848	73	655

SAN JACINTO RIVER BASIN

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	734	651	710	850	845	848	544	274	306	905	627	703
2	785	731	767	848	834	840	301	277	288	689	633	665
3	799	765	780	834	800	822	401	299	354	747	689	723
4	837	787	814	866	800	840	500	392	437	771	735	755
5	854	813	831	883	852	871	612	498	537	843	754	810
6	863	834	845	888	876	882	830	612	696	871	840	860
7	854	813	834	885	842	867	849	409	463	902	837	874
8	839	793	825	902	885	894	638	455	537	902	872	888
9	816	790	804	900	882	894	779	638	737	918	810	882
10	859	810	841	890	860	880	823	779	807	896	108	443
11	879	859	866	903	879	889	837	817	826	310	160	254
12	883	827	862	889	802	860	851	821	839	367	78	229
13	895	854	881	827	77	302	862	847	853	255	133	192
14	898	863	882	341	250	271	859	309	680	268	195	208
15	897	884	889	292	264	282	661	370	499	241	204	215
16	900	567	877	356	270	304	774	661	739	319	241	273
17	831	216	452	542	356	442	813	769	790	506	319	404
18	739	337	555	617	542	596	921	790	873	596	506	560
19	702	631	666	648	102	320	953	921	937	655	585	634
20	732	492	696	265	106	173	960	938	952	696	649	677
21	651	478	583	299	181	226	958	923	933	741	688	718
22	614	553	576	195	173	182	1080	910	921	751	730	741
23	778	614	733	183	169	177	927	891	914	789	744	770
24	799	773	790	281	178	243	973	910	950	782	764	773
25	824	781	800	254	197	213	969	899	942	788	771	779
26	838	814	822	429	237	335	940	376	858	786	580	764
27	853	835	841	618	219	264	818	562	716	803	724	779
28	852	833	845	360	225	291	596	552	574	724	198	307
29	---	---	---	386	299	363	672	585	609	378	269	324
30	---	---	---	365	284	318	798	672	724	380	178	312
31	---	---	---	542	252	435	---	---	---	272	141	191
MONTH	900	216	774	903	77	520	1080	274	710	918	78	571

SAN JACINTO RIVER BASIN

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	372	272	323	485	313	388	768	738	752	542	254	380
2	376	260	276	633	485	564	787	746	764	709	483	591
3	404	271	328	694	633	676	799	757	770	714	599	652
4	556	404	484	732	431	700	773	673	725	751	714	739
5	604	556	584	756	620	718	772	675	729	770	732	748
6	663	603	643	746	288	549	785	735	763	795	765	783
7	701	395	654	441	241	358	773	735	757	800	781	793
8	644	144	526	398	303	326	773	718	752	805	771	792
9	441	124	280	431	315	369	773	665	724	---	---	---
10	358	147	260	500	413	456	780	749	767	---	---	---
11	374	152	261	585	500	533	786	772	779	830	808	815
12	395	135	312	597	542	575	801	779	788	831	815	823
13	227	126	180	542	216	435	803	774	791	845	822	833
14	327	124	258	491	270	389	806	772	794	850	834	840
15	376	113	271	579	491	545	816	797	809	836	821	830
16	354	166	229	620	576	601	817	793	807	848	829	835
17	418	225	351	615	166	419	820	784	806	856	837	845
18	509	402	449	271	183	248	805	564	727	861	839	850
19	568	254	346	254	149	194	726	603	660	844	827	835
20	332	191	269	274	180	224	808	726	777	838	774	823
21	301	140	219	282	237	267	808	463	631	836	808	821
22	376	179	276	390	226	277	744	492	570	841	807	826
23	346	200	277	389	272	294	779	744	765	856	819	836
24	351	260	305	494	316	407	762	446	729	853	814	833
25	400	312	363	581	451	524	778	755	766	859	825	836
26	473	335	420	624	561	581	785	771	778	842	815	828
27	574	468	530	635	610	622	775	750	760	842	798	826
28	624	241	411	657	614	636	793	761	780	831	625	762
29	249	238	242	682	647	666	789	761	777	807	263	527
30	313	248	267	708	668	686	780	749	766	645	359	437
31	---	---	---	740	708	728	791	102	635	---	---	---
MONTH	701	113	353	756	149	482	820	102	748	---	---	---

SAN JACINTO RIVER BASIN

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	6.7	6.7	6.7	7.7	6.9	7.2	---	---	---	8.9	7.0	7.4
2	6.9	6.7	6.8	7.8	6.9	7.2	---	---	---	8.6	6.9	7.3
3	6.8	6.8	6.8	7.6	6.5	6.9	7.1	6.8	6.9	7.5	6.8	7.2
4	7.1	6.8	6.9	7.0	6.5	6.7	7.1	6.7	6.9	7.5	6.7	7.1
5	7.2	6.9	7.1	7.0	6.6	6.7	7.0	6.7	6.8	7.7	6.7	7.2
6	7.9	7.1	7.3	7.3	6.5	6.9	7.0	6.7	6.9	7.7	6.9	7.4
7	7.6	7.2	7.3	7.3	6.8	7.0	7.0	6.7	6.8	7.6	6.9	7.3
8	7.4	6.9	7.0	7.5	6.9	7.1	7.2	6.7	6.9	7.7	7.1	7.4
9	7.2	6.9	7.0	7.5	6.8	7.2	7.0	6.6	6.8	7.7	7.1	7.4
10	7.2	7.0	7.1	7.5	6.9	7.2	7.1	6.5	6.7	7.7	7.0	7.4
11	7.2	6.9	7.0	7.4	6.7	7.0	7.8	6.4	7.0	7.7	7.0	7.3
12	7.2	6.8	7.0	8.3	6.6	7.2	7.7	6.6	7.1	7.7	7.0	7.4
13	7.4	6.9	7.1	7.9	6.8	7.4	7.3	6.4	6.8	7.8	7.2	7.5
14	7.4	7.0	7.2	7.8	6.8	7.2	7.0	6.4	6.6	7.8	7.1	7.4
15	7.4	7.1	7.2	7.8	6.8	7.2	6.9	6.4	6.7	7.7	7.0	7.4
16	7.4	7.1	7.2	7.7	6.6	7.2	6.9	6.4	6.7	7.9	7.1	7.5
17	7.3	7.0	7.1	7.5	6.6	7.0	6.9	6.4	6.6	7.8	7.2	7.5
18	7.5	7.0	7.2	---	---	---	7.0	6.4	6.7	7.9	7.3	7.6
19	7.2	6.9	7.0	---	---	---	7.2	6.6	6.9	7.9	7.4	7.6
20	7.1	6.8	6.9	---	---	---	7.1	6.5	6.7	7.8	7.3	7.6
21	7.0	6.7	6.8	---	---	---	7.6	6.5	7.0	7.8	7.4	7.6
22	6.9	6.4	6.6	---	---	---	7.7	7.1	7.4	7.8	7.4	7.6
23	7.4	6.3	6.8	---	---	---	7.6	7.0	7.3	8.0	7.5	7.8
24	7.4	6.8	7.0	---	---	---	7.7	7.0	7.3	8.1	7.5	7.8
25	7.3	6.9	7.0	---	---	---	7.7	7.0	7.4	8.2	7.5	7.8
26	7.3	6.8	7.0	---	---	---	7.7	7.0	7.4	8.3	7.6	7.9
27	7.2	6.7	6.9	---	---	---	7.8	7.0	7.4	8.1	7.6	7.8
28	7.2	6.7	7.0	---	---	---	9.3	7.1	7.5	8.0	7.5	7.8
29	7.1	6.7	6.9	---	---	---	7.7	7.0	7.4	8.0	7.6	7.8
30	7.1	6.7	6.9	---	---	---	7.7	7.0	7.3	7.8	7.4	7.6
31	7.3	6.7	6.9	---	---	---	7.6	7.0	7.2	7.8	7.3	7.5
MONTH	7.9	6.3	7.0	---	---	---	---	---	---	8.9	6.7	7.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	7.9	7.3	7.5	7.4	6.9	7.2	7.4	6.9	7.1	7.7	7.2	7.4
2	7.8	7.2	7.5	7.4	6.9	7.2	7.2	6.9	7.1	7.8	7.3	7.5
3	7.9	7.3	7.6	7.7	7.0	7.3	7.3	7.0	7.1	7.7	7.4	7.6
4	7.8	7.2	7.5	7.7	7.1	7.4	7.2	6.9	7.1	7.7	7.3	7.5
5	7.7	7.2	7.5	7.6	7.2	7.4	7.5	6.9	7.2	7.9	7.3	7.6
6	7.8	7.2	7.5	7.5	7.1	7.4	7.7	7.3	7.5	7.8	7.4	7.7
7	7.7	7.2	7.5	7.5	7.1	7.3	7.8	7.3	7.5	7.9	7.4	7.6
8	7.6	7.2	7.5	7.5	7.1	7.3	7.6	7.3	7.4	7.9	7.5	7.7
9	8.0	7.2	7.4	7.5	7.1	7.3	7.7	7.4	7.5	7.9	7.6	7.7
10	7.5	7.1	7.3	7.5	7.1	7.3	7.6	7.4	7.5	8.3	6.9	7.5
11	7.4	7.0	7.2	7.5	7.2	7.3	7.6	7.4	7.5	7.6	6.9	7.1
12	7.5	6.9	7.2	7.5	7.1	7.3	7.7	7.3	7.5	8.1	6.9	7.3
13	7.5	6.9	7.2	8.0	7.0	7.3	7.6	7.3	7.5	7.6	7.0	7.2
14	7.5	6.9	7.2	7.6	6.8	7.2	7.7	7.2	7.5	7.3	6.8	7.0
15	7.6	6.9	7.2	7.5	6.8	7.1	7.4	7.0	7.2	7.0	6.8	6.9
16	7.5	6.9	7.2	7.4	6.8	7.1	7.6	7.1	7.3	7.1	6.8	7.0
17	7.8	6.8	7.1	7.3	6.8	7.1	7.6	7.1	7.4	7.1	6.9	7.0
18	7.3	6.7	7.0	7.3	6.9	7.1	7.6	7.1	7.4	7.2	7.0	7.1
19	7.3	6.8	7.1	8.5	6.9	7.4	7.6	7.1	7.4	7.3	7.0	7.2
20	7.3	6.8	7.0	7.4	6.9	7.1	7.6	7.2	7.4	7.4	7.1	7.3
21	7.3	6.8	7.0	7.3	6.8	7.0	7.5	7.2	7.3	7.5	7.2	7.4
22	7.2	6.7	7.0	7.1	6.7	6.9	8.1	7.2	7.5	7.6	7.3	7.4
23	7.4	6.7	7.1	7.0	6.7	6.9	7.6	7.3	7.5	7.6	7.3	7.4
24	7.4	6.8	7.1	7.1	6.8	7.0	7.6	7.4	7.5	7.7	7.3	7.5
25	7.4	6.8	7.1	7.2	6.8	7.0	7.6	7.4	7.5	8.1	7.4	7.7
26	7.4	6.9	7.2	7.2	6.8	7.0	7.6	7.2	7.4	8.2	7.4	7.8
27	7.4	6.9	7.2	7.4	6.9	7.1	7.4	7.0	7.2	8.3	7.6	7.9
28	7.5	7.0	7.2	7.6	6.8	7.1	7.2	6.9	7.1	7.8	7.2	7.3
29	---	---	---	7.3	6.8	7.0	7.3	6.9	7.1	7.4	7.1	7.2
30	---	---	---	7.3	6.8	7.1	7.5	7.1	7.3	7.8	7.1	7.4
31	---	---	---	7.3	6.8	7.0	---	---	---	7.8	7.2	7.5
MONTH	8.0	6.7	7.3	8.5	6.7	7.2	8.1	6.9	7.3	8.3	6.8	7.4

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.4	7.2	7.3	7.4	7.3	7.3	8.2	8.0	8.1	7.7	7.3	7.5
2	7.6	7.3	7.4	7.6	7.4	7.5	8.2	8.0	8.1	7.8	7.4	7.6
3	7.6	7.4	7.5	7.7	7.6	7.6	8.2	8.0	8.1	7.8	7.6	7.7
4	7.6	7.4	7.5	7.8	7.6	7.7	8.1	7.8	7.9	7.8	7.7	7.8
5	7.6	7.4	7.5	7.8	7.6	7.7	8.0	7.7	7.9	7.9	7.7	7.8
6	7.7	7.4	7.6	7.8	7.4	7.6	8.0	7.8	7.9	8.0	7.8	7.9
7	7.7	7.2	7.5	7.6	7.4	7.5	8.0	7.7	7.9	8.1	7.9	8.0
8	7.8	7.2	7.4	7.6	7.5	7.5	8.1	7.7	7.9	8.0	7.9	7.9
9	7.6	7.1	7.3	7.6	7.5	7.5	8.1	7.6	7.8	---	---	---
10	7.5	7.1	7.2	7.7	7.5	7.6	8.0	7.7	7.8	---	---	---
11	7.4	7.1	7.2	7.8	7.6	7.7	7.9	7.7	7.8	7.9	7.4	7.7
12	7.5	7.1	7.2	7.8	7.7	7.8	7.9	7.7	7.8	7.8	7.5	7.7
13	7.7	7.0	7.2	8.1	7.6	7.7	7.9	7.7	7.8	7.8	7.4	7.7
14	7.6	6.9	7.2	7.9	7.6	7.7	7.9	7.7	7.8	7.9	7.6	7.7
15	8.0	7.2	7.4	8.0	7.8	7.9	8.0	7.8	7.9	7.9	7.7	7.8
16	7.6	7.3	7.4	8.0	7.8	7.9	8.0	7.8	7.9	7.9	7.7	7.8
17	7.5	7.2	7.4	8.2	7.6	7.8	8.0	7.8	7.9	7.9	7.7	7.8
18	7.5	7.4	7.4	7.9	7.6	7.7	7.9	7.5	7.7	7.9	7.7	7.8
19	7.5	7.4	7.5	7.8	7.6	7.7	7.7	7.5	7.6	7.9	7.8	7.8
20	7.5	7.3	7.4	7.7	7.5	7.6	7.9	7.6	7.8	7.9	7.7	7.8
21	7.6	7.3	7.4	7.7	7.6	7.7	7.9	7.4	7.5	7.9	7.6	7.8
22	7.6	7.3	7.4	7.9	7.6	7.8	7.7	7.4	7.5	7.9	7.6	7.8
23	7.5	7.3	7.4	8.0	7.9	7.9	7.9	7.6	7.7	8.0	7.7	7.9
24	7.4	7.3	7.3	8.0	7.9	7.9	7.8	7.7	7.8	8.0	7.7	7.9
25	7.4	7.3	7.4	8.1	7.9	8.0	7.9	7.7	7.8	8.0	7.8	7.9
26	7.4	7.3	7.4	8.2	8.0	8.1	8.0	7.8	7.9	7.9	7.7	7.9
27	7.5	7.4	7.4	8.2	8.0	8.1	7.9	7.8	7.8	7.9	7.8	7.9
28	7.6	7.3	7.5	8.1	8.0	8.1	7.9	7.8	7.8	7.9	7.5	7.7
29	7.3	7.2	7.2	8.2	8.0	8.1	8.0	7.7	7.8	7.8	7.2	7.5
30	7.3	7.2	7.2	8.2	8.0	8.1	8.2	7.8	8.0	7.7	7.1	7.4
31	---	---	---	8.2	8.1	8.1	8.1	7.5	7.9	---	---	---
MONTH	8.0	6.9	7.4	8.2	7.3	7.8	8.2	7.4	7.8	---	---	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	28.5	28.2	28.4	22.4	21.6	21.8	19.8	19.0	19.3	19.5	15.6	17.1
2	28.2	27.9	28.1	21.7	20.5	21.3	19.5	19.2	19.3	18.8	16.3	17.7
3	28.1	27.8	27.9	21.1	20.5	20.9	19.7	19.4	19.5	16.3	12.1	14.2
4	27.9	27.4	27.7	21.1	20.7	20.9	20.0	19.3	19.7	12.1	10.4	11.0
5	27.9	27.3	27.6	20.7	19.7	20.2	20.5	19.9	20.3	10.7	9.3	10.1
6	27.7	23.4	25.3	19.7	18.7	19.1	20.5	20.2	20.4	13.1	10.5	11.8
7	24.1	22.9	23.5	18.7	18.3	18.5	21.0	20.4	20.7	16.9	13.0	14.5
8	25.0	22.9	24.6	19.7	18.6	19.3	20.8	18.8	19.4	18.4	16.3	17.5
9	24.3	23.6	24.1	19.7	19.2	19.4	19.1	18.3	18.8	18.0	15.2	16.6
10	23.6	22.8	23.3	19.9	19.3	19.6	18.3	16.3	17.3	15.2	13.7	14.4
11	22.9	22.5	22.7	19.3	18.2	18.8	16.3	10.8	13.3	14.4	12.9	13.6
12	23.7	22.4	23.2	18.2	15.4	17.3	12.4	11.1	11.9	15.8	13.7	14.7
13	25.2	23.4	24.3	15.9	15.7	15.8	14.3	12.0	13.9	18.3	15.5	16.4
14	24.7	23.6	24.2	16.1	15.7	15.9	14.3	13.9	14.2	17.9	15.0	16.4
15	25.2	23.9	24.5	16.6	16.1	16.4	13.9	13.5	13.7	15.5	13.8	14.8
16	25.9	24.7	25.2	16.8	16.4	16.5	13.5	13.2	13.4	15.4	13.6	14.5
17	26.3	25.5	25.9	16.8	16.5	16.6	13.5	13.2	13.4	17.0	15.4	16.1
18	26.1	23.9	24.9	16.9	16.5	16.7	13.4	13.0	13.2	17.7	16.3	16.9
19	24.1	22.5	23.3	17.2	16.7	16.9	14.1	13.4	13.7	18.5	16.8	17.5
20	23.3	22.9	23.1	17.3	17.1	17.2	14.3	13.8	14.0	19.6	18.1	18.8
21	23.1	22.5	22.9	17.1	16.7	16.9	15.2	14.3	14.8	20.4	19.4	19.9
22	22.5	21.5	22.0	16.9	16.6	16.7	15.2	13.8	14.8	21.0	19.0	20.3
23	21.5	20.9	21.2	17.3	16.8	17.0	13.8	11.7	12.6	19.0	16.9	17.8
24	20.9	20.5	20.8	17.5	17.1	17.3	11.7	9.8	10.7	17.5	15.8	16.6
25	20.9	20.5	20.7	17.7	17.3	17.5	9.8	7.8	8.7	17.9	15.8	16.7
26	21.0	20.5	20.7	18.1	17.7	17.9	8.7	7.4	8.1	18.4	16.4	17.3
27	21.1	20.6	20.8	18.4	18.0	18.2	12.4	8.7	10.1	19.4	17.7	18.5
28	21.2	20.7	21.0	18.5	18.1	18.4	14.3	12.0	13.5	20.2	19.1	19.7
29	21.4	20.9	21.2	18.9	18.1	18.4	14.4	13.2	13.8	21.3	20.1	20.7
30	21.6	21.1	21.4	20.0	18.7	19.2	14.7	13.6	14.1	21.0	19.3	20.0
31	21.9	21.4	21.6	---	---	---	15.8	14.0	14.8	19.3	17.0	17.7
MONTH	28.5	20.5	23.7	22.4	15.4	18.2	21.0	7.4	15.0	21.3	9.3	16.4

SAN JACINTO RIVER BASIN

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	18.0	16.4	17.1	21.5	18.9	20.2	19.9	19.0	19.4	26.4	24.0	25.1
2	18.7	17.0	17.7	21.7	20.3	20.9	20.6	19.4	20.2	24.9	23.7	24.3
3	18.6	17.3	17.8	20.9	18.9	19.7	22.0	20.6	21.3	24.4	23.5	23.9
4	19.8	18.4	19.1	19.4	17.5	18.5	22.0	21.4	21.7	24.7	23.9	24.1
5	20.0	19.0	19.4	19.7	18.9	19.3	22.9	21.9	22.3	26.3	24.4	25.2
6	21.4	20.0	20.6	22.2	19.5	20.6	24.0	21.1	22.3	26.5	24.3	25.4
7	21.5	21.0	21.2	21.3	19.2	20.0	24.5	22.4	23.5	26.1	23.6	24.9
8	22.2	21.2	21.7	20.8	18.9	19.7	25.5	23.7	24.5	26.6	24.1	25.4
9	24.2	21.7	22.3	22.6	20.3	21.3	26.0	24.3	25.0	26.5	25.4	26.0
10	23.3	22.0	22.6	21.9	20.9	21.3	26.3	24.6	25.4	25.9	20.9	22.9
11	23.4	21.1	22.6	23.0	21.4	22.1	26.4	25.1	25.7	23.5	21.0	22.2
12	21.1	17.7	19.1	22.8	21.8	22.4	25.6	24.2	24.9	23.5	20.3	22.0
13	18.0	16.0	17.0	22.7	15.5	17.2	24.9	23.8	24.1	24.3	20.9	22.3
14	17.4	15.2	16.3	15.7	12.9	14.3	23.8	22.7	23.3	24.5	23.2	23.9
15	17.3	15.5	16.4	13.7	12.1	12.9	23.2	21.4	22.3	26.1	24.3	25.3
16	18.7	16.5	17.4	15.8	12.9	14.5	22.0	20.2	20.9	27.2	25.6	26.4
17	18.8	17.5	18.1	18.0	15.6	16.8	21.4	18.6	20.0	27.5	25.9	26.6
18	19.5	17.9	18.6	20.1	18.0	19.1	21.9	18.7	20.2	27.5	25.8	26.6
19	19.3	17.8	18.5	19.9	18.5	19.1	23.4	20.2	21.7	27.1	25.5	26.3
20	19.6	18.3	18.7	19.7	18.5	19.1	24.6	21.6	23.0	27.1	25.6	26.3
21	19.2	17.7	18.5	19.7	18.6	19.2	24.5	22.8	23.6	27.8	26.0	26.9
22	18.2	16.6	17.3	19.7	18.9	19.2	25.5	23.3	24.3	28.5	26.2	27.4
23	18.8	16.4	17.4	19.6	19.1	19.4	27.5	24.7	25.9	28.8	26.4	27.6
24	18.6	16.3	17.4	21.0	19.6	20.2	27.5	26.0	26.7	28.9	27.2	28.0
25	18.9	17.4	18.1	20.9	20.4	20.6	27.1	25.5	26.3	29.3	27.3	28.2
26	20.0	18.6	19.3	21.3	19.4	20.3	26.4	24.1	25.4	28.4	27.0	27.8
27	21.5	19.8	20.6	20.6	19.4	19.8	25.8	23.5	24.4	29.2	27.2	28.1
28	21.5	19.3	20.4	19.9	19.0	19.5	27.4	24.3	25.6	28.1	25.0	25.4
29	---	---	---	19.6	19.1	19.4	27.8	25.0	26.4	25.7	24.4	25.0
30	---	---	---	19.6	19.2	19.4	27.4	25.2	26.1	26.5	24.6	25.3
31	---	---	---	19.9	19.0	19.4	---	---	---	25.9	23.4	24.6
MONTH	24.2	15.2	19.0	23.0	12.1	19.2	27.8	18.6	23.5	29.3	20.3	25.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	27.8	25.3	26.4	30.2	28.3	29.2	31.9	29.4	30.6	28.2	26.6	27.3
2	28.5	26.8	27.7	30.7	29.2	29.9	31.2	29.5	30.4	29.4	27.5	28.4
3	29.1	27.0	27.9	30.5	29.2	29.8	31.5	29.5	30.4	29.9	28.3	29.0
4	29.8	27.9	28.8	30.4	28.8	29.7	31.3	29.1	30.2	29.3	28.5	28.9
5	29.7	27.9	28.8	30.4	29.0	29.6	31.5	29.3	30.4	30.6	28.3	29.3
6	30.1	28.1	29.0	29.7	27.1	28.5	31.0	29.5	30.3	31.0	28.9	29.8
7	29.4	28.3	28.7	29.2	26.5	27.8	31.2	29.3	30.2	30.9	28.9	29.8
8	28.3	26.1	27.3	29.3	27.1	28.3	31.2	29.5	30.3	31.0	29.1	29.9
9	26.9	25.6	26.3	29.1	28.2	28.6	31.7	29.2	30.3	---	---	---
10	28.2	25.7	26.8	30.0	27.8	28.8	32.0	29.9	30.7	---	---	---
11	28.5	26.9	27.9	29.9	28.4	29.2	31.8	30.0	30.8	29.7	27.9	28.8
12	28.3	26.7	27.6	30.1	28.4	29.3	31.5	29.7	30.5	29.6	28.0	28.8
13	26.7	24.5	25.8	29.8	27.1	28.5	32.0	29.6	30.7	29.5	27.6	28.5
14	28.2	25.9	26.9	30.4	27.5	28.6	32.3	29.8	31.0	29.1	27.4	28.2
15	27.2	25.9	26.6	30.7	28.3	29.5	32.2	30.2	31.2	28.5	26.7	27.6
16	27.1	25.7	26.5	30.1	28.8	29.5	31.5	29.5	30.6	27.4	25.5	26.5
17	28.3	26.1	27.2	29.4	28.3	28.7	30.6	29.5	30.0	27.2	25.3	26.1
18	29.1	27.2	28.1	29.1	28.0	28.4	31.0	28.9	29.8	27.1	25.1	26.0
19	28.9	27.3	27.9	28.6	25.7	27.1	31.5	29.5	30.3	27.0	24.9	25.9
20	27.6	26.6	27.2	28.6	26.6	27.5	31.8	29.5	30.5	27.6	25.2	26.2
21	27.1	26.2	26.6	27.8	26.2	27.0	31.1	29.3	30.3	27.6	26.1	26.7
22	27.7	26.6	27.1	28.5	25.8	26.9	30.3	29.6	29.9	26.3	24.7	25.4
23	28.2	27.1	27.6	29.4	27.2	28.4	30.5	29.1	29.7	25.1	23.2	24.1
24	28.7	27.3	28.0	30.4	28.0	29.2	30.2	29.2	29.7	25.2	22.8	24.0
25	28.5	27.5	27.8	30.1	29.1	29.6	31.5	29.3	30.1	24.9	23.9	24.4
26	29.1	27.4	28.1	30.6	28.6	29.5	32.0	29.6	30.6	26.4	24.3	25.1
27	30.3	28.3	29.2	30.6	28.6	29.5	32.0	29.8	30.8	26.9	25.3	26.0
28	29.8	28.6	29.2	31.8	29.3	30.2	31.7	29.8	30.6	27.5	26.3	26.8
29	29.5	28.8	29.1	31.8	29.8	30.6	30.8	29.7	30.3	27.2	22.2	24.4
30	30.0	28.8	29.4	32.0	29.6	30.6	30.4	28.6	29.5	23.6	21.9	22.8
31	---	---	---	31.6	29.5	30.5	29.9	25.1	28.4	---	---	---
MONTH	30.3	24.5	27.7	32.0	25.7	29.0	32.3	25.1	30.3	---	---	---

SAN JACINTO RIVER BASIN

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	3.6	3.4	3.5	13.8	3.5	10.3	7.8	6.1	7.0	9.4	1.7	5.2
2	3.5	3.1	3.4	12.3	3.6	7.8	---	---	---	7.9	5.7	6.9
3	3.4	2.9	3.3	12.5	4.0	8.5	---	---	---	9.5	6.5	8.2
4	4.1	2.9	3.2	12.6	6.4	9.6	---	---	---	10.5	8.8	9.7
5	4.0	2.7	3.3	12.4	5.8	9.2	---	---	---	10.3	3.0	8.6
6	6.7	3.7	5.4	13.0	3.9	7.4	---	---	---	8.8	3.2	6.7
7	6.6	4.4	5.4	11.8	5.3	7.2	---	---	---	8.1	3.9	6.9
8	5.6	4.1	4.6	12.8	5.3	8.6	---	---	---	---	---	---
9	5.8	3.4	5.0	11.1	3.6	6.8	---	---	---	---	---	---
10	6.2	3.7	5.3	11.7	4.3	7.1	---	---	---	---	---	---
11	6.9	3.8	6.0	12.5	4.7	7.1	12.4	4.2	8.5	---	---	---
12	7.8	4.5	5.8	12.4	3.8	7.3	11.3	8.5	9.8	---	---	---
13	7.8	4.9	6.4	13.5	4.0	8.7	9.8	3.9	7.6	---	---	---
14	9.4	6.1	8.1	12.9	4.9	9.6	9.0	3.8	7.5	---	---	---
15	9.4	6.8	8.3	11.7	3.7	8.0	9.1	2.7	6.7	---	---	---
16	9.1	6.9	8.0	11.6	3.9	6.9	9.4	.7	6.7	7.5	4.8	6.3
17	8.7	5.1	7.4	11.6	3.7	7.2	9.1	.1	6.6	6.6	3.9	5.3
18	11.7	5.2	8.9	11.2	3.8	6.9	9.1	.8	6.4	6.7	2.7	5.3
19	11.7	7.4	10.1	10.8	5.6	8.2	8.6	.1	5.5	7.0	2.8	5.2
20	10.9	5.8	9.6	10.9	5.0	8.7	8.2	.1	6.2	6.3	.7	4.5
21	11.0	5.8	9.5	10.0	3.6	5.9	9.1	3.9	7.4	5.5	.7	4.4
22	11.8	4.5	9.8	9.4	4.3	6.1	8.6	4.1	7.3	6.4	.6	4.4
23	15.0	5.5	9.1	10.3	4.9	9.2	8.9	7.5	8.2	6.8	2.4	4.9
24	15.8	8.1	12.8	10.3	8.4	10.0	9.4	7.9	8.8	6.7	3.8	5.3
25	15.0	7.5	11.9	9.8	3.2	8.2	9.9	8.6	9.5	7.5	3.4	5.7
26	15.7	6.6	12.0	9.4	6.2	8.8	10.5	3.1	8.5	5.9	3.8	5.0
27	14.9	5.3	11.4	9.0	3.0	6.8	9.0	.1	6.2	6.1	4.0	5.1
28	14.2	6.2	9.9	8.8	4.3	6.0	7.6	.1	4.2	5.3	1.6	4.4
29	14.0	7.0	10.4	8.1	5.1	7.7	8.0	.3	5.3	4.5	2.6	3.9
30	14.0	6.4	10.6	7.5	6.1	6.7	7.4	.3	4.7	4.6	2.6	3.8
31	14.0	6.2	11.7	---	---	---	6.8	1.3	4.9	5.5	3.1	4.6
MONTH	15.8	2.7	7.7	13.8	3.0	7.9	---	---	---	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	5.9	.6	4.5	---	---	---	12.5	9.4	11.6	7.4	4.5	5.8
2	7.1	1.7	5.5	---	---	---	12.2	11.2	11.7	7.4	5.4	6.3
3	6.8	2.0	6.1	---	---	---	11.8	8.6	10.6	7.0	5.4	6.1
4	6.5	.1	5.3	6.5	4.2	5.3	10.4	5.9	8.5	7.7	4.0	5.8
5	5.7	.2	4.0	5.5	3.6	4.6	---	---	---	8.9	4.5	6.5
6	6.8	2.7	5.0	6.1	3.3	4.7	5.1	3.8	4.4	8.0	4.4	6.0
7	5.9	3.9	5.2	5.3	2.6	4.3	6.7	4.6	5.9	8.4	4.6	6.0
8	6.3	3.9	5.6	5.5	1.1	3.9	5.7	4.4	5.1	8.8	4.9	6.8
9	6.1	4.3	5.4	6.0	1.3	4.2	6.2	3.8	5.1	8.0	4.7	5.8
10	6.3	3.5	4.9	5.5	.8	3.8	6.1	1.0	5.0	9.9	4.0	5.8
11	5.5	2.7	4.1	5.5	1.4	4.1	6.5	4.1	5.3	5.9	4.2	4.8
12	5.8	4.3	5.0	5.0	.7	3.1	---	---	---	8.7	3.7	5.5
13	7.1	4.3	5.7	13.5	1.4	7.7	---	---	---	6.2	4.7	5.3
14	7.6	5.1	6.3	11.0	8.2	9.6	---	---	---	5.8	4.8	5.5
15	7.5	4.4	6.3	11.6	9.9	11.0	---	---	---	5.7	5.0	5.4
16	7.5	3.8	6.0	11.6	8.0	9.9	---	---	---	5.4	4.2	4.9
17	10.5	1.9	5.4	8.9	5.8	7.6	6.8	5.1	5.9	4.3	3.2	3.7
18	4.5	.8	3.1	7.2	4.1	5.8	7.8	6.0	6.7	4.9	3.1	4.2
19	4.3	.1	2.3	11.5	4.4	8.4	8.1	5.5	7.0	5.0	2.0	4.0
20	5.6	.1	4.0	10.2	6.5	8.0	7.3	5.1	6.0	5.4	1.1	4.0
21	5.6	.4	3.4	10.5	6.8	9.0	6.6	2.7	4.3	6.7	1.0	4.8
22	5.1	.2	2.6	10.6	9.3	10.0	8.1	4.4	6.4	6.7	1.9	5.3
23	5.2	.1	2.9	10.4	9.0	9.9	8.1	4.8	6.6	7.3	1.9	5.6
24	5.3	.9	3.2	10.5	8.4	9.4	8.0	4.7	6.5	8.2	4.4	6.0
25	5.3	.4	3.7	11.0	9.6	10.3	7.9	5.0	6.6	11.5	4.0	7.1
26	5.1	.4	3.8	10.0	7.2	8.7	7.7	4.4	5.7	13.5	3.4	8.2
27	---	---	---	12.0	7.4	11.0	4.8	2.6	3.7	14.7	2.0	9.3
28	---	---	---	12.6	6.0	10.2	4.7	1.3	3.6	8.2	3.9	4.8
29	---	---	---	10.4	4.4	6.2	5.5	1.7	4.1	5.6	4.7	5.1
30	---	---	---	10.2	7.8	9.2	5.9	3.1	4.4	8.5	4.7	5.5
31	---	---	---	9.5	7.6	8.6	---	---	---	6.8	4.6	5.8
MONTH	---	---	---	---	---	---	---	---	---	14.7	1.0	5.7

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SAN JACINTO RIVER BASIN

08074150 COLE CREEK AT DEIHL ROAD, HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°51'04", long 95°29'16", Harris County, Hydrologic Unit 12040104, on downstream side of bridge at Deihl Road in northwest Houston and 1.8 mi upstream from mouth.

DRAINAGE AREA.--7.5 mi².

PERIOD OF RECORD.--Apr 1964 to Sep 1986 (daily mean discharge), Oct 1986 to Sep 1992 (annual maximum discharge), Oct 1992 to current year (peak discharges greater than base discharge).

REVISED RECORDS.--WDR TX-74-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is sea level, 1957 adjustment; unadjusted for land-surface subsidence. Radio telemeter at station. Satellite telemeter at station.

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

AVERAGE DISCHARGE.--22 years (water years 1965-86), 8.08 ft³/s, (5,850 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,860 ft³/s Sep 11, 1998 (gage height, 80.86 ft); no flow at times.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	1000	647	75.14	Mar 19	0915	1,220	75.95
Nov 13	0345	1,020	75.34	May 12	1045	988	75.22
Nov 14	0600	841	74.68	May 30	1700	1,530	76.75
Dec 11	1000	954	75.10	Jun 13	1215	588	73.54

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SAN JACINTO RIVER BASIN

08074250 BRICKHOUSE GULLEY AT COSTA RICA STREET, HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°49'40", long 95°28'09", Harris County, Hydrologic Unit 12040104, at downstream side of bridge at Costa Rica Street in northwest Houston and 1.0 mi upstream from Whiteoak Bayou.

DRAINAGE AREA.--11.4 mi².

PERIOD OF RECORD.--Aug 1964 to Sep 1981 (daily mean discharge), Oct 1982 to Sep 1983 (peak discharges greater than base discharge or annual maximum), Oct 1983 to Sep 1992 (annual maximum), Oct 1992 to current year (peak discharges greater than base discharge).

Water-quality records.--Chemical data: Oct 1981 to Sep 1982. Biochemical data: Oct 1981 to Sep 1982.

REVISED RECORDS.--WRD TX-74-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Low-water concrete control since Dec 9, 1970. Datum of gage is sea level; unadjusted for land-surface subsidence. Radio telemeter at station. Satellite telemeter at station.

REMARKS.--Records good. Low flow is partially sustained by wastewater effluent. No known regulation or diversions.

AVERAGE DISCHARGE.--17 years (1965-1981), 14.0 ft³/s (10,140 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,580 ft³/s Mar 4, 1992, gage height, 71.26 ft; no flow at times.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 11	1100	2,560	63.81	May 30	1830	2,230	63.08
Mar 19	0945	3,590	65.85				

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SAN JACINTO RIVER BASIN

08074500 WHITEOAK BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°46'30", long 95°23'49", Harris County, Hydrologic Unit 12040104, at downstream side of downstream bridge on Heights Boulevard in Houston, 560 ft downstream from Texas and New Orleans Railroad Co. bridge, 2.4 mi upstream from Little Whiteoak Bayou, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--86.3 mi².

PERIOD OF RECORD.--May 1936 to current year.

Water-quality records.--Chemical data: Oct 1968 to Sep 1998. Biochemical data: Oct 1968 to Sep 1998. Pesticide data: Feb 1969 to Sep 1998.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.35 ft below sea level, adjustment of 1973; unadjusted for land-surface subsidence. Prior to Jun 17, 1936, nonrecording gage, and Jun 17, 1936, to Apr 28, 1965, water-stage recorder at site 480 ft upstream at same datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. No known regulation or diversions. Low flow is sustained by wastewater effluent.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1919, 51.5 ft Dec 9, 1935, prior to channel rectification, present site and datum (discharge, 14,750 ft³/s), furnished by the engineer for Harris County. The flood of May 31, 1929, reached a stage of 47.0 ft, prior to channel rectification, present site and datum (discharge, 9,360 ft³/s) computed on basis of current-meter measurement at stage 1.0 ft below crest, furnished by city of Houston.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	1315	7,190	31.41	Mar 19	1045	9,040	33.83
Nov 13	0445	9,770	34.72	May 12	1200	6,760	30.81
Nov 14	0715	7,000	31.14	May 30	1830	6,400	30.29
Dec 11	1145	8,290	32.88				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

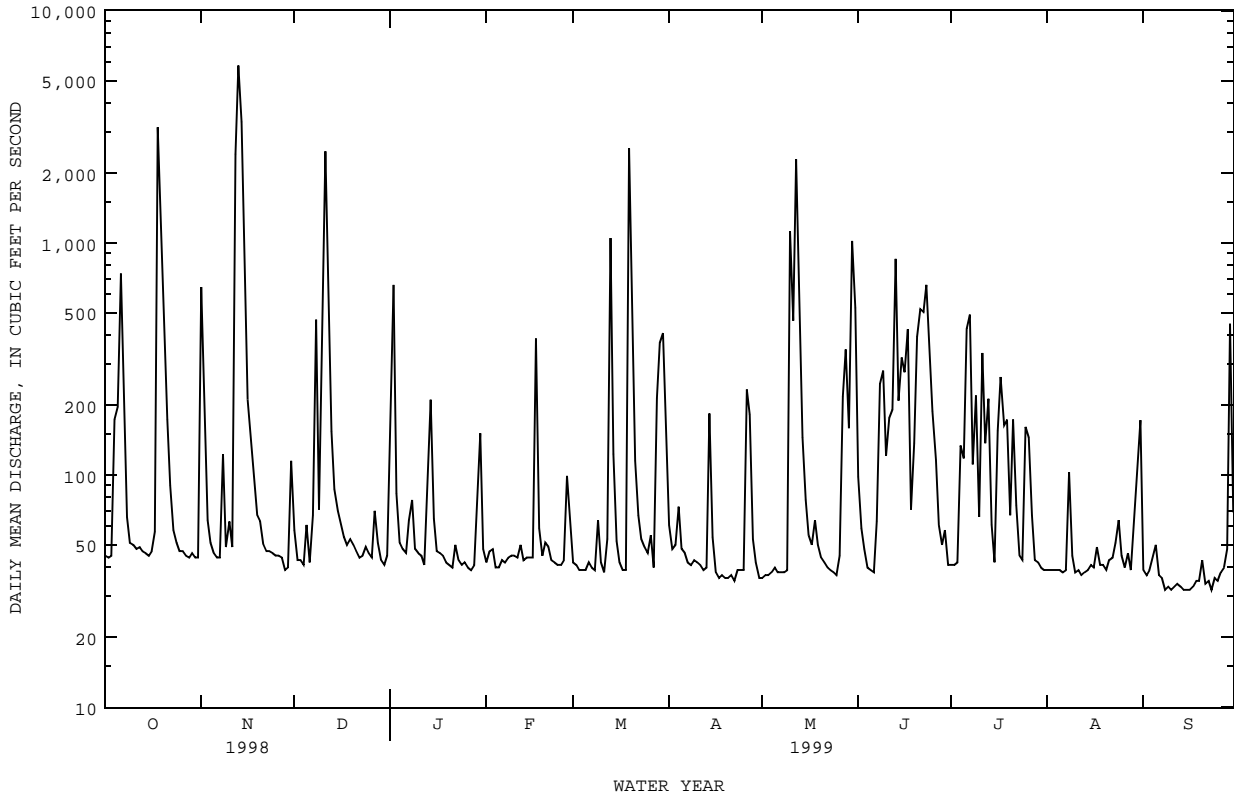
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	644	58	262	42	42	61	36	98	41	39	39
2	44	264	43	657	47	41	48	37	59	41	39	37
3	45	64	43	83	48	39	50	37	48	42	39	39
4	174	51	41	51	40	39	73	38	40	134	39	44
5	197	46	61	48	40	39	48	40	39	118	39	50
6	737	44	42	46	43	42	46	38	38	427	38	37
7	191	44	67	64	42	40	42	38	63	492	39	36
8	66	123	466	78	44	39	41	38	247	111	103	32
9	51	49	71	48	45	64	43	39	282	220	45	33
10	50	63	236	46	45	42	42	1120	121	66	38	32
11	48	49	2480	45	44	38	41	462	176	336	39	33
12	49	2410	644	41	50	53	39	2290	191	137	37	34
13	47	5810	154	107	43	1050	40	525	854	213	38	33
14	46	3320	87	211	44	123	184	145	209	61	39	32
15	45	579	70	65	44	52	54	78	321	42	41	32
16	47	211	62	47	44	42	38	55	277	155	40	32
17	57	134	54	46	387	39	36	50	424	264	49	33
18	3150	92	50	45	59	39	37	64	71	164	41	35
19	1370	67	53	42	45	2550	36	50	137	173	41	35
20	593	63	50	41	51	367	36	44	394	67	39	43
21	173	50	47	40	49	115	37	42	518	173	43	34
22	90	47	44	50	43	67	35	40	504	74	44	35
23	58	47	45	43	42	53	39	39	659	45	51	32
24	51	46	49	41	41	49	39	38	366	43	64	36
25	47	45	46	42	41	46	39	37	188	161	45	35
26	47	45	44	40	43	55	234	45	116	145	40	38
27	45	44	70	39	99	40	182	218	61	67	46	40
28	44	39	51	41	65	214	53	347	50	43	39	48
29	46	40	43	68	---	371	42	159	58	42	60	448
30	44	115	41	151	---	409	36	1020	41	40	99	69
31	44	---	45	48	---	121	---	524	---	39	172	---
TOTAL	7741	14645	5357	2676	1670	6320	1771	7733	6650	4176	1565	1536
MEAN	250	488	173	86.3	59.6	204	59.0	249	222	135	50.5	51.2
MAX	3150	5810	2480	657	387	2550	234	2290	854	492	172	448
MIN	44	39	41	39	40	38	35	36	38	39	37	32
AC-FT	15350	29050	10630	5310	3310	12540	3510	15340	13190	8280	3100	3050

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1999, BY WATER YEAR (WY)

	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
MEAN	92.9	112	101	116	116	96.9	92.8	128	120	78.6	74.9	100		
MAX	560	774	378	437	472	517	436	558	556	439	535	684		
(WY)	1995	1947	1992	1944	1992	1992	1997	1989	1973	1942	1983	1998		
MIN	.71	.93	2.22	1.70	5.12	1.10	1.35	.75	2.93	2.19	.61	1.07		
(WY)	1949	1940	1949	1940	1951	1940	1939	1937	1954	1944	1940	1948		

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1936 - 1999	
ANNUAL TOTAL	75179		61840		103	
ANNUAL MEAN	206		169		267	
HIGHEST ANNUAL MEAN					10.9	
LOWEST ANNUAL MEAN					267	
HIGHEST DAILY MEAN	13200	Sep 11	5810	Nov 13	13200	Sep 11 1998
LOWEST DAILY MEAN	24	May 8	32	Sep 8	.20	Aug 7 1940
ANNUAL SEVEN-DAY MINIMUM	25	May 15	33	Sep 10	.26	Aug 12 1951
INSTANTANEOUS PEAK FLOW			9770	Nov 13	25100	Mar 4 1992
INSTANTANEOUS PEAK STAGE			34.72	Nov 13	50.43	Mar 4 1992
ANNUAL RUNOFF (AC-FT)	149100		122700		74380	
10 PERCENT EXCEEDS	293		340		207	
50 PERCENT EXCEEDS	46		47		29	
90 PERCENT EXCEEDS	29		38		2.3	



SAN JACINTO RIVER BASIN

08074598 WHITEOAK BAYOU AT MAIN STREET, HOUSTON, TX

LOCATION.--Lat 29°45'59", long 95°21'30", Harris County, Hydrologic Unit 12040104, on right bank at Main street bridge, 3 miles downstream from station 08074500, and 700 ft upstream from Buffalo Bayou.

DRAINAGE AREA.--127 mi².

PERIOD OF RECORD.--Nov 1992 to current year (gage-height only).

Water-quality records.--Specific conductance: May 1992 to Sep 1997. Water temperature: May 1992 to Sep 1997. Dissolved oxygen: May 1992 to Sep 1997.

GAGE.--Water-stage recorder and data logger. Datum of gage is sea level, 1978 adjustment, unadjusted for land-surface subsidence. Satellite telemeter at station.

REMARKS.--Records good. No known regulation or diversions. Mostly tidal, affected by local runoff.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height 32.75 ft Sep 11, 1998 at 1200 hours; minimum, -1.57 ft Aug 14, 1994 at 2215 hours.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 19.49 ft, Nov 13; minimum gage height, 0.16 ft, Mar 14.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	5.13	3.74	7.41	4.48	4.40	2.73	7.18	2.90	4.27	2.37	4.08	2.30
2	5.41	3.92	4.93	3.08	4.71	2.91	7.70	1.84	4.25	2.42	4.50	2.98
3	6.05	4.45	5.35	3.67	5.22	3.57	2.52	.79	4.62	3.20	3.56	1.64
4	6.80	4.06	5.17	3.53	5.10	3.43	3.52	1.29	4.56	2.93	5.31	3.13
5	6.45	5.11	4.67	2.69	4.98	3.13	4.29	2.40	4.65	3.51	5.28	3.64
6	8.04	4.81	5.16	3.27	4.85	3.27	4.33	2.88	4.27	3.14	3.90	2.88
7	5.12	2.57	5.30	3.42	4.80	3.16	4.30	2.66	4.40	3.12	5.51	2.62
8	5.13	3.69	4.98	2.51	5.15	2.50	4.12	3.15	4.13	2.60	5.65	4.24
9	5.29	3.84	4.49	3.38	4.45	3.40	3.76	1.37	4.39	2.62	4.45	3.06
10	5.41	3.83	5.17	2.73	4.84	3.05	3.95	2.67	4.60	2.57	4.95	2.86
11	5.28	4.16	4.58	3.25	14.21	3.29	4.12	2.62	4.72	2.45	4.96	3.19
12	5.49	3.17	15.56	4.30	7.96	2.41	4.14	2.43	2.65	.49	5.71	3.27
13	4.56	2.67	19.49	8.75	3.18	1.99	4.33	2.42	3.76	1.69	9.19	2.04
14	4.41	2.73	16.38	7.59	4.30	2.90	3.85	1.64	4.38	2.16	2.04	.16
15	4.78	3.04	7.59	4.80	4.30	3.00	4.16	1.96	4.51	2.88	3.76	1.10
16	5.51	3.56	5.28	4.59	4.30	2.89	4.39	2.57	4.58	2.74	4.40	2.96
17	5.96	4.70	5.08	3.89	4.25	2.72	4.47	2.67	4.93	2.46	5.01	3.52
18	15.12	4.90	5.22	3.79	5.27	3.51	4.26	2.11	4.38	2.69	4.75	3.05
19	8.53	5.64	5.08	3.81	5.14	2.56	4.04	2.21	4.01	2.42	14.98	3.55
20	6.18	4.29	5.04	2.81	4.74	2.97	4.13	2.47	4.90	3.20	8.57	2.83
21	5.35	3.63	5.07	3.33	4.98	3.33	4.81	3.26	4.16	2.04	3.89	1.85
22	5.43	4.14	5.04	3.58	4.53	2.05	5.16	2.36	5.04	2.78	4.66	2.63
23	5.77	4.55	5.09	3.54	4.11	2.50	3.20	.90	5.03	2.97	4.92	3.22
24	5.91	4.60	4.88	3.43	3.87	2.15	3.85	2.14	4.07	2.14	4.52	2.62
25	5.93	4.53	5.00	3.51	3.64	2.53	3.89	2.18	4.35	2.48	4.00	2.41
26	5.97	4.56	4.80	3.32	3.84	2.62	4.02	2.27	4.49	2.49	4.65	2.52
27	5.30	4.33	4.59	3.51	4.22	2.81	4.21	2.46	4.80	2.66	5.51	3.66
28	5.65	4.25	4.64	3.67	4.14	2.40	4.76	2.78	3.80	1.81	5.91	3.57
29	5.48	4.24	4.90	3.80	3.69	2.02	4.82	2.95	---	---	5.03	2.71
30	5.53	4.47	4.81	3.24	4.31	1.93	4.63	1.90	---	---	4.49	3.24
31	5.64	4.42	---	---	4.50	2.32	3.65	1.54	---	---	4.57	3.22
MONTH	15.12	2.57	19.49	2.51	14.21	1.93	7.70	.79	5.04	.49	14.98	.16

SAN JACINTO RIVER BASIN

08074610 BUFFALO BAYOU AT MCKEE STREET, HOUSTON, TX

LOCATION.--Lat 29°45'57", long 95°21'07", Harris County, Hydrologic Unit 12040104, on left bank at McKee Street bridge over Buffalo Bayou, 0.8 mi downstream from station 08074598 and 5.5 mi upstream from station 08074710.

DRAINAGE AREA.--469 mi².

WATER-ELEVATION RECORDS

PERIOD OF RECORD.--Feb 1992 to current year (elevation only).

GAGE.--Water-stage recorder. Datum of gage is sea level, 1978 adjustment, unadjusted for land-surface subsidence. Satellite telemeter at station.

REMARKS.--Records good. Mostly tidal, affected by local runoff.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 26.3 ft Sep 11, 1998 at 1200 hours; minimum, -2.4 ft Jan 19, 1996 at 1400 hours and Mar 9, 1998 at 1145 hours.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 14.7 ft, Nov 13; minimum elevation, -1.9 ft, Mar 14.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	3.1	1.6	5.0	2.5	2.3	.5	4.7	1.0	2.5	.6	2.2	.4
2	3.4	1.8	2.8	1.2	2.6	.6	5.1	-.2	2.4	.6	2.6	1.1
3	4.1	2.4	3.3	1.5	3.1	1.4	.6	-1.2	2.8	1.4	1.6	-.3
4	4.8	2.0	3.1	1.3	3.0	1.2	1.7	-.6	2.7	1.1	3.4	1.2
5	4.6	3.2	2.5	.4	2.9	.9	2.5	.6	2.8	1.7	3.4	1.7
6	5.6	2.9	3.1	1.0	2.8	1.2	2.5	1.1	2.4	1.3	2.0	1.0
7	3.0	.7	3.3	1.4	2.8	1.1	2.5	.9	2.6	1.3	3.6	.7
8	3.1	1.6	3.0	.5	2.5	.2	2.3	1.4	2.3	.8	3.7	2.2
9	3.3	1.7	2.6	1.3	2.4	1.2	1.9	-.5	2.5	.8	2.5	1.1
10	3.4	1.7	3.2	.7	2.9	1.1	2.1	.8	2.7	.7	3.0	.9
11	3.2	2.1	2.4	1.2	10.1	1.3	2.3	.9	2.8	.5	3.0	1.2
12	3.5	1.2	11.1	2.3	4.7	.3	2.3	.6	.7	-1.5	3.7	1.2
13	2.7	.8	14.7	5.7	1.1	-.2	2.5	.6	1.8	-.2	6.2	-.4
14	2.5	.9	12.1	4.9	2.2	.6	2.0	-.3	2.4	.2	-.4	-1.9
15	2.9	1.2	4.9	2.7	2.1	.7	2.3	.1	2.6	1.0	1.6	-1.2
16	3.7	1.7	3.3	2.6	2.2	.6	2.6	.8	2.7	.9	2.2	.8
17	4.1	2.9	3.1	1.8	2.0	.3	2.7	.8	2.5	.5	2.9	1.4
18	11.5	3.0	3.1	1.6	3.2	1.2	2.5	.3	2.4	.8	2.6	.9
19	5.8	3.4	3.0	1.6	3.1	.5	2.2	.4	2.1	.5	10.6	1.4
20	4.0	2.4	2.9	.7	2.7	.7	2.3	.6	2.9	1.3	5.3	.6
21	3.5	1.7	3.0	1.2	2.9	1.1	3.0	1.5	2.2	.1	1.7	-.4
22	3.4	2.0	3.0	1.4	2.5	-.2	3.4	.5	3.1	.9	2.4	.3
23	3.8	2.4	3.0	1.3	2.1	.6	1.3	-1.0	2.6	1.1	2.7	.9
24	3.9	2.5	2.8	1.2	2.0	.2	2.0	.3	2.2	.2	2.5	.5
25	3.9	2.4	2.9	1.2	1.8	.6	2.1	.4	2.4	.6	1.9	.3
26	4.0	2.4	2.7	1.0	2.1	.9	2.2	.4	2.6	.6	2.6	.5
27	4.0	2.2	2.4	1.2	2.5	1.1	2.4	.6	2.9	.8	3.5	1.6
28	3.6	2.1	2.5	1.4	2.4	.7	2.8	.9	1.9	-.1	3.8	1.5
29	3.5	2.1	2.8	1.6	1.9	.2	2.9	1.1	---	---	2.7	.7
30	3.5	2.3	2.8	1.2	2.5	.1	2.7	.0	---	---	2.5	1.2
31	3.7	2.5	---	---	2.7	.5	1.7	-.4	---	---	2.6	1.3
MONTH	11.5	.7	14.7	.4	10.1	-.2	5.1	-1.2	3.1	-1.5	10.6	-1.9

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Feb 1992 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Feb 1992 to current year.
 PH: Oct 1998 to Sep 1999.
 WATER TEMPERATURE: Feb 1992 to current year.
 DISSOLVED OXYGEN: Feb 1992 to current year.

INSTRUMENTATION.--Water-quality monitor since Feb 1992.

REMARKS.--Interruption in the record was caused by malfunctions of the instrumentation. Due to tidal effects, probe location, and channel morphology, the water-quality data collected at this location may not be representative of the entire flow through the cross-section.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, >2000 microsiemens, on Nov 22, 23, 1996, Sep 29, 1999; minimum 30 microsiemens, May 25, 1997.
 PH: Maximum, 8.9 units, May 23, 1999; minimum, 6.6 units, on Nov 6, 24, 1999.
 WATER TEMPERATURE: Maximum 36.8°C, on Jul 29, 1999; minimum, 5.5°C, on Jan 13-15, 1997.
 DISSOLVED OXYGEN: Maximum, 17.4 mg/L, May 23, 1999; minimum, 0.1 mg/L, on several days in 1995, 1996, 1999.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 2,790 microsiemens, Sep 29; minimum, 68 microsiemens, Jun 13.
 PH: Maximum, 8.9 units, May 23; minimum, 6.6 units, Nov 6, 24.
 WATER TEMPERATURE: Maximum, 36.8°C, Jul 29; minimum, 7.8°C, Dec 26.
 DISSOLVED OXYGEN: Maximum, 17.4 mg/L, May 23; minimum, 0.1 mg/L, Nov 9-10, Feb 27-28, May 26, Aug 4-7, 21-25.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	366	149	183	---	---	---	741	206	486
2	---	---	---	258	154	194	---	---	---	367	159	235
3	164	110	132	---	---	---	149	104	121	366	259	311
4	213	131	163	---	---	---	167	109	128	437	304	371
5	230	162	191	---	---	---	161	113	138	534	371	457
6	225	103	156	167	111	134	182	128	151	611	479	546
7	255	124	189	187	125	153	262	139	172	688	488	597
8	273	149	187	336	148	228	226	160	186	640	459	569
9	211	168	186	221	151	191	162	136	146	717	535	606
10	222	170	193	289	154	199	280	139	215	718	565	626
11	187	155	173	---	---	---	329	87	190	744	597	680
12	217	157	183	---	78	---	211	115	162	804	631	709
13	306	181	238	112	77	98	213	161	182	839	486	715
14	397	285	333	119	88	102	189	147	170	648	337	476
15	501	368	426	176	112	143	192	145	171	604	392	495
16	557	422	504	180	141	160	189	155	172	716	433	577
17	600	479	543	168	119	139	203	165	180	748	528	634
18	574	88	285	142	106	124	214	162	188	739	575	661
19	156	111	134	136	104	119	263	191	222	794	599	708
20	220	141	180	162	112	138	212	155	183	831	670	745
21	275	168	223	155	99	129	197	158	175	836	635	739
22	190	99	132	134	95	116	217	162	189	838	671	757
23	129	93	109	139	100	118	258	169	206	869	673	774
24	120	88	104	145	104	123	268	202	235	914	703	801
25	131	93	106	139	107	124	298	217	256	912	706	811
26	136	93	111	133	112	125	450	256	356	927	676	814
27	121	92	109	136	109	122	628	416	489	908	679	804
28	125	79	107	139	104	118	665	473	559	922	702	810
29	129	99	115	135	101	118	640	528	591	862	689	781
30	---	---	---	320	119	193	727	603	657	799	518	660
31	---	---	---	---	---	---	748	625	681	729	571	639
MONTH	---	---	---	---	---	---	---	---	---	927	159	632

08074610 BUFFALO BAYOU AT MCKEE STREET, HOUSTON, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	658	467	550	830	747	794	529	270	348	857	620	711
2	743	503	635	836	788	818	341	269	300	681	623	647
3	807	587	690	846	828	837	422	294	348	705	681	694
4	792	605	713	847	827	838	526	422	485	760	703	722
5	816	639	727	848	819	834	602	526	558	770	742	757
6	842	662	744	877	826	857	682	557	594	779	756	765
7	816	633	742	879	865	870	838	426	541	817	779	805
8	875	674	768	887	854	870	600	489	543	845	814	832
9	1120	700	862	889	871	877	691	598	612	841	821	831
10	1050	880	944	876	857	868	770	691	728	834	155	421
11	1220	902	988	864	817	837	813	769	805	272	170	214
12	1180	903	994	871	837	853	829	813	822	305	84	176
13	1040	873	924	864	167	320	837	820	830	221	120	164
14	927	853	876	324	210	272	846	415	728	254	197	213
15	902	834	870	304	268	289	517	425	476	232	197	213
16	890	846	863	342	289	307	574	476	534	368	230	271
17	875	322	482	468	314	418	662	564	607	430	323	378
18	440	366	403	573	463	541	756	662	732	605	428	503
19	693	385	594	633	---	---	799	741	780	639	589	606
20	689	633	664	---	---	---	835	795	813	683	639	652
21	690	591	639	---	---	---	868	827	851	720	668	685
22	674	615	647	---	---	---	874	843	857	762	713	727
23	682	630	657	203	171	190	878	849	864	780	753	768
24	766	669	719	336	193	254	870	837	858	812	779	786
25	819	739	795	327	199	255	860	838	851	821	786	804
26	839	790	813	469	254	349	863	474	810	815	724	787
27	851	802	827	577	216	320	608	474	557	820	199	672
28	848	630	717	429	226	305	669	552	632	554	245	331
29	---	---	---	419	206	358	650	615	636	429	233	327
30	---	---	---	303	216	283	656	621	632	370	77	274
31	---	---	---	425	290	345	---	---	---	232	141	178
MONTH	1220	322	745	---	---	---	878	269	658	857	77	546
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	352	220	289	475	326	383	762	718	747	460	218	371
2	406	271	318	534	461	496	785	757	769	471	364	402
3	414	312	346	649	530	614	800	779	786	675	443	546
4	494	410	440	766	497	670	805	777	788	678	619	658
5	594	490	556	629	470	543	793	733	766	701	635	675
6	683	589	641	690	143	544	781	724	755	818	662	712
7	713	663	687	358	227	280	797	761	780	1100	724	827
8	722	286	554	411	310	348	777	538	741	1230	864	978
9	407	150	258	386	282	336	727	433	574	1820	851	1210
10	307	151	229	445	343	400	750	701	731	1860	952	1230
11	381	102	239	549	210	416	781	738	758	1200	941	1050
12	421	182	310	504	306	433	796	764	780	1220	966	1080
13	304	68	175	525	168	428	877	793	825	1710	972	1130
14	307	175	243	412	187	295	916	726	859	1890	886	1300
15	324	146	217	565	401	486	1170	846	944	1200	946	1090
16	350	183	246	628	389	573	964	813	874	1320	991	1140
17	324	187	248	586	319	470	966	842	895	1250	1020	1130
18	442	319	385	449	301	397	920	769	828	1340	966	1120
19	553	293	397	405	227	290	825	742	784	1560	1030	1180
20	343	240	295	374	260	316	927	699	805	1460	1000	1190
21	252	147	188	477	272	374	861	716	806	2040	1000	1430
22	286	193	258	395	274	317	861	680	749	2560	1310	1650
23	266	196	224	---	---	---	869	687	776	2100	1530	1760
24	307	242	277	---	---	---	968	801	849	2070	1480	1810
25	377	295	350	---	---	---	911	723	818	2070	1350	1560
26	438	354	392	553	494	494	1100	786	873	2610	1380	1970
27	520	433	475	604	543	543	1350	830	956	2150	1110	1370
28	607	262	454	645	593	618	1350	822	1000	2240	1040	1460
29	283	233	255	680	641	655	1280	929	1060	2790	173	828
30	326	247	273	712	679	691	1410	742	969	419	306	392
31	---	---	---	723	695	714	2130	200	728	---	---	---
MONTH	722	68	341	---	---	---	2130	200	818	2790	173	1110

SAN JACINTO RIVER BASIN

08074610 BUFFALO BAYOU AT MCKEE STREET, HOUSTON, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	7.5	6.9	7.2	---	---	---	8.2	7.6	7.7
2	---	---	---	7.6	6.9	7.2	---	---	---	8.2	7.3	7.6
3	7.1	6.9	7.0	---	---	---	7.0	6.8	6.9	7.6	7.0	7.5
4	7.3	6.9	7.1	---	---	---	7.0	6.7	6.8	7.7	7.4	7.6
5	7.2	7.0	7.2	---	---	---	6.9	6.8	6.8	8.0	7.5	7.7
6	7.8	7.2	7.5	6.9	6.6	6.8	6.9	6.8	6.8	7.9	7.7	7.8
7	7.7	7.2	7.5	7.0	6.7	6.9	7.3	6.7	6.9	8.0	7.7	7.8
8	7.5	6.9	7.1	7.3	6.9	7.1	7.3	7.0	7.2	7.9	7.6	7.7
9	7.1	7.0	7.1	7.1	6.8	7.0	7.3	6.8	7.0	7.8	7.5	7.6
10	7.2	7.0	7.1	7.2	6.9	7.0	7.3	6.8	7.1	7.8	7.6	7.7
11	7.2	7.0	7.1	---	---	---	8.1	7.1	7.6	7.8	7.6	7.7
12	7.2	7.0	7.1	---	---	---	7.8	7.5	7.6	7.9	7.6	7.7
13	7.3	7.0	7.2	7.9	7.1	7.6	7.5	7.1	7.3	7.9	7.5	7.7
14	7.4	7.2	7.3	7.9	7.1	7.6	7.2	6.9	7.1	7.7	7.3	7.6
15	7.5	7.2	7.3	7.5	7.0	7.4	7.1	7.0	7.1	7.5	7.2	7.4
16	7.6	7.3	7.5	7.5	7.0	7.4	7.1	7.0	7.1	7.8	7.2	7.4
17	7.6	7.4	7.5	7.4	7.0	7.3	7.1	7.0	7.1	7.7	7.3	7.5
18	8.0	7.4	7.7	7.4	7.0	7.3	7.2	7.0	7.1	7.7	7.3	7.5
19	7.7	7.4	7.6	7.3	7.0	7.2	7.3	7.1	7.2	7.7	7.3	7.5
20	7.6	7.3	7.5	7.3	7.1	7.3	7.3	7.0	7.1	7.8	7.4	7.6
21	7.5	7.2	7.4	7.4	7.0	7.3	7.1	7.0	7.1	7.8	7.4	7.6
22	7.5	7.1	7.3	7.3	6.9	7.2	7.2	7.1	7.2	---	---	---
23	7.5	7.0	7.3	7.3	6.9	7.2	7.6	7.2	7.3	---	---	---
24	7.4	7.2	7.4	7.2	6.6	7.1	7.5	7.4	7.5	---	---	---
25	7.4	7.2	7.3	7.1	6.9	7.1	7.6	7.4	7.6	---	---	---
26	7.3	7.1	7.3	7.1	6.9	7.0	7.7	7.5	7.7	---	---	---
27	7.3	7.0	7.2	7.1	6.8	7.0	7.9	7.7	7.8	---	---	---
28	7.2	6.9	7.1	7.1	6.8	7.0	8.1	7.6	7.8	---	---	---
29	7.1	6.9	7.0	7.0	6.7	6.9	7.9	7.7	7.8	7.7	7.4	7.5
30	---	---	---	7.5	6.9	7.1	7.8	7.7	7.8	7.7	7.3	7.5
31	---	---	---	---	---	---	7.9	7.7	7.8	7.6	7.2	7.3
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.3	7.1	7.2	7.7	7.6	7.7	7.4	7.0	7.2	7.7	7.5	7.6
2	7.6	7.1	7.4	7.8	7.6	7.7	7.5	7.3	7.4	7.8	7.7	7.7
3	7.9	7.2	7.5	7.8	7.7	7.7	7.5	7.4	7.4	8.0	7.7	7.8
4	7.7	7.3	7.5	7.8	7.5	7.7	7.6	7.4	7.5	7.7	7.5	7.6
5	7.7	7.4	7.6	7.8	7.7	7.7	7.6	7.5	7.6	8.0	7.5	7.7
6	8.0	7.5	7.8	7.7	7.6	7.7	7.6	7.5	7.6	8.3	7.7	7.9
7	8.1	7.8	7.9	7.8	7.6	7.6	7.7	7.4	7.5	8.4	7.7	8.0
8	8.0	7.8	7.9	7.7	7.6	7.6	7.8	7.5	7.7	8.3	7.9	8.1
9	8.0	7.4	7.8	7.7	7.6	7.7	7.8	7.6	7.7	8.2	7.8	8.0
10	7.8	7.7	7.8	7.8	7.6	7.7	7.9	7.6	7.8	8.1	7.5	7.7
11	7.8	7.7	7.8	7.7	7.5	7.6	8.0	7.7	7.8	7.7	7.4	7.5
12	7.8	7.7	7.7	7.7	7.6	7.6	8.0	7.7	7.8	8.0	7.4	7.7
13	8.1	7.7	7.8	7.8	7.5	7.6	8.1	7.7	7.9	7.7	7.5	7.6
14	7.9	7.7	7.8	7.6	7.4	7.5	8.3	7.5	7.7	7.5	7.4	7.4
15	8.0	7.7	7.8	7.5	7.3	7.4	7.5	7.3	7.4	7.5	7.3	7.4
16	8.0	7.7	7.8	7.5	7.3	7.4	7.6	7.3	7.4	7.6	7.3	7.4
17	8.0	7.5	7.7	7.3	7.2	7.3	7.6	7.4	7.5	7.8	7.5	7.7
18	7.6	7.4	7.5	7.3	7.2	7.3	7.8	7.5	7.6	7.8	7.6	7.7
19	7.7	7.4	7.5	---	---	---	7.8	7.6	7.7	8.1	7.8	7.9
20	7.7	7.5	7.6	---	---	---	8.0	7.6	7.8	8.4	7.9	8.0
21	7.7	7.5	7.6	---	---	---	8.1	7.7	7.9	8.6	7.9	8.2
22	7.7	7.5	7.6	---	---	---	8.2	7.7	7.9	8.9	8.0	8.3
23	7.7	7.5	7.6	7.3	7.2	7.2	8.2	7.7	7.9	8.9	8.1	8.5
24	7.7	7.6	7.7	7.4	7.2	7.3	8.3	7.7	8.0	8.8	8.2	8.5
25	7.8	7.6	7.7	7.4	7.2	7.3	8.2	7.7	8.0	8.9	8.0	8.4
26	7.8	7.6	7.7	7.6	7.3	7.4	8.0	7.6	7.8	8.3	7.8	8.1
27	7.9	7.6	7.7	7.6	7.1	7.3	7.6	7.4	7.5	8.9	7.6	8.0
28	7.9	7.6	7.6	7.6	7.2	7.3	7.7	7.4	7.5	8.3	7.4	7.6
29	---	---	---	7.2	7.0	7.1	7.8	7.5	7.6	7.7	7.4	7.5
30	---	---	---	7.3	7.2	7.2	7.7	7.4	7.5	8.3	7.4	7.6
31	---	---	---	7.2	7.1	7.1	---	---	---	7.8	7.5	7.6
MONTH	8.1	7.1	7.7	---	---	---	8.3	7.0	7.7	8.9	7.3	7.8

08074610 BUFFALO BAYOU AT MCKEE STREET, HOUSTON, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.6	7.3	7.5	7.4	7.2	7.3	8.2	7.7	7.9	7.7	7.5	7.6
2	7.6	7.5	7.6	8.1	7.3	7.7	8.2	7.6	7.8	7.7	7.5	7.6
3	7.7	7.5	7.6	8.2	7.7	8.0	8.1	7.6	7.8	7.8	7.5	7.7
4	7.9	7.7	7.8	8.4	7.6	8.1	8.3	7.6	7.9	7.9	7.7	7.8
5	8.1	7.7	7.9	8.0	7.5	7.7	8.2	7.7	7.9	8.1	7.7	7.8
6	8.5	7.8	8.1	8.0	7.5	7.7	8.1	7.6	7.8	8.1	7.7	7.9
7	8.5	8.0	8.2	7.6	7.5	7.5	8.3	7.7	7.9	8.1	7.8	7.9
8	8.4	7.6	7.9	7.6	7.4	7.5	8.6	7.6	7.9	8.2	7.8	8.0
9	8.0	7.7	7.8	7.9	7.4	7.5	8.1	7.5	7.6	8.0	7.7	7.9
10	7.9	7.6	7.8	7.5	7.4	7.4	8.2	7.8	8.0	8.2	7.8	8.0
11	8.4	7.5	7.8	8.0	7.5	7.6	8.1	7.8	7.9	8.3	7.9	8.1
12	7.8	7.5	7.6	7.8	7.4	7.5	8.2	7.8	8.0	8.3	8.0	8.1
13	8.2	7.5	7.8	7.8	7.5	7.6	8.2	7.8	8.0	8.3	7.9	8.1
14	8.0	7.5	7.6	7.6	7.3	7.4	8.1	7.8	7.9	8.3	7.8	8.1
15	8.4	7.4	7.6	7.8	7.5	7.6	8.1	7.8	7.9	8.2	7.7	8.0
16	7.9	7.4	7.5	7.8	7.6	7.7	8.4	7.8	8.0	8.1	7.7	7.9
17	7.6	7.4	7.5	7.7	7.4	7.5	8.2	7.7	7.9	8.2	7.7	7.9
18	7.6	7.3	7.4	7.4	7.3	7.3	7.9	7.5	7.7	8.2	7.7	7.9
19	7.8	7.4	7.5	7.4	7.2	7.4	7.8	7.5	7.7	8.3	7.8	7.9
20	7.7	7.3	7.4	7.4	7.2	7.3	7.8	7.5	7.6	8.4	7.9	8.0
21	7.7	7.3	7.4	7.4	7.2	7.3	7.7	7.5	7.6	8.3	7.8	8.0
22	7.8	7.3	7.4	7.4	7.2	7.3	7.6	7.4	7.5	8.2	7.8	7.9
23	7.5	7.3	7.4	---	---	---	7.7	7.5	7.5	8.2	7.8	7.9
24	7.4	7.3	7.4	---	---	---	7.8	7.6	7.7	8.5	7.8	8.0
25	7.4	7.2	7.3	---	---	---	7.9	7.7	7.8	8.1	7.8	8.0
26	7.6	7.2	7.3	---	---	---	8.1	7.9	8.0	7.9	7.7	7.8
27	7.5	7.3	7.4	---	---	---	8.3	7.9	8.1	8.1	7.8	7.9
28	7.5	7.2	7.4	7.8	7.5	7.6	8.3	7.9	8.1	8.0	7.7	7.8
29	7.3	7.1	7.1	8.1	7.5	7.7	8.2	7.7	8.0	7.9	7.5	7.7
30	7.2	7.1	7.1	8.1	7.5	7.7	8.2	7.7	7.8	7.5	7.3	7.4
31	---	---	---	8.2	7.6	7.8	8.2	7.7	7.9	---	---	---
MONTH	8.5	7.1	7.6	---	---	---	8.6	7.4	7.8	8.5	7.3	7.9

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	22.9	21.6	22.1	---	---	---	18.8	14.9	17.3
2	---	---	---	---	20.9	21.3	---	---	---	18.9	16.3	17.7
3	28.2	27.8	27.9	---	---	---	20.0	19.7	19.9	16.3	12.9	14.4
4	28.0	27.4	27.8	---	---	---	20.3	19.7	20.1	12.9	10.8	11.3
5	28.0	27.3	27.5	---	---	---	21.0	20.3	20.7	11.0	10.4	10.6
6	28.0	23.6	25.6	19.6	18.7	19.1	20.9	20.6	20.8	12.8	10.3	11.5
7	24.2	23.0	23.4	18.7	18.3	18.5	21.9	20.7	21.1	17.8	12.6	15.0
8	24.9	23.0	24.4	20.3	18.7	19.7	21.2	18.8	19.4	18.4	17.2	17.9
9	24.5	23.7	24.1	20.2	19.6	19.9	19.1	18.6	19.0	18.5	15.5	16.9
10	23.7	23.0	23.5	20.3	19.7	20.0	18.6	16.1	17.4	15.5	14.0	15.0
11	23.0	22.7	22.8	---	---	---	16.1	10.6	13.4	14.4	13.8	14.1
12	23.8	22.5	23.2	---	---	---	12.3	11.5	12.0	15.2	14.0	14.6
13	25.0	23.4	24.1	16.3	15.8	16.0	14.4	11.9	13.5	18.3	15.0	16.2
14	25.4	24.6	25.0	16.5	16.1	16.3	14.5	14.0	14.2	18.0	15.5	16.4
15	25.5	24.4	24.8	17.1	16.5	16.8	14.2	13.7	13.9	15.6	14.4	14.7
16	26.0	24.7	25.2	17.6	16.8	17.2	13.7	13.3	13.4	15.1	14.1	14.5
17	26.4	25.5	25.9	17.5	17.0	17.3	13.5	13.2	13.4	16.9	14.8	16.2
18	26.4	23.7	24.8	17.4	17.1	17.2	13.4	13.1	13.2	18.0	16.4	17.3
19	23.9	22.8	23.2	17.8	17.2	17.5	14.4	13.4	13.9	17.9	16.9	17.5
20	23.3	22.8	23.0	18.0	17.4	17.8	14.5	14.0	14.3	19.2	17.6	18.7
21	23.3	22.8	23.1	17.6	17.1	17.4	15.3	14.4	14.9	20.1	19.0	19.8
22	22.8	21.7	22.1	17.3	17.1	17.2	15.4	13.9	14.8	20.7	19.8	20.2
23	21.7	20.9	21.2	17.8	17.3	17.5	13.9	11.6	12.7	20.0	16.8	18.2
24	21.0	20.6	20.8	18.0	17.7	17.9	11.6	9.8	10.8	18.4	16.6	17.2
25	20.9	20.6	20.8	18.3	18.0	18.1	9.8	8.1	9.0	18.8	16.5	17.1
26	21.1	20.6	20.8	18.7	18.1	18.4	8.5	7.8	8.1	18.8	16.9	17.6
27	21.2	20.8	21.0	18.9	18.5	18.7	12.6	8.5	9.6	19.3	17.5	18.5
28	21.6	20.8	21.1	19.0	16.2	18.8	14.4	12.5	13.6	19.8	18.5	19.5
29	21.5	21.1	21.3	19.2	18.6	18.9	14.8	14.2	14.4	21.1	19.4	20.4
30	---	---	---	21.7	19.2	20.0	15.0	14.2	14.6	21.2	19.5	20.1
31	---	---	---	---	---	---	15.0	14.1	14.6	19.8	18.2	18.8
MONTH	---	---	---	---	---	---	---	---	---	21.2	10.3	16.6

SAN JACINTO RIVER BASIN

08074610 BUFFALO BAYOU AT MCKEE STREET, HOUSTON, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	18.2	17.7	17.9	21.8	19.9	20.8	20.3	19.3	19.7	29.4	26.8	28.1
2	20.2	17.4	18.0	21.6	20.4	21.1	21.0	19.6	20.2	27.2	26.1	26.8
3	19.0	18.1	18.6	21.1	20.1	20.7	21.9	20.8	21.2	26.5	25.9	26.2
4	20.0	18.4	19.2	20.1	19.4	19.7	22.4	21.9	22.2	26.1	25.6	25.8
5	20.1	19.2	19.7	19.6	18.9	19.3	23.2	22.1	22.5	27.7	26.0	26.5
6	21.2	19.7	20.5	22.3	19.2	20.4	23.7	22.6	23.0	28.3	26.8	27.2
7	21.9	21.0	21.5	21.6	20.6	21.0	24.3	22.8	23.5	28.6	26.4	27.0
8	22.5	21.6	22.0	21.0	19.5	20.0	26.1	23.9	24.9	28.7	26.4	27.2
9	23.3	22.1	22.6	22.0	19.9	20.8	27.2	25.1	25.7	27.7	27.0	27.4
10	24.0	22.8	23.3	22.4	21.3	21.8	27.4	25.6	26.2	27.3	21.7	24.0
11	23.7	22.4	23.1	23.1	21.6	22.2	27.3	26.0	26.6	25.0	21.6	22.6
12	22.4	18.9	20.4	23.3	22.2	22.6	27.1	26.0	26.5	25.0	20.9	22.7
13	18.9	17.4	17.9	22.6	15.3	17.5	26.0	25.4	25.6	25.6	21.7	23.1
14	18.3	16.9	17.5	15.3	13.8	14.5	25.4	23.0	24.6	25.1	23.6	24.6
15	17.7	16.7	17.3	14.0	12.5	13.3	24.4	22.2	23.1	26.5	24.8	25.6
16	18.1	16.9	17.5	15.4	13.2	14.3	22.8	21.9	22.4	27.5	25.9	26.6
17	19.8	17.6	18.6	17.6	15.4	16.9	23.1	20.6	21.2	28.6	27.4	27.7
18	19.9	18.7	19.1	19.3	17.4	18.6	23.2	20.7	21.6	28.0	26.9	27.3
19	20.2	18.9	19.4	---	18.6	---	24.3	21.5	22.6	28.5	27.1	27.4
20	19.7	18.8	19.2	---	---	---	25.5	22.8	23.7	29.4	27.0	27.4
21	19.2	17.9	18.6	---	---	---	25.7	24.0	24.5	29.4	27.1	27.7
22	18.8	17.6	18.0	---	---	---	26.5	24.3	24.9	29.5	27.2	27.9
23	18.2	17.0	17.5	19.9	19.3	19.6	28.4	25.1	26.4	29.9	27.7	28.5
24	19.4	17.6	18.4	21.3	19.8	20.2	28.6	26.8	27.7	30.0	28.2	28.9
25	19.1	17.8	18.5	21.4	20.8	21.1	28.4	27.3	27.8	30.4	28.5	29.1
26	20.1	18.4	19.4	22.4	20.5	21.0	27.8	24.9	27.1	29.7	28.6	28.9
27	22.5	19.4	20.5	20.9	19.7	20.2	29.6	23.9	25.6	30.7	26.8	29.1
28	22.5	20.0	20.8	20.5	19.1	19.8	30.4	28.3	29.0	27.8	25.8	26.6
29	---	---	---	20.4	19.2	19.9	30.9	28.7	29.6	26.9	25.8	26.1
30	---	---	---	19.6	19.1	19.4	30.2	29.0	29.5	27.1	24.6	25.8
31	---	---	---	20.3	19.4	19.5	---	---	---	27.4	24.3	25.5
MONTH	24.0	16.7	19.5	---	---	---	30.9	19.3	24.6	30.7	20.9	26.6
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	28.9	26.7	27.5	31.1	30.0	30.3	35.3	33.6	34.1	28.5	27.0	28.1
2	29.0	27.4	28.2	31.7	30.1	30.7	35.3	33.4	33.9	29.5	28.4	29.0
3	29.9	28.2	28.9	31.8	30.5	31.0	35.8	33.3	33.9	31.0	29.2	30.0
4	30.3	28.6	29.3	31.5	30.6	31.1	35.7	33.3	33.9	31.1	30.1	30.5
5	31.0	29.1	29.7	31.6	29.7	30.3	35.5	33.2	33.7	31.7	30.3	30.6
6	31.6	29.3	29.9	30.6	27.1	29.9	35.3	33.1	33.6	32.4	30.6	31.0
7	30.8	29.2	29.9	30.6	27.0	28.4	34.7	32.9	33.3	32.3	31.0	31.4
8	29.6	27.4	28.4	30.6	28.7	29.6	34.3	32.9	33.4	32.0	30.9	31.3
9	27.5	25.6	26.4	31.0	29.6	30.0	34.2	32.4	32.8	32.5	30.9	31.4
10	28.5	25.9	26.8	30.8	29.6	29.9	34.9	32.6	33.2	31.9	30.7	31.2
11	29.4	26.0	27.7	31.4	30.0	30.5	34.5	32.6	33.1	31.6	30.3	30.8
12	28.6	27.2	27.9	31.8	29.8	30.4	34.3	32.5	33.0	31.4	30.1	30.5
13	27.6	23.6	26.1	31.9	28.7	30.7	33.6	31.0	32.3	30.8	29.8	30.3
14	29.5	26.1	27.2	31.7	28.7	29.6	33.9	30.9	31.7	30.6	29.5	30.0
15	28.6	26.4	26.9	32.3	30.1	30.9	32.9	31.4	32.0	30.2	28.9	29.4
16	28.7	26.3	26.8	31.9	30.8	31.3	33.2	31.3	31.8	29.6	28.1	28.7
17	29.4	26.3	27.5	31.5	30.1	30.5	31.9	30.9	31.3	29.0	27.5	28.1
18	29.5	27.7	28.4	31.0	29.6	29.9	32.2	30.4	31.0	28.8	27.2	27.8
19	28.8	27.8	28.4	29.7	28.4	29.1	32.8	30.3	31.0	28.5	27.0	27.7
20	28.2	27.2	27.7	29.7	28.3	28.7	32.3	30.6	31.2	28.7	27.3	27.9
21	27.7	26.4	27.0	29.9	28.4	29.2	32.0	30.6	31.2	28.7	27.6	28.1
22	28.4	27.2	27.5	33.0	27.9	29.5	31.4	30.5	30.8	28.1	26.6	27.5
23	29.1	27.3	28.0	33.5	---	32.3	31.5	30.3	30.5	27.5	25.7	26.5
24	29.6	27.8	28.5	---	---	---	30.6	30.0	30.3	26.7	25.3	25.9
25	29.4	28.2	28.6	---	---	---	31.3	30.0	30.4	26.7	25.4	26.1
26	30.2	28.1	28.7	35.0	32.9	33.6	32.7	30.6	31.2	27.3	25.8	26.5
27	31.0	29.7	30.2	34.3	31.6	33.0	32.9	31.1	31.5	27.5	26.5	26.9
28	30.6	29.9	30.2	34.9	33.2	33.8	33.1	31.1	31.6	28.3	27.0	27.7
29	30.3	29.3	29.8	36.8	33.8	34.3	32.0	30.6	31.3	28.4	22.8	25.3
30	30.6	29.3	30.0	36.3	34.0	34.7	31.6	30.1	30.5	24.3	23.8	23.9
31	---	---	---	36.2	33.9	34.3	31.9	26.4	29.6	---	---	---
MONTH	31.6	23.6	28.3	---	---	---	35.8	26.4	32.0	32.5	22.8	28.7

08074610 BUFFALO BAYOU AT MCKEE STREET, HOUSTON, TX--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	6.4	5.1	5.9	---	---	---	---	---	---
2	---	---	---	5.6	3.1	4.6	---	---	---	---	---	---
3	4.6	4.0	4.2	---	---	---	6.5	5.8	6.1	---	---	---
4	4.8	3.6	4.2	---	---	---	6.0	5.3	5.7	---	---	---
5	4.6	3.7	4.0	---	---	---	5.8	5.0	5.5	---	---	---
6	7.3	4.1	6.0	4.4	1.6	3.2	5.6	4.7	5.0	9.5	7.8	8.5
7	6.9	5.3	6.2	2.7	1.0	1.5	6.0	4.6	5.0	9.0	7.2	8.1
8	6.1	4.6	5.2	1.4	.2	.6	6.8	5.0	5.9	7.6	5.8	6.3
9	6.1	5.4	5.8	1.7	.1	.6	6.3	5.8	6.1	6.7	4.5	5.4
10	6.6	5.9	6.3	1.7	.1	.4	6.3	5.1	5.7	7.6	4.8	6.1
11	6.7	6.3	6.5	---	---	---	10.6	4.1	7.9	8.4	6.5	7.2
12	6.6	5.8	6.3	---	---	---	10.0	8.9	9.4	9.3	6.7	7.6
13	5.8	4.8	5.3	9.1	8.1	8.6	9.1	7.8	8.1	9.1	5.8	7.4
14	5.2	3.5	4.4	9.1	8.2	8.6	7.9	7.5	7.7	7.3	6.5	6.8
15	5.4	2.7	4.1	8.5	7.4	8.0	8.1	7.6	7.8	7.3	3.5	6.3
16	6.0	3.5	4.5	8.3	7.7	8.0	8.2	7.9	8.0	8.4	4.9	7.0
17	5.1	3.5	4.2	8.6	7.8	8.2	8.1	7.8	7.9	10.2	5.0	7.9
18	8.0	3.5	6.2	8.6	7.9	8.4	8.1	7.8	7.9	9.3	4.5	7.1
19	7.8	6.9	7.4	8.6	7.9	8.3	8.2	7.4	7.8	9.4	4.5	7.3
20	7.5	6.2	6.8	8.5	7.6	8.1	8.2	7.8	8.0	10.6	6.1	8.0
21	7.0	5.9	6.3	8.3	7.8	8.1	8.1	7.7	7.8	9.8	5.4	7.3
22	7.4	6.7	7.1	8.5	7.9	8.3	8.0	7.4	7.6	7.9	4.6	6.3
23	8.1	5.3	7.3	8.5	7.8	8.1	9.5	8.0	8.7	9.1	5.7	7.1
24	7.6	6.6	7.2	8.4	7.3	7.9	10.4	9.3	9.8	12.2	5.7	9.2
25	7.6	6.8	7.2	7.7	7.4	7.6	12.2	10.0	11.0	12.0	4.6	8.1
26	7.6	6.6	7.1	7.6	7.3	7.5	12.6	11.3	12.0	12.5	5.0	7.9
27	7.5	6.5	7.1	7.6	6.9	7.2	12.6	10.5	11.5	9.4	4.9	6.9
28	7.4	6.4	7.0	7.3	6.8	7.1	11.3	7.1	8.4	7.8	3.1	6.1
29	7.1	6.6	6.9	7.3	6.5	6.9	---	---	---	6.0	3.0	4.6
30	---	---	---	6.8	5.3	6.0	---	---	---	6.3	3.6	5.2
31	---	---	---	---	---	---	---	---	---	6.4	4.5	5.8
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.9	4.7	6.3	7.1	.3	3.9	7.2	5.6	6.7	6.1	3.4	4.8
2	8.5	5.2	6.8	7.7	1.1	4.8	7.2	6.6	6.8	6.5	4.4	5.7
3	9.1	5.3	7.2	8.5	5.5	6.8	6.9	5.9	6.4	7.3	4.2	5.8
4	7.7	5.5	6.8	7.5	4.9	5.9	6.5	4.4	5.4	5.4	2.9	4.1
5	7.5	4.0	6.2	6.8	4.7	5.5	5.9	4.5	5.1	8.0	2.6	4.7
6	7.9	4.3	6.4	6.0	4.4	5.0	6.2	4.6	5.5	12.3	4.7	7.2
7	7.7	5.1	6.5	6.5	4.1	4.8	6.7	4.8	6.0	13.2	5.9	8.2
8	7.5	4.7	6.0	5.6	3.7	4.5	6.9	4.8	5.9	12.0	6.4	8.6
9	7.5	5.1	6.2	6.0	4.3	5.1	7.6	4.8	5.7	8.2	4.7	6.6
10	6.4	4.9	5.4	7.0	3.9	5.4	8.0	5.2	6.4	8.5	3.7	6.1
11	5.8	4.6	5.1	6.5	3.2	4.9	9.0	5.1	6.6	6.5	5.0	5.8
12	5.3	3.7	4.5	6.1	3.7	4.7	9.3	5.5	7.0	8.5	4.3	6.7
13	8.7	4.0	5.9	9.6	3.3	7.7	9.1	5.9	7.3	6.8	5.4	6.2
14	7.8	5.1	6.2	9.6	8.4	9.1	7.9	4.8	5.8	6.2	5.3	5.9
15	8.8	4.5	6.1	10.5	9.6	10.2	5.3	2.2	3.6	6.3	5.8	5.9
16	8.4	4.6	6.3	10.4	8.7	9.7	5.8	2.8	4.0	5.9	5.2	5.6
17	8.3	4.8	6.5	8.9	5.3	7.1	6.2	2.4	4.4	5.7	3.9	5.0
18	5.2	1.9	3.3	7.0	3.9	5.8	9.6	3.6	7.2	5.9	3.9	4.7
19	4.9	2.2	3.8	---	3.8	---	9.8	5.6	7.7	7.0	4.4	5.8
20	6.0	2.3	4.2	---	---	---	13.0	6.0	8.6	11.2	5.1	6.6
21	5.7	1.7	3.9	---	---	---	12.8	6.7	8.8	12.9	6.4	7.9
22	5.9	2.0	4.3	7.8	---	---	13.6	6.5	8.5	16.5	7.2	9.7
23	6.2	2.4	4.3	7.7	7.3	7.5	14.0	6.0	9.1	17.4	7.7	10.7
24	6.5	.8	4.8	7.4	6.4	6.8	13.6	7.6	10.3	16.5	7.8	10.9
25	6.9	1.7	4.5	7.4	6.8	7.1	13.5	6.6	9.4	15.0	5.7	9.7
26	6.7	.2	3.3	8.0	6.0	6.9	9.6	5.1	7.0	9.5	.1	6.3
27	6.2	.1	2.5	7.6	5.7	7.0	5.6	2.3	4.4	9.8	.3	4.1
28	5.8	.1	2.1	8.0	5.9	7.2	6.2	3.0	4.1	7.9	3.4	4.4
29	---	---	---	7.3	3.6	4.9	7.7	3.4	5.1	5.7	3.1	4.1
30	---	---	---	7.2	6.4	6.6	7.2	2.6	4.1	7.8	4.0	5.1
31	---	---	---	6.6	5.0	5.6	---	---	---	6.1	4.9	5.6
MONTH	9.1	.1	5.2	---	---	---	14.0	2.2	6.4	17.4	.1	6.4

SAN JACINTO RIVER BASIN

08074610 BUFFALO BAYOU AT MCKEE STREET, HOUSTON, TX--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	5.3	.2	4.0	6.2	4.6	5.4	11.4	3.2	6.8	5.2	.5	1.9
2	5.5	4.3	5.1	7.6	4.3	5.9	12.4	1.6	6.3	1.8	.7	1.3
3	5.7	3.5	4.9	7.0	4.2	6.0	13.0	1.9	6.6	3.7	.5	2.3
4	5.8	3.9	5.0	8.9	3.5	6.6	12.9	.1	6.6	5.6	1.6	2.8
5	7.1	3.2	4.9	7.8	2.1	4.1	10.1	.1	4.5	5.3	2.0	3.6
6	11.4	3.4	6.3	7.4	3.4	5.3	8.1	.1	3.1	5.5	2.4	3.8
7	8.5	2.5	5.9	5.5	4.7	5.2	11.3	.1	5.6	5.4	3.3	4.5
8	7.4	2.2	4.3	5.8	4.3	4.9	12.6	3.8	8.0	5.9	3.8	4.9
9	7.2	2.5	4.8	6.4	3.3	4.6	8.6	1.8	4.2	6.8	3.3	5.2
10	6.1	1.7	4.1	4.9	2.0	3.9	10.5	5.3	7.2	6.4	4.6	5.5
11	6.9	3.3	4.7	7.2	1.8	4.6	9.6	3.2	6.5	6.8	3.4	5.4
12	5.9	3.8	4.7	6.9	3.6	4.8	10.3	4.7	7.0	6.9	4.5	5.6
13	7.9	4.9	6.1	6.7	3.5	5.1	8.7	3.9	6.7	6.5	4.0	5.5
14	6.6	4.2	5.5	5.3	2.5	4.3	8.2	4.3	5.8	7.2	4.0	5.4
15	6.4	3.4	5.1	7.1	2.1	4.7	7.5	4.9	5.9	6.8	2.0	5.3
16	5.7	3.8	4.7	6.3	3.4	5.2	10.7	4.6	6.8	7.8	3.6	5.5
17	5.8	3.8	4.8	6.4	3.9	4.8	7.5	4.8	6.0	7.9	2.9	5.0
18	5.1	1.2	3.5	6.3	2.4	4.2	6.1	1.6	4.1	7.6	3.6	4.9
19	7.1	3.6	5.2	5.8	4.0	5.1	5.7	1.1	3.6	7.8	3.6	5.0
20	6.8	4.9	5.5	5.8	3.3	4.2	4.7	2.2	3.6	7.6	3.6	5.2
21	7.1	5.4	6.0	5.3	3.7	4.5	4.6	.1	3.3	7.2	4.2	5.5
22	7.3	4.8	5.5	6.0	3.8	4.7	1.4	.1	.5	7.5	4.5	5.8
23	6.3	5.1	5.7	5.8	---	---	3.1	.1	1.0	7.6	4.5	5.7
24	6.1	5.1	5.7	---	---	---	3.2	.1	1.6	7.3	3.6	4.9
25	5.9	4.0	5.0	---	---	---	3.2	.1	1.5	7.1	4.1	5.6
26	6.3	4.1	4.9	---	---	---	6.0	.8	4.2	6.3	3.1	4.9
27	6.0	3.3	4.9	---	---	---	5.7	3.1	4.7	7.4	4.4	5.9
28	6.2	3.7	5.2	7.2	2.4	4.6	6.4	2.2	4.9	6.6	3.2	5.1
29	6.3	5.5	5.8	9.7	2.4	4.2	6.2	3.0	4.7	8.2	3.4	5.7
30	6.1	5.4	5.7	10.3	2.3	4.4	6.8	1.4	3.8	5.0	1.0	3.2
31	---	---	---	8.8	2.2	6.4	7.3	3.9	5.8	---	---	---
MONTH	11.4	.2	5.1	---	---	---	13.0	.1	4.9	8.2	.5	4.7

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SAN JACINTO RIVER BASIN

08074710 BUFFALO BAYOU AT TURNING BASIN, HOUSTON, TX

LOCATION.--Lat 29°44'57", long 95°17'27", Harris County, Hydrologic Unit 12040104, on left bank at Wharf No. 5 at end of private road, 1.8 mi upstream from Brays Bayou and 4.9 mi east of downtown Houston.

DRAINAGE AREA.--476 mi².

WATER-ELEVATION RECORDS

PERIOD OF RECORD.--Jan 1987 to current year (elevation only).

GAGE.--Water-stage recorder. Datum of gage is sea level, 1978 adjustment, unadjusted for land-surface subsidence. Satellite telemeter at station.

REMARKS.--Records good. Only very large storms or hurricane surge produces elevations above normal tidal fluctuations.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 9.2 ft, Sep 11, 1998; minimum, -3.1 ft Mar 6, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 4.5 ft, Nov 13; minimum, -2.2 ft, Mar 14.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	2.3	.6	1.7	3.6	1.8	2.9	1.7	-.2	.8	2.9	.6	1.8
2	2.6	.8	2.2	2.3	.9	1.7	2.0	-.2	1.0	3.2	-.8	.9
3	3.4	1.6	2.4	2.6	.7	1.6	2.6	.7	1.7	.1	-1.7	-.9
4	4.0	1.2	2.5	2.3	.5	1.6	2.4	.5	1.7	1.3	-1.0	.1
5	4.1	2.8	3.4	1.9	-.2	.9	2.3	.1	1.3	2.0	.2	1.0
6	4.0	1.3	2.5	2.5	.2	1.4	2.3	.7	1.7	2.0	.7	1.5
7	2.2	.4	1.2	2.7	.9	2.0	2.3	.6	1.6	2.0	.5	1.4
8	2.4	.5	1.5	2.6	.1	1.5	1.6	-.5	.2	1.9	.9	1.4
9	2.5	.7	1.8	2.1	.9	1.7	2.0	.7	1.2	1.5	-.9	.0
10	2.6	.6	1.8	2.8	.3	1.7	2.5	.8	1.8	1.7	.4	1.0
11	2.5	1.2	2.0	2.0	.9	1.5	2.2	1.1	1.6	1.9	.5	1.2
12	2.8	.5	1.8	3.1	1.8	2.4	1.4	-.2	.5	1.9	---	---
13	2.2	.4	1.4	4.5	2.4	3.2	.6	-.8	-.1	1.9	---	---
14	2.1	.5	1.5	4.3	2.3	3.2	1.5	-.1	.7	1.6	-.7	.4
15	2.6	.8	1.9	2.9	2.2	2.5	1.5	-.1	.9	1.9	-.3	.8
16	3.2	1.4	2.6	2.8	2.1	2.5	1.5	-.2	.8	2.1	1.4	1.6
17	3.8	2.5	3.2	2.6	1.1	1.9	1.4	-.6	.5	2.2	.4	1.5
18	4.2	2.6	3.3	2.5	.9	1.7	2.6	.5	1.4	1.9	-.1	1.1
19	3.1	2.2	2.6	2.3	.8	1.7	2.4	.1	1.3	1.8	.1	1.0
20	3.0	2.0	2.5	2.3	.1	1.3	2.1	.0	1.1	1.9	.2	1.1
21	3.0	1.3	2.2	2.5	---	---	2.3	.5	1.6	2.6	1.1	1.8
22	2.7	1.4	1.9	2.4	.7	1.7	1.9	-.8	.2	2.8	.2	1.8
23	3.1	1.6	2.4	2.4	.6	1.6	1.6	-.2	.9	.8	-1.3	-.6
24	3.2	1.6	2.6	2.1	.3	1.2	1.2	-.5	.4	1.6	-.1	.7
25	3.2	1.6	2.5	2.2	.4	1.4	1.1	.0	.6	1.6	-.1	.9
26	3.3	1.7	2.5	2.0	.2	1.1	1.5	.4	1.0	1.8	.1	1.1
27	3.3	1.4	2.5	1.8	.4	1.0	2.0	.6	1.4	1.9	.2	1.1
28	2.9	1.2	2.2	1.8	.8	1.2	1.9	.2	1.1	2.5	---	---
29	2.6	1.2	2.0	2.2	.9	1.6	1.4	-.2	.8	2.5	.8	1.8
30	2.8	1.6	2.2	2.3	.8	1.6	2.1	-.3	.9	2.3	-.3	1.0
31	3.0	1.8	2.6	---	---	---	2.2	.1	1.4	1.4	-.7	.3
MONTH	4.2	.4	2.2	4.5	---	---	2.6	-.8	1.0	3.2	---	---

08074710 BUFFALO BAYOU AT TURNING BASIN, HOUSTON, TX--Continued

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	2.0	.2	1.1	1.9	.3	1.2	2.5	1.2	1.9	3.3	1.7	2.5
2	2.0	.4	1.5	2.3	1.0	1.8	2.7	1.3	2.0	3.3	1.7	2.6
3	2.3	1.0	1.7	1.5	-.4	.5	4.2	2.1	3.1	2.9	1.3	2.1
4	2.3	.7	1.4	3.0	1.0	2.0	3.2	1.4	2.4	3.7	1.6	2.7
5	2.3	1.3	1.8	3.0	1.7	2.2	3.0	1.7	2.2	3.2	.8	2.3
6	2.0	1.0	1.6	1.7	.8	1.2	2.4	.6	1.6	2.4	.8	1.6
7	2.1	.9	1.5	3.2	.7	1.7	2.4	.7	1.7	2.4	.7	1.6
8	1.8	.4	1.2	3.4	2.1	2.7	2.5	.8	1.8	2.8	.9	1.9
9	2.1	.4	1.3	2.2	1.0	1.6	2.4	.7	1.5	3.2	1.6	2.5
10	2.4	.4	1.4	2.6	.8	1.7	2.5	.8	1.6	3.1	1.5	2.4
11	2.4	.3	1.5	2.7	1.1	1.9	2.3	.7	1.4	3.6	1.9	3.0
12	.4	-1.8	-.7	3.5	1.3	2.3	2.4	.6	1.5	4.0	1.5	2.6
13	1.5	-.5	.4	4.1	-.5	1.4	2.9	1.2	2.0	2.3	1.0	1.7
14	2.1	.0	1.0	-.5	-2.2	-1.4	3.5	2.0	2.8	2.3	.5	1.6
15	2.2	.7	1.5	1.5	-1.3	.0	2.1	-.6	.3	2.9	.8	2.0
16	2.3	.6	1.5	2.2	.9	1.6	1.4	-1.0	.2	3.2	1.1	2.3
17	2.0	1.1	1.5	2.6	1.3	1.9	1.7	-.1	.8	3.3	1.2	2.3
18	2.1	.5	1.4	2.3	.9	1.6	1.6	-.6	.8	2.3	.3	1.5
19	1.8	---	---	2.8	1.3	1.9	1.5	-.1	.8	2.3	.4	1.5
20	2.6	1.4	1.9	1.7	.4	1.0	1.8	-.4	.8	2.6	.6	1.7
21	1.9	-.2	.7	1.4	-.4	.7	2.8	.4	1.7	2.7	.9	1.7
22	2.8	.6	1.8	2.2	.0	1.3	3.0	1.0	2.1	2.4	.6	1.5
23	2.2	.8	1.5	2.4	.6	1.6	2.6	.8	1.7	2.2	.6	1.4
24	1.8	.0	1.0	2.2	.3	1.3	2.2	.7	1.6	1.6	.7	1.1
25	2.2	.4	1.5	1.6	.0	.9	2.1	.7	1.5	1.8	.6	1.3
26	2.3	.4	1.4	2.4	.4	1.4	2.6	1.3	1.9	1.8	.5	1.2
27	2.5	.6	1.6	3.2	1.3	2.3	2.2	1.0	1.6	1.8	.2	1.2
28	1.6	-.1	.8	3.4	1.2	2.4	2.1	.7	1.5	2.0	.1	1.1
29	---	---	---	2.1	.5	1.3	2.3	.7	1.5	1.9	-.2	1.2
30	---	---	---	2.1	.8	1.5	2.9	.6	1.9	2.3	.4	1.5
31	---	---	---	2.3	1.0	1.7	---	---	---	2.4	.3	1.5
MONTH	2.8	---	---	4.1	-2.2	1.5	4.2	-1.0	1.6	4.0	-.2	1.8

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	2.4	.4	1.6	2.8	.9	1.8	1.6	.1	1.0	2.5	1.2	1.9
2	2.7	.7	1.8	2.8	.8	1.9	1.6	.2	.9	2.7	1.0	2.1
3	2.6	.8	1.8	2.8	1.2	2.0	1.4	.4	1.0	2.6	.6	1.7
4	2.4	.7	1.6	2.6	.8	1.7	1.6	.2	.9	2.4	.4	1.8
5	2.8	.9	1.8	2.2	.6	1.3	1.5	.4	1.2	2.1	.2	1.4
6	2.3	.7	1.5	1.9	.6	1.2	1.9	.1	1.3	1.9	.2	1.2
7	2.2	.5	1.3	1.8	.6	1.3	1.9	.1	1.3	1.9	.0	1.2
8	2.4	1.2	1.7	2.1	.7	1.6	2.0	.1	1.3	1.9	.2	1.3
9	2.5	1.3	1.9	2.5	.6	1.6	1.7	-.2	1.0	1.6	.1	1.0
10	2.4	.8	1.8	2.5	.4	1.6	1.5	-.4	.8	2.5	.4	1.6
11	2.3	.4	1.5	2.1	.3	1.4	1.9	-.4	1.0	2.2	1.1	1.7
12	2.4	.2	1.4	2.0	.1	1.2	1.7	.1	1.1	2.2	1.2	1.7
13	2.5	.1	1.2	2.2	-.1	1.3	1.5	.1	.9	2.1	.6	1.4
14	2.0	-.3	1.0	2.1	.1	1.4	1.1	-.2	.5	2.3	1.0	1.7
15	2.2	-.3	1.1	2.1	.4	1.4	1.9	.1	1.1	2.3	1.0	1.7
16	2.1	.0	1.3	2.3	.6	1.6	1.9	1.0	1.4	2.2	1.0	1.8
17	2.0	.1	1.2	2.3	.6	1.5	1.9	.5	1.3	2.2	.7	1.5
18	2.5	.4	1.6	2.3	.9	1.6	1.6	.2	1.1	2.1	.8	1.4
19	2.9	1.3	2.1	2.5	1.3	1.9	1.5	.0	.9	2.1	.7	1.5
20	2.9	1.4	2.1	2.4	1.0	1.9	1.5	.1	1.1	2.1	.7	1.5
21	3.5	1.8	2.6	2.3	.7	1.6	1.7	.2	1.3	2.5	.6	1.5
22	2.6	1.3	2.0	2.0	.4	1.4	2.5	.3	1.6	2.4	.2	1.7
23	2.4	1.2	2.0	1.6	.0	1.0	2.6	.8	1.8	2.5	1.2	2.0
24	2.5	1.0	2.0	1.5	-.1	.9	1.9	.5	1.4	2.3	1.0	1.7
25	2.8	1.1	1.9	1.8	.0	1.1	1.9	.3	1.3	2.9	.8	1.8
26	2.4	.8	1.6	1.8	.1	1.1	1.6	.0	.9	2.8	1.4	2.1
27	2.4	.6	1.7	1.7	-.1	1.0	1.7	-.2	.8	2.6	1.4	2.0
28	2.3	.4	1.5	1.6	-.2	.9	1.8	.0	.9	3.0	1.6	2.4
29	2.1	.3	1.2	1.8	-.1	1.1	1.6	.4	1.1	2.9	.2	1.6
30	2.3	.3	1.5	1.8	.2	1.2	1.9	.4	1.1	2.3	.9	1.7
31	---	---	---	1.8	.3	1.2	1.9	.6	1.4	---	---	---
MONTH	3.5	-.3	1.6	2.8	-.2	1.4	2.6	-.4	1.1	3.0	.0	1.7

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Apr 1986 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Apr 1986 to current year.

PH: Oct 1998 to Sep 1999.

WATER TEMPERATURE: Apr 1986 to current year.

DISSOLVED OXYGEN: Apr 1986 to current year.

INSTRUMENTATION.--Water-quality monitor since Apr 1986.

REMARKS.-- Water-quality monitor data have been collected one foot below the water surface since Feb 3, 1998. From Apr 1986 to Jan 1987 data were collected at a fixed elevation of 6.5 ft below sea level using a submersible pump. From Feb 1987 to Jan 1988 data were collected at a fixed elevation of 5.5 ft below sea level using a submersible pump. Dissolved oxygen data are not corrected for salinity. Prior to Sep 1995, the upper limit of the specific conductance instrument is 20,000 microsiemens. Due to tidal effects, location of probe units, and channel morphology, the water-quality data collected at this location may not be representative of the entire flow through the cross-section.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, >20,000 microsiemens, on Oct 12-14, Dec 13, 1988, Jan 23, 1989; minimum, 60 microsiemens Jun 26, 1989.

PH: Maximum, 8.3 units, May 8, 1999; minimum, 6.5 units, Nov 4-5, 1999.

WATER TEMPERATURE: Maximum 36.5°C Aug 21, 1990; minimum, 7.0°C, on Jan 13-14, 1997.

DISSOLVED OXYGEN: Maximum, 20.0 mg/L, Jun 6, 1996; minimum, 0.0 mg/L, on several days during 1987-88 water year.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 16,800 microsiemens, Sep 24; minimum, 94 microsiemens, Nov 13.

PH: Maximum, 8.3 units, May 8; minimum, 6.5 units, Nov 4.

WATER TEMPERATURE: Maximum, 33.6°C, Aug 5, 25; minimum, 10.1°C, Dec 26.

DISSOLVED OXYGEN: Maximum, 13.0 mg/L, Apr 25; minimum, 0.3 mg/L, Aug 27, 29, Sep 3.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	758	282	406	328	216	246	1280	270	437	5510	1740	3720
2	645	243	396	337	230	288	546	217	384	3100	458	865
3	588	242	358	511	223	326	363	193	239	1360	574	797
4	789	288	459	333	152	235	277	167	212	1760	662	1240
5	498	308	358	231	159	176	233	172	198	2160	1200	1580
6	1180	316	662	231	179	195	217	170	195	4520	1410	1830
7	941	248	556	327	200	247	242	201	226	5770	1730	3540
8	888	281	548	460	225	349	265	220	237	3330	1650	2270
9	335	255	290	981	374	472	245	189	224	4590	1770	2580
10	337	277	297	922	341	587	306	194	221	6910	1950	3870
11	370	271	299	1030	293	523	292	138	210	5810	2430	3590
12	571	273	381	1060	262	481	222	146	173	6100	2970	4030
13	1420	367	576	281	94	115	260	197	224	4980	2210	3580
14	3530	577	1530	121	102	109	249	219	236	5320	2050	2880
15	2990	1000	2060	177	105	136	254	217	235	6440	2270	3710
16	2690	1470	2090	227	173	193	259	226	239	4750	1870	3380
17	3020	1640	2060	228	188	209	1090	241	383	5970	1790	3320
18	2070	375	1170	215	175	197	842	282	364	4500	2160	3140
19	383	163	226	188	152	171	493	318	357	4050	2410	3360
20	257	207	222	228	155	171	1060	343	556	4030	2900	3370
21	300	257	282	228	186	201	444	307	380	4740	2980	3640
22	348	223	297	217	154	189	670	375	501	8080	4070	4950
23	227	168	195	181	151	167	798	455	594	8120	4320	5250
24	200	162	178	194	148	173	914	448	693	6550	3910	5120
25	180	155	165	636	154	198	1070	448	804	5000	3010	4000
26	185	155	163	296	193	236	1390	542	893	7640	4530	5700
27	202	166	182	402	207	245	6020	891	1950	8200	3950	5470
28	181	164	171	644	191	257	3750	1130	2280	5260	3690	4170
29	269	163	179	291	206	263	6530	2210	3430	5890	3870	4560
30	251	170	209	289	185	249	10100	3650	7170	5650	2850	4010
31	258	185	228	---	---	---	10400	2290	5530	9200	2840	5350
MONTH	3530	155	555	1060	94	253	10400	138	960	9200	458	3510

08074710 BUFFALO BAYOU AT TURNING BASIN, HOUSTON, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8490	3320	5020	4860	2720	3920	1070	473	693	5670	1850	4150
2	6710	2490	4190	4440	2950	3710	927	378	567	2360	1160	1660
3	6230	2490	4170	5160	3110	3870	1090	622	825	2720	1500	2210
4	4750	2700	3600	5480	2970	4220	1470	475	956	3320	1880	2430
5	5190	3510	4450	4880	2570	3730	1760	934	1100	3640	2240	2720
6	4980	2490	3190	3780	2240	3110	1960	991	1430	5150	2140	3420
7	5450	3420	4130	6610	3220	4750	2000	954	1320	8470	3610	6730
8	4790	2590	3230	6280	3350	5080	2290	857	1420	6790	2890	4040
9	8030	3990	5610	5820	3530	4410	1790	1160	1460	4680	3120	4150
10	7900	3920	5530	4490	2400	3290	1840	1350	1600	5250	533	2180
11	7800	5410	6500	3960	3160	3570	2450	1310	1700	1090	292	423
12	8300	5210	6360	5320	3150	3850	2470	1420	1830	1320	---	---
13	10100	4610	6170	5460	627	2010	2620	1620	2030	---	---	---
14	7600	4780	5680	2200	602	1160	2990	923	1750	---	---	---
15	6690	4910	5730	1330	642	915	1660	1080	1340	321	263	289
16	6270	3470	4890	3230	625	1800	2260	1260	1780	339	274	293
17	7270	1170	3260	---	---	---	2760	1710	2280	431	336	357
18	4740	1350	2320	---	---	---	2760	1520	2150	557	411	466
19	4300	1780	2850	2250	284	843	8430	1480	2580	549	478	509
20	5190	2430	3130	286	156	199	3460	1500	2700	632	495	580
21	5070	1950	2660	312	192	272	4670	2160	3350	694	566	656
22	5320	2390	3920	646	276	374	4370	2810	3400	1310	652	950
23	4980	2430	3780	575	269	413	6290	2570	3640	1360	938	1110
24	5090	2910	3880	2550	455	1420	6510	3010	4210	1230	920	1010
25	4680	3310	3980	1480	559	945	3930	2530	3070	1440	1160	1290
26	4170	2600	3270	1590	668	1020	3420	2030	2460	1490	1080	1250
27	4690	2330	3620	2620	566	1180	3500	1910	2330	1610	1090	1300
28	4400	2140	3100	4190	382	775	3190	2030	2520	1240	622	911
29	---	---	---	1340	457	677	3640	2440	2950	1090	429	799
30	---	---	---	771	366	492	4920	2420	3390	815	237	564
31	---	---	---	1080	409	670	---	---	---	330	222	235
MONTH	10100	1170	4220	---	---	---	8430	378	2090	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	2540	240	774	555	326	415	5280	1650	3710	10800	2300	3520
2	1730	324	775	556	478	505	6070	2160	4130	9020	2960	4640
3	4240	520	1100	623	534	583	4690	2160	3060	7980	2880	5270
4	2400	914	1330	592	556	579	5220	2600	3990	7310	4060	5380
5	1710	970	1280	583	537	559	6410	1930	3100	10700	4090	5680
6	2050	771	1350	695	570	615	4760	3100	3800	8270	3540	4900
7	2030	1110	1580	613	500	572	7150	3310	4110	8300	5590	6660
8	1480	859	1120	514	447	478	10300	5860	8150	10600	5890	7470
9	1560	452	816	840	423	577	8570	4320	5630	15300	7620	10000
10	953	237	445	1100	512	853	9370	4160	6750	11100	6980	8720
11	656	313	448	1850	622	1140	11700	5860	7940	12000	6500	8670
12	1010	409	655	2350	584	916	9960	6020	7840	11000	6880	8150
13	1290	196	521	3480	543	2200	14600	5610	8440	14000	6430	9390
14	958	227	358	1100	555	731	9380	6850	8090	14800	7400	9950
15	583	323	453	1620	803	1180	9460	6070	7540	11100	8160	9830
16	597	246	403	1650	775	1180	9490	6100	7090	10100	6370	8610
17	484	336	410	1550	599	949	9160	5410	7130	9510	6780	7980
18	496	406	445	1150	588	746	10900	5810	8040	12200	6550	8850
19	545	324	441	771	455	628	11600	5650	7090	10300	7200	8280
20	602	451	542	741	439	594	9900	6440	8140	10800	7000	8910
21	666	360	558	859	478	599	12600	7050	9700	11500	8270	9420
22	508	305	396	849	508	665	15800	8630	12600	12600	7690	10300
23	501	307	363	832	404	583	14300	6680	8520	14200	8790	10900
24	522	288	387	1650	518	749	10400	6150	7600	16800	8220	10500
25	782	371	517	1700	840	1180	9940	6120	7830	12000	8470	9780
26	536	428	485	2750	626	1240	9510	6950	7840	10700	7560	9280
27	745	520	618	3090	810	1410	10800	6100	8650	16700	7720	11300
28	815	531	653	2460	1000	1490	9900	6200	7940	13000	7770	10200
29	720	329	498	2530	1450	1820	13500	7410	9260	10700	1730	6920
30	446	330	366	2790	1470	2020	13800	7220	9930	3600	2130	2870
31	---	---	---	2520	1820	2110	13400	4260	8860	---	---	---
MONTH	4240	196	670	3480	326	963	15800	1650	7180	16800	1730	8080

SAN JACINTO RIVER BASIN

08074710 BUFFALO BAYOU AT TURNING BASIN, HOUSTON, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	6.9	6.8	6.8	6.9	6.7	6.8	7.3	7.2	7.3	7.4	7.1	7.3
2	6.9	6.8	6.8	6.8	6.7	6.8	7.2	7.1	7.2	7.5	7.2	7.4
3	6.8	6.8	6.8	6.8	6.6	6.7	7.2	6.9	7.1	7.4	7.3	7.3
4	6.9	6.8	6.8	6.7	6.5	6.6	7.1	7.0	7.0	7.3	7.2	7.3
5	7.0	6.9	7.0	6.6	6.5	6.6	7.1	7.0	7.0	7.3	7.2	7.2
6	7.1	6.9	7.0	6.7	6.6	6.7	7.1	7.0	7.1	7.2	7.1	7.2
7	7.1	7.0	7.0	6.8	6.6	6.7	7.1	7.1	7.1	7.3	7.1	7.2
8	7.1	6.9	7.0	6.9	6.8	6.8	7.2	7.1	7.1	7.5	7.1	7.3
9	7.0	6.9	6.9	7.0	6.9	7.0	7.2	7.1	7.1	7.6	7.3	7.5
10	7.1	6.9	7.0	7.1	7.0	7.0	7.2	7.0	7.1	7.6	7.3	7.4
11	7.0	6.9	7.0	7.2	7.0	7.1	7.9	7.0	7.4	7.5	7.2	7.4
12	7.0	6.9	7.0	7.9	7.1	7.3	7.8	7.3	7.6	7.5	7.2	7.4
13	7.1	6.9	7.0	8.2	7.9	8.1	7.5	7.3	7.4	7.6	7.2	7.3
14	7.0	6.8	6.9	8.1	7.8	7.9	7.4	7.2	7.3	7.5	7.2	7.4
15	7.0	6.8	6.9	7.9	7.5	7.7	7.3	7.2	7.3	7.4	7.2	7.3
16	7.2	6.8	7.0	7.7	7.5	7.6	7.3	7.2	7.3	7.4	7.0	7.2
17	7.3	7.2	7.2	7.7	7.4	7.5	7.3	7.3	7.3	7.3	7.1	7.2
18	7.5	7.1	7.3	7.6	7.4	7.5	7.4	7.3	7.3	7.4	7.1	7.3
19	7.4	7.2	7.3	7.5	7.3	7.4	7.4	7.3	7.3	7.4	7.1	7.2
20	7.2	7.1	7.1	7.5	7.3	7.4	7.5	7.3	7.4	7.3	7.1	7.2
21	7.2	7.1	7.2	7.5	7.4	7.4	7.4	7.3	7.3	7.3	7.2	7.3
22	7.2	7.1	7.1	7.4	7.4	7.4	7.4	7.3	7.3	7.3	7.1	7.3
23	7.3	7.0	7.1	7.4	7.3	7.4	7.3	7.3	7.3	7.4	7.1	7.3
24	7.2	7.0	7.0	7.4	7.3	7.3	7.4	7.3	7.3	7.2	7.0	7.1
25	7.2	7.0	7.0	7.4	7.3	7.3	7.4	7.3	7.3	7.4	7.1	7.2
26	7.1	6.8	7.0	7.3	7.3	7.3	7.5	7.3	7.3	7.7	7.0	7.3
27	6.8	6.8	6.8	7.3	7.2	7.3	7.3	7.2	7.3	7.8	7.4	7.6
28	6.8	6.7	6.8	7.3	7.2	7.3	7.4	7.2	7.3	7.7	7.4	7.5
29	6.8	6.7	6.7	7.3	7.2	7.2	7.4	7.1	7.3	7.8	7.4	7.5
30	6.8	6.7	6.7	7.3	7.2	7.2	7.4	7.2	7.3	7.8	7.4	7.6
31	6.8	6.7	6.7	---	---	---	7.4	7.1	7.3	7.5	7.3	7.4
MONTH	7.5	6.7	7.0	8.2	6.5	7.2	7.9	6.9	7.3	7.8	7.0	7.3
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	7.6	7.2	7.4	7.4	7.1	7.3	7.0	6.8	6.9	7.3	7.0	7.2
2	7.6	7.2	7.3	7.4	7.1	7.3	7.1	6.9	7.0	7.5	7.1	7.3
3	7.3	7.1	7.2	7.4	7.2	7.3	7.0	6.9	6.9	7.3	7.1	7.2
4	7.4	7.1	7.3	7.3	7.1	7.2	7.0	6.9	7.0	7.3	7.0	7.2
5	7.3	7.1	7.2	7.3	7.1	7.2	7.1	6.8	6.9	7.3	7.1	7.2
6	7.6	7.1	7.3	7.6	7.2	7.3	7.1	6.8	6.9	7.5	7.1	7.3
7	7.4	7.1	7.3	7.3	7.1	7.2	7.2	6.8	7.0	7.4	7.1	7.2
8	7.6	7.2	7.4	7.3	7.1	7.2	7.1	6.9	7.0	8.3	7.2	7.6
9	7.5	7.1	7.3	7.5	7.0	7.2	7.2	6.9	7.1	7.8	7.2	7.5
10	7.6	7.1	7.4	7.3	7.0	7.2	7.1	6.9	7.1	7.8	7.3	7.4
11	7.5	7.2	7.3	7.3	7.0	7.1	7.2	6.9	7.0	7.5	7.2	7.3
12	7.5	7.2	7.4	7.3	7.0	7.2	7.2	6.9	7.0	7.4	7.1	7.3
13	7.6	7.1	7.3	7.3	7.0	7.1	7.1	6.9	7.0	7.3	7.1	7.2
14	7.7	7.1	7.4	7.1	7.0	7.1	7.2	6.9	7.1	7.5	7.0	7.2
15	7.6	7.2	7.4	7.0	6.9	7.0	7.3	7.1	7.2	7.3	7.2	7.3
16	7.5	7.2	7.3	7.0	6.8	6.9	7.1	6.9	7.0	7.4	7.3	7.3
17	7.5	7.2	7.4	7.0	6.8	6.9	7.0	6.9	7.0	7.3	7.2	7.3
18	7.4	7.1	7.2	7.0	6.9	7.0	7.1	6.9	7.0	7.3	7.1	7.2
19	7.3	7.1	7.2	7.3	6.9	7.1	7.1	6.9	7.0	7.2	7.1	7.1
20	7.2	7.0	7.1	7.4	7.1	7.2	7.2	6.9	7.0	7.1	6.9	7.0
21	7.4	7.2	7.3	7.1	6.9	7.0	7.2	6.9	7.1	7.2	7.0	7.1
22	7.3	7.1	7.3	7.1	6.9	7.0	7.2	6.9	7.0	7.2	7.0	7.1
23	7.4	7.1	7.2	7.0	6.9	7.0	7.3	6.9	7.0	7.3	7.1	7.2
24	7.4	7.1	7.3	7.0	6.8	6.9	7.3	6.9	7.1	7.7	7.2	7.4
25	7.3	7.1	7.2	7.0	6.8	6.9	7.4	7.0	7.2	7.3	7.1	7.2
26	7.3	7.1	7.2	7.1	6.9	7.0	7.6	7.0	7.2	7.3	7.1	7.2
27	7.4	7.2	7.3	7.1	6.8	7.0	7.6	7.0	7.3	7.5	7.1	7.2
28	7.5	7.2	7.3	7.1	6.8	7.0	7.3	7.0	7.2	7.5	7.1	7.3
29	---	---	---	7.3	6.9	6.9	7.4	7.0	7.2	7.3	7.0	7.1
30	---	---	---	6.9	6.8	6.8	7.4	7.0	7.2	7.4	7.0	7.1
31	---	---	---	6.9	6.7	6.8	---	---	---	7.4	7.1	7.3
MONTH	7.7	7.0	7.3	7.6	6.7	7.1	7.6	6.8	7.1	8.3	6.9	7.2

08074710 BUFFALO BAYOU AT TURNING BASIN, HOUSTON, TX--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.2	7.0	7.1	7.3	7.2	7.3	7.7	7.3	7.4	7.4	7.1	7.2
2	7.2	6.9	7.1	7.3	7.2	7.2	7.7	7.3	7.4	7.3	7.0	7.1
3	7.3	7.0	7.2	7.3	7.2	7.2	7.7	7.2	7.4	7.3	7.0	7.2
4	7.2	7.0	7.1	7.3	7.2	7.2	7.7	7.3	7.4	7.4	7.1	7.2
5	7.2	7.0	7.1	7.4	7.2	7.3	7.8	7.2	7.4	7.5	7.1	7.3
6	7.2	7.0	7.1	7.5	7.2	7.3	7.8	7.3	7.4	7.7	7.2	7.4
7	7.3	7.1	7.1	7.6	7.2	7.4	7.8	7.3	7.5	7.8	7.1	7.4
8	7.4	7.1	7.2	7.6	7.3	7.4	8.0	7.3	7.4	7.6	7.1	7.3
9	7.4	7.1	7.3	7.3	7.2	7.3	7.5	7.3	7.4	7.4	7.2	7.3
10	7.3	7.1	7.1	7.5	7.2	7.3	7.4	7.2	7.3	7.7	7.1	7.3
11	7.3	7.0	7.1	7.4	7.2	7.3	7.3	7.1	7.2	7.5	7.1	7.3
12	7.0	6.7	6.8	7.4	7.2	7.3	7.3	7.1	7.2	7.6	7.1	7.4
13	7.1	6.9	6.9	7.4	7.2	7.3	7.4	7.1	7.2	7.6	7.2	7.4
14	7.3	6.7	6.9	7.6	7.3	7.4	7.5	7.2	7.4	7.5	7.2	7.3
15	6.9	6.7	6.8	7.5	7.2	7.3	7.7	7.2	7.4	7.6	7.1	7.3
16	6.9	6.8	6.8	7.4	7.2	7.3	7.8	7.2	7.5	7.6	7.1	7.3
17	7.1	6.8	6.9	7.4	7.3	7.3	7.8	7.2	7.4	7.6	7.2	7.3
18	7.0	6.8	6.9	7.5	7.3	7.4	7.6	7.3	7.4	7.6	7.0	7.3
19	7.2	6.8	7.0	7.5	7.2	7.3	7.7	7.3	7.5	7.7	7.1	7.3
20	7.3	7.0	7.1	7.4	7.2	7.3	7.6	7.2	7.4	7.5	7.2	7.3
21	7.2	7.0	7.1	7.3	7.2	7.2	7.6	7.2	7.4	7.5	7.2	7.3
22	7.1	6.8	7.0	7.4	7.2	7.3	7.4	7.2	7.3	7.3	7.1	7.2
23	7.1	7.0	7.1	7.3	7.1	7.2	7.5	7.3	7.4	7.4	7.1	7.2
24	7.2	7.0	7.1	7.4	7.1	7.2	7.4	7.3	7.3	7.7	7.1	7.3
25	7.2	7.0	7.1	7.3	7.1	7.2	7.6	7.3	7.4	7.6	7.1	7.3
26	7.2	7.0	7.1	7.4	7.1	7.2	7.6	7.3	7.4	8.0	7.0	7.4
27	7.3	7.1	7.2	7.4	7.2	7.3	7.6	7.2	7.4	7.6	7.1	7.3
28	7.4	7.2	7.3	7.5	7.2	7.3	7.5	7.2	7.4	7.4	7.1	7.2
29	7.4	7.3	7.3	7.6	7.3	7.4	7.5	7.2	7.3	7.3	7.0	7.2
30	7.3	7.2	7.3	7.7	7.3	7.5	7.5	7.2	7.3	7.1	6.9	7.0
31	---	---	---	7.8	7.3	7.5	7.6	7.2	7.4	---	---	---
MONTH	7.4	6.7	7.1	7.8	7.1	7.3	8.0	7.1	7.4	8.0	6.9	7.3
YEAR	8.3	6.5	7.2									

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	30.0	28.6	29.0	23.4	22.5	22.9	20.7	19.8	20.2	19.0	16.0	17.5
2	28.9	28.4	28.6	23.2	22.1	22.5	20.6	19.7	20.1	19.1	17.7	18.5
3	29.0	28.2	28.4	23.1	21.8	22.4	20.8	19.7	20.2	17.8	14.6	16.4
4	28.9	28.1	28.4	21.8	21.3	21.6	21.0	20.2	20.6	15.9	13.7	15.1
5	28.9	27.9	28.3	21.4	20.4	20.8	21.4	20.7	21.0	16.3	13.7	15.4
6	28.5	25.1	27.4	20.7	19.6	20.2	21.6	21.2	21.3	17.3	14.6	16.2
7	25.8	24.1	24.9	19.8	18.9	19.1	22.3	21.4	21.7	17.6	15.5	16.4
8	25.2	24.5	24.9	20.4	19.1	19.8	21.8	19.9	21.0	18.1	15.8	17.1
9	25.7	24.6	25.0	22.4	20.3	21.3	19.9	19.1	19.5	17.8	15.2	16.1
10	26.0	24.4	24.9	21.4	20.2	20.7	19.4	18.5	19.0	17.6	15.4	16.4
11	24.6	23.6	24.1	20.2	19.1	19.7	19.0	11.8	15.7	18.1	16.1	17.0
12	24.5	23.6	23.9	19.3	16.5	18.5	13.3	12.0	12.5	18.2	16.3	17.2
13	26.1	23.8	24.8	16.5	15.7	16.0	14.5	12.8	13.3	18.8	17.2	18.1
14	27.6	24.4	25.5	16.2	15.8	15.9	15.4	14.3	14.8	18.4	16.0	17.0
15	27.3	25.0	26.2	16.9	15.9	16.3	15.2	14.6	15.0	18.4	16.1	17.1
16	27.9	25.8	26.8	17.8	16.7	17.3	15.0	14.5	14.7	18.2	16.5	17.6
17	27.5	26.6	27.0	18.3	17.5	17.7	14.8	13.9	14.4	19.4	16.8	18.2
18	27.8	24.1	25.8	19.2	17.5	17.9	14.9	13.7	14.2	19.1	16.9	18.0
19	24.1	23.5	23.9	18.1	17.5	17.8	15.8	14.0	14.6	19.5	17.0	18.8
20	23.6	23.3	23.4	18.3	17.6	17.9	16.0	14.9	15.5	20.7	18.5	19.9
21	24.0	23.5	23.7	18.3	17.4	17.8	17.0	15.9	16.4	21.8	19.1	20.6
22	23.8	22.6	23.4	17.8	17.0	17.4	16.5	14.9	15.6	21.0	17.9	19.8
23	23.1	21.7	22.2	18.7	17.2	17.5	15.8	---	14.8	19.0	17.3	18.1
24	22.4	21.2	21.6	18.9	17.8	18.1	---	11.9	12.8	20.5	17.8	19.2
25	21.5	21.1	21.2	18.9	18.0	18.2	12.1	10.3	11.4	20.6	18.7	19.5
26	22.3	21.1	21.5	18.8	18.2	18.4	12.7	10.1	11.2	20.4	18.0	19.4
27	23.0	21.7	22.1	20.1	18.6	18.9	15.5	11.7	13.1	20.8	18.3	19.6
28	23.2	21.9	22.2	19.5	18.6	18.9	15.9	12.5	13.8	21.3	20.1	20.8
29	23.1	21.8	22.1	20.1	18.8	19.3	16.3	14.0	15.1	21.4	20.0	20.8
30	23.4	21.9	22.3	20.8	19.2	19.6	16.8	14.4	15.0	21.3	19.4	20.0
31	24.1	22.2	22.9	---	---	---	17.6	14.7	16.4	20.4	18.4	19.4
MONTH	30.0	21.1	24.7	23.4	15.7	19.0	---	---	16.3	21.8	13.7	18.1

SAN JACINTO RIVER BASIN

08074710 BUFFALO BAYOU AT TURNING BASIN, HOUSTON, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	20.7	18.6	19.6	22.2	19.3	20.8	22.2	21.2	21.7	26.8	25.0	25.8
2	21.3	19.1	20.2	22.1	20.4	21.4	22.4	21.1	21.8	26.6	25.4	25.9
3	21.3	19.3	20.3	21.5	19.7	20.4	22.9	21.8	22.2	26.3	25.5	25.8
4	21.6	19.7	20.7	21.5	20.4	20.8	22.9	21.6	22.0	27.1	25.6	26.1
5	22.0	19.4	21.0	22.1	20.9	21.5	23.7	22.4	23.2	27.7	25.8	26.7
6	22.4	20.7	21.6	24.5	21.0	22.2	24.5	22.1	23.1	27.6	25.2	26.4
7	21.9	20.7	21.4	21.8	19.3	20.3	24.3	22.7	23.7	27.6	25.2	26.0
8	22.1	21.2	21.7	22.8	19.3	21.1	25.2	23.8	24.3	29.4	26.0	27.4
9	22.3	20.9	21.6	23.5	20.8	21.7	26.0	24.4	24.9	27.9	26.8	27.3
10	23.2	21.3	22.1	22.8	21.6	22.0	26.1	24.4	25.2	27.2	22.9	25.2
11	22.7	20.8	21.9	23.6	21.9	23.0	26.3	24.7	25.5	24.5	22.3	23.1
12	21.3	19.5	20.3	23.3	22.0	22.5	25.9	24.4	24.9	23.6	22.1	23.0
13	21.6	19.3	20.3	23.0	16.6	19.5	25.5	24.2	24.7	24.0	22.1	22.9
14	21.5	19.2	20.4	17.0	15.6	16.1	25.6	24.0	24.9	26.7	23.3	24.6
15	21.5	19.0	20.3	19.3	15.1	16.5	25.3	23.1	24.3	26.8	24.7	25.4
16	21.8	19.8	20.8	17.5	15.4	16.5	24.4	22.7	23.3	27.9	25.9	26.8
17	20.9	18.7	19.5	19.7	15.9	18.0	24.8	22.9	23.7	28.0	26.6	27.2
18	20.8	18.7	19.8	20.4	18.3	19.3	25.0	23.0	23.8	28.9	26.7	27.4
19	21.2	19.0	20.1	21.1	19.1	20.0	25.5	22.7	24.1	29.3	27.1	27.7
20	21.9	20.0	20.9	20.2	19.6	19.9	25.6	23.3	24.5	29.6	27.3	28.0
21	20.4	18.5	19.5	23.1	19.9	20.9	25.4	24.1	24.6	29.5	27.5	28.0
22	19.9	18.2	18.8	22.9	20.4	21.3	25.9	24.5	25.1	28.0	26.9	27.4
23	20.9	---	20.1	22.3	20.7	21.3	27.6	24.8	25.7	29.1	27.4	28.1
24	20.4	19.0	19.6	22.6	20.8	21.5	26.9	24.7	25.9	30.8	27.9	28.8
25	20.8	19.9	20.4	22.7	21.5	22.2	26.8	25.6	26.2	29.6	27.5	28.4
26	21.7	20.3	21.2	24.3	21.6	22.8	26.8	25.3	26.1	29.0	28.0	28.4
27	21.9	20.8	21.3	23.3	21.6	22.1	27.4	25.1	26.2	30.0	27.8	28.7
28	21.9	19.8	20.7	22.8	21.2	21.9	29.2	25.8	27.2	28.7	27.4	28.1
29	---	---	---	22.1	21.0	21.7	29.1	25.6	27.1	27.9	21.0	26.9
30	---	---	---	21.4	20.6	21.0	27.2	25.6	26.3	28.3	25.4	27.0
31	---	---	---	22.2	21.0	21.5	---	---	---	27.9	25.1	26.0
MONTH	23.2	---	20.6	24.5	15.1	20.7	29.2	21.1	24.5	30.8	21.0	26.6
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	28.1	25.7	26.6	30.6	29.5	29.9	33.3	30.8	31.6	30.0	23.5	28.7
2	28.2	26.6	27.4	31.3	30.0	30.4	33.3	30.7	31.6	30.6	28.3	29.3
3	29.7	23.1	28.0	31.0	30.2	30.6	33.5	30.8	31.7	31.5	28.6	29.9
4	30.7	28.2	29.0	31.1	30.3	30.6	33.3	30.9	31.7	31.3	29.6	30.2
5	30.7	28.6	29.3	32.2	30.2	30.9	33.6	30.6	31.7	31.8	29.5	30.6
6	31.1	29.1	29.6	31.8	30.4	30.9	33.3	30.5	31.6	32.8	29.8	31.2
7	30.1	29.0	29.4	32.4	30.0	30.8	33.2	30.7	31.7	32.6	30.2	31.3
8	29.7	28.9	29.3	32.2	29.4	30.3	32.8	30.5	31.5	33.0	30.2	31.5
9	29.1	27.7	28.5	30.4	29.4	29.7	32.4	30.4	31.4	33.1	30.5	31.6
10	29.5	26.3	27.6	31.7	29.0	30.0	32.6	30.4	31.4	33.0	29.9	31.3
11	29.0	27.2	27.9	31.4	29.7	30.2	32.4	30.3	31.3	32.9	30.4	31.4
12	29.6	28.1	28.7	31.4	29.4	30.2	32.3	30.2	31.1	32.3	30.5	31.3
13	29.1	26.2	27.7	31.1	29.8	30.2	32.5	29.3	30.7	32.1	30.2	31.1
14	29.9	26.5	27.2	32.8	29.9	30.9	32.8	29.0	30.8	32.2	30.2	30.9
15	28.2	27.3	27.7	32.6	30.1	31.1	32.8	30.0	31.1	31.5	29.5	30.5
16	28.4	26.9	27.6	32.1	30.2	30.9	32.6	29.9	31.2	31.2	29.3	30.0
17	30.3	27.2	28.2	31.2	30.0	30.4	31.8	30.2	31.0	31.1	29.3	30.1
18	29.7	27.9	28.6	31.3	30.2	30.6	32.3	30.3	31.0	31.0	28.8	29.8
19	29.4	28.0	28.6	32.2	29.8	30.5	32.3	30.0	31.0	31.0	28.5	29.8
20	29.2	28.2	28.6	30.9	29.4	30.0	32.2	29.9	30.8	31.3	28.4	29.9
21	28.3	27.2	27.8	29.5	28.8	29.0	31.6	29.8	30.7	30.3	29.1	29.8
22	28.6	27.0	27.5	32.3	28.8	30.0	31.0	29.4	30.3	30.8	26.9	29.0
23	29.1	27.5	28.1	31.0	29.1	29.9	32.1	29.4	30.6	30.2	27.3	28.7
24	30.2	27.7	28.7	33.2	29.5	30.6	31.9	30.5	31.2	30.0	27.0	28.7
25	29.2	28.2	28.5	31.9	29.9	30.7	33.6	30.6	31.8	29.4	27.9	28.7
26	30.4	28.4	29.1	32.3	29.1	30.6	33.3	30.6	31.9	29.5	27.8	28.8
27	30.6	29.0	29.6	31.9	30.2	30.7	33.2	30.9	31.9	29.9	28.4	29.0
28	31.0	29.1	29.8	32.1	29.9	30.9	33.4	31.0	31.9	29.9	28.6	29.1
29	30.2	29.3	29.7	33.1	30.3	31.4	32.9	31.1	31.8	29.2	24.0	27.2
30	30.8	29.2	29.8	33.0	30.6	31.5	32.9	30.6	31.7	26.5	24.0	25.3
31	---	---	---	33.1	30.6	31.6	33.2	29.9	31.3	---	---	---
MONTH	31.1	23.1	28.5	33.2	28.8	30.5	33.6	29.0	31.3	33.1	23.5	29.8

SAN JACINTO RIVER BASIN

08074710 BUFFALO BAYOU AT TURNING BASIN, HOUSTON, TX--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	3.8	2.6	3.4	6.7	4.8	6.0	6.6	4.8	5.5	7.3	6.5	6.9
2	4.1	2.8	3.6	5.1	3.8	4.4	6.6	4.9	5.8	7.1	6.1	6.7
3	3.7	2.8	3.5	6.0	3.2	4.2	6.7	5.2	6.2	7.8	6.5	6.8
4	4.2	2.9	3.6	7.1	4.3	5.6	5.5	4.8	5.1	7.6	6.2	7.0
5	4.2	3.0	3.6	7.0	5.7	6.3	5.0	4.3	4.7	7.5	6.4	7.1
6	5.8	3.0	3.8	7.2	5.7	6.2	5.0	4.1	4.5	7.3	5.2	6.7
7	6.0	4.2	5.0	7.3	6.3	6.9	5.0	3.9	4.5	7.0	5.5	6.2
8	5.3	3.5	4.4	7.3	5.5	6.4	5.2	4.3	4.6	7.7	5.8	6.8
9	5.2	3.6	4.3	6.7	5.2	6.0	6.1	4.2	5.0	7.6	6.0	6.7
10	5.6	3.9	4.5	7.0	5.7	6.5	6.1	5.3	5.8	6.9	6.0	6.4
11	5.9	4.2	4.8	6.5	3.5	5.8	10.0	5.4	7.3	6.9	5.7	6.3
12	6.1	4.7	5.4	8.6	5.6	6.7	9.8	8.7	9.3	6.6	5.4	6.2
13	6.5	4.0	5.3	9.2	8.6	9.0	9.2	8.0	8.6	7.4	6.2	6.5
14	5.6	2.6	4.1	9.2	8.7	8.9	8.0	7.4	7.7	6.6	5.9	6.3
15	4.7	2.6	3.9	8.9	8.3	8.6	7.8	7.2	7.5	6.6	4.6	5.5
16	5.2	3.2	4.2	8.4	7.7	8.1	8.1	7.3	7.7	5.9	4.8	5.3
17	6.0	4.1	5.2	8.4	7.3	7.7	8.0	7.4	7.8	6.1	4.7	5.3
18	7.0	4.7	5.7	8.4	7.3	8.0	8.2	7.6	8.0	6.5	4.5	5.8
19	7.4	5.9	6.5	8.4	7.8	8.1	8.1	7.5	7.9	6.4	5.6	6.1
20	7.1	6.0	6.5	8.2	7.7	8.0	8.1	7.1	7.7	6.1	5.2	5.8
21	6.6	5.4	6.1	8.2	7.5	7.8	9.3	7.2	8.0	6.9	5.4	6.3
22	6.7	4.2	5.6	8.3	7.4	7.9	9.5	8.6	9.1	7.1	5.5	6.3
23	7.0	5.5	6.3	8.3	7.5	8.0	9.8	8.4	8.9	6.5	5.0	6.0
24	7.1	5.9	6.4	8.1	7.5	7.8	10.5	9.3	9.8	7.1	4.3	6.0
25	7.0	5.9	6.4	7.8	7.3	7.5	11.3	9.9	10.3	9.5	5.9	7.6
26	7.3	5.5	6.5	7.8	7.1	7.4	11.2	10.2	10.8	---	5.7	7.1
27	7.2	5.9	6.6	7.7	7.1	7.3	10.8	7.6	9.6	9.3	5.2	7.1
28	6.7	5.7	6.1	7.6	7.1	7.4	9.7	8.1	9.0	8.6	6.1	7.3
29	6.7	5.7	6.0	7.3	6.8	7.1	8.8	7.0	8.0	8.7	6.1	7.1
30	7.0	5.9	6.4	7.2	6.5	6.8	7.5	6.0	6.8	6.9	5.2	6.3
31	6.8	5.9	6.3	---	---	---	7.2	5.9	6.6	5.7	.5	3.1
MONTH	7.4	2.6	5.2	9.2	3.2	7.1	11.3	3.9	7.4	---	.5	6.3
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	6.8	2.9	5.1	6.5	1.5	4.4	5.5	4.6	5.0	7.9	3.9	5.4
2	7.1	4.3	5.7	6.0	3.7	4.7	6.6	4.9	6.0	10.5	3.1	6.0
3	6.5	4.5	5.7	5.4	2.4	4.2	6.4	5.7	6.0	6.0	3.6	4.6
4	7.3	3.9	6.0	6.4	2.3	4.9	6.1	5.4	5.7	4.3	3.1	3.8
5	7.9	5.1	6.4	6.9	5.0	5.9	6.3	4.7	5.7	5.7	1.6	3.5
6	10.5	5.8	7.7	9.7	4.1	6.6	6.3	4.6	5.2	4.7	1.5	3.2
7	7.9	5.2	6.5	6.5	4.3	5.5	5.8	3.8	4.7	4.3	.8	1.8
8	7.8	5.8	6.8	6.7	4.3	5.6	5.7	4.3	5.0	12.3	2.1	6.7
9	7.8	5.8	6.5	8.8	4.4	5.7	6.5	4.5	5.4	9.3	3.4	6.1
10	9.7	5.8	6.9	7.9	4.8	6.0	6.4	4.6	5.6	5.7	2.2	3.7
11	8.1	5.3	6.4	8.5	4.9	6.5	6.9	3.8	5.1	4.3	.5	2.3
12	7.0	4.5	5.7	8.1	4.6	6.0	7.7	4.2	5.5	---	---	---
13	8.0	3.9	5.9	6.2	4.5	5.3	7.3	3.8	5.3	---	---	---
14	10.5	4.8	7.4	6.2	4.8	5.6	5.6	2.6	4.8	---	---	---
15	9.8	6.3	7.9	6.8	5.9	6.4	6.3	4.0	4.9	6.1	4.1	5.1
16	8.5	5.6	6.8	7.4	4.0	5.8	6.5	3.6	4.7	6.4	4.9	5.4
17	6.7	4.0	5.3	7.4	6.2	6.7	6.8	2.9	4.4	5.5	3.5	4.6
18	4.7	3.1	4.0	7.4	6.0	6.6	6.0	2.9	4.4	4.8	3.0	3.8
19	4.7	3.3	4.0	6.6	5.0	6.0	6.6	3.7	5.1	4.2	1.8	3.2
20	5.5	3.9	4.9	6.7	5.4	5.9	8.0	4.8	6.3	2.7	.4	1.4
21	5.1	3.4	4.4	5.9	4.3	5.1	9.3	6.0	7.7	3.2	1.3	2.2
22	5.9	---	5.3	7.0	4.0	5.6	11.4	6.3	8.4	3.2	.6	1.7
23	6.3	---	4.9	7.0	6.0	6.4	12.8	5.7	8.2	5.9	2.1	3.1
24	5.5	3.4	4.7	6.6	5.3	6.0	12.1	4.9	8.3	11.9	4.2	7.1
25	6.1	3.8	5.0	6.3	5.3	5.8	13.0	6.5	9.3	6.1	2.4	4.2
26	6.3	3.5	4.7	6.8	5.4	6.1	11.4	6.7	8.9	7.5	2.7	5.1
27	5.6	2.8	4.2	6.6	5.0	6.0	7.6	2.9	5.2	9.5	2.8	5.4
28	5.3	2.8	4.2	7.3	4.1	6.4	7.6	3.2	5.2	6.2	1.5	3.3
29	---	---	---	6.5	4.5	5.5	9.4	2.7	5.2	4.1	.8	2.0
30	---	---	---	5.9	4.2	5.1	8.8	4.4	5.9	4.0	.8	1.7
31	---	---	---	5.9	4.4	5.3	---	---	---	4.8	2.8	3.8
MONTH	10.5	---	5.7	9.7	1.5	5.7	13.0	2.6	5.9	---	---	---

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SAN JACINTO RIVER BASIN

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°39'23", long 95°33'43", Harris County, Hydrologic Unit 12040104, on right bank at upstream side of bridge on Roark Road in southwest Houston.

DRAINAGE AREA.--12.7 mi², Oct 1, 1976, to Dec 31, 1977, 12.0 mi²; Aug 1964 to Sep 30, 1976, 11.6 mi². Drainage area changes were the result of ditch relocations or extensions.

PERIOD OF RECORD.--Aug 1964 to Sep 1981 (daily mean discharges), Oct 1981 to Sep 1992 (annual maximum discharge), Oct 1992 to current year (peak discharges greater than base discharge).

REVISED RECORDS.--WRD TX-74-1: Drainage area. WDR TX-77-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is sea level, 1957 adjustment; unadjusted for land-surface subsidence. Radio telemeter at station. Satellite telemeter at station.

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

AVERAGE DISCHARGE.--17 years (water years 1965-81), 12.3 ft³/s, (8,910 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,880 ft³/s Mar 4, 1992, gage height, 75.91 ft; no flow for many days.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov 13	0330	2,750	72.73	Mar 19	1015	2,240	71.81
Nov 14	0530	2,710	72.66	May 12	1200	2,950	73.09
Dec 11	1100	2,040	71.45				

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SAN JACINTO RIVER BASIN

08075000 BRAYS BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°41'49", long 95°24'43", Harris County, Hydrologic Unit 12040104, near right bank at downstream side of Main Street Bridge in southwest Houston, 1.6 mi upstream from Harris Gully, and 11.6 mi upstream from Buffalo Bayou.

DRAINAGE AREA.--94.9 mi².

PERIOD OF RECORD.--May 1936 to current year.

Water-quality records.--Chemical data: Oct 1968 to Sep 1998. Biochemical data: Oct 1968 to Sep 1998. Pesticide data: Oct 1968 to Sep 1998.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.16 ft below sea level, 1973 adjustment; unadjusted for land-surface subsidence. Prior to Jun 20, 1936, nonrecording gage, and Jun 20, 1936, to Nov 25, 1959, water-stage recorder at site 0.8 mi downstream at same datum. Satellite telemeter at station.

REMARKS.--Records fair. No known regulation or diversions. Low flow is sustained mostly from wastewater effluent from Houston suburbs.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1911, 56.0 ft in Jun 1919 before channel rectification, former site, from information by engineer for city of Houston.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,300 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	1500	9,540	39.15	Mar 13	0415	7,330	37.03
Nov 13	0430	15,100	43.57	Mar 19	1245	12,100	41.31
Nov 14	0630	16,700	44.67	May 12	1400	11,200	40.55
Dec 11	1215	11,700	41.03	Jun 15	1715	8,170	37.86

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	939	124	522	113	121	138	105	134	104	103	215
2	117	286	107	2010	111	114	120	110	113	102	103	109
3	140	123	106	206	111	110	124	111	105	102	333	100
4	634	115	108	141	110	107	127	110	e104	112	240	99
5	447	111	106	121	108	114	123	e110	e103	121	110	99
6	2430	106	112	122	115	117	113	e108	e100	795	107	104
7	389	109	162	268	116	117	111	e106	e155	524	109	105
8	170	340	537	233	114	122	110	e105	286	130	107	99
9	139	128	118	140	107	112	104	e130	542	148	103	97
10	123	226	362	123	106	106	106	e950	528	156	103	94
11	130	119	4300	117	119	113	114	e510	364	113	102	97
12	138	2970	1060	115	113	139	116	e2350	706	107	105	99
13	145	7040	299	718	109	1980	112	641	1240	642	107	99
14	141	6240	190	471	113	190	260	169	387	122	110	101
15	140	678	149	177	111	117	171	123	1690	102	111	101
16	150	300	136	138	112	106	107	118	e910	121	102	98
17	197	202	123	131	744	103	105	124	e390	278	102	98
18	3510	159	123	127	131	105	107	126	e195	296	103	99
19	1540	138	121	123	113	3910	110	104	179	421	103	99
20	681	121	119	114	191	625	111	104	589	241	146	103
21	231	114	123	113	147	191	107	109	335	523	260	104
22	161	114	119	117	119	135	113	105	500	170	114	102
23	131	115	113	114	113	116	113	107	359	112	107	102
24	120	117	112	114	114	108	112	108	291	102	105	99
25	121	112	106	116	115	106	119	109	404	217	102	101
26	121	115	103	110	120	106	138	104	222	189	101	105
27	117	108	134	114	135	105	298	211	124	109	101	133
28	111	109	170	120	132	409	116	512	110	103	106	153
29	108	112	115	147	---	547	115	366	101	100	109	986
30	108	125	113	213	---	441	110	1750	106	98	106	140
31	112	---	122	124	---	162	---	677	---	99	850	---
TOTAL	12919	21591	9792	7519	3962	10954	3830	10472	11372	6559	4570	4140
MEAN	417	720	316	243	142	353	128	338	379	212	147	138
MAX	3510	7040	4300	2010	744	3910	298	2350	1690	795	850	986
MIN	108	106	103	110	106	103	104	104	100	98	101	94
AC-FT	25620	42830	19420	14910	7860	21730	7600	20770	22560	13010	9060	8210

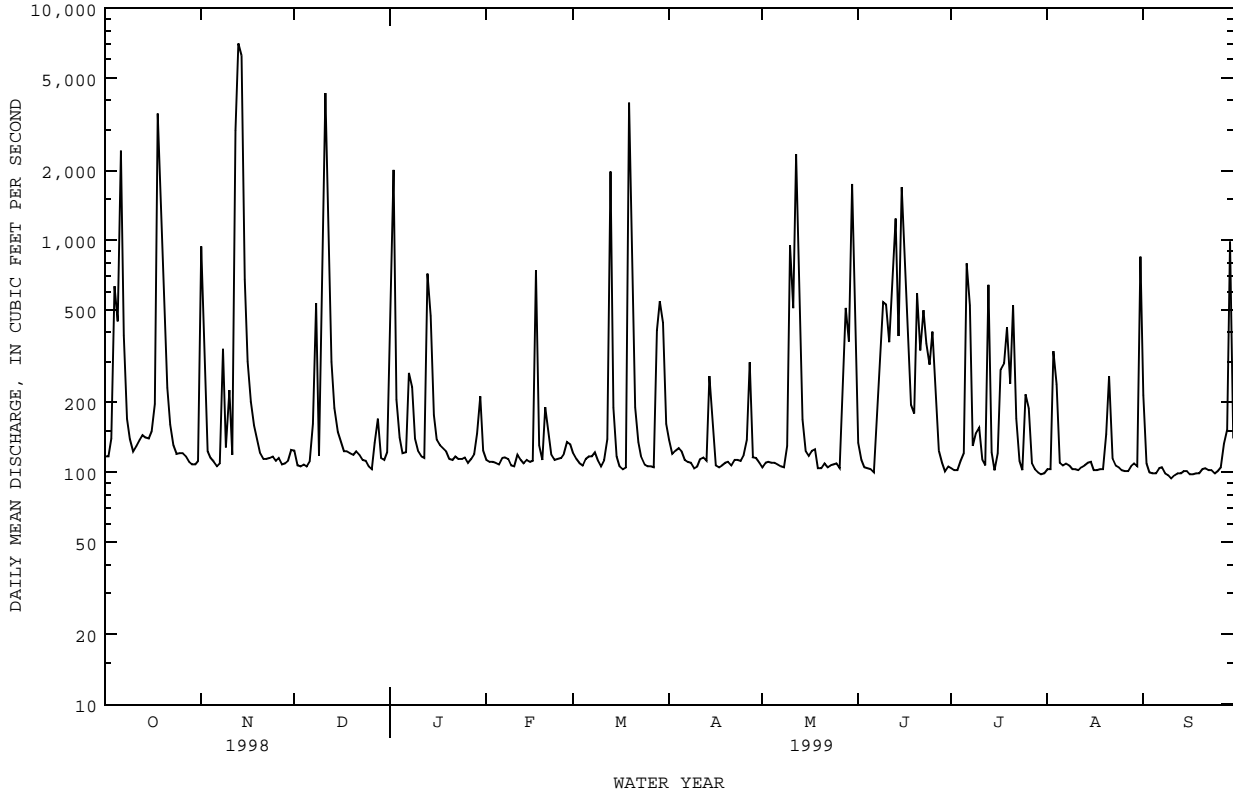
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1999, BY WATER YEAR (WY)

MEAN	158	169	158	189	181	140	151	185	205	128	132	177
MAX (WY)	1029	720	626	760	893	627	713	636	941	519	880	857
MIN (WY)	1995	1999	1992	1991	1992	1997	1991	1997	1973	1942	1983	1979
(WY)	.58	.68	5.98	1.90	9.73	1.36	1.40	.95	3.78	1.72	.74	1.12
(WY)	1939	1939	1951	1940	1947	1940	1939	1937	1937	1937	1940	1939

08075000 BRAYS BAYOU AT HOUSTON, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1936 - 1999	
ANNUAL TOTAL	129145		107680			
ANNUAL MEAN	354		295		165	
HIGHEST ANNUAL MEAN					430	1992
LOWEST ANNUAL MEAN					15.1	1940
HIGHEST DAILY MEAN	13600	Sep 11	7040	Nov 13	16300	Oct 18 1994
LOWEST DAILY MEAN	100	Sep 5	94	Sep 10	.10	Oct 11 1937
ANNUAL SEVEN-DAY MINIMUM	106	Jun 19	98	Sep 8	.19	Oct 6 1937
INSTANTANEOUS PEAK FLOW			16700	Nov 14	29000	Jun 15 1976
INSTANTANEOUS PEAK STAGE			44.67	Nov 14	52.13	Jun 15 1976
ANNUAL RUNOFF (AC-FT)	256200		213600		119300	
10 PERCENT EXCEEDS	452		526		295	
50 PERCENT EXCEEDS	128		117		67	
90 PERCENT EXCEEDS	107		103		5.6	

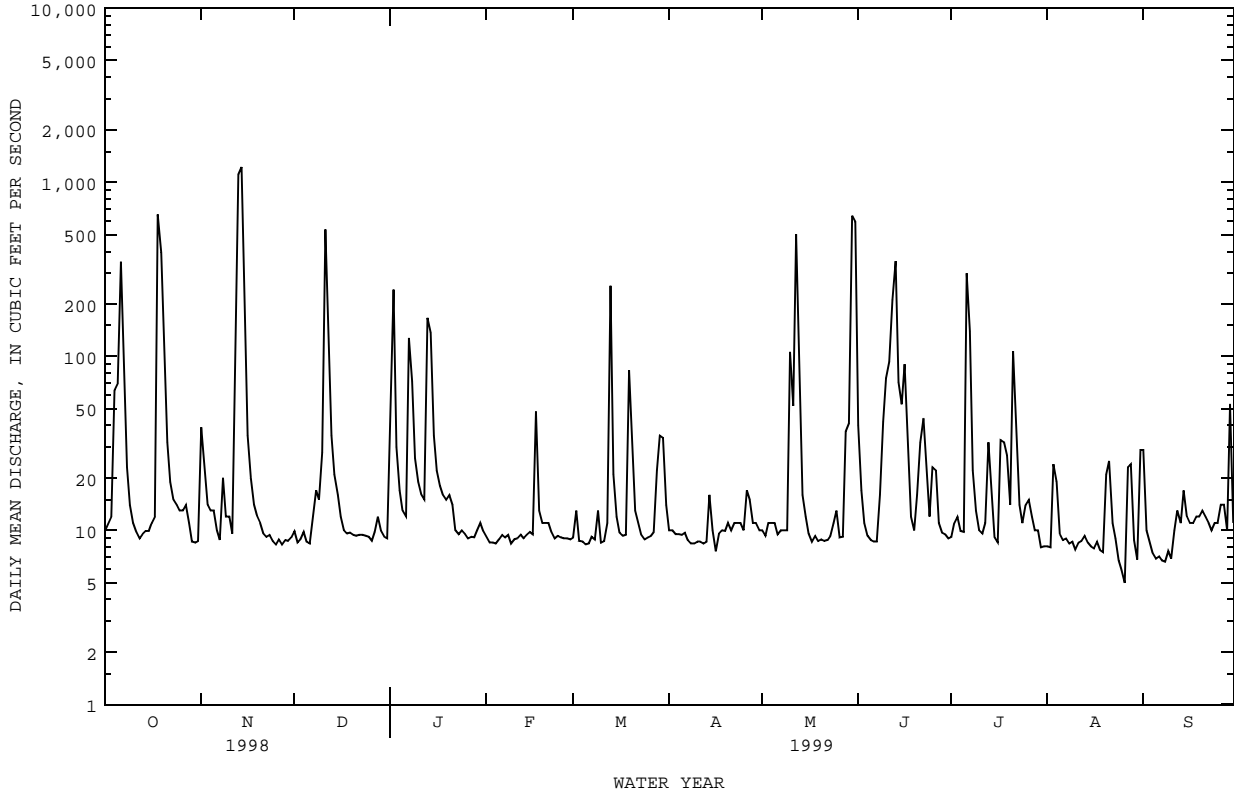
e Estimated



08075400 SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1964 - 1999h	
ANNUAL TOTAL	16482.5		13944.6			
ANNUAL MEAN	45.2		38.2		31.9	
HIGHEST ANNUAL MEAN					57.8	
LOWEST ANNUAL MEAN					10.7	
HIGHEST DAILY MEAN	1850	Sep 11	1220	Nov 14	5640	Oct 18 1994
LOWEST DAILY MEAN	6.2	Sep 4	5.0	Aug 26	1.5	Jul 26 1965
ANNUAL SEVEN-DAY MINIMUM	7.3	Sep 3	7.0	Sep 4	2.2	Jul 22 1965
INSTANTANEOUS PEAK FLOW			2570	May 30	7510	Oct 18 1994
INSTANTANEOUS PEAK STAGE			49.03	May 30	57.12	Jun 15 1976
ANNUAL RUNOFF (AC-FT)	32690		27660		23110	
10 PERCENT EXCEEDS	58		52		52	
50 PERCENT EXCEEDS	11		11		12	
90 PERCENT EXCEEDS	8.3		8.5		6.1	

h See PERIOD OF RECORD paragraph.



SAN JACINTO RIVER BASIN

08075500 SIMS BAYOU AT HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°40'27", long 95°17'21", Harris County, Hydrologic Unit 12040104, on left bank of State Highway 35 in southeast Houston and 7.0 mi upstream from mouth.

DRAINAGE AREA.--63.0 mi².

PERIOD OF RECORD.--Oct 1952 to Sep 1995 (daily mean discharge), Oct 1995 to current year (peak discharges greater than base discharge).

Water-quality records.--Chemical data: Oct 1968 to Sep 1998. Biochemical data: Oct 1968 to Sep 1998. Pesticide data: Oct 1968 to Sep 1998.

REVISED RECORDS.--WSP 1922: 1960. 1975(M). WDR TX-77-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3.09 ft below sea level, 1973 adjustment; unadjusted for land-surface subsidence. Satellite telemeter at station.

REMARKS.--Records fair. Major channel rectification completed late in the 1997 water year. No known regulation or diversions. Low flow is largely sustained by wastewater effluent from Houston suburbs and from industrial wastes. Stage-discharge relationship is tidally affected at low flow.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 6	0930	3,070	10.52	Dec 11	1645	2,920	10.29
Oct 18	1700	4,220	12.17	May 12	1145	3,990	11.85
Nov 13	0730	5,280	13.57	May 31	0200	2,960	10.36
Nov 14	0815	6,090	14.59				

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SAN JACINTO RIVER BASIN

08075650 BERRY BAYOU AT FOREST OAKS STREET, HOUSTON, TX

LOCATION.--Lat 29°40'35", long 95°14'37", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge at Forest Oaks Street in southeast Houston, 0.8 mi upstream from mouth of Berry Creek, and 1.7 mi upstream from Sims Bayou.

DRAINAGE AREA.--10.7 mi².

PERIOD OF RECORD.--Apr 1964 to Sep 1966 (daily mean discharge), Oct 1967 to Sep 1982 (discharge greater than base discharge), Oct 1982 to current year (gage heights only).

Water-quality records.--Chemical data: Oct 1968 to Sep 1981. Biochemical data: Oct 1968 to Sep 1981. Pesticide data: Oct 1968 to Sep 1981. Water temperature: Apr 1964 to Sep 1981.

REVISED RECORDS.--WDR TX-80-2: 1979(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.72 ft below sea level, 1973 adjustment. Jun 1964 to Jan 1965, auxiliary nonrecording gage 0.8 mi downstream at same datum. Jan 1965 to Sep 1982, auxiliary water-stage recorder 0.8 mi downstream at same datum. Radio telemeter at station. Satellite telemeter at station.

REMARKS.--Records fair. No known regulation or diversions. Low stages are affected by tides. Rises are occasionally affected by backwater from Sims Bayou. The U.S. Geological Survey report series "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan area", for water years 1965-84, contains additional storm runoff data for this station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft³/s Jun 9, 1975; maximum gage height, 23.85 ft Sep 20, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 15.73 ft, Oct 6; minimum gage height, 3.11 ft, Aug 27.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	5.63	3.93	7.03	5.15	5.11	3.84	6.58	4.13	5.27	3.78	5.24	3.87
2	6.00	4.04	5.73	4.24	5.41	3.80	10.24	4.22	5.32	3.77	5.69	4.20
3	6.76	4.82	5.96	4.01	5.94	4.01	4.22	3.96	5.64	4.25	4.82	3.81
4	12.04	4.43	5.61	3.87	5.71	3.89	4.67	3.86	5.61	4.02	6.43	4.29
5	7.92	6.10	5.25	3.78	5.57	3.79	5.36	3.84	5.67	4.55	6.41	4.81
6	15.73	5.77	5.85	3.79	5.67	4.02	5.43	4.03	5.26	4.20	5.08	4.05
7	5.91	4.14	6.09	4.21	5.68	3.95	5.76	4.24	5.39	4.18	6.63	3.88
8	5.79	3.93	5.99	3.92	5.04	3.89	5.24	4.39	5.14	3.76	6.73	5.34
9	5.83	4.09	5.45	4.20	5.28	4.08	4.96	3.91	5.35	3.75	5.59	4.20
10	6.01	3.99	6.15	3.90	6.08	4.41	5.05	3.87	5.58	3.75	6.04	4.03
11	5.82	4.46	5.27	4.20	9.94	4.52	5.19	3.96	5.67	3.78	6.01	4.33
12	6.11	3.92	6.41	5.08	5.93	4.20	5.25	3.88	3.83	3.70	6.78	4.38
13	5.50	3.84	11.88	5.87	4.20	4.01	13.37	3.84	4.78	3.67	8.65	4.18
14	5.43	3.87	15.64	5.74	4.89	3.92	6.98	4.36	5.34	3.69	4.18	3.97
15	5.85	4.13	6.24	5.53	4.85	3.88	5.25	4.03	5.49	3.92	4.82	3.85
16	6.66	4.60	6.16	5.38	4.87	3.84	5.44	3.96	5.59	3.84	5.40	4.01
17	7.06	5.76	5.87	4.43	4.72	3.81	5.55	3.93	5.79	3.94	6.02	4.54
18	11.87	5.89	5.85	4.19	5.90	3.89	5.32	3.86	5.38	3.88	5.71	4.13
19	7.45	5.86	5.70	4.09	5.76	3.86	5.11	3.81	5.13	3.77	6.16	4.53
20	6.75	5.35	5.62	3.89	5.41	3.82	5.13	3.84	5.96	4.33	5.03	3.78
21	6.36	4.69	5.83	3.99	5.66	3.88	5.81	4.27	5.36	3.95	4.75	3.64
22	6.02	4.50	5.78	4.00	5.30	3.77	6.13	3.84	6.12	3.99	5.37	3.63
23	6.43	4.86	5.75	3.92	4.94	3.85	4.32	3.75	5.77	4.10	5.65	3.78
24	6.55	4.98	5.54	3.81	4.73	3.83	4.90	3.74	5.24	3.86	5.44	3.66
25	6.56	4.88	5.53	3.85	4.44	3.82	4.91	3.74	5.54	3.90	4.87	3.61
26	6.66	4.65	5.34	3.81	4.85	3.79	5.08	3.76	5.64	3.91	5.56	3.67
27	6.23	4.48	5.10	3.85	5.35	3.98	5.21	3.76	5.87	3.99	6.37	4.46
28	6.23	4.48	5.12	4.05	5.25	3.86	5.81	3.86	4.94	3.85	6.65	4.30
29	5.98	4.45	5.59	4.19	4.86	3.78	5.82	4.01	---	---	7.62	3.78
30	6.07	4.82	5.67	4.13	5.41	3.75	5.63	3.80	---	---	5.60	4.30
31	6.33	5.06	---	---	5.53	3.82	4.69	3.70	---	---	5.50	4.21
MONTH	15.73	3.84	15.64	3.78	9.94	3.75	13.37	3.70	6.12	3.67	8.65	3.61

SAN JACINTO RIVER BASIN

08075730 VINCE BAYOU AT PASADENA, TX

LOCATION.--Lat 29°41'40", long 95°12'58", Harris County, Hydrologic Unit 12040104, on right bank of concrete-lined channel at end of West Ellaine Avenue in Pasadena and 2.4 mi upstream from mouth.

DRAINAGE AREA.--8.26 mi² (Revised).

PERIOD OF RECORDS.--Oct 1971 to current year.

Water-quality records.--Chemical data: May 1971 to Sep 1973, Oct 1976 to Jul 1979. Biochemical data: May 1971 to Sep 1973, Oct 1976 to Jul 1979. Pesticide data: May 1971 to Sep 1973, Oct 1976 to Jul 1979.

GAGE.--Water-stage recorder. Datum of gage is 2.54 ft below sea level, 1973 adjustment; unadjusted for land-surface subsidence (levels by the U.S. Army Corps of Engineers). Satellite telemeter at station.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 6	0930	1,920	14.68	Jan 13	1800	1,670	14.23
Oct 18	1200	1,970	14.76	May 12	1145	3,790	17.57

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	14	2.8	21	1.2	2.0	2.2	1.8	2.3	2.0	3.4	.78
2	2.7	2.4	1.6	122	1.2	2.3	1.4	1.7	2.6	1.8	1.9	.75
3	8.9	1.8	1.4	3.8	1.5	4.8	1.7	1.8	3.1	2.3	2.0	.56
4	154	1.4	1.5	1.9	1.5	5.0	2.3	2.2	2.0	4.5	2.3	1.0
5	79	1.3	2.1	3.8	1.4	4.8	1.9	7.8	1.4	3.4	2.4	.64
6	358	1.9	1.6	2.5	1.7	3.9	2.7	4.8	2.1	4.6	2.4	.55
7	19	1.6	5.4	50	1.5	5.8	3.5	2.1	3.2	8.6	2.4	.97
8	5.7	5.6	12	13	1.3	5.6	2.1	1.8	7.0	7.1	2.3	.94
9	4.1	1.6	3.6	3.4	1.4	10	2.1	1.5	23	9.7	2.4	.75
10	3.9	6.5	50	2.0	1.6	17	2.5	130	8.0	4.1	2.5	1.2
11	3.7	2.8	283	1.6	1.5	9.9	1.7	19	99	6.7	2.4	1.0
12	3.8	50	36	2.2	4.1	14	1.8	704	47	6.1	5.1	.70
13	3.8	219	4.7	235	3.7	109	e1.7	23	114	98	3.4	.69
14	3.5	331	3.0	43	1.6	2.8	e3.8	4.8	8.4	11	2.1	.71
15	3.3	18	4.2	7.4	1.4	1.3	e2.6	4.0	92	2.4	2.0	1.4
16	4.4	3.6	3.8	5.2	2.8	1.1	3.2	3.9	45	1.7	1.8	1.7
17	3.6	2.7	3.0	3.6	41	3.3	e2.5	3.3	6.5	7.1	1.9	1.2
18	480	3.6	1.6	2.1	1.5	2.7	e2.0	4.4	3.9	7.6	1.8	1.2
19	132	3.6	2.0	2.1	1.4	9.5	1.7	2.8	3.6	10	1.6	1.3
20	40	3.0	1.6	1.8	17	1.9	1.7	2.7	45	5.9	1.8	1.5
21	7.9	2.7	1.6	2.0	5.0	1.7	1.7	2.2	46	30	2.2	1.5
22	5.4	2.6	9.8	3.0	1.3	1.5	1.9	1.4	66	5.6	1.6	3.0
23	3.5	1.5	2.6	1.6	3.3	2.7	3.4	1.1	51	4.0	1.8	3.3
24	3.3	1.5	1.5	1.4	3.7	3.6	2.0	1.0	8.6	3.2	1.6	2.9
25	2.7	2.6	1.4	1.2	1.5	2.5	2.2	.96	173	78	1.3	2.3
26	2.0	1.9	1.4	2.4	1.4	2.3	14	21	37	10	1.5	2.0
27	2.2	1.3	2.5	1.6	2.0	2.4	4.6	1.6	4.7	2.5	.82	4.2
28	1.4	1.3	4.4	1.5	3.0	2.8	2.3	1.2	2.2	1.8	1.5	6.7
29	1.8	9.3	3.6	1.9	---	94	2.1	19	2.9	1.7	4.0	68
30	1.3	13	2.2	2.3	---	44	1.5	121	3.3	4.0	.82	2.0
31	1.3	---	1.6	1.4	---	5.9	---	10	---	2.6	.53	---
TOTAL	1348.5	713.1	457.5	547.7	111.5	380.1	80.8	1107.86	913.8	348.0	65.57	115.44
MEAN	43.5	23.8	14.8	17.7	3.98	12.3	2.69	35.7	30.5	11.2	2.12	3.85
MAX	480	331	283	235	41	109	14	704	173	98	5.1	68
MIN	1.3	1.3	1.4	1.2	1.2	1.1	1.4	.96	1.4	1.7	.53	.55
AC-FT	2670	1410	907	1090	221	754	160	2200	1810	690	130	229

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1999, BY WATER YEAR (WY)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	15.9	15.3	13.4	19.6	13.5	11.8	12.8	18.2	26.5	13.9	12.4	19.6																
MAX	87.4	41.1	35.0	57.7	40.3	36.8	57.6	49.8	87.0	87.4	78.1	113																
(WY)	1995	1987	1972	1980	1992	1979	1991	1981	1989	1979	1983	1979																
MIN	.64	1.71	1.49	1.82	1.67	.59	.38	.90	1.81	1.66	1.31	1.04																
(WY)	1979	1981	1989	1996	1988	1996	1983	1988	1990	1982	1980	1982																

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

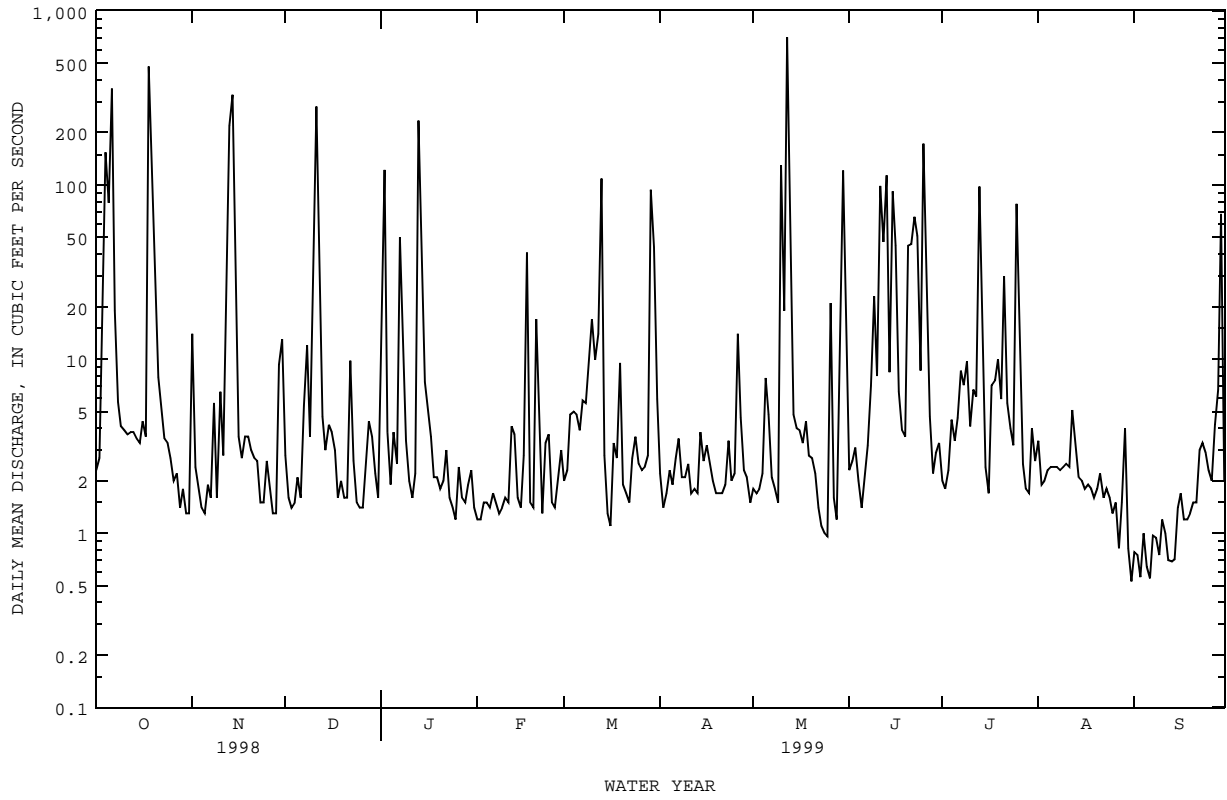
FOR 1999 WATER YEAR

WATER YEARS 1972 - 1999

ANNUAL TOTAL	7203.68	6189.87	
ANNUAL MEAN	19.7	17.0	16.1
HIGHEST ANNUAL MEAN			32.1
LOWEST ANNUAL MEAN			4.97
HIGHEST DAILY MEAN	1320	Sep 11	704
LOWEST DAILY MEAN	.65	Jun 2	.53
ANNUAL SEVEN-DAY MINIMUM	.92	Jun 8	.69
INSTANTANEOUS PEAK FLOW			3790
INSTANTANEOUS PEAK STAGE			17.57
ANNUAL RUNOFF (AC-FT)	14290	12280	11630
10 PERCENT EXCEEDS	24	36	26
50 PERCENT EXCEEDS	2.3	2.6	2.2
90 PERCENT EXCEEDS	1.1	1.3	.52

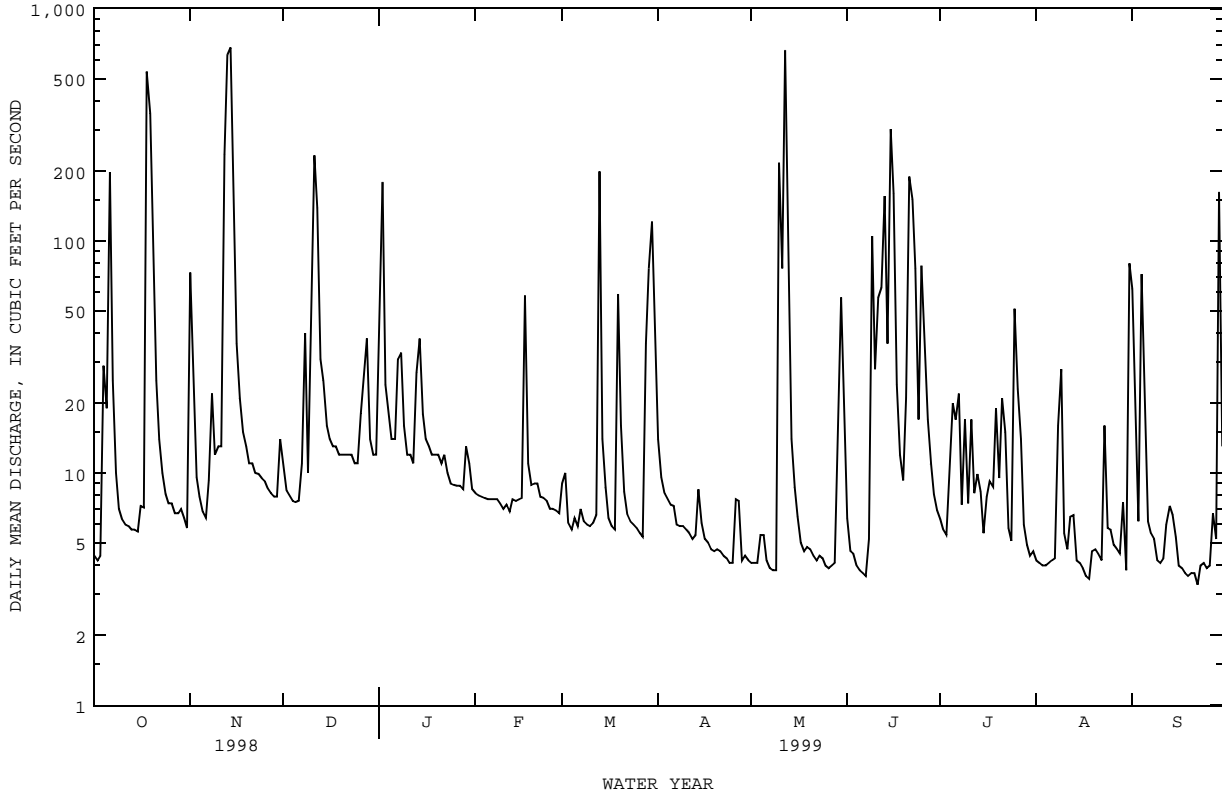
e Estimated

08075730 VINCE BAYOU AT PASADENA, TX--Continued



08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1964 - 1999	
ANNUAL TOTAL	12704.0		10107.5		25.1	
ANNUAL MEAN	34.8		27.7		45.2	
HIGHEST ANNUAL MEAN					1979	
LOWEST ANNUAL MEAN					6.97	
HIGHEST DAILY MEAN	2120	Sep 11	680	Nov 14	2730	Oct 18 1994
LOWEST DAILY MEAN	3.6	Sep 5	3.3	Sep 22	.88	Aug 24 1971
ANNUAL SEVEN-DAY MINIMUM	4.6	May 10	3.7	Sep 16	1.0	Jul 2 1965
INSTANTANEOUS PEAK FLOW			1610	May 12	3470	Jun 26 1989
INSTANTANEOUS PEAK STAGE			33.55	May 12	39.91	Jun 26 1989
ANNUAL RUNOFF (AC-FT)	25200		20050		18200	
10 PERCENT EXCEEDS	39		55		39	
50 PERCENT EXCEEDS	9.1		7.9		7.0	
90 PERCENT EXCEEDS	4.9		4.1		3.3	



SAN JACINTO RIVER BASIN

08075900 GREENS BAYOU NEAR U.S. HIGHWAY 75 NEAR HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°57'24", long 95°25'04", Harris County, Hydrologic Unit 12040104, on right bank at upstream side of bridge on Knobcrest Street, 600 ft downstream from Interstate Highway 45 access road bridge, 8.9 mi upstream from station 08076000, and 20.9 mi upstream from Halls Bayou.

DRAINAGE AREA.--36.6 mi².

PERIOD OF RECORD.--Aug 1965 to Sep 1980 (daily mean discharge), Oct 1, 1980 to Mar 26, 1981 (discharge measurements and supplemental peak discharges only), Mar. 27, 1981 to Sep 1992 (daily mean discharge), Oct 1992 to current year (peak discharges greater than base discharge).

REVISED RECORDS.--WDR TX-76-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is sea level; unadjusted for land-surface subsidence. Prior to Jul 19, 1989, water-stage recorder at site 600 ft upstream at present datum. Radio telemeter at station. Satellite telemeter at station.

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

AVERAGE DISCHARGE.--26 years (water year 1966-80, 1982-1992), 40.5 ft³/s (29,370 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s Jun 26, 1989 (gage height, 90.20 ft from floodmark at former site); maximum gage height, 91.09 ft Feb 21, 1969 at former site, occurred prior to 1980-81 channel rectification; minimum daily discharge, 0.16 ft³/s Oct 21, 22, 1969.

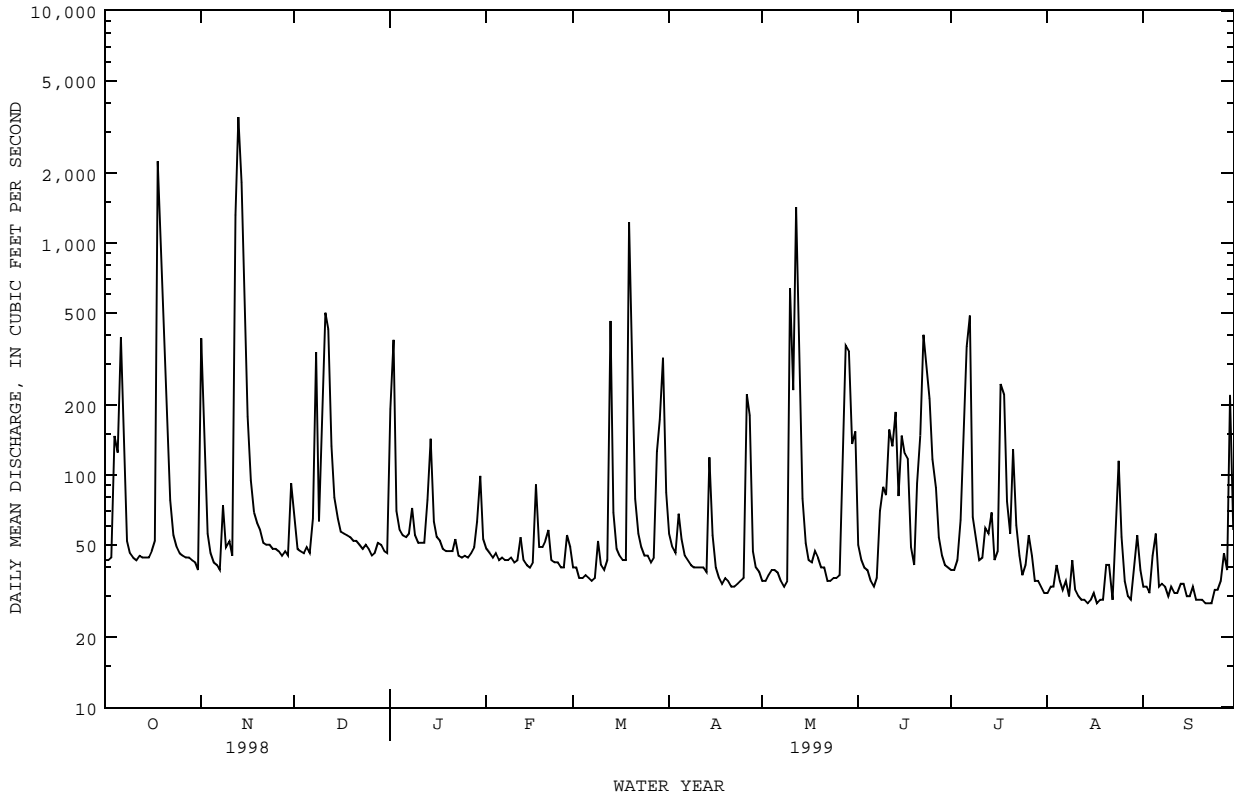
PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	1030	6,170	83.25	Dec 11	1130	1,960	77.17
Nov 13	0600	5,020	81.80	Mar 19	0845	2,930	78.89
Nov 14	0815	2,970	78.96	May 12	1230	3,520	79.79

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08076000 GREENS BAYOU NEAR HOUSTON, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1953 - 1999	
ANNUAL TOTAL	50247		39790			
ANNUAL MEAN	138		109		78.2	
HIGHEST ANNUAL MEAN					180	1992
LOWEST ANNUAL MEAN					6.82	1956
HIGHEST DAILY MEAN	5710	Sep 11	3480	Nov 13	10700	May 18 1989
LOWEST DAILY MEAN	20	Sep 25	28	Aug 14	.00	Oct 1 1952
ANNUAL SEVEN-DAY MINIMUM	31	Jul 24	29	Aug 12	.00	Oct 1 1952
INSTANTANEOUS PEAK FLOW			5720	Oct 18	16500	Jun 27 1989
INSTANTANEOUS PEAK STAGE			60.19	Oct 18	66.04	Jun 27 1989
ANNUAL RUNOFF (AC-FT)	99660		78920		56630	
10 PERCENT EXCEEDS	194		179		139	
50 PERCENT EXCEEDS	51		46		24	
90 PERCENT EXCEEDS	34		33		2.1	



SAN JACINTO RIVER BASIN

08076180 GARNERS BAYOU NEAR HUMBLE, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°56'03", long 95°14'02", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of upstream bridge on Beltway 8, 0.2 mi downstream from Williams Gully, 1.2 mi upstream from Greens Bayou, and 4.5 mi southeast of Humble.

DRAINAGE AREA.--31.0 mi².

PERIOD OF RECORD.--Feb 1986 to Sep 1993 (daily mean discharge), Oct 1993 to current year (peaks above base discharge).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is sea level, 1978 adjustment, levels furnished by Harris County Flood Control District. Satellite telemeter at station.

REMARKS.--Records fair. No known regulation or diversions. Low flow is sustained by wastewater effluent. Minor channel rectification made in 1988.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	1615	2,070	52.59	Dec 11	1515	1,820	51.26
Nov 13	0845	2,310	53.52	May 12	1415	1,560	49.78
Nov 14	1045	1,490	49.41				

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SAN JACINTO RIVER BASIN

08076500 HALLS BAYOU AT HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°51'42", long 95°20'05", Harris County, Hydrologic Unit 12040104, on right bank, at downstream side of bridge on Jensen Drive in northeast section of Houston, and 11.0 mi upstream from mouth.

DRAINAGE AREA.--28.7 mi². Oct 1, 1973, to Sep 30, 1977, 28.3 mi². Oct 1, 1977 to Sep 30, 1988, 27.6 mi². Prior to Oct 1, 1973, 24.7 mi². Changes were the result of drainage ditch extensions or relocations.

PERIOD OF RECORD.--Oct 1952 to Sep 1993 (daily mean discharge), Oct 1993 to current year (peak discharges greater than base discharge).

Water-quality records.--Chemical data: Oct 1968 to Sep 1984. Biochemical data: Oct 1968 to Sep 1984. Pesticide data: Oct 1968 to Sep 1984.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.66 ft below sea level, 1957 adjustment; records unadjusted for land-surface subsidence. Radio telemeter at station. Satellite telemeter at station.

REMARKS--Records fair. No known regulation or diversions. Stage-discharge relationship is affected by seasonal vegetal growth during most years. Low flow is sustained by wastewater effluent.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	1445	1,400	54.42	Dec 11	1330	2,010	56.15
Nov 12	2000	2,120	56.42	Mar 19	1030	2,200	56.60
Nov 14	0900	1,790	55.59	May 12	1315	2,080	56.31

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SAN JACINTO RIVER BASIN

08076700 GREENS BAYOU AT LEY ROAD, HOUSTON, TX

LOCATION.--Lat 29°50'13", long 95°13'59", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of bridge on Ley Road in northeast Houston and 300 ft downstream from mouth of Halls Bayou.

DRAINAGE AREA.--182 mi².

PERIOD OF RECORD.--Nov 1962 to Dec 1964, May 1971 to Sep 1971 (discharge measurements only), Oct 1971 to Sep 12, 1991, Aug 12, 1992 to current year (high-water records only).
 Water-quality records.--Chemical data: Oct 1970 to Sep 1981. Biochemical data: Oct 1970 to Sep 1981. Pesticide data: Oct 1970 to Sep 1981.

GAGE.--Water-stage recorder. Datum of gage is 2.13 ft below sea level, 1973 adjustment. Radio telemeter at station. Satellite telemeter at station

REMARKS.--Records fair. Discharge is computed for all storms that produce peak discharges above 2,000 ft³/s. Gage was discontinued on Sep 12, 1991 for bridge construction and temporarily relocated about 1 mile downstream at US Highway 90 to obtain stage data for the Harris County Flood Control District. Gage was moved back to Ley Road on Aug 12, 1992 at current datum. No known regulation or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft³/s Jun 27, 1989 (gage height, 39.40 ft, from floodmark); minimum not determined (affected by tide).

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,200 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	2115	9,080	27.09	Dec 11	2100	8,320	26.07
Nov 13	1215	13,300	31.38	Mar 19	1630	5,980	22.42
Nov 14	1345	8,360	26.13	May 12	1945	7,590	25.03

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	804	---	724	---	---	---	---	---	---	---	---
2	---	747	---	1600	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	345	---	---
7	---	---	---	---	---	---	---	---	---	1400	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	1270	---	---	---	---
11	---	---	3840	---	---	---	---	1080	---	---	---	---
12	---	1300	3600	---	---	---	---	3620	---	---	---	---
13	---	11100	e700	---	---	1480	---	2560	---	---	---	---
14	---	7130	e200	---	---	222	---	398	---	---	---	---
15	---	2450	---	---	---	---	---	---	---	---	---	---
16	---	760	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	3900	---	---	---	---	---	---	---	---	---	---	---
19	4580	---	---	---	---	2980	---	---	---	---	---	---
20	2250	---	---	---	---	1250	---	---	---	---	---	---
21	609	---	---	---	---	262	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated

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CLEAR CREEK BASIN

08077600 CLEAR CREEK NEAR FRIENDSWOOD, TX
 (Flood-hydrograph partial-record station)

LOCATION.--Lat 29°31'02", long 95°10'42", Harris-Galveston County line, Hydrologic Unit 12040204, on right bank at right downstream side of bridge on Farm Road 528 near Friendswood.

DRAINAGE AREA.--122 mi².

PERIOD OF RECORD.--Oct 1965 to Jul 1994 (annual maximum), Oct 1997 to current year (discharges greater than base discharge).

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 5	0545	6,690	12.24	Dec 12	0100	2,980	6.57
Oct 6	2100	3,750	7.75	Jan 14	0545	2,470	5.81
Oct 18	2315	4,790	9.33	May 12	2100	2,870	6.40
Nov 14	1445	7,520	13.50				

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08077650 MOSES LAKE-GALVESTON BAY NEAR TEXAS CITY, TX

LOCATION.--Lat 29°26'50", long 94°55'12", Galveston County, Hydrologic Unit 12040204, on right side of gate abutment of Texas City Flood Control Dike, one orifice located upstream and one downstream, at mouth of Moses Lake, and 4.5 mi north of Texas City.

DRAINAGE AREA.--Not applicable.

PERIOD OF RECORD.--May 1967 to current year (maximum and minimum elevations for Galveston Bay and maximum elevation for Moses Lake).

GAGE.--Water-stage recorders. Datum of gage is sea level (levels by county engineer, Galveston County), 1978 adjustment. Prior to May 19, 1983, datum of gage was 0.49 ft below sea level, 1973 adjustment. Prior records unadjusted for land-surface subsidence. Satellite telemeter at station.

REMARKS.--Records good. Moses Lake is connected to Galveston Bay by gated opening through levee. These gates are open during periods of normal tide and are closed during periods of high tide and hurricane surge.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation (Moses Lake), 4.8 ft Sep 11, 1998; minimum, -4.2 ft Feb 28, 1983. Maximum elevation (Galveston Bay), about 10.0 ft (Hurricane Alicia) Aug 18, 1983; minimum, about -4.2 ft Feb 28, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum elevation (Moses Lake), 2.7 ft Oct. 5 at 0630 hours; minimum elevation -2.2 ft at 1330 hours. Maximum elevation (Galveston Bay), 2.8 ft Oct 5 at 0600 hours; minimum elevation -2.4 ft Mar 14 at 1030 hours.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MOSES LAKE MAX	GALV. BAY MAX	GALV. BAY MIN	MOSES LAKE MAX	GALV. BAY MAX	GALV. BAY MIN	MOSES LAKE MAX	GALV. BAY MAX	GALV. BAY MIN	MOSES LAKE MAX	GALV. BAY MAX	GALV. BAY MIN
1	1.3	1.5	.3	2.2	2.6	1.3	.6	.8	-.5	1.4	1.7	.2
2	1.6	1.7	.5	1.6	1.6	.6	.8	1.1	-.5	1.8	2.0	-.8
3	1.7	2.0	.7	1.5	1.6	.4	1.2	1.6	.1	-.3	-.1	-1.8
4	2.5	2.5	.8	1.5	1.6	.2	1.5	1.7	-.4	.0	.2	-1.2
5	2.7	2.8	1.7	1.3	1.2	-.3	1.1	1.3	-.6	.4	.9	-.4
6	2.3	2.5	1.0	1.1	1.6	.0	1.2	1.4	-.1	1.1	1.3	.0
7	1.5	1.5	.3	1.8	1.9	.5	1.4	1.5	.0	.9	1.0	-.2
8	1.1	1.5	.2	1.5	1.7	-.3	1.0	1.2	-.9	.9	1.2	.4
9	1.5	1.7	.3	1.2	1.4	.3	.8	1.3	.3	1.0	1.3	-.7
10	1.6	1.8	.1	1.6	1.9	.0	1.7	1.8	.6	.8	1.0	.1
11	1.7	1.9	.6	1.1	1.5	.5	1.4	1.4	.5	.8	1.0	.1
12	1.7	1.9	.1	1.7	1.9	1.0	.7	.8	-.7	.9	1.1	-.2
13	1.1	1.3	.0	2.3	2.3	1.4	-.3	-.1	-1.1	1.0	1.1	-.1
14	1.1	1.4	.3	1.9	1.9	.9	.5	.7	-.6	.8	.9	-.6
15	1.3	1.5	.6	1.0	1.1	.4	.6	.8	-.5	.6	1.0	-.6
16	1.8	2.0	1.0	1.1	1.2	.4	.6	.7	-.7	1.0	1.3	-.3
17	2.2	2.5	1.8	1.1	1.2	.2	.4	.6	-1.1	1.3	1.4	-.1
18	2.4	2.5	1.6	1.3	1.5	.3	1.2	1.6	-.2	1.1	1.2	-.4
19	1.9	2.0	1.0	1.3	1.6	.1	1.4	1.8	-.4	.9	1.0	-.5
20	1.8	1.9	.9	1.4	1.5	.0	.9	1.3	-.5	.9	1.0	-.6
21	1.8	1.9	.8	1.2	1.6	.3	1.3	1.5	-.1	1.1	1.5	.3
22	1.6	2.0	.8	1.6	1.7	.1	1.0	1.3	-.9	1.8	2.0	.1
23	2.1	2.2	1.2	1.5	1.8	.1	.9	1.1	-.3	.3	.1	-1.5
24	2.3	2.5	1.2	1.0	1.3	-.3	.7	.7	-.5	.5	.6	-.6
25	2.4	2.5	1.1	1.3	1.4	-.1	.4	.5	-.2	.7	.8	-.4
26	2.4	2.5	1.1	1.0	1.1	-.2	.6	.9	.0	.7	.8	-.3
27	2.4	2.5	1.0	.6	.8	-.2	1.0	1.1	.3	.9	1.0	-.4
28	1.9	2.1	.8	.6	.8	.2	1.0	1.1	-.1	1.4	1.6	.0
29	1.7	1.9	.7	1.0	1.1	.3	.7	.8	-.4	1.5	1.7	.3
30	1.7	1.9	.9	1.1	1.3	.3	1.0	1.4	-.6	1.6	1.8	-.6
31	1.9	2.1	1.3	---	---	---	1.3	1.4	-.3	.4	.6	-1.0
MONTH	2.7	2.8	.0	2.3	2.6	-.3	1.7	1.8	-1.1	1.8	2.0	-1.8

08077650 MOSES LAKE-GALVESTON BAY NEAR TEXAS CITY, TX--Continued

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MOSES LAKE	GALV. BAY	GALV. BAY	MOSES LAKE	GALV. BAY	GALV. BAY	MOSES LAKE	GALV. BAY	GALV. BAY	MOSES LAKE	GALV. BAY	GALV. BAY
	MAX	MAX	MIN	MAX	MAX	MIN	MAX	MAX	MIN	MAX	MAX	MIN
1	.8	1.3	-.3	.7	1.0	-.5	1.3	1.5	.8	2.1	2.2	1.1
2	1.2	1.4	-.2	1.2	1.4	.1	1.4	1.6	.8	2.0	2.2	.9
3	1.1	1.3	.6	1.0	.9	-.8	2.1	2.6	1.4	1.7	1.8	.5
4	1.2	1.3	.2	1.7	1.9	.2	2.0	2.1	1.0	2.2	2.3	.9
5	1.2	1.3	.9	1.7	1.8	.7	1.9	1.9	.9	2.0	2.2	.9
6	1.1	1.3	.7	.9	.8	.3	1.4	1.5	.4	1.6	1.7	.6
7	1.1	1.2	.6	1.8	1.9	.3	1.3	1.5	.3	1.5	1.7	.4
8	.9	1.1	.1	1.9	2.2	1.5	1.2	1.4	.3	1.6	2.0	.6
9	1.1	1.2	.1	1.7	1.6	.6	1.1	1.2	.3	1.9	2.0	1.1
10	1.2	1.4	.0	1.5	1.7	.3	1.3	1.4	.3	1.9	2.0	1.1
11	1.3	1.6	.4	1.6	1.7	.6	1.2	1.3	.3	2.2	2.5	1.3
12	.9	.6	-1.5	2.0	2.2	.6	1.1	1.2	.2	1.9	2.3	.7
13	.3	.6	-.8	2.3	2.4	-1.2	1.5	1.6	.7	1.4	1.6	.2
14	.8	1.2	-.5	-.5	-1.0	-2.4	2.0	2.3	1.2	1.2	1.3	.2
15	1.2	1.4	-.1	.3	.6	-1.5	1.4	1.3	-1.1	1.5	1.7	.3
16	1.2	1.4	.1	1.0	1.2	.2	.4	.6	-1.1	1.9	2.0	.3
17	1.1	1.3	-.2	1.4	1.6	.6	.5	.6	-.7	1.9	2.1	.4
18	1.1	1.3	.2	1.1	1.2	.5	.4	.5	-.9	1.4	1.7	-.2
19	.9	.9	-.1	1.4	1.5	.6	.1	.3	-.7	1.4	1.5	-.2
20	1.7	1.9	.6	.8	1.0	-.2	.3	.4	-.9	1.4	1.5	.1
21	1.4	1.0	.1	.5	.6	-.6	1.2	1.4	-.5	1.2	1.4	.4
22	1.6	1.7	.2	1.0	1.1	-.2	1.6	1.8	.3	1.0	1.2	.3
23	1.2	1.2	.5	1.2	1.3	.1	1.3	1.4	.3	.7	.8	.2
24	.9	1.1	-.6	1.1	1.2	-.1	1.1	1.2	.2	.4	.6	.1
25	1.0	1.2	-.2	.9	.8	-.2	1.0	1.1	.3	.5	.6	.0
26	1.1	1.3	-.3	1.4	1.5	.0	1.2	1.4	.8	.7	.9	-.3
27	1.3	1.4	.1	1.9	2.0	.6	1.1	1.4	.4	.6	.8	-.2
28	.9	.9	-.9	2.0	2.1	1.0	1.1	1.3	.4	.7	.9	-.5
29	---	---	---	1.4	1.5	.2	1.2	1.3	.3	.9	1.0	-.3
30	---	---	---	1.1	1.2	.6	1.7	1.9	.4	.9	1.1	-.2
31	---	---	---	1.2	1.3	.8	---	---	---	1.0	1.3	-.2
MONTH	1.7	1.9	-1.5	2.3	2.4	-2.4	2.1	2.6	-1.1	2.2	2.5	-.5

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MOSES LAKE	GALV. BAY	GALV. BAY	MOSES LAKE	GALV. BAY	GALV. BAY	MOSES LAKE	GALV. BAY	GALV. BAY	MOSES LAKE	GALV. BAY	GALV. BAY
	MAX	MAX	MIN	MAX	MAX	MIN	MAX	MAX	MIN	MAX	MAX	MIN
1	1.1	1.3	-.2	1.1	1.3	-.3	.5	.6	-.3	1.4	1.5	.5
2	1.4	1.6	.1	1.4	1.4	-.2	.4	.5	-.1	1.7	1.7	.2
3	1.3	1.5	.1	1.5	1.6	.4	.4	.8	.0	1.4	1.5	-.1
4	1.2	1.4	-.1	1.2	1.3	.3	.5	.5	-.1	1.4	1.5	-.2
5	1.3	1.5	.2	.9	1.0	.1	.7	.8	-.2	1.1	1.2	-.3
6	1.1	1.3	.3	.6	.9	.0	.9	1.1	-.6	.2	1.1	-.5
7	---	1.1	.2	.8	.8	---	1.0	1.1	-.4	.8	.9	-.3
8	1.2	1.3	.8	1.1	---	---	1.0	1.1	-.7	.9	1.1	-.3
9	1.3	1.3	.5	1.2	---	---	.7	.8	-.9	.6	.7	-.3
10	1.3	1.4	.0	1.2	---	---	.5	.6	-.9	1.3	1.4	.0
11	1.2	1.3	-.2	1.4	---	---	.6	.7	-1.0	1.0	1.1	.6
12	1.2	1.4	-.5	1.2	---	---	.5	.6	-.4	1.1	1.2	.6
13	1.0	1.1	-.6	1.0	---	---	.3	.4	-.6	1.0	1.4	.2
14	.9	.9	-.7	1.0	1.1	.1	.0	.3	-.5	1.3	1.4	.5
15	1.0	1.0	-.8	1.0	1.0	-.3	.7	.8	-.2	1.5	1.5	.5
16	1.1	1.3	-.5	1.2	1.2	.0	.8	.8	.3	1.4	1.5	.3
17	1.1	1.1	-.3	1.1	1.1	.1	.8	.9	-.2	1.3	1.4	.0
18	1.5	1.5	.0	1.1	1.3	.5	.6	.6	-.3	1.1	1.2	.1
19	1.6	1.6	.7	1.3	1.4	.8	.6	.7	-.6	1.3	1.4	.2
20	1.6	1.7	.9	1.4	1.6	.4	.7	.8	-.4	1.2	1.3	.5
21	2.1	2.1	1.1	1.2	1.3	.2	.8	.9	-.2	1.6	1.7	.0
22	1.3	1.3	.7	1.0	1.1	-.2	.2	1.4	.0	1.6	1.7	.1
23	1.3	1.5	.4	.7	.8	-.6	1.4	1.5	.0	1.6	1.6	.6
24	1.4	1.4	.3	.7	.7	-.6	1.1	1.1	-.1	1.2	1.3	.4
25	1.4	1.5	-.1	.8	.9	-.4	1.0	1.1	-.3	1.6	1.7	.3
26	1.1	1.3	-.2	.8	.9	-.5	.6	.6	-.4	1.6	1.6	1.0
27	1.2	1.2	-.2	.6	.7	-.6	.5	.7	-.5	1.5	1.7	.8
28	.9	1.0	-.3	.6	.7	-.7	.6	.6	-.4	2.0	2.0	1.0
29	.8	.9	-.5	.6	.7	-.6	.5	.6	-.2	2.0	2.2	.0
30	1.0	1.0	-.6	.6	.7	-.4	.8	1.0	.0	1.5	1.5	.5
31	---	---	---	.7	.8	-.4	.9	1.0	.2	---	---	---
MONTH	---	2.1	-.8	1.5	---	---	1.4	1.5	-1.0	2.0	2.2	-.5

HIGHLAND BAYOU MAIN STEM

08077690 HIGHLAND BAYOU DIVERSION CHANNEL NEAR HITCHCOCK, TX

LOCATION.--Lat 29°21'36", long 95°02'22", Galveston County, Hydrologic Unit 12040204, on center of earthen dam approximately .6 mi upstream from FM 2004 and 0.5 mi east of Hitchcock.

DRAINAGE AREA.--Not applicable.

PERIOD OF RECORD.--Mar 1997 to current year (daily maximum elevation).

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

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 7.25 ft at 0145 on Sep 11, 1998.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 3.61 ft at 0430 on Nov 14.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.99	2.93	1.29	2.41	1.51	1.53	2.06	2.81	1.85	1.89	1.21	2.06
2	2.25	2.26	---	2.63	1.81	1.88	2.48	2.77	2.06	2.10	1.20	2.21
3	2.62	2.10	---	.93	1.88	1.41	3.11	2.31	1.95	2.24	1.17	2.06
4	3.40	2.19	---	.97	1.73	2.46	2.80	2.97	1.86	1.99	1.25	2.14
5	3.50	1.91	---	1.54	1.94	2.47	2.45	2.68	1.97	1.68	1.42	1.72
6	3.54	2.13	---	1.85	1.77	1.44	2.07	2.12	1.81	1.49	1.68	1.61
7	2.21	2.47	---	1.56	1.71	2.50	1.96	2.12	1.68	1.55	1.76	1.55
8	2.06	2.27	---	1.55	1.52	2.82	1.85	2.23	1.95	1.86	1.74	1.66
9	2.21	1.99	---	1.42	1.62	2.30	1.74	2.61	2.04	1.88	1.55	1.43
10	2.26	2.41	---	1.48	2.04	2.19	1.90	2.63	2.01	2.11	1.22	2.05
11	2.35	1.94	---	1.47	2.04	2.19	1.78	2.96	1.81	1.94	1.38	1.74
12	2.44	2.39	---	1.60	1.10	2.96	1.83	2.65	1.93	1.81	1.30	1.79
13	1.81	3.01	---	1.71	1.05	3.00	2.21	1.96	1.73	1.93	.95	1.84
14	1.73	3.61	---	1.39	1.65	.53	2.80	1.94	1.60	1.74	.94	1.97
15	2.06	1.84	1.24	1.50	1.84	.90	1.84	2.20	1.65	1.71	1.46	2.06
16	2.63	1.67	1.16	1.86	2.00	1.58	1.33	2.55	1.84	1.86	1.54	2.10
17	3.22	1.60	.98	2.01	1.94	2.09	1.24	2.63	1.79	1.82	1.47	1.92
18	3.09	1.91	1.99	1.63	1.78	1.88	1.14	2.17	2.22	1.83	1.31	1.76
19	2.65	1.93	2.07	1.51	1.37	2.09	.94	2.12	2.34	2.00	1.23	1.96
20	2.45	2.00	1.74	1.56	2.12	1.49	1.05	2.01	2.32	2.03	1.32	1.86
21	2.30	2.05	2.04	2.09	1.95	1.37	1.88	1.99	2.88	2.05	1.51	2.16
22	2.42	2.22	1.41	2.49	2.31	1.67	2.32	1.74	2.16	1.70	2.10	2.35
23	2.74	2.16	1.60	.91	2.14	1.86	2.11	1.51	2.12	1.41	2.15	2.31
24	2.95	1.72	1.48	1.06	1.65	1.66	1.91	1.17	2.18	1.46	1.75	1.94
25	3.05	1.92	1.07	1.31	1.69	1.45	1.73	1.20	2.22	1.62	1.68	2.22
26	3.05	1.59	1.32	1.29	1.94	2.01	2.07	1.30	1.90	1.50	1.48	2.29
27	3.10	1.26	1.74	1.56	2.11	2.54	1.98	1.37	1.93	1.45	1.27	2.25
28	2.67	1.24	1.78	2.14	1.56	2.75	1.74	1.42	1.64	1.45	1.42	2.73
29	2.36	1.65	1.38	2.22	---	2.00	1.81	1.60	1.53	1.43	1.36	2.59
30	2.38	1.83	1.80	2.12	---	1.82	2.38	1.68	1.69	1.31	1.60	2.17
31	2.67	---	1.94	1.10	---	1.97	---	1.71	---	1.38	1.65	---
MAX	3.54	3.61	---	2.63	2.31	3.00	3.11	2.97	2.88	2.24	2.15	2.73

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HIGHLAND BAYOU MAIN STEM

08077695 HIGHLAND BAYOU NEAR HITCHCOCK, TX

LOCATION.--Lat 29°21'36", long 95°02'22", Galveston County, Hydrologic Unit 12040204, on center of earthen dam approximately 3000 ft upstream from FM 2004 and 0.5 mi east of Hitchcock.

DRAINAGE AREA.--Not determinable.

PERIOD OF RECORD.--Mar 1997 to current year (daily maximum).

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

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 8.61 ft at 0115 hours on Sep 11, 1998.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 5.18 ft at 0345 hours on Nov 14.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.00	2.98	1.30	2.39	1.50	1.51	2.05	2.87	1.86	1.87	1.21	2.04
2	2.24	2.30	---	2.78	1.80	1.86	2.54	2.75	2.05	2.10	1.20	2.20
3	2.73	2.16	---	.94	1.88	1.40	3.10	2.27	1.98	2.27	1.16	2.06
4	4.68	2.21	---	.97	1.71	2.41	2.84	2.90	1.88	2.02	1.25	2.15
5	4.56	1.99	---	1.55	1.95	2.42	2.43	2.67	2.00	1.68	1.42	1.73
6	3.64	2.29	---	1.85	1.77	1.44	2.08	2.15	1.81	1.49	1.68	1.60
7	2.43	2.51	---	1.55	1.69	2.54	1.95	2.13	1.67	1.56	1.74	1.55
8	2.14	2.30	---	1.56	1.51	2.85	1.83	2.29	1.94	1.87	1.75	1.66
9	2.23	2.09	---	1.41	1.61	2.23	1.73	2.61	2.04	1.92	1.54	1.43
10	2.29	2.39	---	1.48	2.01	2.17	1.89	2.73	1.99	2.19	1.21	2.05
11	2.38	2.01	---	1.49	2.02	2.19	1.78	3.01	1.82	1.94	1.38	1.73
12	2.46	2.49	---	1.60	1.10	2.99	1.84	2.76	1.91	1.79	1.29	1.79
13	---	3.03	---	1.72	1.05	2.93	2.20	1.99	1.77	1.93	.96	1.89
14	1.74	5.18	1.10	1.38	1.65	.53	2.76	1.97	1.59	1.72	.95	2.06
15	2.09	---	1.23	1.50	1.85	.90	1.79	2.26	1.66	1.72	1.45	2.09
16	2.62	---	1.16	1.86	2.00	1.58	1.33	2.56	1.87	1.86	1.54	2.10
17	3.22	---	.98	1.98	1.98	2.07	1.25	2.63	1.79	1.83	1.46	1.96
18	3.12	1.94	2.02	1.62	1.78	1.93	1.14	2.21	2.24	1.83	1.31	1.78
19	2.67	1.94	2.09	1.51	1.36	2.14	.93	2.16	2.37	2.02	1.23	1.97
20	2.42	2.01	1.73	1.54	2.14	1.49	1.04	2.00	2.35	2.04	1.32	1.88
21	2.36	2.09	2.04	2.07	1.93	1.37	1.88	1.98	3.04	2.02	1.51	2.19
22	2.54	2.25	1.41	2.59	2.31	1.66	2.31	1.77	2.17	1.70	2.09	2.41
23	2.77	2.18	1.62	.91	2.10	1.86	2.08	1.50	2.12	1.42	2.14	2.30
24	2.97	1.73	---	1.05	1.65	1.65	1.89	1.16	2.15	1.46	1.77	1.95
25	3.08	1.93	1.08	1.31	1.68	1.44	1.74	1.20	2.21	1.62	1.68	2.27
26	3.06	1.60	1.32	1.28	1.94	2.02	2.22	1.29	1.91	1.50	1.48	2.28
27	3.12	1.27	1.75	1.56	2.09	2.53	2.03	1.36	1.93	1.44	1.27	2.25
28	2.71	1.25	1.79	2.14	1.55	2.77	1.74	1.43	1.64	1.46	1.42	2.79
29	2.39	1.67	1.37	2.20	---	1.99	1.81	1.61	1.54	1.43	1.37	2.62
30	2.38	1.83	1.79	2.13	---	1.82	2.39	1.69	1.70	1.32	1.62	2.20
31	2.69	---	1.94	1.09	---	1.97	---	1.71	---	1.37	1.65	---
MAX	---	---	---	2.78	2.31	2.99	3.10	3.01	3.04	2.27	2.14	2.79

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HIGHLAND BAYOU BASIN

08077740 LAMARQUE LEVEE PUMP STATION NEAR LAMARQUE, TX

LOCATION.--Lat 29°20'44", long 94°57'47", Galveston County, Hydrologic Unit 12040204, in the LaMarque Levee Pump Station on the LaMarque hurricane protection levee, one orifice located landward and one seaward, 0.5 mi southwest of Interstate Highway 45, 0.9 mi south of LaMarque, and 4.8 mi northwest of Virginia Point.

Supplementary gage (station 08077752): Lat 29°20'26", long 94°51'00", in LaMarque Levee Gravity Drain 4,000 ft southeast along LaMarque Levee from LaMarque Levee Pump Station.

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

GAGE.--Water-stage recorders. Datum of gages are sea level (levels by Galveston County Engineer). Radio telemeter at station. Telephone telemeter at station.

Supplementary gage: Radio telemeter at station.

REMARKS.--Records fair. Landward orifice records elevation of flood runoff behind levee. This runoff is pumped into Jones Bay. Only maximum landward elevations equal or exceeding, -3.0 ft are shown. Seaward records are tidal but influenced by runoff in Highlands Bayou.

Supplementary gage: Records fair. Landward orifice records elevation of flood runoff behind levee. Seaward records are equivalent to seaward records at primary station. A channel connects site to pumping station. Water will be pumped, or drained by gravity, into Jones Bay depending on elevation of seaward water-surface. Only elevations equal or exceeding -2.0 ft are shown.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation (landward) 3.5 ft Jul 26, 1989; maximum elevation (seaward) 6.5 ft Sep 11, 1998; minimum (seaward), -2.0 ft Apr 11, 1988.

Supplementary gage: Maximum elevation (landward) 11.0 ft Jun 7, 1992; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum elevation (landward) -.4 ft Nov 14 at 0745; maximum elevation (seaward) 2.8 ft Oct 5 at 0730 hours; minimum (seaward), -1.1 ft Mar 14 at 1800 hours.

Supplementary gage: Maximum elevation (landward) -.6 ft Oct 19 at 1845 hours; minimum not determined.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER				NOVEMBER				DECEMBER			
	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX	LAND- WARD MAX	SEA- WARD MAX	SEA- WARD MIN	SUPPLE- MENTARY MAX
1	---	1.3	.3	---	---	2.3	1.5	---	---	.5	-.3	---
2	---	1.6	.6	---	---	1.6	.8	---	---	1.1	-.1	---
3	---	1.9	.9	---	---	1.5	.4	---	---	1.5	.4	---
4	-1.8	2.3	.9	---	---	1.5	.5	---	---	1.6	.4	---
5	-2.1	2.8	2.0	---	---	1.2	.1	---	---	1.2	.0	---
6	-1.9	2.1	1.4	---	---	1.6	.4	---	---	1.5	.4	---
7	---	1.4	.3	---	---	1.9	.9	---	---	1.4	.4	---
8	---	1.4	.4	---	---	1.7	.2	---	---	1.0	-.4	---
9	---	1.6	.6	---	---	1.3	.5	---	---	1.1	.3	---
10	---	1.6	.5	---	---	1.8	.2	---	-2.6	1.7	1.0	---
11	---	1.7	.9	---	---	1.3	.7	---	-2.2	1.5	.9	---
12	---	1.8	.4	---	---	1.8	1.3	---	-2.3	1.0	-.3	---
13	---	1.1	.2	---	---	2.3	1.4	---	-2.0	-.2	-.8	---
14	---	1.1	.4	---	-.4	2.0	.8	-.8	-2.0	.6	-.2	---
15	---	1.4	.5	---	---	1.0	.2	---	---	.7	-.2	---
16	---	1.9	1.1	---	---	1.0	.4	---	---	.6	-.3	---
17	---	2.5	1.7	---	---	1.0	.1	---	---	.4	-.6	---
18	---	2.4	1.7	---	---	1.3	.3	---	---	1.5	.3	---
19	-.5	1.9	1.2	-.6	---	1.3	.3	---	---	1.6	.2	---
20	---	1.7	1.0	---	---	1.3	.0	---	---	1.2	.0	---
21	---	1.6	.8	---	---	1.4	.4	---	---	1.5	.4	---
22	---	1.8	.9	---	---	1.6	.5	---	---	.8	-.3	---
23	---	2.1	1.4	---	---	1.5	.4	---	---	1.1	.2	---
24	---	2.3	1.4	---	---	1.1	.0	---	---	1.0	-.1	---
25	---	2.4	1.3	---	---	1.3	.2	---	---	.6	.1	---
26	---	2.4	1.3	---	---	.9	-.1	---	---	.8	.3	---
27	---	2.5	1.2	---	---	.6	-.1	---	---	1.2	.5	---
28	---	2.0	.9	---	---	.6	.2	---	---	1.2	.2	---
29	---	1.7	.8	---	---	1.0	.5	---	---	.9	-.1	---
30	---	1.7	1.0	---	---	1.2	.3	---	---	1.3	-.1	---
31	---	2.0	1.3	---	---	---	---	---	---	1.5	.3	---
MONTH	---	2.8	0.2	---	---	2.3	-.1	---	---	1.7	-.8	---

08077740 LAMARQUE LEVEE PUMP STATION NEAR LAMARQUE, TX--Continued

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	JANUARY				FEBRUARY				MARCH			
	LAND- WARD	SEA- WARD	SEA- WARD	SUPPLE- MENTARY	LAND- WARD	SEA- WARD	SEA- WARD	SUPPLE- MENTARY	LAND- WARD	SEA- WARD	SEA- WARD	SUPPLE- MENTARY
	MAX	MAX	MIN	MAX	MAX	MAX	MIN	MAX	MAX	MAX	MIN	MAX
1	---	1.9	.6	---	---	1.1	.1	---	---	1.0	.1	---
2	-2.1	1.9	-1.1	---	---	1.3	.2	---	---	1.4	.7	---
3	-2.0	-.1	-1.0	---	---	1.3	.8	---	---	.8	-.2	---
4	-2.0	.4	-.4	---	---	1.2	.5	---	---	2.0	.3	---
5	---	1.0	.1	---	---	1.4	1.1	---	---	2.0	1.1	---
6	---	1.3	.5	---	---	1.2	.7	---	---	1.1	.6	---
7	---	1.0	.2	---	---	1.2	.7	---	---	2.0	.4	---
8	---	1.0	.6	---	---	1.0	.2	---	---	2.3	1.8	---
9	---	.9	-.4	---	---	1.1	.3	---	---	1.8	.9	---
10	---	1.0	.3	---	---	1.5	.3	---	---	1.7	.6	---
11	---	1.0	.3	---	---	1.5	.4	---	---	1.6	.8	---
12	---	1.1	.2	---	---	.4	-.9	---	---	2.4	1.0	---
13	---	1.2	.3	---	---	.6	-.4	---	---	2.5	-.1	---
14	---	.9	-.3	---	---	1.2	.0	---	---	-.1	-1.1	---
15	---	1.1	-.1	---	---	1.4	.5	---	---	.4	-1.1	---
16	---	1.3	.3	---	---	1.5	.5	---	---	1.1	.4	---
17	---	1.5	.5	---	---	1.3	.2	---	---	1.6	.9	---
18	---	1.1	.0	---	---	1.3	.6	---	---	1.3	.8	---
19	---	1.0	.1	---	---	.8	.2	---	---	1.6	.7	---
20	---	1.0	.1	---	---	1.6	.6	---	---	.9	.4	---
21	---	1.6	.7	---	---	1.4	.3	---	---	.8	-.1	---
22	---	1.9	.7	---	---	1.9	.4	---	---	1.2	.0	---
23	---	.7	-1.0	---	---	1.8	.8	---	---	1.3	.4	---
24	---	.6	-.5	---	---	1.2	.0	---	---	1.1	.3	---
25	---	.8	-.1	---	---	1.2	.4	---	---	1.0	.1	---
26	---	.8	.1	---	---	1.5	.3	---	---	1.6	.3	---
27	---	1.1	.1	---	---	1.6	.5	---	---	2.0	1.0	---
28	---	1.6	.4	---	---	.9	-.2	---	---	2.2	1.4	---
29	---	1.7	.7	---	---	---	---	---	---	1.5	.6	---
30	---	1.6	.1	---	---	---	---	---	---	1.3	.8	---
31	---	.6	-.5	---	---	---	---	---	---	1.4	.9	---
MONTH	---	1.9	-1.0	---	---	1.9	-.9	---	---	2.5	-1.1	---
DAY	APRIL				MAY				JUNE			
	LAND- WARD	SEA- WARD	SEA- WARD	SUPPLE- MENTARY	LAND- WARD	SEA- WARD	SEA- WARD	SUPPLE- MENTARY	LAND- WARD	SEA- WARD	SEA- WARD	SUPPLE- MENTARY
	MAX	MAX	MIN	MAX	MAX	MAX	MIN	MAX	MAX	MAX	MIN	MAX
1	---	1.5	.9	---	---	2.1	1.2	---	---	1.1	.1	---
2	---	1.8	1.1	---	---	2.1	1.2	---	---	1.4	.3	---
3	---	2.5	1.5	---	---	1.7	.9	---	---	1.3	.4	---
4	---	2.2	1.1	---	---	2.3	1.0	---	---	1.1	.3	---
5	---	1.9	1.2	---	---	2.0	1.1	---	---	1.3	.4	---
6	---	1.5	.5	---	---	1.5	.7	---	---	1.1	.4	---
7	---	1.4	.6	---	---	1.5	.5	---	---	.9	.1	---
8	---	1.3	.6	---	---	1.6	.6	---	---	1.2	.6	---
9	---	1.2	.4	---	---	1.9	1.1	---	---	1.3	.8	---
10	---	1.3	.5	---	---	2.0	1.4	---	---	1.4	.4	---
11	---	1.2	.5	---	---	2.3	1.6	---	---	1.1	.2	---
12	---	1.1	.4	---	---	2.0	.9	---	---	1.2	.1	---
13	---	1.6	.8	---	---	1.3	.4	---	---	1.0	.0	---
14	---	2.2	1.3	---	---	1.2	.3	---	---	.9	-.2	---
15	---	1.3	-.6	---	---	1.5	.5	---	---	.9	-.3	---
16	---	.6	-.8	---	---	1.8	.6	---	---	1.1	-.1	---
17	---	.7	-.1	---	---	1.9	.8	---	---	1.1	.1	---
18	---	.6	-.5	---	---	1.5	.3	---	---	1.5	.3	---
19	---	.4	-.3	---	---	1.4	.2	---	---	1.7	.9	---
20	---	.5	-.6	---	---	1.3	.3	---	---	1.7	1.0	---
21	---	1.3	.0	---	---	1.3	.4	---	---	1.9	1.3	---
22	---	1.6	.5	---	---	1.0	.3	---	---	1.5	.8	---
23	---	1.5	.5	---	---	.8	.2	---	---	1.4	.6	---
24	---	1.3	.4	---	---	.5	.0	---	---	1.4	.6	---
25	---	1.0	.4	---	---	.5	.0	---	---	1.5	.5	---
26	---	1.4	.8	---	---	.5	-.1	---	---	1.3	.4	---
27	---	1.1	.5	---	---	.6	-.2	---	---	1.3	.3	---
28	---	1.0	.5	---	---	.6	-.2	---	---	1.1	.3	---
29	---	1.1	.4	---	---	.8	-.2	---	---	.9	.0	---
30	---	1.7	.3	---	---	1.0	.0	---	---	1.1	.0	---
31	---	---	---	---	---	1.0	.0	---	---	---	---	---
MONTH	---	2.5	-.8	---	---	2.3	-.2	---	---	1.9	-.3	---

HIGHLAND BAYOU BASIN

08077740 LAMARQUE LEVEE PUMP STATION NEAR LAMARQUE, TX--Continued

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	JULY				AUGUST				SEPTEMBER			
	LAND- WARD	SEA- WARD	SEA- WARD	SUPPLE- MENTARY	LAND- WARD	SEA- WARD	SEA- WARD	SUPPLE- MENTARY	LAND- WARD	SEA- WARD	SEA- WARD	SUPPLE- MENTARY
	MAX	MAX	MIN	MAX	MAX	MAX	MIN	MAX	MAX	MAX	MIN	MAX
1	---	1.3	.3	---	---	.7	.0	---	---	1.5	.8	---
2	---	1.4	.4	---	---	.6	.1	---	---	1.6	.7	---
3	---	1.6	.8	---	---	.6	.2	---	---	1.5	.5	---
4	---	1.3	.6	---	---	.6	.0	---	---	1.6	.3	---
5	---	1.0	.4	---	---	.8	.1	---	---	1.2	.0	---
6	---	.8	.3	---	---	1.1	.1	---	---	1.0	.0	---
7	---	.9	.4	---	---	1.2	.2	---	---	.9	.0	---
8	---	1.3	.5	---	---	1.2	.2	---	---	1.1	.1	---
9	---	1.3	.3	---	---	1.0	.1	---	---	.7	.1	---
10	---	1.4	.3	---	---	.7	-.1	---	---	1.5	.2	---
11	---	1.3	.3	---	---	.9	-.3	---	---	1.2	.8	---
12	---	1.1	.1	---	---	.7	.0	---	---	1.3	.8	---
13	---	1.3	.1	---	---	.5	-.2	---	---	1.3	.5	---
14	---	1.1	.1	---	---	.2	-.4	---	---	1.4	.8	---
15	---	1.1	.2	---	---	.9	-.2	---	---	1.6	.8	---
16	---	1.2	.3	---	---	1.0	.6	---	---	1.6	.7	---
17	---	1.2	.5	---	---	.9	.2	---	---	1.4	.4	---
18	---	1.2	.6	---	---	.8	.1	---	---	1.2	.4	---
19	---	1.4	.8	---	---	.7	.0	---	---	1.4	.5	---
20	---	1.4	.8	---	---	.7	.0	---	---	1.4	.6	---
21	---	1.4	.4	---	---	.9	.1	---	---	1.7	.4	---
22	---	1.1	.2	---	---	1.5	.2	---	---	1.8	.4	---
23	---	.8	-.1	---	---	1.6	.5	---	---	1.8	1.1	---
24	---	.7	-.1	---	---	1.1	.4	---	---	1.4	.7	---
25	---	.9	-.1	---	---	1.1	.3	---	---	1.7	.6	---
26	---	.9	.1	---	---	.8	.0	---	---	1.7	1.2	---
27	---	.8	-.1	---	---	.6	-.2	---	---	1.7	1.0	---
28	---	.8	.0	---	---	.8	-.2	---	---	2.1	1.3	---
29	---	.8	-.1	---	---	.7	.2	---	---	2.0	.4	---
30	---	.8	-.1	---	---	1.0	.2	---	---	1.6	.8	---
31	---	.8	.0	---	---	1.0	.4	---	---	---	---	---
MONTH	---	1.6	-.1	---	---	1.6	-.4	---	---	2.1	.0	---

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CHOCOLATE BAYOU BASIN

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX

LOCATION.--Lat 29°22'09", long 95°19'14", Brazoria County, Hydrologic Unit 12040204, on right bank 800 ft downstream from bridge on Farm Road 1462, 5.9 mi southwest of Alvin, and 6.9 mi upstream from State Highway 35.

DRAINAGE AREA.--87.7 mi². During extreme flooding, overflow from about 11 mi² of the Mustang Bayou drainage basin enters the Chocolate Bayou basin upstream from gage.

PERIOD OF RECORD.--Aug to Oct 1944, Mar to Dec 1946 (low-water records during irrigation season), Jan 1947 to Feb 1958, Mar 1958 to Feb 1959 (discharge measurements only), Mar 1959 to current year.

Water-quality records.--Chemical data: May 1971 to Sep 1985. Biochemical data: May 1971 to Sep 1985. Pesticide data: May 1971 to Sep 1981.

GAGE.--Water-stage recorder. Datum of gage is 0.31 ft above sea level. Prior to May 3, 1959, nonrecording gage or water-stage recorders located at various sites from 900 to 1,400 ft upstream and at datum 3.00 ft higher. May 3, 1959 to Sep 30, 1987, present site, at datum 10.00 ft higher. Satellite telemeter at station.

REMARKS.--Records fair. No known regulation. Stage-discharge relation is affected by seasonal vegetation during most years. Large area of riceland above station is irrigated with water diverted from the Brazos River. Low flow from Apr to Oct is largely drainage from these irrigated lands. Diversions for irrigation occur above station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jul 14, 1939, reached a stage of 32.5 ft, present site and datum, adjusted from floodmark 1,700 ft to right and 550 ft upstream from present gage, on basis of slope of flood of Oct 8, 1949, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 7	1600	1,860	27.74	Nov 15	0600	2,400	30.05
Oct 19	2400	2,190	29.33				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	14	14	9.6	8.1	4.3	12	8.4	87	37	21	4.0
2	18	15	12	620	7.7	3.9	9.7	33	49	35	27	3.5
3	20	13	10	672	7.4	3.7	8.3	32	34	34	29	2.5
4	26	11	9.6	189	7.4	3.6	7.6	22	29	31	26	2.0
5	914	10	8.9	80	7.1	3.4	7.1	27	29	31	28	2.4
6	1160	10	8.2	54	6.9	3.7	6.5	24	28	34	30	3.3
7	1800	9.9	8.0	57	7.2	3.5	5.1	16	28	53	24	2.6
8	1240	20	7.6	119	7.3	3.4	4.3	12	28	51	16	2.4
9	260	26	7.3	125	7.0	3.3	4.1	11	52	43	11	2.4
10	91	18	11	68	6.5	3.2	4.0	20	53	41	12	2.6
11	54	17	268	44	6.2	3.3	4.6	76	51	41	11	2.5
12	41	16	1120	34	6.3	4.3	5.9	63	50	42	14	2.6
13	30	941	578	29	5.5	21	6.4	32	134	46	18	2.6
14	23	2090	170	344	5.0	27	7.5	19	152	54	13	2.7
15	17	2340	79	353	5.1	9.8	16	12	98	48	7.5	3.2
16	14	1850	48	107	5.1	6.0	15	8.9	492	36	7.1	4.4
17	13	614	33	63	9.9	5.1	13	7.8	228	31	11	4.7
18	555	169	25	45	10	4.7	12	9.2	88	44	13	4.7
19	1930	93	21	34	7.2	4.7	11	11	44	68	7.9	3.6
20	2000	64	17	27	5.6	7.5	6.0	14	31	56	4.5	3.3
21	963	47	15	23	5.4	8.5	5.4	20	30	76	2.9	3.2
22	225	36	13	21	4.9	6.4	6.4	23	105	88	3.0	3.3
23	94	31	12	17	4.7	5.9	5.0	22	115	55	6.6	3.3
24	57	27	13	13	4.4	5.8	6.3	24	70	37	5.6	3.7
25	40	24	12	11	4.5	5.1	4.8	35	85	30	6.0	4.2
26	31	22	11	10	4.5	6.1	5.8	27	273	26	5.1	4.2
27	25	21	10	9.6	4.6	6.3	11	29	133	21	3.8	4.6
28	20	e19	10	9.6	4.4	18	25	25	64	19	2.8	4.7
29	16	e17	9.8	10	---	18	22	37	45	18	2.8	14
30	13	e16	9.1	10	---	21	10	94	38	19	5.3	27
31	13	---	8.5	9.0	---	18	---	139	---	20	5.6	---
TOTAL	11722	8600.9	2579.0	3216.8	175.9	248.5	267.8	933.3	2743	1265	380.5	134.2
MEAN	378	287	83.2	104	6.28	8.02	8.93	30.1	91.4	40.8	12.3	4.47
MAX	2000	2340	1120	672	10	27	25	139	492	88	30	27
MIN	13	9.9	7.3	9.0	4.4	3.2	4.0	7.8	28	18	2.8	2.0
AC-FT	23250	17060	5120	6380	349	493	531	1850	5440	2510	755	266

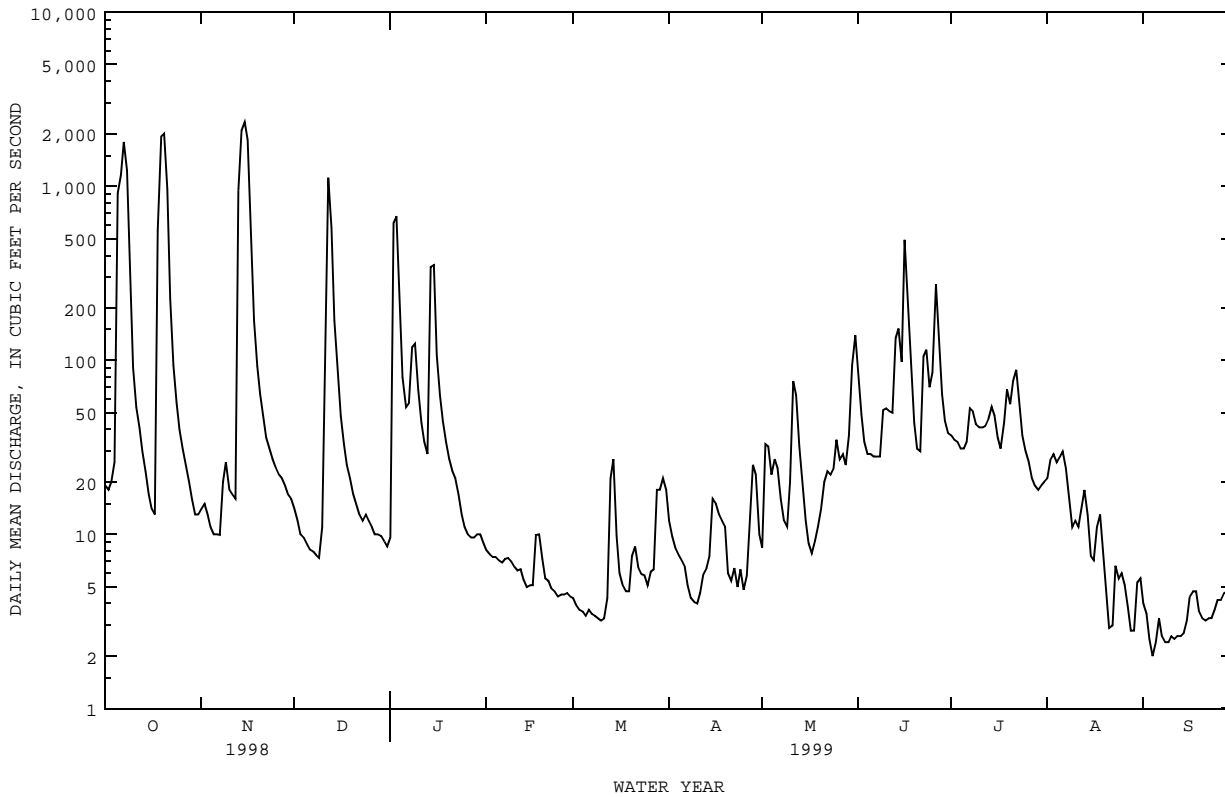
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1999, BY WATER YEAR (WY)

	MEAN	87.1	90.1	104	137	110	79.3	98.6	130	213	156	109	136
MAX	522	378	378	464	508	476	572	528	876	1659	642	843	
(WY)	1995	1975	1977	1992	1992	1997	1997	1992	1968	1979	1989	1979	
MIN	.52	1.08	.77	3.49	2.38	3.38	8.57	16.8	18.2	33.3	12.3	4.47	
(WY)	1978	1981	1990	1971	1976	1981	1987	1996	1990	1997	1999	1999	

08078000 CHOCOLATE BAYOU NEAR ALVIN, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1959 - 1999	
ANNUAL TOTAL	57364.3		32266.9		120	
ANNUAL MEAN	157		88.4		340	
HIGHEST ANNUAL MEAN					39.6	
LOWEST ANNUAL MEAN					15700	
HIGHEST DAILY MEAN	2340	Nov 15	2340	Nov 15	15700	Jul 26 1979
LOWEST DAILY MEAN	5.3	Apr 23	2.0	Sep 4	.03	Dec 17 1975
ANNUAL SEVEN-DAY MINIMUM	6.8	Apr 6	2.5	Sep 3	.08	Oct 15 1977
INSTANTANEOUS PEAK FLOW			2400	Nov 15	21500	Jul 26 1979
INSTANTANEOUS PEAK STAGE			30.05	Nov 15	33.88	Jul 26 1979
ANNUAL RUNOFF (AC-FT)	113800		64000		86880	
10 PERCENT EXCEEDS	375		106		212	
50 PERCENT EXCEEDS	34		16		32	
90 PERCENT EXCEEDS	10		4.0		3.8	

e Estimated



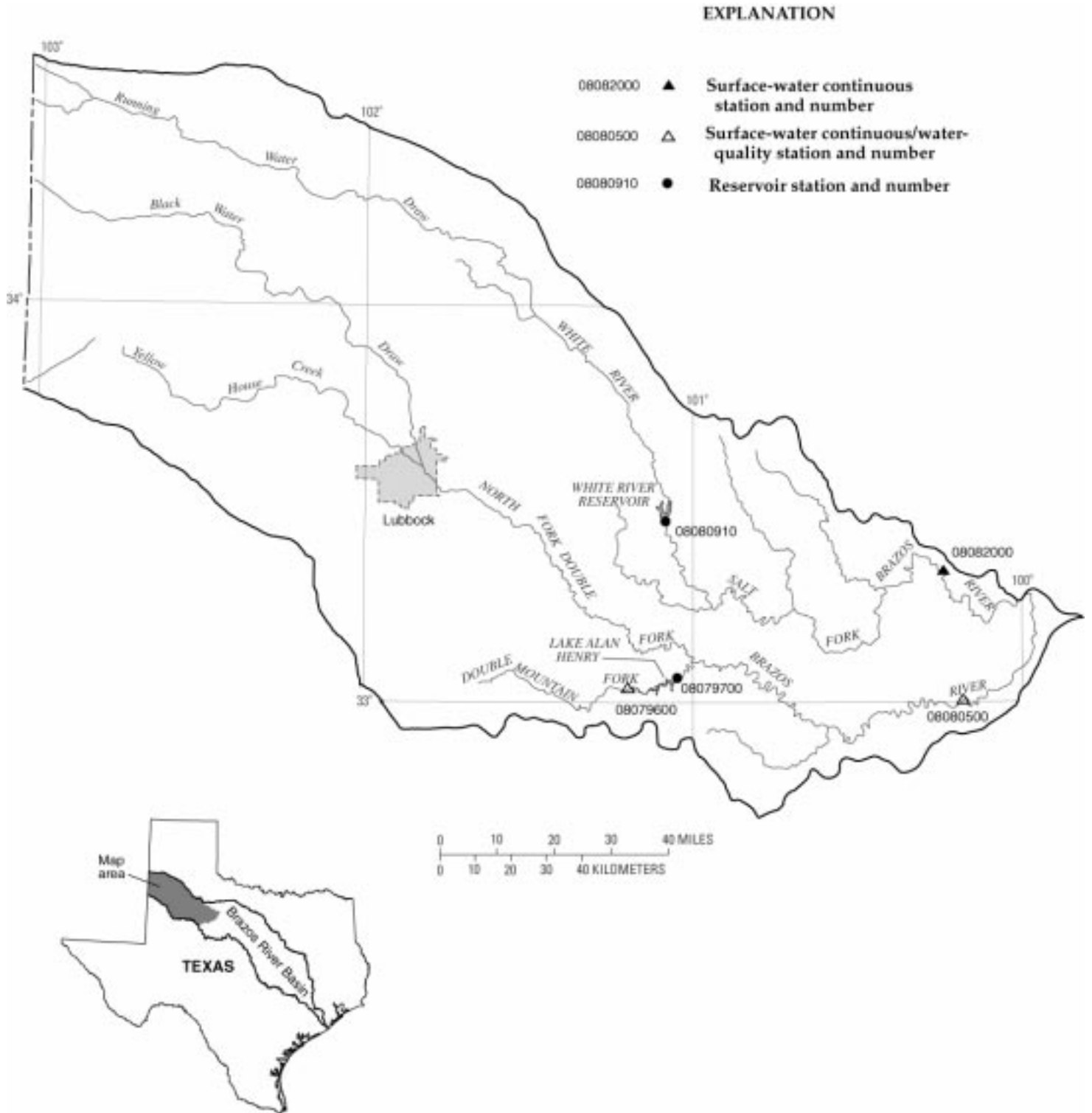


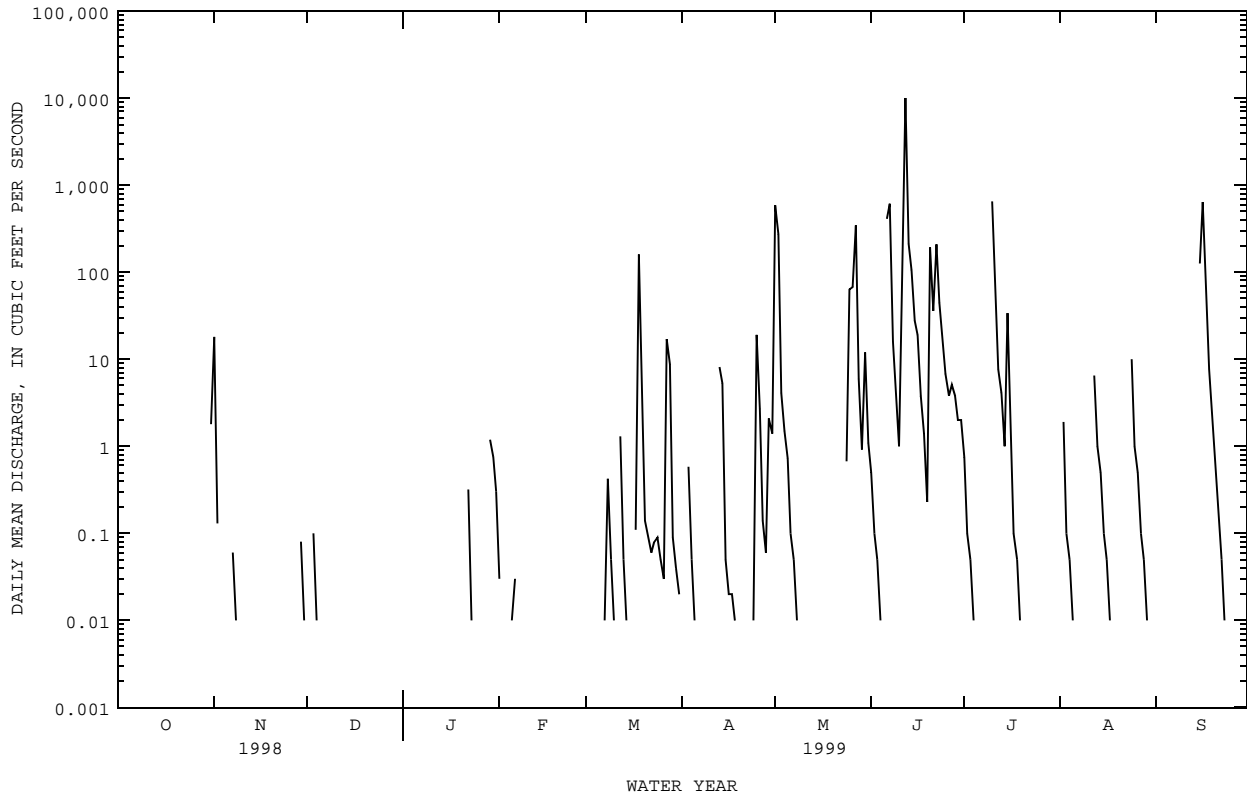
Figure 5.--Map showing location of gaging stations in the first section of the Brazos River Basin

08079600	Double Mountain Fork Brazos River at Justiceburg, TX	192
08079700	Lake Alan Henry Reservoir near Justiceburg, TX	198
08080500	Double Mountain Fork Brazos River near Aspermont, TX	200
08080910	White River Reservoir near Spur, TX	204
08082000	Salt Fork Brazos River near Aspermont, TX	206

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1962 - 1999	
ANNUAL TOTAL	2000.11		15318.20		25.8	
ANNUAL MEAN	5.48		42.0		1.65	
HIGHEST ANNUAL MEAN					69.8	1967
LOWEST ANNUAL MEAN					1.65	1983
HIGHEST DAILY MEAN	959	Jun 11	10000	Jun 12	10000	Jun 12 1999
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Feb 17 1962
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Mar 3 1962
INSTANTANEOUS PEAK FLOW			33700	Jun 12	49600	May 6 1969
INSTANTANEOUS PEAK STAGE			16.52	Jun 12	19.80	May 6 1969
ANNUAL RUNOFF (AC-FT)	3970		30380		18710	
ANNUAL RUNOFF (CFSM)	.022		.17		.11	
ANNUAL RUNOFF (INCHES)	.30		2.34		1.44	
10 PERCENT EXCEEDS	.00		6.6		9.5	
50 PERCENT EXCEEDS	.00		.00		.02	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated
a From floodmark.



BRAZOS RIVER BASIN

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Dec 1964 to Sep 1965, Oct 1975 to current year.
 SEDIMENT DATA: Jun 1977 to Jun 1982.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Oct 1975 to current year (local observer).
 WATER TEMPERATURE: Oct 1975 to current year (local observer).

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and a regression relation between each chemical constituent and specific conductance. New regression equations were developed based on data from water years 1990 to 1999. The standard error of estimate for dissolved solids is 5%, chloride is 50%, sulfate is 39% and for hardness is 46%. 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, 31,400 microsiemens, Dec 6, 1994; minimum daily, 370 microsiemens, Oct 20, 1983.
 WATER TEMPERATURE: Maximum daily, 37.0°C, Jun 12, 1998; minimum daily, 0.0°C, on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum estimated daily, 16,000 microsiemens Aug 29; minimum daily, 400 microsiemens Jun 12.
 WATER TEMPERATURE: Maximum daily, 35.5°C Jul 13; minimum daily, 7.0°C Mar 19.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	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)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
MAR									
18...	1400	360	667	10.0	30	--	8.5	2.1	134
JUN									
12...	1040	9000	324	18.5	11	--	3.4	.70	61
16...	1240	18	3000	27.5	350	180	90	30	486
JUL									
13...	1530	4.2	4190	35.5	380	210	98	32	688
AUG									
26...	1315	.06	13600	32.0	1100	990	290	106	2440

DATE	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS FIX END FIELD (MG/L CAC03) (39036)	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)
MAR								
18...	11	2.2	150	56	72	.90	11	379
JUN								
12...	8	1.5	65	30	33	.60	6.7	175
16...	11	8.8	160	200	740	1.5	13	1670
JUL								
13...	15	9.4	170	220	1100	1.3	12	2300
AUG								
26...	31	14	160	500	4400	1.2	11	7840

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1998 TO SEPTEMBER 1999

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- SIEMENS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT. 1998	1.8	4000	2150	10.5	1100	5.5	150	0.73	260
NOV. 1998	18.29	1060	559	27.6	290	14.5	40	2.0	67
DEC. 1998	0.12	8830	4950	1.6	2600	0.86	340	0.11	630
JAN. 1999	2.59	2440	1310	9.1	690	4.8	92	0.64	160
FEB. 1999	0.07	10710	6090	1.2	3300	0.62	420	0.08	790
MAR. 1999	193.55	1070	566	296	300	156	40	20.9	68
APR. 1999	39.65	5280	2890	309	1500	164	200	21.6	360
MAY 1999	1364.08	882	464	1710	240	896	33	121	56
JUNE 1999	12098.79	544	285	9330	150	4900	20	661	34
JULY 1999	745.37	1110	586	1180	310	620	41	83.5	71
AUG. 1999	21.88	4150	2280	135	1200	71.5	160	9.4	290
SEPT 1999	832.01	785	412	925	220	485	29	65.5	49
TOTAL	15318.2	**	**	13930	**	7320	**	986	**
WTD.AVG.	42	640	337	**	180	**	24	**	40

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY EQUIVALENT MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1000	---	---	e8000	---	---	1010	e7000	e7000	---	---
2	---	e5000	---	---	---	---	---	600	e9000	e8000	8540	---
3	---	---	e8000	---	---	---	e9000	2000	e10000	e9000	e10000	---
4	---	---	e12000	---	---	---	e11000	6500	e11000	e10000	e11000	---
5	---	---	---	---	e12000	---	e12000	8000	---	---	e12000	---
6	---	---	---	---	e13000	---	---	e9000	1000	---	---	---
7	---	e6000	---	---	---	e6000	---	e10000	500	---	---	---
8	---	e10000	---	---	---	e4000	---	e12000	1500	---	---	---
9	---	---	---	---	---	e5000	---	---	4120	---	---	---
10	---	---	---	---	---	e6000	---	---	e6000	1000	---	---
11	---	---	---	---	---	---	---	---	e2000	1200	---	---
12	---	---	---	---	---	e2000	---	---	400	2700	e5000	---
13	---	---	---	---	---	e5000	e2000	---	930	4000	e7000	---
14	---	---	---	---	---	e6000	e4000	---	1000	e5000	e8000	---
15	---	---	---	---	---	---	e9000	---	2600	e2000	e9000	1060
16	---	---	---	---	---	---	e10000	---	3100	e5000	e11000	700
17	---	---	---	---	---	e5000	e11000	---	3600	e7000	e12000	850
18	---	---	---	---	---	900	e12000	---	3700	e8000	---	1600
19	---	---	---	---	---	1500	---	---	3000	e9000	---	3000
20	---	---	e14000	---	---	7000	---	---	1200	---	---	5000
21	---	---	---	---	---	12000	---	---	2500	---	---	7000
22	---	---	---	e4000	---	e12000	---	---	2400	---	---	e10000
23	---	---	---	e7000	---	e12000	---	---	1300	---	---	e11000
24	---	---	---	---	---	e12000	e10000	e2000	2800	---	1210	---
25	---	---	---	---	---	e12000	6440	1000	3670	---	e7000	---
26	---	---	---	---	---	e12000	e8000	500	4140	---	13000	---
27	---	---	---	---	---	2000	e9000	860	4810	---	e14000	---
28	---	---	---	---	---	1000	e11000	1250	5620	---	e15000	---
29	---	e3000	---	e1000	---	8000	e7000	2350	5670	---	e16000	---
30	---	e8000	---	e3000	---	e12000	e3000	900	6000	---	---	---
31	e4000	---	---	e5000	---	e13000	---	5000	---	---	---	---

e Estimated

BRAZOS RIVER BASIN

08079600 DOUBLE MOUNTAIN FORK BRAZOS RIVER AT JUSTICEBURG, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	13.0	---	---	---	---	---	14.0	---	---	---	---
2	---	---	---	---	---	---	---	14.0	---	---	23.0	---
3	---	---	---	---	---	---	---	17.0	---	---	---	---
4	---	---	---	---	---	---	---	15.0	---	---	---	---
5	---	---	---	---	---	---	---	10.0	---	---	---	---
6	---	---	---	---	---	---	---	---	22.0	---	---	---
7	---	---	---	---	---	---	---	---	19.5	---	---	---
8	---	---	---	---	---	---	---	---	21.5	---	---	---
9	---	---	---	---	---	---	---	---	22.0	---	---	---
10	---	---	---	---	---	---	---	---	---	23.0	---	---
11	---	---	---	---	---	---	---	---	---	19.5	---	---
12	---	---	---	---	---	---	---	---	23.0	19.0	---	---
13	---	---	---	---	---	---	---	---	21.0	35.5	---	---
14	---	---	---	---	---	---	---	---	20.5	---	---	---
15	---	---	---	---	---	---	---	---	19.5	---	---	19.0
16	---	---	---	---	---	---	---	---	20.0	---	---	14.5
17	---	---	---	---	---	---	---	---	17.0	---	---	17.0
18	---	---	---	---	---	10.0	---	---	19.5	---	---	18.0
19	---	---	---	---	---	7.0	---	---	21.0	---	---	29.0
20	---	---	---	---	---	20.0	---	---	21.0	---	---	19.0
21	---	---	---	---	---	9.0	---	---	22.0	---	---	---
22	---	---	---	---	---	---	---	---	21.0	---	---	---
23	---	---	---	---	---	---	---	---	23.0	---	---	---
24	---	---	---	---	---	---	---	---	22.5	---	29.0	---
25	---	---	---	---	---	---	13.0	18.0	34.5	---	---	---
26	---	---	---	---	---	---	---	12.5	23.0	---	32.0	---
27	---	---	---	---	---	16.0	---	17.0	29.0	---	---	---
28	---	---	---	---	---	13.0	---	16.0	31.5	---	---	---
29	---	---	---	---	---	19.0	---	20.0	24.0	---	---	---
30	---	---	---	---	---	---	---	20.0	23.0	---	---	---
31	---	---	---	---	---	---	---	25.0	---	---	---	---

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BRAZOS RIVER BASIN

08079700 LAKE ALAN HENRY RESERVOIR NEAR JUSTICEBURG, TX

LOCATION.--Lat 33°03'46", long 101°02'50", Garza County, Hydrologic Unit 12050004, on left bank at left end of dam in intake structure of Alan Henry Dam on Double Mountain Fork Brazos River, 0.5 mi west of Garza and Kent county line and 9 mi east of Justiceburg.

DRAINAGE AREA.--1,616.7 mi², of which 1,222 mi² probably is noncontributing.

PERIOD OF RECORD.--Oct 1997 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Brazos River Authority). Satellite telemeter at station.

REMARKS.--Records good. The dam was completed Oct 1993. The reservoir is formed by a rolled earthfill dam, 3,600 foot long. The dam and lake are owned by the city of Lubbock and operated by Brazos River Authority for recreation and future municipal use. The spillway consists of a fixed gate type service spillway with an ogee crest and an emergency spillway 1,700-foot-long cut into natural ground near right end of dam. The control works consist of 30 and 42-inch-diameter gated steel conduits, encased in concrete, that discharge from the outlet structure. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation
	(feet)
Top of dam.....	2,263.0
Design flood.....	2,259.44
Crest of spillway.....	2,240.0
Crest of service spillway (top of conservation pool.....	2,220.0
Lowest gated outlet (invert).....	2,140.0

COOPERATION.--The capacity curve dated Oct 1, 1993 was furnished by the Brazos River Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 69,000 acre-ft, Jul 12, 1999 (elevation, 2,200.94 ft); minimum, 34,640 acre-ft, Mar 16-17, 1999 (elevation, 2,180.91 ft).

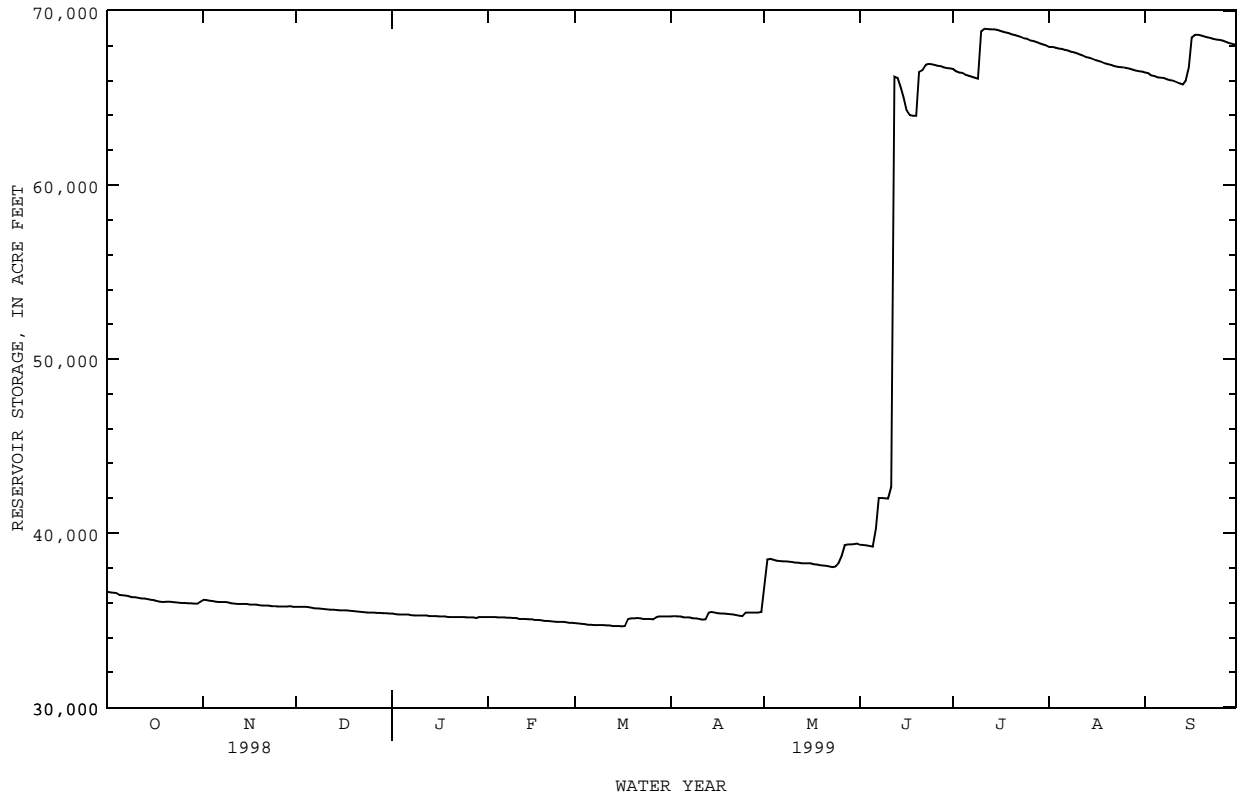
EXTREMES FOR CURRENT YEAR.--Maximum contents, 69,000 acre-ft, Jul 12 (elevation, 2,200.94 ft); minimum contents, 34,640 acre-ft, Mar 16-17 (elevation, 2,180.91 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36630	36170	35760	35370	35180	34830	35210	36990	39340	66660	67930	66460
2	36590	36150	35760	35350	35180	34810	35240	38490	39320	66540	67930	66420
3	36580	36120	35760	35330	35170	34790	35210	38520	39290	66460	67890	66300
4	36550	36100	35760	35330	35150	34780	35210	38470	39260	66440	67850	66260
5	36460	36070	35750	35320	35150	34750	35150	38410	39220	66320	67810	66190
6	36430	36050	35720	35320	35150	34740	35150	38400	40250	66280	67770	66170
7	36410	36050	35680	35290	35140	34720	35150	38390	42020	66210	67730	66150
8	36380	36040	35680	35280	35140	34710	35110	38370	42020	66170	67660	66070
9	36320	36030	35650	35280	35130	34710	35100	38360	41990	66110	67620	66030
10	36310	35970	35640	35280	35130	34710	35060	38340	41980	68840	67560	65990
11	36280	35960	35620	35280	35070	34700	35030	38310	42660	68980	67500	65930
12	36250	35930	35610	35260	35070	34700	35040	38300	66210	68960	67440	65850
13	36250	35930	35600	35240	35060	34670	35430	38280	66150	68940	67350	65790
14	36210	35930	35580	35240	35040	34660	35470	38270	65650	68940	67310	66010
15	36180	35930	35570	35240	35040	34660	35430	38270	65000	68920	67250	66780
16	36150	35900	35560	35220	35010	34640	35400	38270	64290	68880	67190	68490
17	36100	35900	35560	35210	35010	34660	35390	38210	64010	68820	67130	68630
18	36070	35900	35540	35210	34990	35070	35370	38200	63990	68760	67070	68630
19	36040	35860	35530	35190	34960	35110	35360	38170	63970	68720	67000	68590
20	36070	35850	35510	35190	34950	35110	35350	38140	66520	68650	66940	68530
21	36070	35850	35490	35190	34930	35130	35330	38120	66600	68610	66900	68490
22	36040	35850	35470	35180	34920	35100	35290	38090	66900	68550	66820	68450
23	36030	35800	35450	35180	34900	35070	35250	38050	66960	68510	66800	68390
24	36010	35800	35430	35180	34900	35070	35240	38090	66940	68430	66780	68360
25	35980	35780	35430	35150	34900	35060	35440	38270	66900	68390	66760	68340
26	35980	35780	35430	35150	34890	35040	35440	38690	66860	68300	66720	68300
27	35970	35780	35420	35150	34850	35150	35430	39320	66820	68260	66680	68220
28	35970	35790	35420	35130	34850	35210	35430	39350	66760	68200	66620	68160
29	35960	35800	35400	35180	---	35210	35430	39350	66720	68140	66580	68120
30	35960	35760	35400	35180	---	35210	35470	39380	66700	68080	66540	68060
31	36070	---	35390	35180	---	35210	---	39400	---	68030	66520	---
MAX	36630	36170	35760	35370	35180	35210	35470	39400	66960	68980	67930	68630
MIN	35960	35760	35390	35130	34850	34640	35030	36990	39220	66110	66520	65790
(+)	2181.94	2181.72	2181.45	2181.30	2181.06	2181.32	2181.51	2184.25	2199.82	2200.47	2199.73	2200.48
(@)	-590	-310	-370	-210	-330	+360	+260	+3930	+27300	+1330	-1510	+1540
CAL YR 1998	MAX 40130	MIN 35390	(@) -3520									
WTR YR 1999	MAX 68980	MIN 34640	(@) +31400									

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

08079700 LAKE ALAN HENRY RESERVOIR NEAR JUSTICEBURG, TX--Continued



BRAZOS RIVER BASIN

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX

LOCATION.--Lat 33°00'29", long 100°10'49", Stonewall County, Hydrologic Unit 12050004, on right bank at downstream side of bridge on U.S. Highway 83, 0.3 mi downstream from Hitson Creek, 10 mi south of Aspermont, and at mile 34.5, measured from confluence with Salt Fork Brazos River, which is at mile 923.2 on the Brazos River.

DRAINAGE AREA.--8,796 mi², of which 6,932 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Dec 1923 to Sep 1934, Jun 1939 to current year.

REVISED RECORDS.--WSP 733: 1927(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,624.79 ft above sea level. Dec 3, 1923 to Sep 30, 1934, nonrecording gage at site 90 ft downstream at datum 2.0 ft higher, and Jun 8, 1939 to Aug 12, 1972, water-stage recorder at present site at datum 2.0 ft higher. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges and discharges below 5.0 ft³/s, which are poor. Since water year 1994, at least 10% of contributing drainage area has been regulated by Lake Alan Henry Reservoir (station 08079700, normal storage 115,900 acre-ft). There are small diversions above station for oil field operations.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--64 years (water years 1925-34, 1940-93) prior to completion of Lake Alan Henry, 158 ft³/s (114,300 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1925-34, 1940-93).--Maximum discharge, 91,400 ft³/s Sep 26, 1955 (gage height, 29.50 ft); no flow at times most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	15	.00	.00	e.10	.00	.00	20	69	134	26	1.1
2	.00	5.6	.00	.00	e.03	.00	.00	879	78	120	46	.38
3	27	e.10	.00	.00	e.01	.00	.00	832	51	103	26	.11
4	2.0	e.04	.00	.00	.00	.00	.00	307	30	91	30	.11
5	e.10	e.01	.00	.00	.00	.00	.00	108	20	79	388	e.10
6	e.04	.00	.00	.00	.00	.00	.00	55	53	71	249	1.1
7	e.02	.00	.00	.00	.00	.00	.00	39	1800	67	53	4.4
8	.00	.00	.00	.00	.00	.00	.00	21	1560	61	37	5.9
9	.00	.00	.00	.00	.00	.00	.00	12	648	54	28	22
10	.00	.00	.00	.00	.00	.00	.00	8.3	141	63	22	33
11	.00	.00	.00	.00	.00	.00	.00	5.3	3690	99	17	11
12	.00	.00	.00	.00	.00	49	.00	3.2	7280	474	13	7.6
13	.00	.00	.00	.00	.00	35	.00	16	11600	454	12	2.2
14	.00	.00	.00	.00	.00	2.6	.54	18	2510	236	e10	.24
15	.00	.00	.00	.00	.00	.35	.17	9.3	896	158	e9.0	1.1
16	.00	.00	.00	.00	.00	.28	.01	4.3	984	106	8.4	7.3
17	.00	.00	.00	.00	.00	.20	.01	2.4	1010	90	8.0	26
18	.00	.00	.00	.00	.00	.44	.00	e1.5	626	78	6.9	267
19	.00	.00	.00	.00	.00	.01	.00	e1.0	518	72	5.0	250
20	.00	.00	.00	.00	.00	.00	.00	e.50	486	65	5.9	130
21	.00	.00	.00	.00	.00	.00	.00	e.30	480	58	5.9	117
22	.00	.00	.00	.00	.00	.00	.00	e.20	742	57	5.0	172
23	.00	.00	.00	.00	.00	.00	.00	e.05	453	70	4.4	127
24	.00	.00	.00	.00	.00	.00	.00	e.01	305	48	4.4	91
25	.00	.00	.00	.00	.00	.00	9.7	9.0	311	38	4.4	73
26	.00	.00	.00	.00	.00	.00	7.5	112	682	33	e2.5	60
27	.00	.00	.00	.00	.00	.37	.49	121	342	29	e1.0	51
28	.00	.00	.00	.00	.00	1.2	e.15	100	220	26	e.50	43
29	.00	.00	.00	4.6	---	e.25	e.05	227	181	22	e.10	39
30	.00	.00	.00	24	---	e.03	e.04	207	154	21	.00	34
31	.00	---	.00	.84	---	.00	---	108	---	19	.00	---
TOTAL	29.16	20.75	0.00	29.44	0.14	89.73	18.66	3227.36	37920	3096	1028.40	1577.64
MEAN	.94	.69	.000	.95	.005	2.89	.62	104	1264	99.9	33.2	52.6
MAX	27	15	.00	24	.10	49	9.7	879	11600	474	388	267
MIN	.00	.00	.00	.00	.00	.00	.00	.01	20	19	.00	.10
AC-FT	58	41	.00	58	.3	178	37	6400	75210	6140	2040	3130

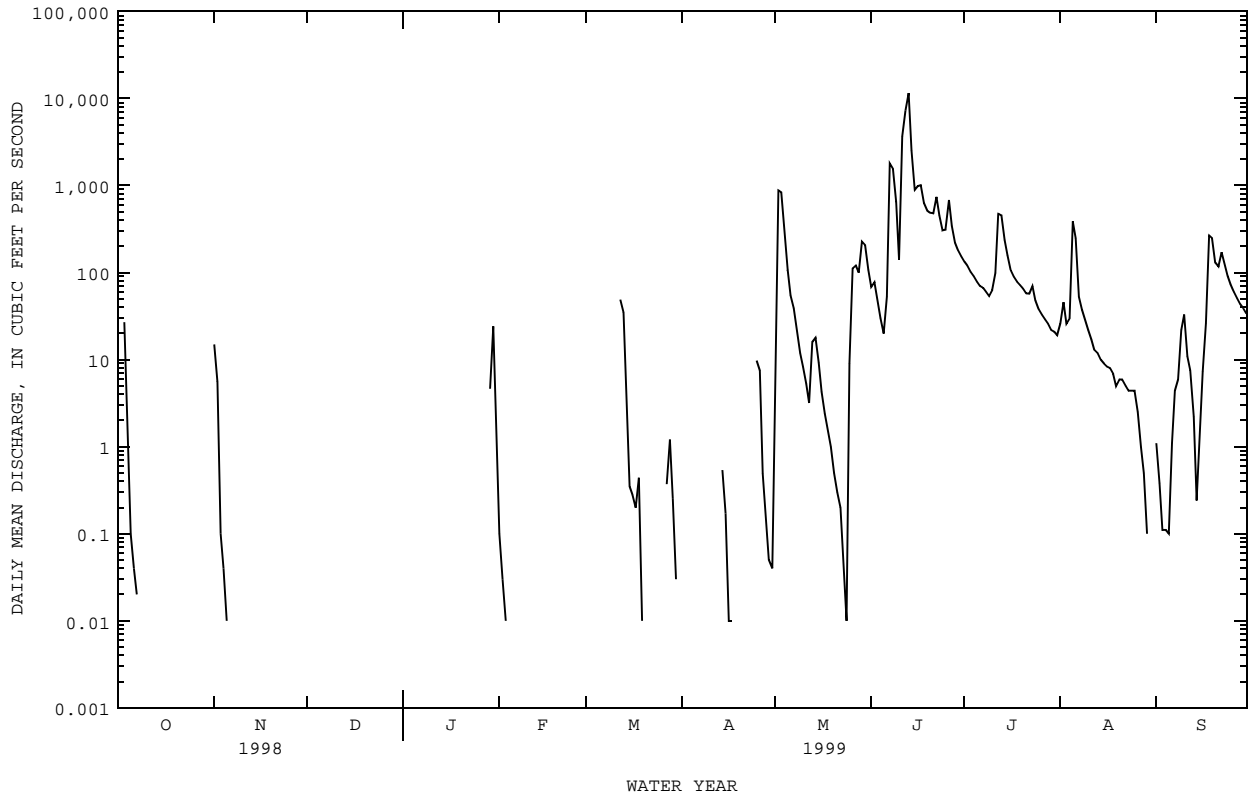
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1999, BY WATER YEAR (WY)

	1994	1995	1996	1997	1998	1999
MEAN	9.15	7.97	5.61	4.02	25.9	9.26
MAX	25.4	35.4	20.9	10.0	143	30.5
(WY)	1996	1997	1997	1997	1997	1997
MIN	.94	.25	.000	.61	.005	.042
(WY)	1999	1994	1999	1995	1999	1995

08080500 DOUBLE MOUNTAIN FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1994 - 1999	
ANNUAL TOTAL	2343.45		47037.28			
ANNUAL MEAN	6.42		129		55.3	
HIGHEST ANNUAL MEAN					129	1999
LOWEST ANNUAL MEAN					7.55	1998
HIGHEST DAILY MEAN	359	Jun 8	11600	Jun 13	11600	Jun 13 1999
LOWEST DAILY MEAN	.00	May 18	.00	Oct 1	.00	Oct 1 1993
ANNUAL SEVEN-DAY MINIMUM	.00	May 18	.00	Oct 8	.00	Oct 1 1993
INSTANTANEOUS PEAK FLOW			18800	Jun 13	18800	Jun 13 1999
INSTANTANEOUS PEAK STAGE			15.62	Jun 13	15.62	Jun 13 1999
ANNUAL RUNOFF (AC-FT)	4650		93300		40080	
10 PERCENT EXCEEDS	15		156		69	
50 PERCENT EXCEEDS	.03		.02		1.5	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated
 z Period of regulated streamflow.
 a From floodmark.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Oct 1948 to Nov 1951, Sep 1956 to current year.
 BIOCHEMICAL DATA: Jun 1978 to May 1993.
 PESTICIDE DATA: Mar to Jun 1979.
 SEDIMENT DATA: Sep 1944 to Nov 1951, Jun 1978 to Sep 1993.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Oct 1948 to Nov 1951, Sep 1956 to Sep 1995 (local observer).
 WATER TEMPERATURE: Nov 1949 to Nov 1951, Sep 1956 to Sep 1995 (local observer).
 SUSPENDED-SEDIMENT DISCHARGE: Nov 1949 to Sep 1951 (local observer).

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed for previous water years using the daily records of specific conductance and regression relation between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the U.S. Geological Survey District Office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 13,100 microsiemens, Jul 29, 1980; minimum daily, 720 microsiemens, Oct 18, 1985.
 WATER TEMPERATURE: Maximum daily, 38.0°C, Jul 18, 1966; minimum daily, 0.0°C, on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARDS) UNITS (00400)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS TOTAL (MG/L CAC03) (00900)	HARD-NESS NONCARB DISSOLV AS CAC03 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
MAY 03...	1415	913	2280	7.9	23.8	1100	1000	380	28	140
JUN 07...	1325	3470	2190	7.0	24.5	1300	1200	460	26	77
08...	1210	687	1930	7.3	24.5	1000	1000	380	24	75
13...	1500	7350	792	7.4	24.5	320	280	110	10	33

DATE	RATIO (00931)	SODIUM AD-SORPTION SOLVED (MG/L AS K) (00935)	POTAS-SIUM, DIS-FIX FIELD SOLVED (MG/L CAC03) (MG/L) (39036)	ALKA-LINITY WAT DIS END (MG/L AS SO4) (00945)	SULFATE DIS-SOLVED (MG/L AS SO4) (00940)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00950)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00955)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
MAY 03...	2	6.2	44	990	180	.30	6.9	1750	.391	.022	
JUN 07...	.9	6.3	39	1100	110	.34	6.8	1820	.349	.021	
08...	1	5.4	39	1000	71	.30	7.7	1580	--	<.010	
13...	.8	3.6	44	290	37	.26	5.9	517	.316	.056	

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)
MAY 03...	.413	.104	.12	.23	<.050	.017	.05	2	65	<1.0
JUN 07...	.370	.196	.10	.30	<.050	<.010	--	2	141	<1.0
08...	.318	.086	.12	.21	<.050	<.010	--	--	--	--
13...	.372	.038	.20	.24	E.031	.018	.06	2	78	<1.0

DATE	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
MAY 03...	<1.0	1.2	<10	<1.0	<3.0	<.1	<1	<1.0	<20
JUN 07...	<1.0	<1.0	<30	<1.0	46	<.1	2	<1.0	<60
08...	--	--	--	--	--	--	--	--	--
13...	<1.0	<1.0	<10	<1.0	<3.0	<.1	<1	<1.0	<20

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08080910 WHITE RIVER RESERVOIR NEAR SPUR, TX

LOCATION.--Lat 33°27'28", long 101°05'01", Crosby County, Hydrologic Unit 12050004, on right bank at intake structure at White River Dam on White River, 0.5 mi downstream from Sand Creek, 1.7 mi upstream from Home Creek, 13 mi west of Spur, and 22.8 mi upstream from Salt Fork Brazos River.

DRAINAGE AREA.--3,069 mi², of which 2,380 mi² probably is noncontributing.

PERIOD OF RECORD.--Apr 1964 to Sep 1976, Jan 1999 to Sep 1999.
Water-quality records.--Chemical data: Dec 1970 to Jul 1975.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

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

REMARKS.--Records good. The reservoir is formed by a rolled earthfill dam 3,300 ft long. The dam was completed and storage began in Oct 1963. The emergency spillway is an open cut channel through rock, 1,100 ft wide, located at the right end of dam. The spillway is designed to discharge 69,000 ft³/s with a 7.5 ft head. The uncontrolled service spillway is a 5.0 ft square drop-inlet structure that discharges through a 5.0 ft square concrete conduit. The service outlet is a controlled 18-inch diameter concrete pipe that is connected to the 5.0 ft conduit. There is a pump station about 1,400 ft upstream from the dam on the right bank. The pump station is connected to the lake by a 58-inch diameter concrete pipe. The water in the reservoir is used for municipal and industrial supplies for the cities of Crosbyton, Post, Ralls, and Spur. Contents for Apr 1964 to Sep 1976 from area-capacity curves dated Jul 1960. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	2,395.0
Crest of spillway.....	2,384.0
Crest of spillway (top of conservation pool).....	2,372.5
Lowest gated outlet (invert).....	2,323.0

COOPERATION.--The capacity table dated Jun 23, 1993 furnished by Texas Water Development Board is based on Oct 1992 volumetric survey. Records of diversions may be obtained from White River Municipal Water District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 45,580 acre-ft, Oct 25, 1974 (elevation, 2,372.84 ft); minimum since reaching normal operating level in Jun 1969, 7,700 acre-ft, Apr 24, 1999 (elevation, 2,350.43 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 21,260 acre-ft, Jun 22-23 (elevation, 2,364.66 ft); minimum contents, 7,700 acre-ft, Apr 24 (elevation, 2,350.43 ft).

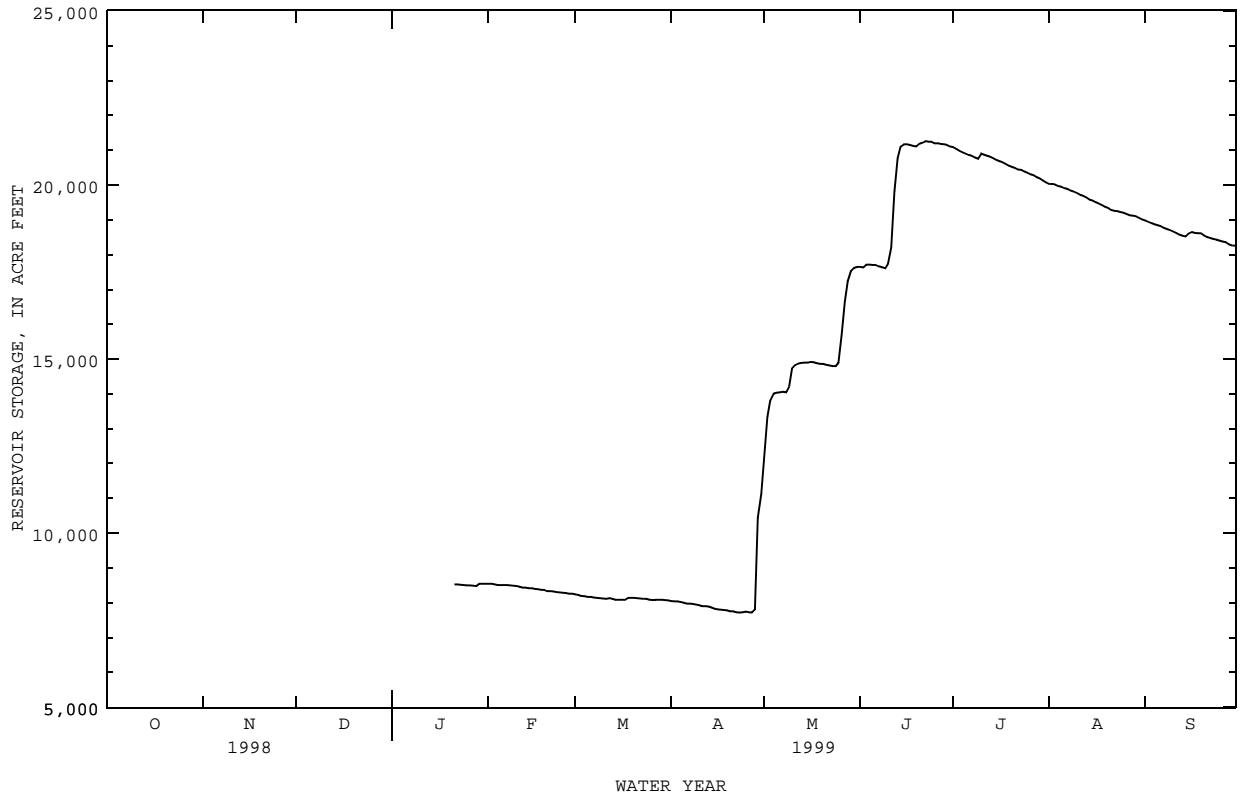
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	8540	8240	8050	12190	17650	21090	20030	18980
2	---	---	---	---	8540	8220	8040	13350	17630	21040	20030	18940
3	---	---	---	---	8530	8200	8040	13830	17710	20990	20010	18910
4	---	---	---	---	8510	8190	8020	14010	17710	20940	19970	18870
5	---	---	---	---	8510	8170	8000	14030	17700	20900	19950	18840
6	---	---	---	---	8510	8170	7980	14050	17700	20870	19910	18820
7	---	---	---	---	8510	8150	7980	14060	17670	20840	19880	18770
8	---	---	---	---	8500	8140	7970	14050	17640	20790	19840	18740
9	---	---	---	---	8490	8130	7950	14220	17610	20760	19810	18710
10	---	---	---	---	8480	8120	7930	14730	17750	20900	19770	18670
11	---	---	---	---	8460	8110	7900	14830	18210	20870	19720	18630
12	---	---	---	---	8440	8130	7900	14870	19820	20840	19690	18580
13	---	---	---	---	8430	8110	7890	14890	20780	20810	19640	18540
14	---	---	---	---	8420	8090	7870	14900	21110	20770	19580	18520
15	---	---	---	---	8420	8090	7830	14900	21170	20720	19550	18610
16	---	---	---	---	8400	8090	7810	14920	21170	20680	19510	18650
17	---	---	---	---	8390	8090	7800	14910	21150	20650	19470	18630
18	---	---	---	---	8370	8140	7790	14880	21120	20600	19430	18610
19	---	---	---	---	8370	8140	7780	14860	21110	20560	19380	18610
20	---	---	---	---	8340	8140	7760	14860	21180	20520	19340	18550
21	---	---	---	8530	8330	8130	7760	14840	21220	20490	19290	18500
22	---	---	---	8530	8320	8120	7730	14820	21260	20450	19260	18480
23	---	---	---	8520	8310	8110	7720	14800	21250	20430	19250	18450
24	---	---	---	8510	8300	8110	7730	14800	21250	20390	19220	18430
25	---	---	---	8500	8290	8090	7740	14900	21200	20350	19200	18400
26	---	---	---	8500	8280	8080	7730	15700	21200	20310	19170	18380
27	---	---	---	8490	8260	8090	7720	16660	21180	20280	19130	18360
28	---	---	---	8480	8260	8090	7810	17230	21170	20230	19120	18290
29	---	---	---	8540	---	8090	10450	17530	21150	20190	19100	18270
30	---	---	---	8540	---	8080	11140	17620	21110	20130	19050	18250
31	---	---	---	8540	---	8070	---	17650	---	20080	19010	---
MAX	---	---	---	---	8540	8240	11140	17650	21260	21090	20030	18980
MIN	---	---	---	---	8260	8070	7720	12190	17610	20080	19010	18250
(+)	---	---	---	---	2351.22	2350.96	2354.81	2361.53	2364.54	2363.68	2362.76	2362.08
(@)	---	---	---	---	-280	-190	+3070	+6510	+3460	-1030	-1070	-760

WTR YR 1999 MAX 21260 MIN 7720

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

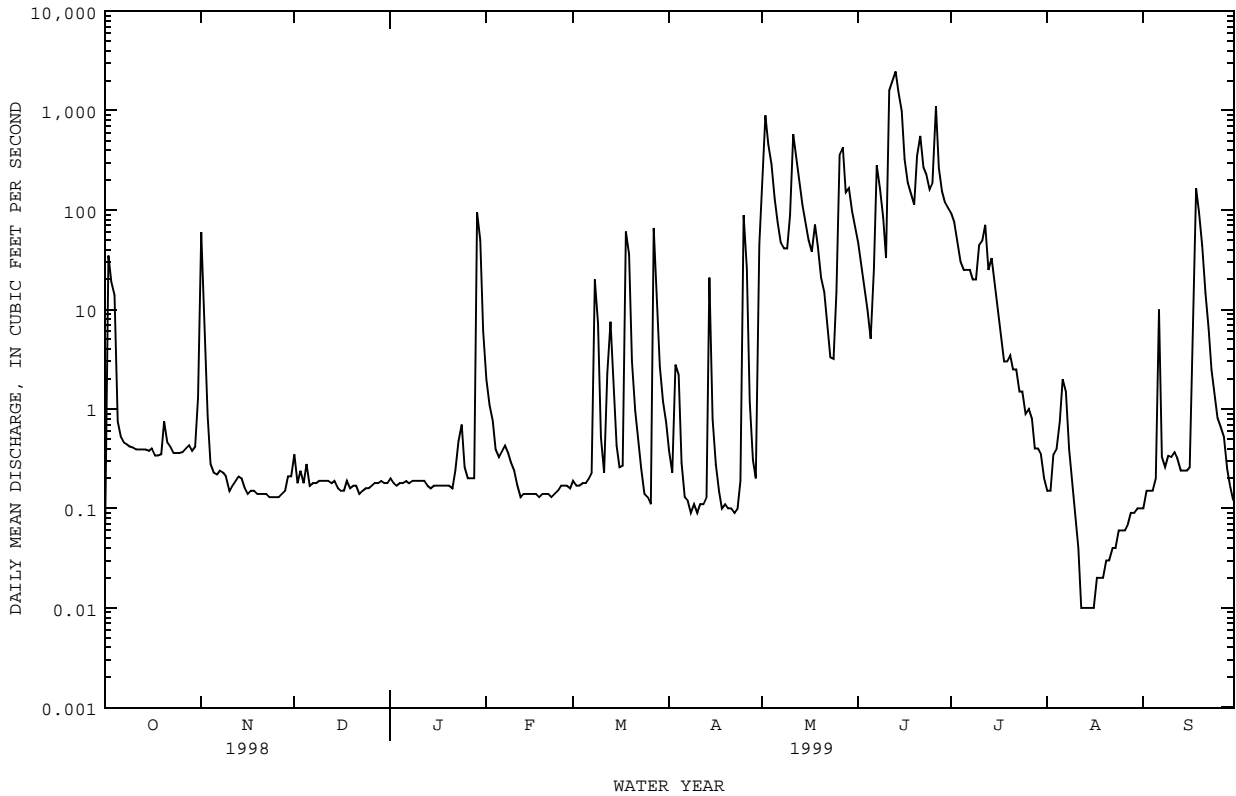
08080910 WHITE RIVER RESERVOIR NEAR SPUR, TX--Continued



08082000 SALT FORK BRAZOS RIVER NEAR ASPERMONT, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1964 - 1999	
ANNUAL TOTAL	3883.80		20453.25		67.3	
ANNUAL MEAN	10.6		56.0		11.7	
HIGHEST ANNUAL MEAN					212	1987
LOWEST ANNUAL MEAN					11.7	1998
HIGHEST DAILY MEAN	323	May 26	2480	Jun 13	11300	Aug 14 1972
LOWEST DAILY MEAN	.01	May 20	.01	Aug 12	.00	Jul 31 1972
ANNUAL SEVEN-DAY MINIMUM	.01	Jun 27	.01	Aug 12	.01	Jul 30 1972
INSTANTANEOUS PEAK FLOW			4710	Jun 11	30200	Aug 30 1966
INSTANTANEOUS PEAK STAGE			6.30	Jun 11	12.45	Aug 30 1966
ANNUAL RUNOFF (AC-FT)	7700		40570		48740	
10 PERCENT EXCEEDS	22		100		113	
50 PERCENT EXCEEDS	.35		.34		7.1	
90 PERCENT EXCEEDS	.01		.12		.18	

e Estimated
 h See PERIOD OF RECORD paragraph.
 z Period of regulated streamflow.
 a From floodmark.



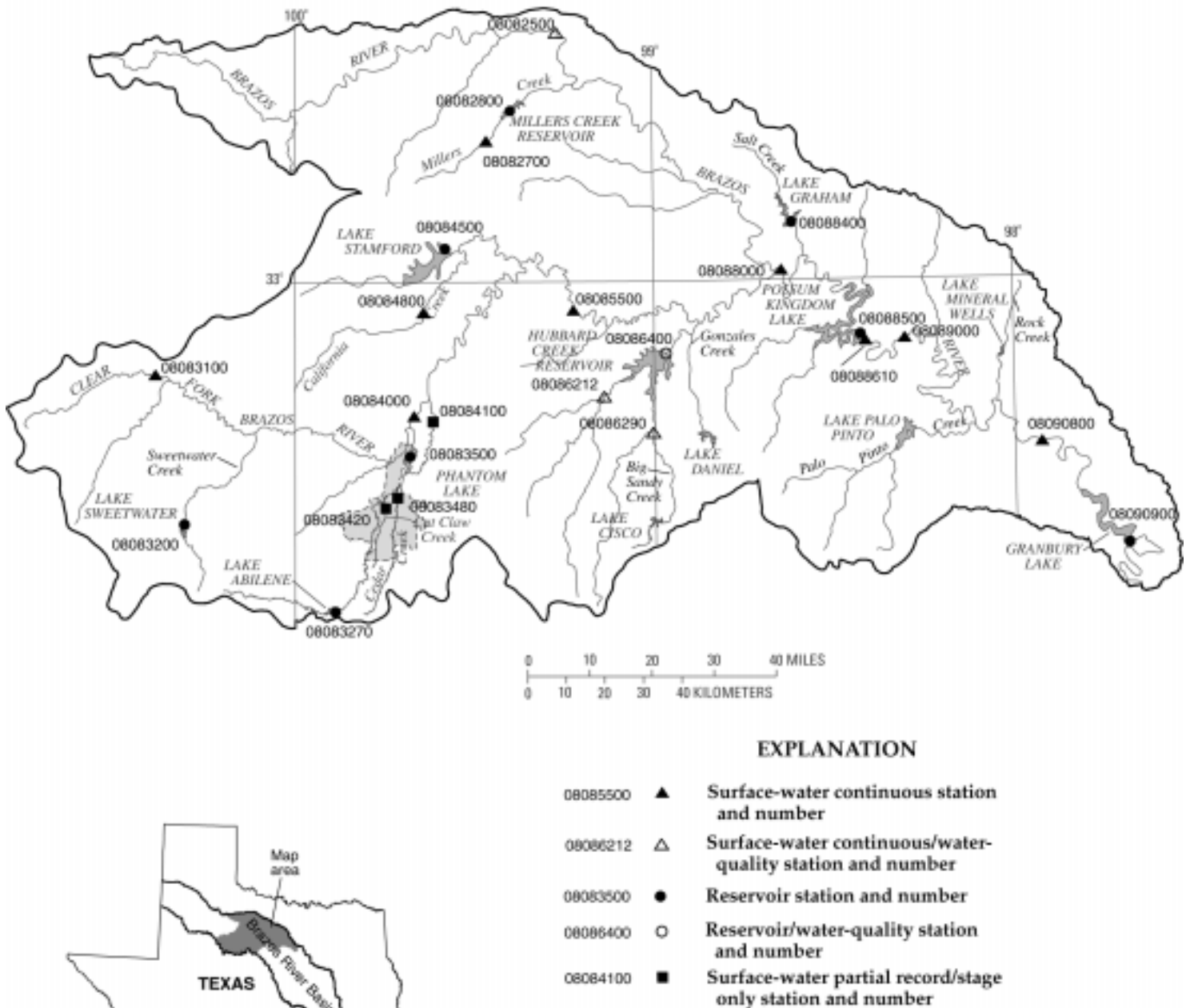


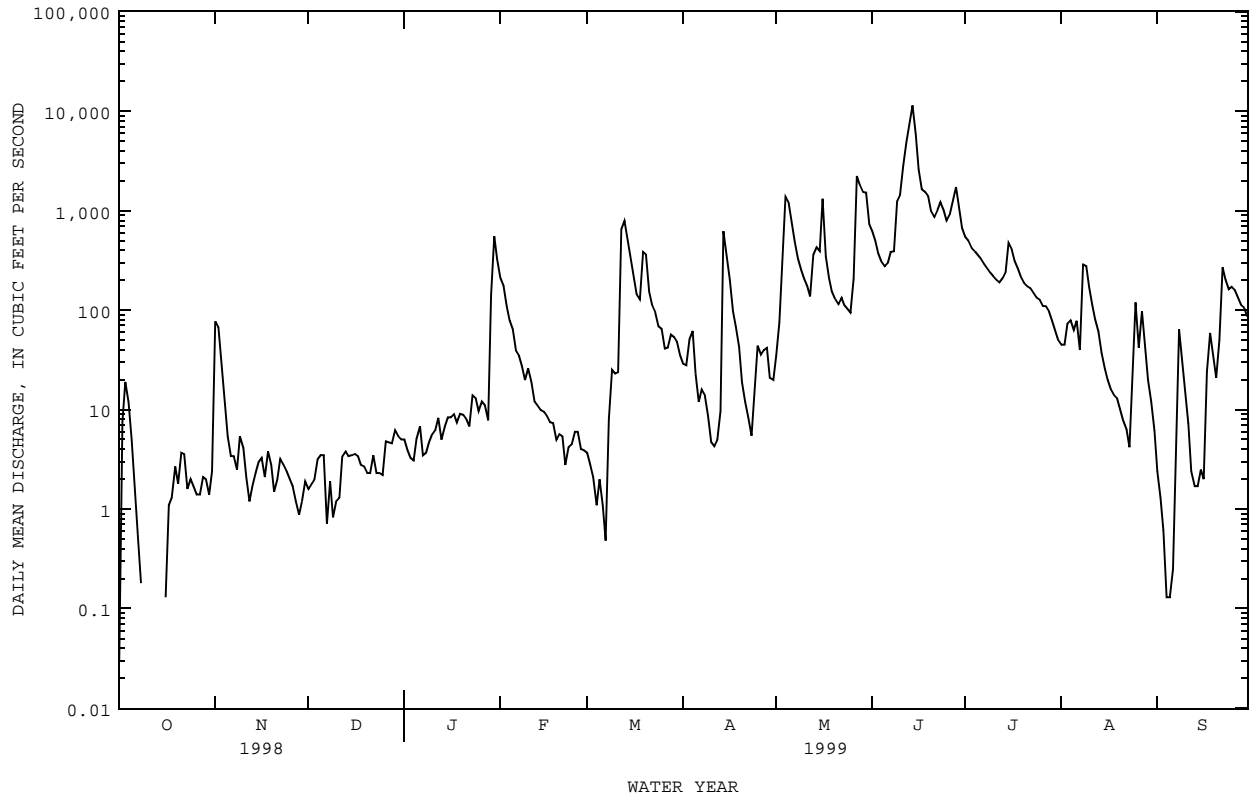
Figure 6.--Map showing location of gaging stations in the second section of the Brazos River Basin

08082500	Brazos River at Seymour, TX	210
08082700	Millers Creek near Munday, TX	214
08082800	Millers Creek Reservoir near Bomarton, TX	216
08083100	Clear Fork Brazos River near Roby, TX	220
08083200	Lake Sweetwater near Sweetwater, TX	222
08083270	Lake Abilene near Buffalo Gap, TX	224
08083420	Cat Claw Creek at Abilene, TX	437
08083480	Cedar Creek at Interstate Highway 20 at Abilene, TX	437
08083500	Fort Phantom Hill Reservoir near Nugent, TX	226
08084000	Clear Fork Brazos River near Nugent, TX	228
08084100	Deadman Creek near Nugent, TX	433
08084500	Lake Stamford near Haskell, TX	230
08084800	California Creek near Stamford, TX	232
08085500	Clear Fork Brazos River at Fort Griffin, TX	234
08086212	Hubbard Creek below Albany, TX	236
08086290	Big Sandy Creek above Breckenridge, TX	244
08086400	Hubbard Creek Reservoir near Breckenridge, TX	252
08088000	Brazos River near South Bend, TX	260
08088400	Lake Graham near Graham, TX	262
08088500	Possum Kingdom Lake near Graford, TX	264
08088610	Brazos River near Graford, TX	266
08089000	Brazos River near Palo Pinto, TX	268
08090800	Brazos River near Dennis, TX	270
08090900	Lake Granbury near Granbury, TX	272

08082500 BRAZOS RIVER AT SEYMOUR, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1964 - 1999z	
ANNUAL TOTAL	18683.34		94966.71		283	
ANNUAL MEAN	51.2		260		742	
HIGHEST ANNUAL MEAN					61.1 1987	
LOWEST ANNUAL MEAN					30700 Jun 4 1990	
HIGHEST DAILY MEAN	1130	Mar 17	11500	Jun 14	.00 May 24 1964	
LOWEST DAILY MEAN	.00	Jul 27	.00	Oct 9	.00 Jul 12 1964	
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 27	.00	Oct 9	.00 Oct 16 1926	
INSTANTANEOUS PEAK FLOW			12500	Jun 14	23.00 Sep 28 1955	
INSTANTANEOUS PEAK STAGE			10.75	Jun 14		
ANNUAL RUNOFF (AC-FT)	37060		188400		205100	
10 PERCENT EXCEEDS	133		547		531	
50 PERCENT EXCEEDS	11		20		50	
90 PERCENT EXCEEDS	.00		1.7		3.0	

e Estimated
z Period of regulated streamflow.



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BRAZOS RIVER BASIN

08082700 MILLERS CREEK NEAR MUNDAY, TX

LOCATION.--Lat 33°19'45", long 99°27'53", Throckmorton County, Hydrologic Unit 12060101, near right bank at downstream side of bridge on Farm Road 1720, 12.7 mi southeast of Munday, and 24.6 mi upstream from mouth.

DRAINAGE AREA.--104 mi².

PERIOD OF RECORD.--Jul 1963 to current year.
Water-quality records.--Sediment data: Oct 1976 to Sep 1978.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,350 ft above sea level, from topographic map. Satellite telemeter at station.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1883 occurred Jun 13, 1930, and exceeded 18.0 ft.

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

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

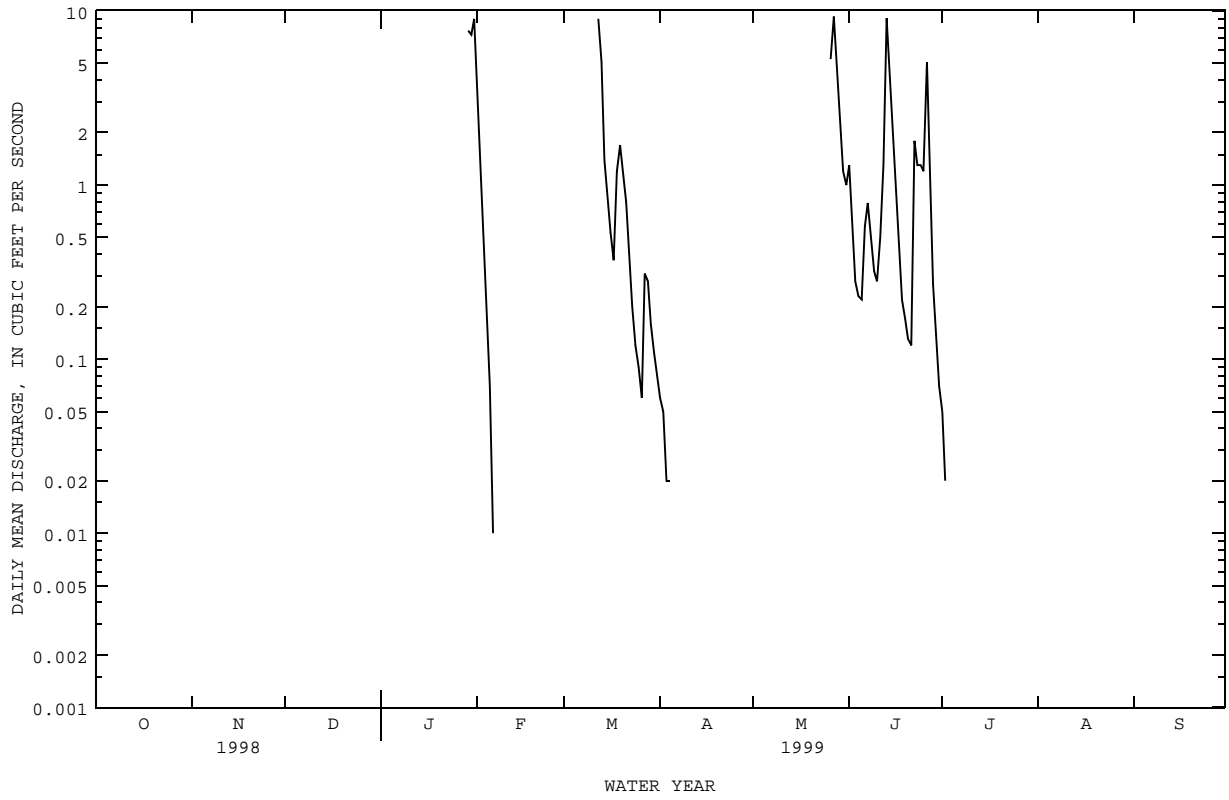
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.13	.00	.00	4.2	.00	.06	.00	1.3	.05	.00	.00
2	.00	.00	.00	.00	1.4	.00	.05	.00	.63	.02	.00	.00
3	.00	.00	.00	.00	.55	.00	.02	.00	.28	.00	.00	.00
4	.00	.00	.00	.00	.17	.00	.02	.00	.23	.00	.00	.00
5	.00	.00	.00	.00	.07	.00	.00	.00	.22	.00	.00	.00
6	.00	.00	.00	.00	.01	.00	.00	.00	.58	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.79	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.51	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.32	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.28	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.50	.00	.00	.00
12	.00	.00	.00	.00	.00	9.0	.00	.00	1.3	.00	.00	.00
13	.00	.00	.00	.00	.00	5.1	.00	.00	9.1	.00	.00	.00
14	.00	.00	.00	.00	.00	1.4	.00	.00	4.9	.00	.00	.00
15	.00	.00	.00	.00	.00	.86	.00	.00	1.9	.00	.00	.00
16	.00	.00	.00	.00	.00	.54	.00	.00	.96	.00	.00	.00
17	.00	.00	.00	.00	.00	.37	.00	.00	.42	.00	.00	.00
18	.00	.00	.00	.00	.00	1.2	.00	.00	.22	.00	.00	.00
19	.00	.00	.00	.00	.00	1.7	.00	.00	.17	.00	.00	.00
20	.00	.00	.00	.00	.00	1.2	.00	.00	.13	.00	.00	.00
21	.00	.00	.00	.00	.00	.80	.00	.00	.12	.00	.00	.00
22	.00	.00	.00	.00	.00	.42	.00	.00	1.8	.00	.00	.00
23	.00	.00	.00	.00	.00	.20	.00	.00	1.3	.00	.00	.00
24	.00	.00	.00	.00	.00	.12	.00	.00	1.3	.00	.00	.00
25	.00	.00	.00	.00	.00	.09	.00	.00	1.2	.00	.00	.00
26	.00	.00	.00	.00	.00	.06	.00	5.3	5.1	.00	.00	.00
27	.00	.00	.00	.00	.00	.31	.00	9.3	1.3	.00	.00	.00
28	.00	.00	.00	.00	.00	.28	.00	5.4	.27	.00	.00	.00
29	.00	.00	.00	7.7	---	.16	.00	2.6	.13	.00	.00	.00
30	.00	.00	.00	7.3	---	.11	.00	1.2	.07	.00	.00	.00
31	.00	---	.00	9.0	---	.08	---	1.0	---	.00	.00	---
TOTAL	0.00	0.13	0.00	24.00	6.40	24.00	0.15	24.80	37.33	0.07	0.00	0.00
MEAN	.000	.004	.000	.77	.23	.77	.005	.80	1.24	.002	.000	.000
MAX	.00	.13	.00	9.0	4.2	9.0	.06	9.3	9.1	.05	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.07	.00	.00	.00
AC-FT	.00	.3	.00	48	13	48	.3	49	74	.1	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1999, BY WATER YEAR (WY)

MEAN	4.66	1.47	.74	1.72	4.85	2.58	5.38	13.4	27.7	3.30	15.3	5.81
MAX	92.7	37.7	13.1	34.8	94.5	25.8	128	182	420	44.5	403	72.1
(WY)	1987	1973	1992	1968	1992	1973	1990	1982	1982	1998	1978	1988
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1964	1966	1964	1964	1966	1964	1964	1967	1966	1964	1964	1963

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1963 - 1999	
ANNUAL TOTAL	1583.54		116.88			
ANNUAL MEAN	4.34		.32		7.28	
HIGHEST ANNUAL MEAN					50.7	
LOWEST ANNUAL MEAN					.033	
HIGHEST DAILY MEAN	695	Jul 6	9.3	May 27	8730	Aug 4 1978
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Aug 2 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Aug 2 1963
INSTANTANEOUS PEAK FLOW			30	Jan 29	34600	Aug 4 1978
INSTANTANEOUS PEAK STAGE			1.79	Jan 29	17.53	Aug 4 1978
ANNUAL RUNOFF (AC-FT)	3140		232		5280	
10 PERCENT EXCEEDS	.12		.52		1.2	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

08082700 MILLERS CREEK NEAR MUNDAY, TX--Continued



BRAZOS RIVER BASIN

08082800 MILLERS CREEK RESERVOIR NEAR BOMARTON, TX

LOCATION.--Lat 33°24'32", long 99°23'19", Baylor County, Hydrologic Unit 12060101, at intake tower on left bank of Millers Creek, 1.1 mi upstream from dam, 7.1 mi southeast of Bomarton, and 13.2 mi upstream from mouth.

DRAINAGE AREA.--240 mi²

PERIOD OF RECORD.--Aug 1974 to Oct 1994, and Jul 1998 to current year.
Water-quality records.--Chemical data: Oct 1975 to Sep 1984.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Freese and Nichols, Inc., consulting engineers bench mark).
Satellite telemeter at station.

REMARKS.--The lake is formed by a rolled earthfill dam 9,250 ft long. The dam was completed in 1974 and storage began in July 1974. Dead storage, 1,240 acre-ft below elevation 1,303.4 ft. The reservoir is used for municipal and industrial water supply. The uncontrolled spillway is an open cut 3,000 ft wide located on left bank about 800 ft upstream from levee. The service spillway is an uncontrolled morning-glory-type drop inlet, 16.5 ft square, that discharges through a 5.0-foot-square concrete conduit. Low-flow releases are made by valves in the outlet vault of the drop inlet. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	1,355.0
Crest of spillway.....	1,334.4
Lowest gated outlet (invert).....	1,305.0

COOPERATION.--The area-capacity tables, prepared from data of Sep. 17,1965, were provided by Freese and Nichols, Inc. Consulting Engineers. Records of diversions provided by North Central Texas Municipal Water Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 53,850 acre-ft, June 26, 1982 (elevation, 1,341.42 ft); minimum contents were below dead storage elevation prior to Apr. 20, 1977, and July 17 to Aug 3, 1978.

EXTREMES FOR WATER YEAR 1998.--Maximum contents, 19,760 acre-ft, Jul 7, 14 (elevation, 1,328.08 ft); minimum contents, 11,840 acre-ft, Jul 2-3 (elevation, 1,321.76 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 16,940 acre-ft, Oct 2 (elevation, 1,326.13 ft); minimum contents, 12,300 acre-ft, Sep 30 (elevation, 1,322.21 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	18840	17780
2	---	---	---	---	---	---	---	---	---	---	18800	17750
3	---	---	---	---	---	---	---	---	---	11930	18720	17710
4	---	---	---	---	---	---	---	---	---	11920	18690	17670
5	---	---	---	---	---	---	---	---	---	11960	18670	17640
6	---	---	---	---	---	---	---	---	---	19400	18640	17610
7	---	---	---	---	---	---	---	---	---	19740	18600	17560
8	---	---	---	---	---	---	---	---	---	19680	18550	17530
9	---	---	---	---	---	---	---	---	---	19620	18510	17470
10	---	---	---	---	---	---	---	---	---	19550	18450	17420
11	---	---	---	---	---	---	---	---	---	19510	18410	17360
12	---	---	---	---	---	---	---	---	---	19580	18390	17310
13	---	---	---	---	---	---	---	---	---	19690	18420	17290
14	---	---	---	---	---	---	---	---	---	19740	18400	17260
15	---	---	---	---	---	---	---	---	---	19710	18370	17260
16	---	---	---	---	---	---	---	---	---	19660	18330	17230
17	---	---	---	---	---	---	---	---	---	19620	18270	17280
18	---	---	---	---	---	---	---	---	---	19580	18250	17280
19	---	---	---	---	---	---	---	---	---	19530	18230	17240
20	---	---	---	---	---	---	---	---	---	19470	18210	17210
21	---	---	---	---	---	---	---	---	---	19490	18150	17160
22	---	---	---	---	---	---	---	---	---	19430	18110	17120
23	---	---	---	---	---	---	---	---	---	19380	18080	17100
24	---	---	---	---	---	---	---	---	---	19320	18050	17090
25	---	---	---	---	---	---	---	---	---	19260	18030	17040
26	---	---	---	---	---	---	---	---	---	19190	17990	17000
27	---	---	---	---	---	---	---	---	---	19140	17950	16990
28	---	---	---	---	---	---	---	---	---	19080	17930	16950
29	---	---	---	---	---	---	---	---	---	19020	17900	16920
30	---	---	---	---	---	---	---	---	---	18960	17860	16880
31	---	---	---	---	---	---	---	---	---	18900	17810	---
MAX	---	---	---	---	---	---	---	---	---	---	18840	17780
MIN	---	---	---	---	---	---	---	---	---	---	17810	16880

08082800 MILLERS CREEK RESERVOIR NEAR BOMARTON, TX--Continued

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16840	16490	16050	15620	15720	15270	15410	14850	15300	15280	14010	13080
2	16910	16460	16050	15570	15720	15230	15400	14870	15290	15240	13990	13060
3	16900	16440	16080	15570	15690	15210	15390	14850	15240	15180	13960	13040
4	16880	16400	16060	15560	15680	15180	15340	14820	15210	15130	13940	12990
5	16810	16380	16060	15550	15690	15170	15340	14790	15170	15100	13920	13020
6	16770	16370	16010	15530	15680	15110	15310	14750	15210	15070	13900	13000
7	16730	16340	16000	15520	15680	15150	15290	14730	15170	15040	13850	12970
8	16710	16330	15970	15500	15660	15170	15290	14690	15170	15000	13810	12930
9	16670	16350	15960	15500	15650	15160	15270	14670	15120	14950	13770	12920
10	16620	16310	15910	15480	15660	15150	15240	14680	15170	14910	13750	12890
11	16610	16270	15920	15480	15610	15130	15190	14640	15290	14890	13690	12840
12	16590	16270	15910	15470	15570	15460	15180	14620	15330	14830	13660	12790
13	16560	16270	15880	15450	15560	15470	15170	14580	15330	14810	13610	12770
14	16520	16260	15880	15450	15530	15460	15160	14560	15300	14770	13580	12750
15	16490	16240	15870	15430	15530	15450	15130	14550	15270	14700	13540	12730
16	16510	16230	15840	15410	15510	15450	15100	14550	15190	14640	13490	12740
17	16530	16220	15840	15400	15500	15450	15070	14500	15190	14610	13450	12720
18	16500	16220	15830	15400	15460	15510	15050	14470	15180	14570	13410	12670
19	16480	16180	15820	15370	15430	15500	15030	14440	15130	14520	13380	12670
20	16500	16170	15810	15370	15410	15500	15000	14400	15170	14490	13330	12600
21	16480	16150	15780	15360	15400	15480	15000	14390	15180	14450	13290	12590
22	16460	16140	15750	15370	15370	15480	14990	14380	15230	14410	13240	12560
23	16450	16130	15730	15370	15360	15460	14930	14340	15220	14380	13220	12510
24	16420	16120	15720	15360	15350	15430	14940	14340	15180	14340	13340	12460
25	16390	16090	15700	15340	15350	15420	14940	14320	15160	14290	13320	12470
26	16390	16080	15700	15340	15340	15410	14930	14640	15330	14260	13290	12410
27	16370	16080	15680	15340	15300	15430	14920	14890	15360	14210	13240	12410
28	16370	16060	15660	15310	15290	15430	14880	14930	15360	14170	13220	12350
29	16360	16090	15660	15640	---	15420	14860	15150	15350	14120	13200	12350
30	16350	16060	15650	15690	---	15420	14810	15210	15310	14080	13150	12300
31	16390	---	15640	15720	---	15410	---	15290	---	14040	13120	---
MEAN	16570	16240	15850	15470	15530	15350	15120	14670	15240	14660	13540	12720
MAX	16910	16490	16080	15720	15720	15510	15410	15290	15360	15280	14010	13080
MIN	16350	16060	15640	15310	15290	15110	14810	14320	15120	14040	13120	12300
(+)	1325.71	1325.46	1325.13	1325.14	1324.85	1324.95	1324.45	1324.85	1324.87	1323.80	1322.98	1322.21
(@)	-490	-330	-420	+80	-430	+120	-600	+480	+20	-1270	-920	-820
(++)	119	124	121	114	95	100	100	125	114	158	155	134

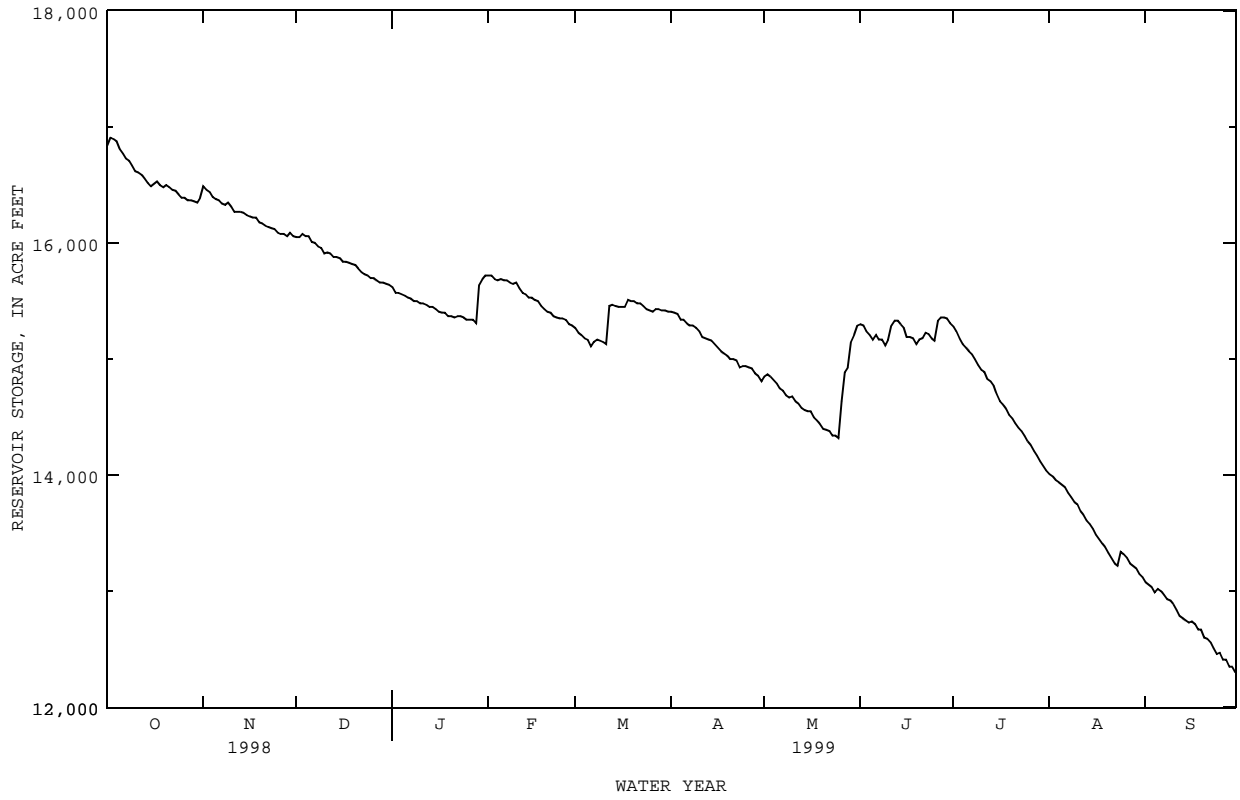
WTR YR 1999 MEAN 15080 MAX 16910 MIN 12300 (@) -4580

(+)

Elevation, in feet, at end of month.

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

(++) Diversions, in acre-feet, for municipal use by the North Central Texas Municipal Water Authority.



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BRAZOS RIVER BASIN

08083100 CLEAR FORK BRAZOS RIVER NEAR ROBY, TX

LOCATION.--Lat 32°47'15", long 100°23'18", Fisher County, Hydrologic Unit 12060102, on right bank at downstream side of pile bent of bridge on State Highway 70, 3.0 mi north of Roby, 3.2 mi upstream from Cottonwood Creek, and 255.7 mi upstream from mouth.

DRAINAGE AREA.--228 mi².

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

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,885.09 ft above sea level. 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.--Maximum stage since the 1890's, about 22 ft in May and Jun 1935, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jun 13	0430	1,310	a13.88	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.26	.01	.00	.00	.00	.05	.11	.09	.07	.03	.00
2	.00	.01	.01	.00	.00	.01	.04	27	.01	.05	.01	.00
3	.00	.00	.01	.00	.00	.01	.02	27	.00	.04	.01	.00
4	.00	.00	.01	.00	.00	.02	.02	1.1	.00	.03	.04	.00
5	.00	.00	.01	.01	.00	.02	.04	.33	.00	.03	.04	.00
6	.00	.00	.01	.01	.00	.02	.07	.21	.00	.03	.03	.00
7	.00	.00	.01	.01	.02	.02	.07	.14	.00	.03	.01	.00
8	.00	.00	.01	.00	.03	.02	.07	.08	.00	.03	.00	.00
9	.00	.01	.02	.00	.02	.01	.08	.07	.00	.03	.00	.00
10	.00	.00	.02	.01	.00	.02	.06	.07	.00	.04	.00	.00
11	.00	.00	.02	.00	.00	.01	.03	.05	1.1	.03	.00	.00
12	.00	.01	.02	.00	.00	.02	.03	.02	383	.03	.00	.00
13	.00	.02	.02	.00	.00	.01	.06	.01	716	.25	.00	.00
14	.00	.02	.02	.00	.00	.01	.04	.01	61	.40	.00	.00
15	.00	.01	.02	.00	.00	.03	.04	.01	17	.30	.00	.00
16	.00	.01	.02	.00	.00	.04	.06	.01	3.2	.20	.00	.00
17	.00	.01	.02	.00	.00	.04	.06	.01	1.7	.13	.00	.00
18	.00	.01	.03	.00	.00	.04	.07	.00	.89	.09	.00	.00
19	.00	.01	.03	.00	.00	.06	.07	.00	.57	.06	.00	.00
20	.00	.00	.03	.00	.00	.08	.07	.00	.44	.05	.00	.00
21	.00	.00	.03	.00	.00	.09	.07	.00	.41	.04	.00	.00
22	.00	.00	.02	.00	.00	.07	.09	.00	.41	.04	.00	.00
23	.00	.00	.02	.00	.00	.06	.10	.00	.39	.03	.00	.00
24	.00	.00	.02	.01	.00	.06	.06	.02	.38	.03	.00	.00
25	.00	.00	.01	.01	.00	.06	.03	.02	.35	.02	.00	.00
26	.00	.00	.01	.00	.00	.03	.03	.02	.30	.02	.00	.00
27	.00	.01	.01	.00	.00	.05	.03	.03	.22	.01	.00	.00
28	.00	.01	.01	.00	.01	.03	.03	.02	.16	.01	.00	.00
29	.00	.01	.01	.01	---	.03	.04	.02	.12	.01	.00	.00
30	.00	.01	.00	.00	---	.04	.04	.02	.09	.00	.00	.00
31	.39	---	.00	.00	---	.04	---	.44	---	.04	.00	---
TOTAL	0.39	0.42	0.49	0.07	0.08	1.05	1.57	56.82	1187.83	2.17	0.17	0.00
MEAN	.013	.014	.016	.002	.003	.034	.052	1.83	39.6	.070	.005	.000
MAX	.39	.26	.03	.01	.03	.09	.10	.27	716	.40	.04	.00
MIN	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00
AC-FT	.8	.8	1.0	.1	.2	2.1	3.1	113	2360	4.3	.3	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1999, BY WATER YEAR (WY)

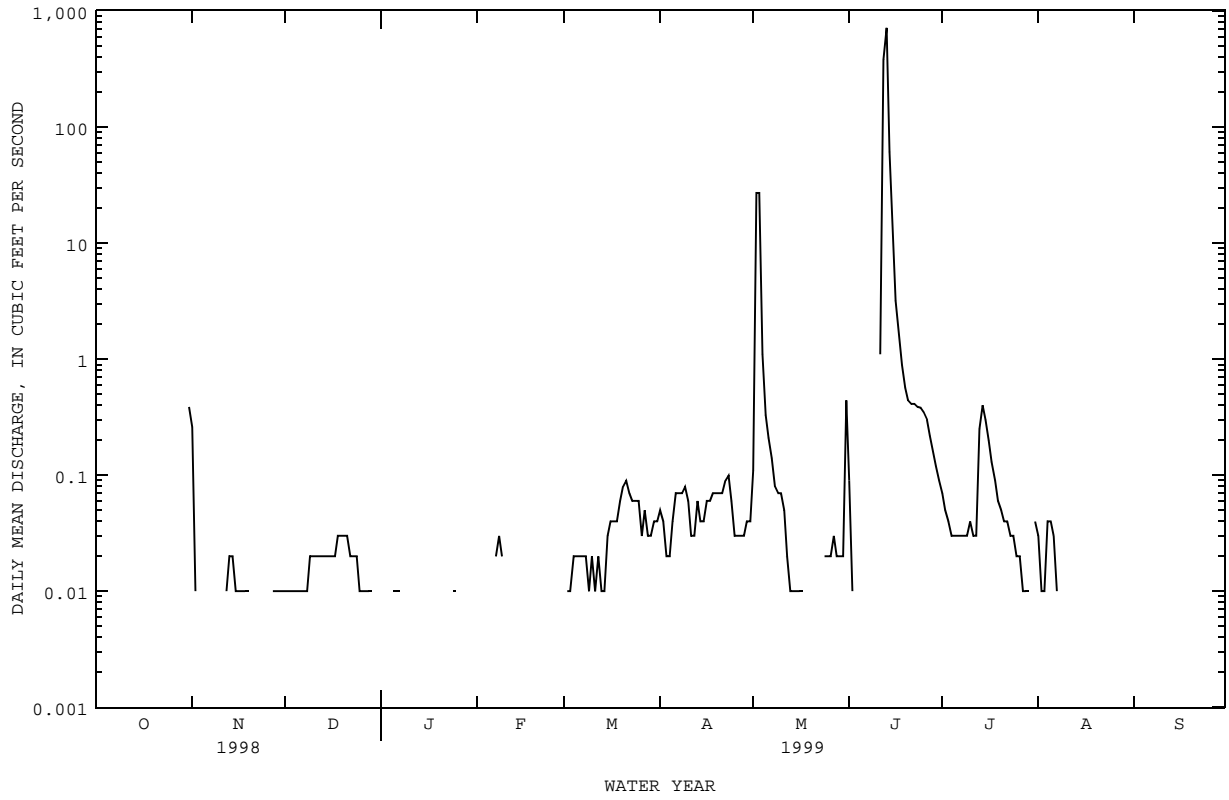
MEAN	10.2	2.53	2.71	2.65	3.44	3.35	5.86	24.8	15.5	5.71	8.64	18.9
MAX	142	17.6	15.8	12.7	23.9	19.6	51.6	257	84.4	60.6	141	249
(WY)	1966	1987	1987	1987	1992	1987	1981	1982	1981	1975	1971	1969
MIN	.013	.014	.016	.002	.003	.034	.052	.12	.065	.023	.000	.000
(WY)	1999	1999	1999	1999	1999	1999	1999	1996	1998	1998	1998	1998

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1962 - 1999	
ANNUAL TOTAL	101.22	1251.06		
ANNUAL MEAN	.28	3.43	8.71	
HIGHEST ANNUAL MEAN			29.6	1982
LOWEST ANNUAL MEAN			.42	1998
HIGHEST DAILY MEAN	4.7	716	3860	Oct 18 1965
LOWEST DAILY MEAN	.00	.00	.00	Apr 24 1963
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00	Aug 3 1964
INSTANTANEOUS PEAK FLOW		1310	7050	Oct 18 1965
INSTANTANEOUS PEAK STAGE		a13.88	21.52	Sep 19 1969
ANNUAL RUNOFF (AC-FT)	201	2480	6310	
10 PERCENT EXCEEDS	.75	.09	6.6	
50 PERCENT EXCEEDS	.03	.01	1.6	
90 PERCENT EXCEEDS	.00	.00	.22	

a From floodmark.

08083100 CLEAR FORK BRAZOS RIVER NEAR ROBY, TX--Continued



BRAZOS RIVER BASIN

08083200 LAKE SWEETWATER NEAR SWEETWATER, TX

LOCATION.--Lat 32°26'19", long 100°18'12", Nolan County, Hydrologic Unit 12060102, 0.2 mi right of intake structure to pump station, on upstream side of dam on Bitter Creek, 6.5 mi southeast of Sweetwater, and 8.5 mi upstream from mouth.

DRAINAGE AREA.--104 mi².

PERIOD OF RECORD.--Jan 1936 to Sep 1974, Mar 1999 to Sep 1999. Prior to Oct 1969, end of month contents only.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Freese and Nichols). Prior to Oct 1974, nonrecording gages at same site at datum 0.53 ft lower. Satellite telemeter at station.

REMARKS.--Records fair. The lake is formed by a rolled-fill earthen dam 2,600 ft long. Dam was completed and storage began in 1930. Lake first filled to spillway elevation in 1936. Dam is property of city of Sweetwater and was built to impound water for municipal use; however, none has been used since 1967. Emergency spillway is located just to left of left end of dam and has a concrete ogee-type crest 607.5 ft long. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	2,128.5
Crest of spillway.....	2,116.5

COOPERATION.--The capacity table dated Apr 24, 1953 was furnished by Freese and Nichols and is based on a survey in 1929. Record of diversions may be obtained from city of Sweetwater.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 12,360 acre-ft, Jun 1, 1957 (elevation, 2,117.23 ft); minimum observed, 780 acre-ft, Aug 17, 1953 (elevation, 2,083.07 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 9,180 acre-ft, Jun 13-14 (elevation, 2,111.69 ft); minimum contents, 7,680 acre-ft, Sep 30 (elevation, 2,108.65 ft).

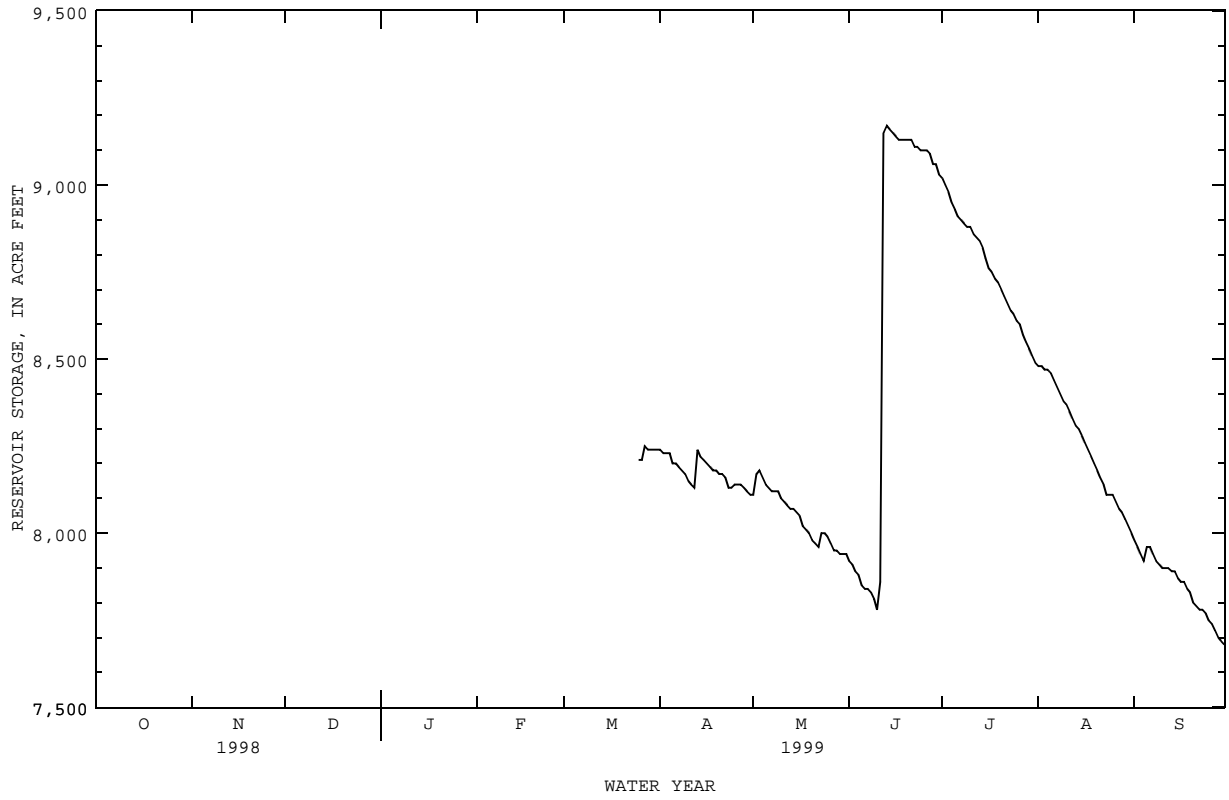
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	---	---	---	---	---	---	8240	8110	7920	9020	8480	7980	
2	---	---	---	---	---	---	8230	8170	7910	9000	8480	7960	
3	---	---	---	---	---	---	8230	8180	7890	8980	8470	7940	
4	---	---	---	---	---	---	8230	8160	7880	8950	8470	7920	
5	---	---	---	---	---	---	8200	8140	7850	8930	8460	7960	
6	---	---	---	---	---	---	8200	8130	7840	8910	8440	7960	
7	---	---	---	---	---	---	8190	8120	7840	8900	8420	7940	
8	---	---	---	---	---	---	8180	8120	7830	8890	8400	7920	
9	---	---	---	---	---	---	8170	8120	7810	8880	8380	7910	
10	---	---	---	---	---	---	8150	8100	7780	8880	8370	7900	
11	---	---	---	---	---	---	8140	8090	7860	8860	8350	7900	
12	---	---	---	---	---	---	8130	8080	9150	8850	8330	7900	
13	---	---	---	---	---	---	8240	8070	9170	8840	8310	7890	
14	---	---	---	---	---	---	8220	8070	9160	8820	8300	7890	
15	---	---	---	---	---	---	8210	8060	9150	8790	8280	7870	
16	---	---	---	---	---	---	8200	8050	9140	8760	8260	7860	
17	---	---	---	---	---	---	8190	8020	9130	8750	8240	7860	
18	---	---	---	---	---	---	8180	8010	9130	8730	8220	7840	
19	---	---	---	---	---	---	8180	8000	9130	8720	8200	7830	
20	---	---	---	---	---	---	8170	7980	9130	8700	8180	7800	
21	---	---	---	---	---	---	8170	7970	9130	8680	8160	7790	
22	---	---	---	---	---	---	8160	7960	9110	8660	8140	7780	
23	---	---	---	---	---	---	8130	8000	9110	8640	8110	7780	
24	---	---	---	---	---	---	8130	8000	9100	8630	8110	7770	
25	---	---	---	---	---	---	8210	8140	7990	9100	8610	8110	7750
26	---	---	---	---	---	---	8210	8140	7970	9100	8600	8090	7740
27	---	---	---	---	---	---	8250	8140	7950	9090	8570	8070	7720
28	---	---	---	---	---	---	8240	8130	7950	9060	8550	8060	7700
29	---	---	---	---	---	---	8240	8120	7940	9060	8530	8040	7690
30	---	---	---	---	---	---	8240	8110	7940	9030	8510	8020	7680
31	---	---	---	---	---	---	8240	---	7940	---	8490	8000	---
MAX	---	---	---	---	---	---	8240	8180	9170	9020	8480	7980	
MIN	---	---	---	---	---	---	8110	7940	7780	8490	8000	7680	
(+)							2109.55	2109.19	2111.40	2110.32	2109.32	2108.65	
(@)							-130	-170	+1090	-540	-490	-320	

WTR YR 1999 MAX 9170 MIN 7680

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

08083200 LAKE SWEETWATER NEAR SWEETWATER, TX--Continued



BRAZOS RIVER BASIN

08083270 LAKE ABILENE NEAR BUFFALO GAP, TX

LOCATION.--Lat 32°14'04", long 99°53'19", Taylor County, Hydrologic Unit 12060102, 72 ft downstream from service outlet structure at Abilene Dam on Elm Creek, 0.5 mi upstream from Abilene State Park, 5.1 mi upstream from Buffalo Gap.

DRAINAGE AREA.--101 mi².

PERIOD OF RECORD.--Mar 1999 to Sep 1999.

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

REMARKS.--Records good. The lake is formed by a rolled earthfill dam 5,040 ft long. The dam was completed in May 1921 and impoundment began Aug 1, 1921. Extensive repairs were made to the dam in 1941 and 1957. The dam and reservoir are owned and operated by the city of Abilene. The uncontrolled emergency spillway, 1,000 ft long across natural earth is located at the left end of dam. The uncontrolled concrete ogee service spillway, 250 ft long, is located to the right of the emergency spillway at left end of dam. An earth ridge upstream of concrete ogee at approximate elevation 2,018 ft controls the flow to service spillway. A service outlet is provided for small releases downstream through a 24-inch pipe. Water may be pumped from reservoir for city of Abilene municipal use. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	2,024.1
Crest of emergency spillway and earth ridge.....	2,018.3
Top of outlet structure.....	2,012.3
Crest of service spillway	2,009.7
Lowest gated outlet (invert).....	1,968.8

COOPERATION.--Capacity and area are from the area-capacity curve by Freese and Nichols dated 1948 and adjusted for the established elevation. The capacity table was provided by city of Abilene. Record of diversions may be obtained from city of Abilene.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,600 acre-ft, Jun 14, 1999 (elevation, 2,001.15 ft); minimum, 580 acre-ft, Sep 30, 1999 (elevation, 1,996.47 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,600 acre-ft, Jun 14 (elevation, 2,001.15 ft); minimum contents, 580 acre-ft, Sep 30 (elevation, 1,996.47 ft).

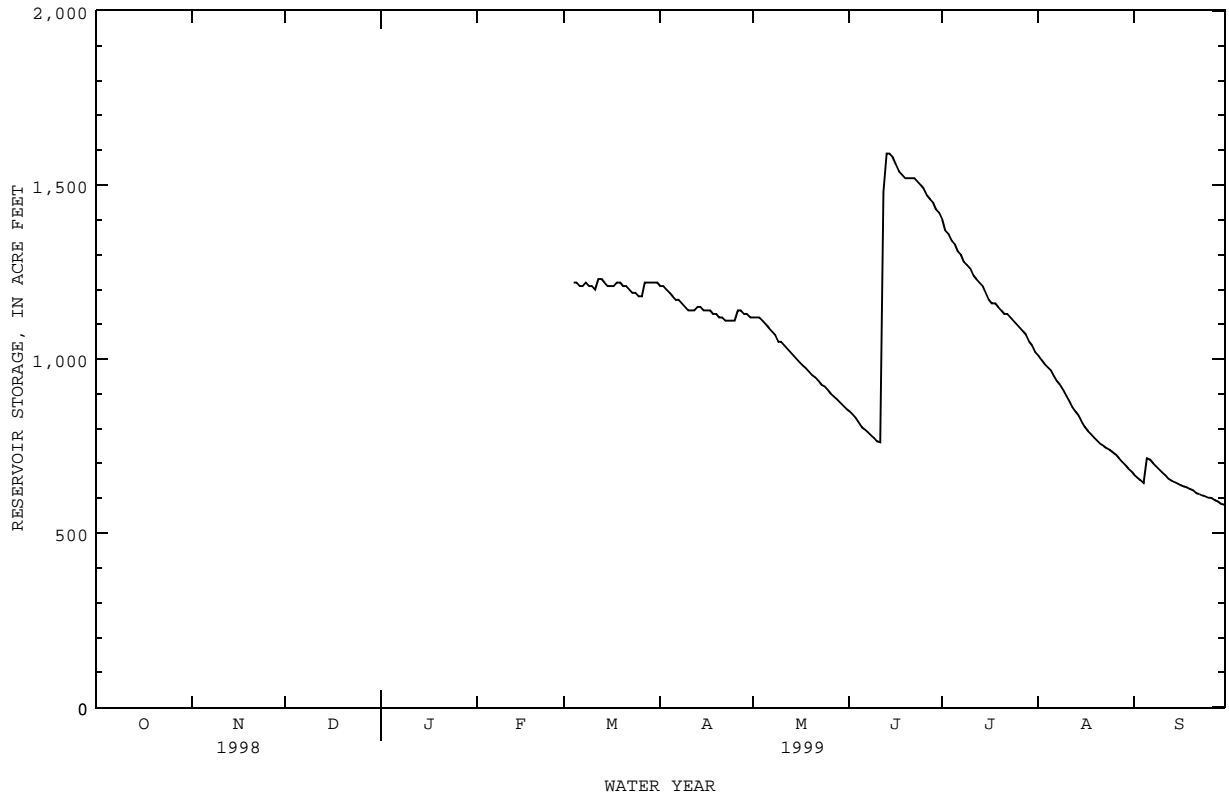
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	1210	1120	851	1400	1010	667
2	---	---	---	---	---	---	1210	1120	842	1370	997	659
3	---	---	---	---	---	---	1200	1120	833	1360	986	652
4	---	---	---	---	---	1220	1190	1110	819	1340	977	644
5	---	---	---	---	---	1220	1180	1100	805	1330	968	715
6	---	---	---	---	---	1210	1170	1090	798	1310	952	711
7	---	---	---	---	---	1210	1170	1080	790	1300	936	701
8	---	---	---	---	---	1220	1160	1070	781	1280	925	692
9	---	---	---	---	---	1210	1150	1050	773	1270	911	683
10	---	---	---	---	---	1210	1140	1050	764	1260	895	674
11	---	---	---	---	---	1200	1140	1040	761	1240	879	666
12	---	---	---	---	---	1230	1140	1030	1480	1230	862	657
13	---	---	---	---	---	1230	1150	1020	1590	1220	849	651
14	---	---	---	---	---	1220	1150	1010	1590	1210	837	647
15	---	---	---	---	---	1210	1140	1000	1580	1190	819	643
16	---	---	---	---	---	1210	1140	991	1560	1170	805	638
17	---	---	---	---	---	1210	1140	982	1540	1160	793	634
18	---	---	---	---	---	1220	1130	973	1530	1160	784	631
19	---	---	---	---	---	1220	1130	964	1520	1150	775	627
20	---	---	---	---	---	1210	1120	954	1520	1140	765	623
21	---	---	---	---	---	1210	1120	948	1520	1130	757	615
22	---	---	---	---	---	1200	1110	938	1520	1130	751	612
23	---	---	---	---	---	1190	1110	927	1510	1120	745	608
24	---	---	---	---	---	1190	1110	922	1500	1110	740	606
25	---	---	---	---	---	1180	1110	913	1490	1100	734	602
26	---	---	---	---	---	1180	1140	901	1470	1090	726	601
27	---	---	---	---	---	1220	1140	892	1460	1080	715	595
28	---	---	---	---	---	1220	1130	885	1450	1070	706	591
29	---	---	---	---	---	1220	1130	876	1430	1050	697	585
30	---	---	---	---	---	1220	1120	867	1420	1040	686	582
31	---	---	---	---	---	1220	---	858	---	1020	677	---
MAX	---	---	---	---	---	---	1210	1120	1590	1400	1010	715
MIN	---	---	---	---	---	---	1110	858	761	1020	677	582
(+)							1999.45	1998.26	2000.55	1998.99	1997.21	1996.48
(@)							-100	-262	+562	-400	-343	-95

WTR YR 1999 MAX 1590 MIN 582

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

08083270 LAKE ABILENE NEAR BUFFALO GAP, TX--Continued



BRAZOS RIVER BASIN

08083500 FORT PHANTOM HILL RESERVOIR NEAR NUGENT, TX

LOCATION.--Lat 32°35'46", long 99°40'49", Jones County, Hydrologic Unit 12060102, at city of Abilene primary pump station on right bank, 1.4 mi upstream from dam on Elm Creek, 5.8 mi upstream from mouth, and 6.9 mi south of Nugent.

DRAINAGE AREA.--470 mi².

PERIOD OF RECORD.--Jul 1940 to Sep 1986, Mar 1999 to Sep 1999. Prior to Oct 1965, end of month contents only.
Water-quality records.--Chemical data: Apr 1964 to Jan 1965, Sep 1970 to Apr 1984.

REVISED RECORDS.--WSP 1562: 1953-57 (figures of end of month contents). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to Oct 1986, nonrecording gage at same site at datum 0.78 ft lower. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily contents, which are fair. The reservoir is formed by a rock-faced earthfill dam about 3,740 ft long. The dam was completed and storage began in Oct 1938. The uncontrolled service spillway is a cut channel through natural ground with a concrete ogee weir located 0.7 mi from right end of dam. The service outlet works consists of a concrete tower with a 4.0 by 7.0-foot conduit. The service tower contains five gated openings at various elevations. The dam and reservoir are owned by the city of Abilene and were built to impound water for municipal use. Since Jul 1974, West Texas Utility Company has operated a steam generating powerplant on the reservoir. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	1,650.0
Crest of spillway.....	1,635.9
Highest gated outlet (invert).....	1,608.8
Lowest gated outlet (invert).....	1,582.4

COOPERATION.--The capacity table dated Feb 23, 1994 furnished by the city of Abilene, was based on a volumetric survey of Nov 1993 by Texas Water Development Board. Records of diversions may be obtained from the city of Abilene.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 89,910 acre-ft, May 25, 1957 (elevation, 1,639.50 ft); minimum observed, 19,040 acre-ft Apr 23-25, 1953 (elevation, 1,615.30 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 29,570 acre-ft, Jun 25 (elevation, 1,622.44 ft); minimum contents, 21,640 acre-ft, Sep 30 (elevation, 1,618.48 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

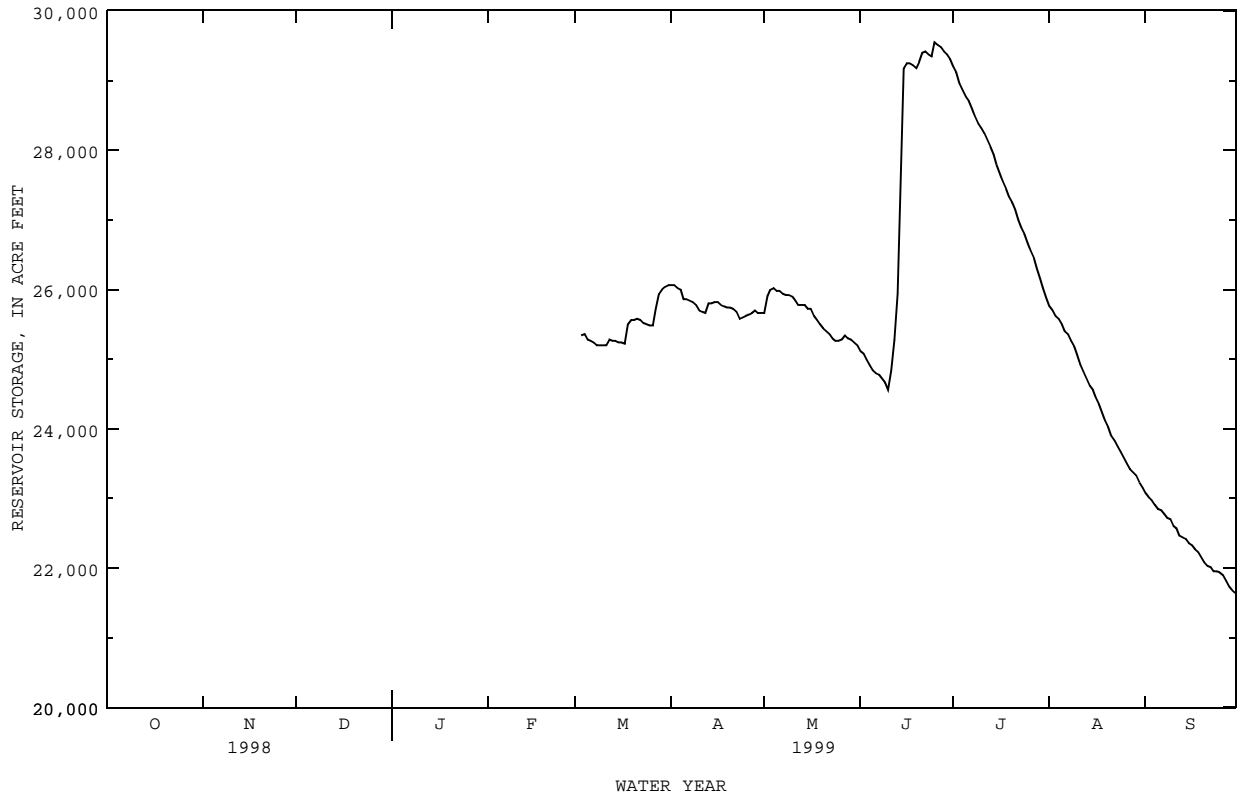
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	26060	25660	25120	29200	25760	23080
2	---	---	---	---	---	---	26060	25900	25080	29120	25700	23020
3	---	---	---	---	---	25340	26020	26000	25000	28960	25620	22980
4	---	---	---	---	---	25360	26000	26020	24920	28860	25580	22910
5	---	---	---	---	---	25280	25860	25980	24840	28770	e25500	22850
6	---	---	---	---	---	25260	25860	25980	24800	28710	e25400	22830
7	---	---	---	---	---	25240	25840	25940	24780	28600	25360	22780
8	---	---	---	---	---	25200	25820	25920	24720	28490	25260	22720
9	---	---	---	---	---	25200	25780	25920	24660	28390	25180	22700
10	---	---	---	---	---	25200	25700	25900	24560	28320	25060	22610
11	---	---	---	---	---	25200	25680	25840	24840	28240	24920	22570
12	---	---	---	---	---	25280	25660	25780	25280	28150	24820	22470
13	---	---	---	---	---	25260	25800	25780	25940	28050	24720	22440
14	---	---	---	---	---	25260	25800	25780	27710	27940	24620	22420
15	---	---	---	---	---	25240	25820	25720	29180	27790	24560	22360
16	---	---	---	---	---	25240	25820	25720	29250	27670	24450	22330
17	---	---	---	---	---	25220	25780	25620	29250	27560	24350	22270
18	---	---	---	---	---	25500	25760	25560	29220	27440	24230	22230
19	---	---	---	---	---	25560	25740	25500	29180	27330	24120	22160
20	---	---	---	---	---	25560	25740	25440	29270	27250	24020	22080
21	---	---	---	---	---	25580	25720	25400	29400	27150	23900	22030
22	---	---	---	---	---	25560	25680	25360	29420	27000	23830	22010
23	---	---	---	---	---	25520	25580	25300	29380	26880	23750	21950
24	---	---	---	---	---	25500	25600	25260	29350	26800	23670	21950
25	---	---	---	---	---	25480	25620	25260	29550	26670	23590	21940
26	---	---	---	---	---	25480	25640	25280	29510	26550	23500	21900
27	---	---	---	---	---	25720	25660	25340	29480	26450	23420	21820
28	---	---	---	---	---	25940	25700	25300	29420	26300	23380	21730
29	---	---	---	---	---	26000	25660	25280	29380	26160	23330	21680
30	---	---	---	---	---	26040	25660	25240	29310	26020	23230	21640
31	---	---	---	---	---	26060	---	25200	---	25880	23160	---
MAX	---	---	---	---	---	---	26060	26020	29550	29200	25760	23080
MIN	---	---	---	---	---	---	25580	25200	24560	25880	23160	21640
(+)	---	---	---	---	---	---	1620.57	1620.34	1622.32	1620.68	1619.29	1618.48
(@)	---	---	---	---	---	---	-400	-460	+4110	-3430	-2720	-1520

WTR YR 1999 MAX 29550 MIN 21640

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

e Estimated

08083500 FORT PHANTOM HILL RESERVOIR NEAR NUGENT, TX--Continued



BRAZOS RIVER BASIN

08084000 CLEAR FORK BRAZOS RIVER AT NUGENT, TX

LOCATION.--Lat 32°41'24", long 99°40'09", Jones County, Hydrologic Unit 12060102, on right bank 33 ft downstream from bridge on Farm Road 600 at Nugent, 2 mi downstream from Elm Creek, 4 mi upstream from Deadman Creek, and 167.8 mi upstream from mouth.

DRAINAGE AREA.--2,199 mi².

PERIOD OF RECORD.--Feb 1924 to current year.

Water-quality records.--Chemical data: Aug 1948 to Sep 1953, Feb 1968 to Sep 1981. Biochemical data: Feb 1968 to Sep 1981.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,531.91 ft above sea level (levels by Brazos River Authority). Prior to Dec 12, 1933, nonrecording gage at site 575 ft downstream at same datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since water year 1930, at least 10% of contributing drainage area has been regulated by three upstream reservoirs with a total normal storage of 26,800 acre-ft. There are numerous diversions above station for municipal supply and oil field operations that materially affect streamflow.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--5 years (water years 1925-29) prior to completion of Lake Sweetwater, 145 ft³/s (105,200 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1925-29).--Maximum discharge observed, 11,500 ft³/s May 20, 1928 (gage height, 18.00 ft), site then in use; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 30 ft in 1876; floods in 1900 and May 1923 reached stages of 24 and 24.5 ft, respectively, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	2.2	2.7	.99	8.5	1.9	1.8	4.2	2.5	3.6	.01	.01
2	.44	1.1	2.7	1.1	4.1	2.2	1.8	6.4	1.8	2.6	.01	.01
3	.50	.99	2.8	1.2	2.7	2.4	1.8	13	.91	1.8	.01	.01
4	.56	.99	3.0	1.3	2.4	1.9	1.6	5.8	.45	.76	.01	.01
5	.50	1.1	2.5	1.3	2.0	1.6	1.6	3.8	.26	.35	.09	.02
6	.50	1.3	2.3	1.3	2.3	1.8	1.7	25	.17	.66	.02	.02
7	.50	1.3	2.1	1.3	2.0	1.9	1.5	15	.28	.60	.01	.02
8	.50	1.3	2.1	1.4	1.8	1.9	1.4	9.2	.20	.34	.01	.02
9	.56	1.7	2.0	1.5	1.7	1.8	1.2	6.3	.14	.15	.02	.02
10	.55	1.7	2.2	1.5	1.7	1.8	1.0	4.9	.11	.26	.02	.02
11	.68	1.8	2.9	1.6	1.0	1.8	.99	3.9	3.8	1.8	.01	.02
12	.86	1.9	3.1	1.5	.98	2.9	1.0	3.5	85	9.3	.01	.02
13	.99	2.4	.56	1.6	.99	5.1	1.1	3.4	463	14	.01	.02
14	.84	2.3	.32	1.7	.92	4.8	40	3.2	152	5.3	.01	.02
15	.65	2.1	.32	1.8	.75	3.1	589	3.1	131	2.5	.01	.02
16	.59	2.1	.36	1.8	.81	2.1	91	3.0	236	1.3	.01	.02
17	.72	2.1	.50	1.8	.99	1.8	28	2.6	75	.51	.01	.02
18	.62	2.2	.61	1.8	.86	2.5	14	2.5	43	.38	.02	.02
19	.52	2.2	.79	1.8	.98	2.5	8.6	2.1	29	.15	.02	.02
20	.74	2.2	.99	1.9	.93	2.0	6.1	1.8	20	.07	.02	.02
21	.99	2.4	.92	2.0	1.1	1.8	4.5	1.7	103	.04	.01	.02
22	.84	2.6	.75	2.2	1.2	1.7	3.6	1.5	209	.03	.01	.01
23	.73	2.6	.70	2.7	.99	1.6	3.2	1.5	90	.03	.01	.02
24	.57	2.7	.50	2.6	1.1	1.7	2.8	1.3	34	.03	.01	.02
25	.33	2.7	.50	2.4	1.2	1.5	2.9	1.1	44	.03	.01	.02
26	.44	2.7	.50	2.7	1.4	1.5	3.2	1.6	17	.03	.01	.02
27	.50	2.7	.50	2.5	1.4	2.1	3.8	2.2	11	.03	.02	.03
28	.52	2.8	.61	2.4	1.7	6.0	8.2	1.6	8.0	.03	.02	.03
29	.67	2.8	.68	4.8	---	4.3	7.4	1.4	8.8	.02	.01	.02
30	.86	2.7	.79	57	---	3.2	5.3	1.5	5.3	.02	.01	.02
31	1.0	---	.84	41	---	2.3	---	3.2	---	.01	.01	---
TOTAL	19.60	61.68	42.14	152.49	48.50	75.5	840.09	141.3	1774.72	46.73	0.47	0.57
MEAN	.63	2.06	1.36	4.92	1.73	2.44	28.0	4.56	59.2	1.51	.015	.019
MAX	1.0	2.8	3.1	57	8.5	6.0	589	25	463	.14	.09	.03
MIN	.33	.99	.32	.99	.75	1.5	.99	1.1	.11	.01	.01	.01
AC-FT	39	122	84	302	96	150	1670	280	3520	93	.9	1.1

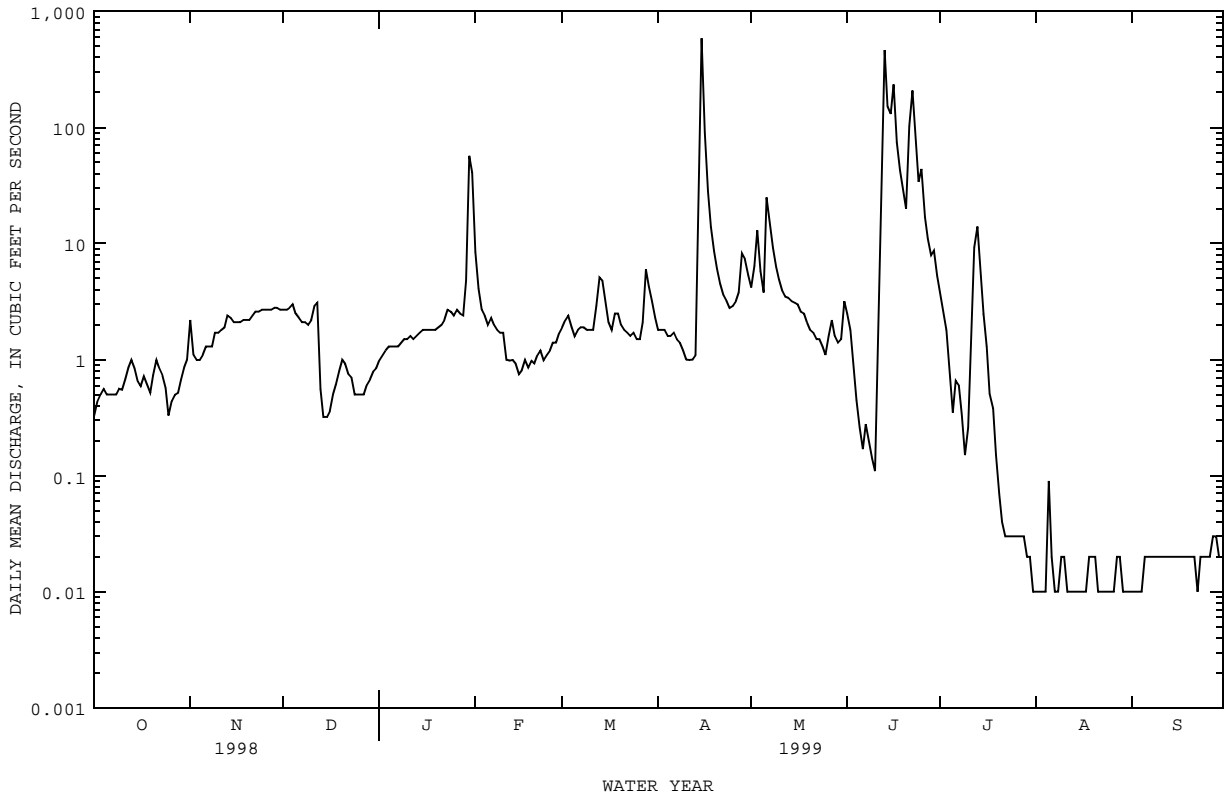
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1999z, BY WATER YEAR (WY)

MEAN	135	37.4	42.5	24.0	58.9	40.1	70.1	265	189	89.3	53.9	170
MAX	1438	516	683	244	1370	389	1159	4694	1761	1190	496	3978
(WY)	1987	1975	1992	1992	1992	1987	1957	1957	1935	1938	1940	1932
MIN	.000	.56	.090	.032	.046	.010	.017	2.28	1.28	.035	.000	.000
(WY)	1953	1954	1955	1957	1954	1955	1955	1964	1998	1952	1931	1956

08084000 CLEAR FORK BRAZOS RIVER AT NUGENT, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1930 - 1999z	
ANNUAL TOTAL	1747.91	3203.79	98.0	
ANNUAL MEAN	4.79	8.78	713	1932
HIGHEST ANNUAL MEAN			6.45	1998
LOWEST ANNUAL MEAN			30800	Sep 8 1932
HIGHEST DAILY MEAN	57 Mar 18	589 Apr 15	.00	Jul 27 1930
LOWEST DAILY MEAN	.03 Jul 13	.01 Jul 31	.00	Jul 27 1930
ANNUAL SEVEN-DAY MINIMUM	.03 Jul 29	.01 Aug 11	.00	Jul 27 1930
INSTANTANEOUS PEAK FLOW		972 Jun 16	47000	Sep 8 1932
INSTANTANEOUS PEAK STAGE		5.61 Jun 16	27.05	Sep 8 1932
ANNUAL RUNOFF (AC-FT)	3470	6350	71020	
10 PERCENT EXCEEDS	12	6.3	122	
50 PERCENT EXCEEDS	2.2	1.4	12	
90 PERCENT EXCEEDS	.05	.02	.79	

z Period of regulated streamflow.
 c From rating curve extended above 25,000 ft³/s.
 p Observed.



BRAZOS RIVER BASIN

08084500 LAKE STAMFORD NEAR HASKELL, TX

LOCATION.--Lat 33°03'45", long 99°34'45", Haskell County, Hydrologic Unit 12060103, on right bank at city of Stamford pumping station at Lake Stamford on Paint Creek, 0.9 mi upstream from right end of dam, 2.3 mi upstream from California Creek, 10 mi southeast of Haskell, and 22.3 mi upstream from mouth.

DRAINAGE AREA.--368 mi².

PERIOD OF RECORD.--Jul 1953 to Sep 1986, Feb 1999 to Sep 1999.
Water-quality records.--Chemical data: Aug 1965, Mar 1970 to Jul 1984.

REVISED RECORDS.--WDR TX-77-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to Oct 1986, nonrecording gage at site on left bank, 1.0 mi upstream from dam at datum 2.77 ft lower. Satellite telemeter at station.

REMARKS.--Records good. The lake is formed by a rolled earthfill dam 3,600 ft long. The dam was completed in Mar 1953, and deliberate impoundment began in Jun 1953. The right spillway is an uncontrolled natural channel located near the right end of dam. The left spillway is an uncontrolled channel excavated through natural ground, 169 ft wide, located 900 ft to left of left end of dam. The service outlet is a controlled 24-in-diameter concrete pipe that is used for low-flow releases. Capacity table in use when station was discontinued in Sep 1986 was based on sedimentation survey of 1966. Water is diverted for municipal supply for the cities of Stamford and Hamlin. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	1,436.8
Crest of emergency spillway.....	1,425.8
Crest of service spillway.....	1,417.0
Lowest gated outlet (invert).....	1,382.8

COOPERATION.--The capacity table is based on a Mar 1999 volumetric survey furnished by Texas Water Development Board. Records of diversions may be obtained from the city of Stamford.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 103,700 acre-ft, Aug 5, 1978 (elevation, 1,425.0 ft); minimum since first appreciable storage in Jun 1954, 13,930 acre-ft, Sep 30, 1999 (elevation, 1,405.68 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 19,770 acre-ft, Jun 29 (elevation, 1,408.26 ft); minimum contents, 13,930 acre-ft, Sep 30 (elevation, 1,405.68 ft).

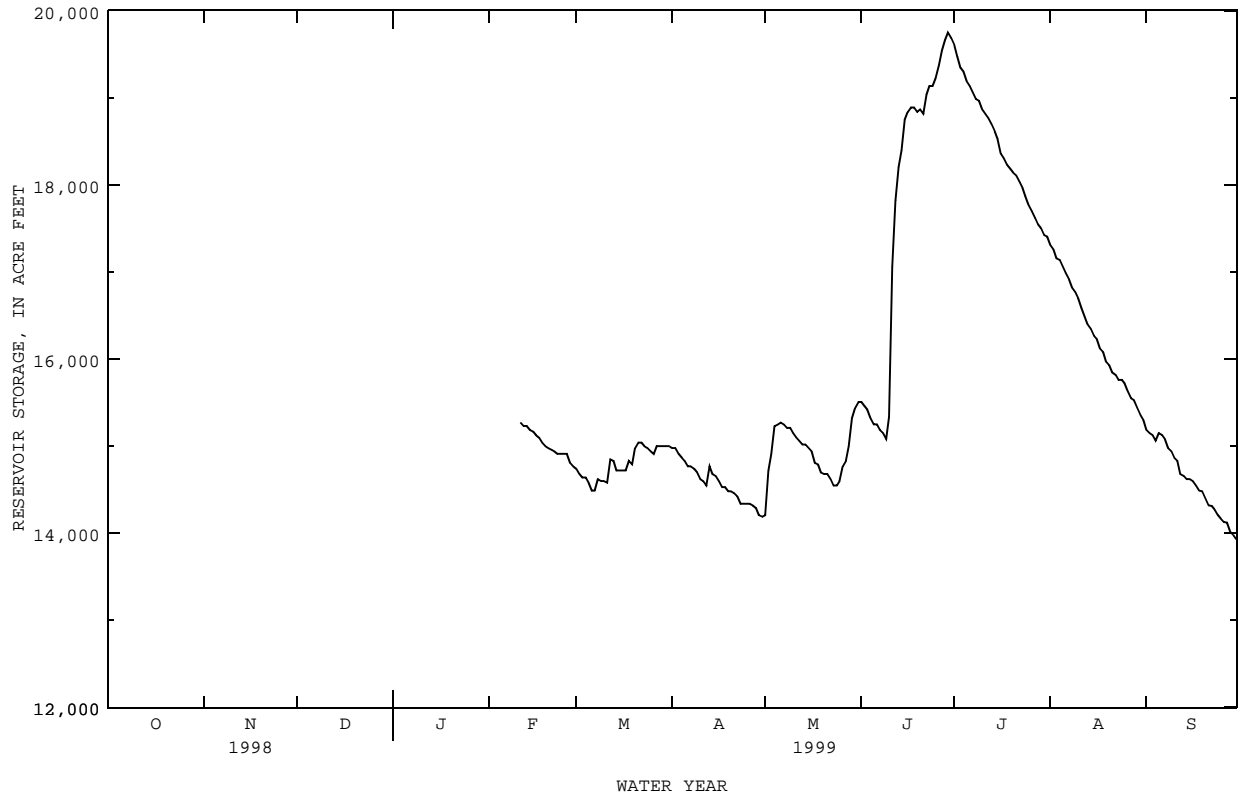
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	14740	14980	14210	15510	19610	17310	15190
2	---	---	---	---	---	14680	14980	14720	15460	19480	17260	15150
3	---	---	---	---	---	14640	14910	14910	15420	19350	17160	15130
4	---	---	---	---	---	14640	14870	15230	15320	19300	17140	15060
5	---	---	---	---	---	14580	14830	15250	15250	19190	17060	15150
6	---	---	---	---	---	14490	14770	15270	15250	19140	16990	15130
7	---	---	---	---	---	14490	14770	15250	15190	19060	16920	15080
8	---	---	---	---	---	14620	14740	15210	15150	18990	16820	14980
9	---	---	---	---	---	14600	14700	15210	15080	18970	16770	14940
10	---	---	---	---	---	14600	14620	15150	15340	18870	16700	14870
11	---	---	---	---	15270	14580	14600	15100	17060	18820	16590	14830
12	---	---	---	---	15230	14850	14550	15060	17820	18770	16500	14680
13	---	---	---	---	15230	14830	14770	15020	18210	18700	16400	14660
14	---	---	---	---	15190	14720	14680	15020	18400	18620	16350	14620
15	---	---	---	---	15170	14720	14660	14980	18750	18530	16270	14620
16	---	---	---	---	15130	14720	14600	14940	18840	18360	16230	14600
17	---	---	---	---	15100	14720	14530	14810	18890	18310	16120	14550
18	---	---	---	---	15040	14830	14530	14790	18890	18230	16080	14490
19	---	---	---	---	15000	14790	14480	14700	18840	18190	15970	14480
20	---	---	---	---	14980	14980	14480	14680	18870	18140	15930	14400
21	---	---	---	---	14960	15040	14460	14680	18820	18110	15850	14320
22	---	---	---	---	14940	15040	14420	14620	19040	18040	15820	14310
23	---	---	---	---	14910	15000	14340	14550	19140	17970	15760	14270
24	---	---	---	---	14910	14980	14340	14550	19140	17870	15760	14210
25	---	---	---	---	14910	14940	14340	14600	19220	17770	15720	14170
26	---	---	---	---	14910	14910	14340	14770	19380	17700	15630	14130
27	---	---	---	---	14810	15000	14320	14830	19540	17620	15550	14120
28	---	---	---	---	14770	15000	14290	15000	19670	17550	15530	14020
29	---	---	---	---	---	15000	14210	15320	19750	17500	15440	13980
30	---	---	---	---	---	15000	14190	15440	19690	17430	15360	13930
31	---	---	---	---	---	15000	---	15510	---	17410	15300	---
MAX	---	---	---	---	---	15040	14980	15510	19750	19610	17310	15190
MIN	---	---	---	---	---	14490	14190	14210	15080	17410	15300	13930
(+)	---	---	---	---	---	1406.22	1405.82	1406.46	1408.23	1407.31	1406.36	1405.68
(@)	---	---	---	---	---	+230	-810	+1320	+4180	-2280	-2110	-1370

WTR YR 1999 MAX 19750 MIN 13930

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

08084500 LAKE STAMFORD NEAR HASKELL, TX--Continued



BRAZOS RIVER BASIN

08084800 CALIFORNIA CREEK NEAR STAMFORD, TX

LOCATION.--Lat 32°55'51", long 99°38'32", Jones County, Hydrologic Unit 12060103, near right bank at downstream side of bridge on Farm Road 142, 9 mi east of Stamford, and 19.4 mi upstream from Paint Creek.

DRAINAGE AREA.--478 mi².

PERIOD OF RECORD.--Oct 1962 to current year.

Water-quality records.--Chemical data: Oct 1962 to Sep 1979. Specific conductance: Oct 1962 to Sep 1979. Water temperature: Oct 1962 to Sep 1979.

REVISED RECORDS.--WSP 2122: 1965. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,470 ft above sea level, from topographic map. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are poor. No known regulation. There are three small diversions upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1897, 29.6 ft, present datum, on Jun 10, 1962, from floodmark; second highest flood in Jul 1961 (stage unknown); third highest flood in May 1957 (stage unknown) was about equal to flood on Jun 24, 1915; flood of Sep 1962 reached a stage of 28.1 ft, present datum, from information by local residents. Another large flood is reported to have occurred in Jun 1909.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jun 13	0100	1,700	18.10	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	6.2	.24	.18	4.6	.08	.31	.37	11	5.6	.04	.05
2	.58	9.8	.22	.23	4.7	.09	.26	102	6.4	5.0	.06	.04
3	.24	6.0	.21	.22	3.4	.12	.29	160	5.0	3.3	.03	.06
4	.22	2.8	.19	.23	2.1	.11	.23	154	3.4	2.3	.03	.17
5	.20	2.8	.17	.31	1.3	.13	.15	47	2.5	1.2	.03	.31
6	.17	2.9	.16	.31	1.3	.13	.11	27	2.2	1.5	.03	.23
7	.17	1.9	.16	.39	1.0	.13	.14	17	1.6	1.5	.03	.26
8	.23	1.2	.16	.42	.53	4.1	.17	12	1.7	.97	.03	.27
9	.24	.81	.18	.38	.44	5.1	.12	8.1	1.8	.89	.02	.14
10	.20	.74	.13	.40	.32	4.4	.14	5.9	260	.72	.02	.20
11	.18	.51	.16	.49	.18	1.8	.13	3.8	480	1.4	.02	.26
12	.23	.32	.14	.49	.18	15	.13	.62	1400	.94	.03	.17
13	.18	.34	.10	.40	.19	7.9	1.4	2.5	995	.54	.02	.17
14	.19	.37	.08	.22	.18	2.3	233	2.6	504	.26	.02	.11
15	.20	.28	.08	.23	.18	1.0	140	1.8	232	.21	.02	.58
16	.24	.35	.12	.24	.16	.37	30	1.6	127	.14	.02	.28
17	.31	.24	.12	.28	.17	.26	19	1.4	32	.12	.02	.33
18	.38	.25	.14	.28	.10	2.6	13	1.1	27	.09	.02	.45
19	.32	.37	.17	.27	.10	22	7.4	.78	19	.06	.02	.20
20	.42	.33	.11	.32	.10	15	4.4	.45	15	.05	.02	.09
21	.48	.30	.11	.23	.10	7.1	2.5	.38	26	.04	.02	.13
22	.47	.29	.10	.54	.11	3.0	1.6	.34	19	.03	.03	.11
23	.46	.30	.12	.57	.10	e2.0	1.1	.25	12	14	.03	.08
24	.43	.32	.13	.51	.12	e1.0	.95	.24	15	8.5	.03	.19
25	.49	.30	.15	.50	.13	e.75	1.3	.26	29	1.7	.03	.26
26	.40	.28	.17	.47	.12	e.50	4.1	20	13	.40	.04	.39
27	.34	.22	.18	.36	.09	e.40	1.3	148	7.7	.27	.04	.41
28	.35	.20	.17	.33	.08	e.30	.85	115	13	.11	.06	.21
29	.44	.27	.15	15	---	.30	.42	41	14	.05	.08	.24
30	.39	.29	.20	28	---	.26	.37	29	8.3	.03	.05	.27
31	.43	---	.19	14	---	.33	---	32	---	.03	.04	---
TOTAL	9.75	41.28	4.71	66.80	22.08	98.56	464.87	936.49	4283.6	51.95	0.98	6.66
MEAN	.31	1.38	.15	2.15	.79	3.18	15.5	30.2	143	1.68	.032	.22
MAX	.58	9.8	.24	28	4.7	22	233	160	1400	14	.08	.58
MIN	.17	.20	.08	.18	.08	.08	.11	.24	1.6	.03	.02	.04
AC-FT	19	82	9.3	132	44	195	922	1860	8500	103	1.9	13
CFSM	.00	.00	.00	.00	.00	.01	.03	.06	.30	.00	.00	.00

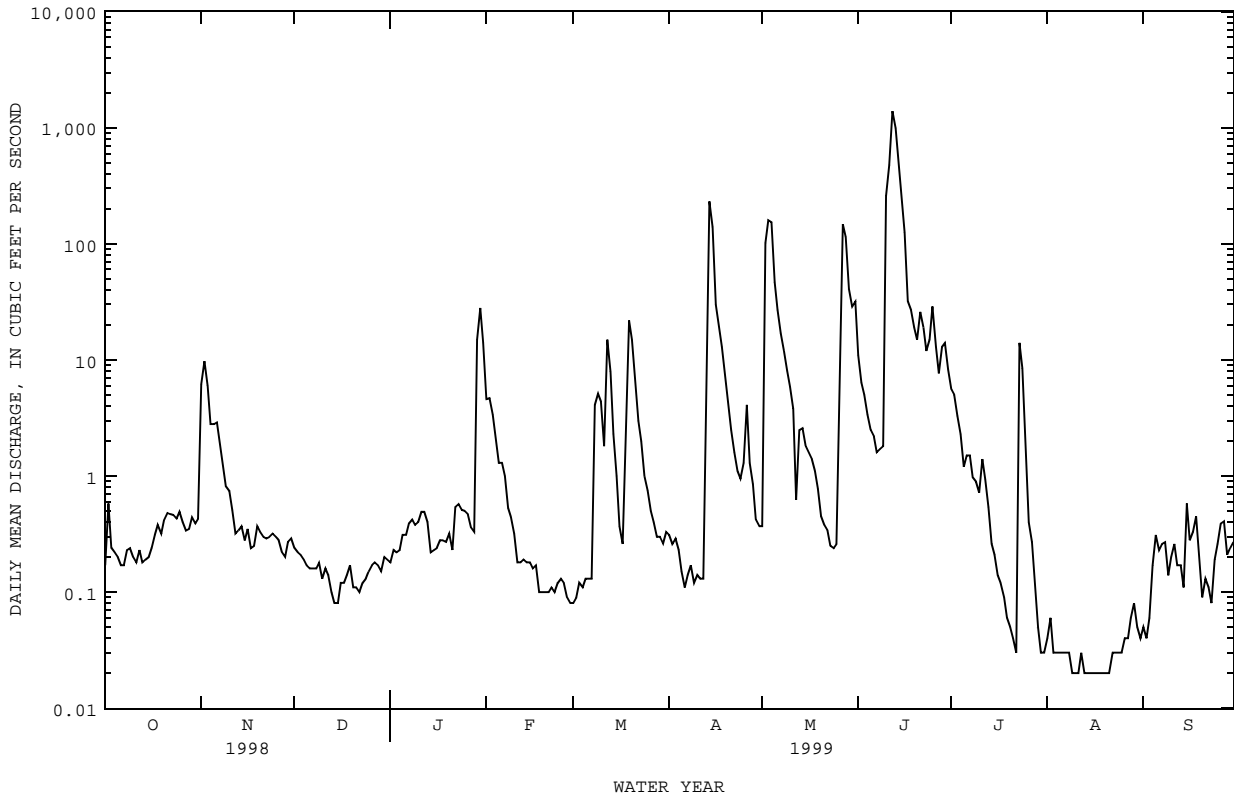
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1999, BY WATER YEAR (WY)

MEAN	40.2	14.7	11.9	11.0	35.5	14.0	20.9	77.9	72.2	19.4	59.5	50.8
MAX	481	229	169	84.0	750	132	174	741	400	234	930	575
(WY)	1987	1973	1992	1968	1992	1973	1985	1982	1991	1992	1971	1980
MIN	.002	.11	.10	.081	.15	.092	.25	.28	.15	.000	.000	.017
(WY)	1969	1971	1965	1965	1965	1966	1967	1998	1976	1964	1965	1968

08084800 CALIFORNIA CREEK NEAR STAMFORD, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1963 - 1999	
ANNUAL TOTAL	812.89	5987.73	35.6	
ANNUAL MEAN	2.23	16.4	156	1992
HIGHEST ANNUAL MEAN			1.95	1964
LOWEST ANNUAL MEAN			20400	Aug 4 1978
HIGHEST DAILY MEAN	62 Mar 17	1400 Jun 12	.00	Sep 11 1963
LOWEST DAILY MEAN	.03 Aug 5	.02 Aug 9	.00	May 17 1964
ANNUAL SEVEN-DAY MINIMUM	.03 Aug 5	.02 Aug 13	40000	Aug 4 1978
INSTANTANEOUS PEAK FLOW		1700 Jun 13	31.00	Aug 4 1978
INSTANTANEOUS PEAK STAGE		18.10 Jun 13	25800	
ANNUAL RUNOFF (AC-FT)	1610	11880	.075	
ANNUAL RUNOFF (CFSM)	.005	.034	29	
10 PERCENT EXCEEDS	3.6	14	2.6	
50 PERCENT EXCEEDS	.29	.31	.10	
90 PERCENT EXCEEDS	.07	.06		

e Estimated



BRAZOS RIVER BASIN

08085500 CLEAR FORK BRAZOS RIVER AT FORT GRIFFIN, TX

LOCATION.--Lat 32°56'04", long 99°13'27", Shackelford County, Hydrologic Unit 12060104, on right bank just downstream from pier of bridge on old Fort Griffin-Throckmorton Road, 0.4 mi northeast of Fort Griffin, 1.0 mi upstream from bridge on U.S. Highway 283, 1.7 mi upstream from Mill Creek, and 74.6 mi upstream from mouth.

DRAINAGE AREA.--3,988 mi².

PERIOD OF RECORD.--Dec 1923 to current year.

Water-quality records.--Chemical data: Nov 1949 to Sep 1951, Nov 1967 to Sep 1979, Nov 1981 to Sep 1984. Suspended sediment discharge: Nov 1949 to Sep 1951. Specific conductance: Nov 1949 to Sep 1951, Nov 1967 to Sep 1979, Oct 1981 to Sep 1984. Water temperature: Nov 1949 to Sep 1951, Nov 1967 to Sep 1979, Oct 1981 to Sep 1984.

REVISED RECORDS.--WSP 1392: 1949. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,174.09 ft above sea level. Prior to Jun 23, 1932, nonrecording gage at same site and datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since water year 1939, at least 10% of contributing drainage area has been regulated by Fort Phantom Hill Reservoir (station 08083500, capacity 76,800 acre-ft). There are diversions upstream from station for irrigation, municipal supply, and for oil field operations.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--14 years (water years 1925-38) prior to completion of Fort Phantom Hill Reservoir, 303 ft³/s (219,500 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1925-38).--Maximum discharge, 33,600 ft³/s Sep 10, 1932 (gage height, 35.09 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in Sep 1900 reached a stage of 38.0 ft, from information by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	24	9.6	16	43	28	31	25	73	37	.00	.00
2	.00	18	8.6	14	93	33	38	37	45	31	.00	.00
3	.00	19	12	11	73	29	40	39	42	29	.00	.00
4	.00	15	14	12	43	25	37	169	29	26	.00	.00
5	.00	16	13	15	32	24	39	257	20	21	.00	.00
6	.00	16	12	15	25	20	37	166	18	18	.00	.00
7	.00	13	9.4	14	22	19	38	110	13	15	.00	.00
8	.00	12	10	12	21	26	39	77	13	12	.00	.00
9	.00	10	12	9.6	21	25	37	53	8.3	11	.00	.00
10	.00	8.4	13	7.6	21	33	41	53	7.8	9.9	.00	.00
11	.00	6.4	15	10	21	23	40	53	15	8.8	.00	.00
12	.00	7.4	17	14	17	20	36	41	710	6.7	.00	.00
13	.00	9.9	16	14	16	20	39	31	1710	5.7	.00	.00
14	.00	10	16	12	17	22	219	26	1150	4.6	.00	.00
15	.00	11	18	13	17	20	223	25	1150	3.2	.00	.00
16	.00	10	21	14	17	21	460	20	498	2.4	.00	.00
17	.00	9.9	21	15	14	23	498	17	379	1.8	.00	.00
18	.00	10	23	13	14	43	203	14	333	1.3	.00	.00
19	.00	10	20	11	16	49	136	11	187	.92	.00	.00
20	.28	11	17	10	16	38	98	9.2	151	.62	.00	.00
21	.58	8.4	16	11	16	29	75	7.7	122	.47	.00	.00
22	1.0	8.2	15	11	17	22	54	6.7	124	.40	.00	.00
23	1.2	8.8	15	9.7	20	21	42	5.0	163	1.2	.00	.00
24	1.3	10	15	8.3	18	23	38	4.1	266	1.8	.00	.00
25	1.9	9.1	13	7.4	17	20	37	4.5	177	1.6	.00	.00
26	2.4	8.5	15	6.6	19	17	34	9.2	121	1.2	.00	.00
27	2.6	10	14	6.9	21	21	30	12	121	.80	.00	.00
28	3.9	9.8	14	6.8	25	23	29	21	116	.47	.00	.00
29	5.2	9.4	15	14	---	22	27	158	76	.30	.00	.00
30	5.9	8.4	16	80	---	23	27	134	49	.09	.00	.00
31	5.1	---	16	47	---	24	---	88	---	.02	.00	---
TOTAL	31.36	337.6	461.6	460.9	712	786	2722	1683.4	7887.1	254.29	0.00	0.00
MEAN	1.01	11.3	14.9	14.9	25.4	25.4	90.7	54.3	263	8.20	.000	.000
MAX	5.9	24	23	80	93	49	498	257	1710	37	.00	.00
MIN	.00	6.4	8.6	6.6	14	17	27	4.1	7.8	.02	.00	.00
AC-FT	62	670	916	914	1410	1560	5400	3340	15640	504	.00	.00

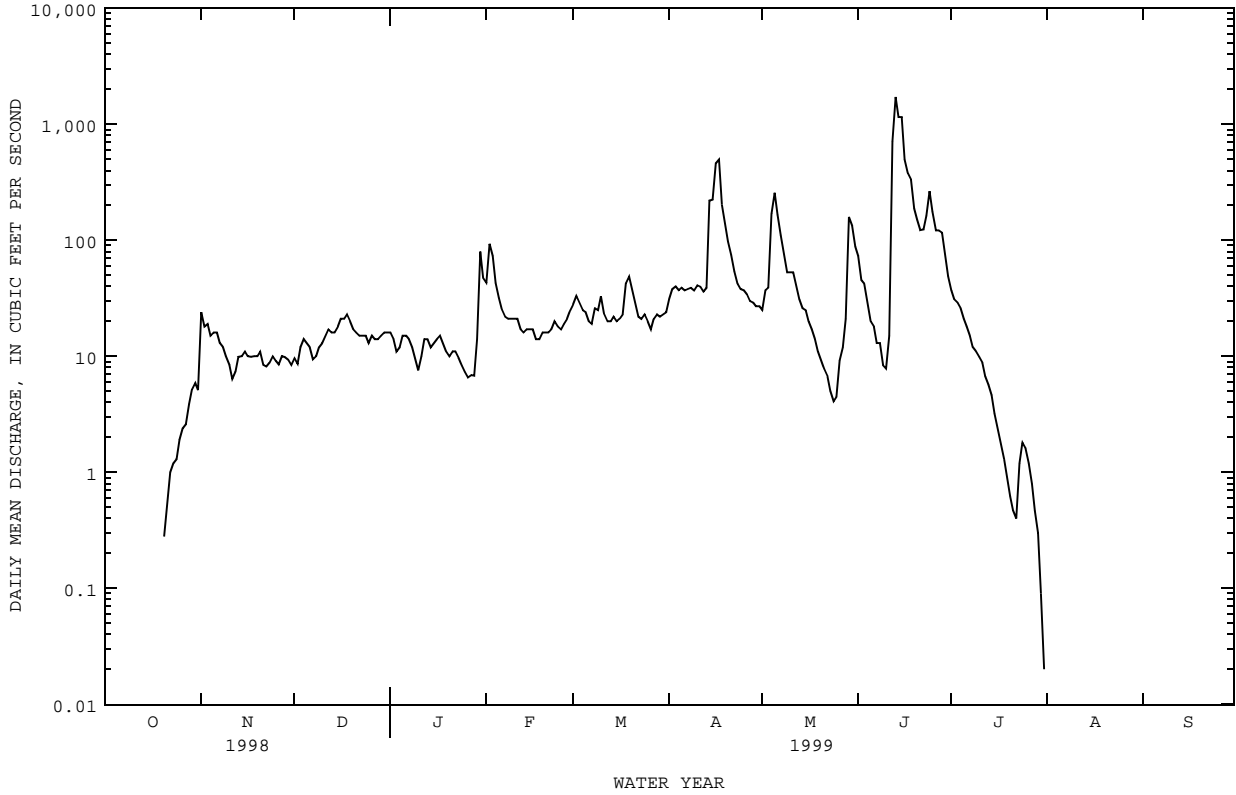
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1999z, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)
1939	259	2866	1942	.000	1944	79.0	1010	1975	.000	1944	77.4	1593	1944	.000	1944
1940	61.1	689	1992	.000	1950	160	4268	1992	.000	1950	93.5	1066	1950	.000	1950
1941	174	3098	1957	4.90	1960	541	7312	1957	.078	1960	158	1417	1952	.000	1943
1942	425	2205	1953	.000	1974	203	6071	1953	.000	1974	244	1997	1952	.000	1943

08085500 CLEAR FORK BRAZOS RIVER AT FORT GRIFFIN, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1939 - 1999z	
ANNUAL TOTAL	10472.30		15336.25		206	
ANNUAL MEAN	28.7		42.0		1177	
HIGHEST ANNUAL MEAN					8.78	
LOWEST ANNUAL MEAN					1957	
HIGHEST DAILY MEAN	1230	Mar 16	1710	Jun 13	72800	Aug 4 1978
LOWEST DAILY MEAN	.00	Jul 20	.00	Oct 1	.00	May 11 1939
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 20	.00	Oct 1	.00	Sep 12 1939
INSTANTANEOUS PEAK FLOW			1780	Jun 13	149000	Aug 4 1978
INSTANTANEOUS PEAK STAGE			7.06	Jun 13	38.88	Aug 4 1978
ANNUAL RUNOFF (AC-FT)	20770		30420		149500	
10 PERCENT EXCEEDS	45		74		275	
50 PERCENT EXCEEDS	10		14		25	
90 PERCENT EXCEEDS	.00		.00		.00	

z Period of regulated streamflow.

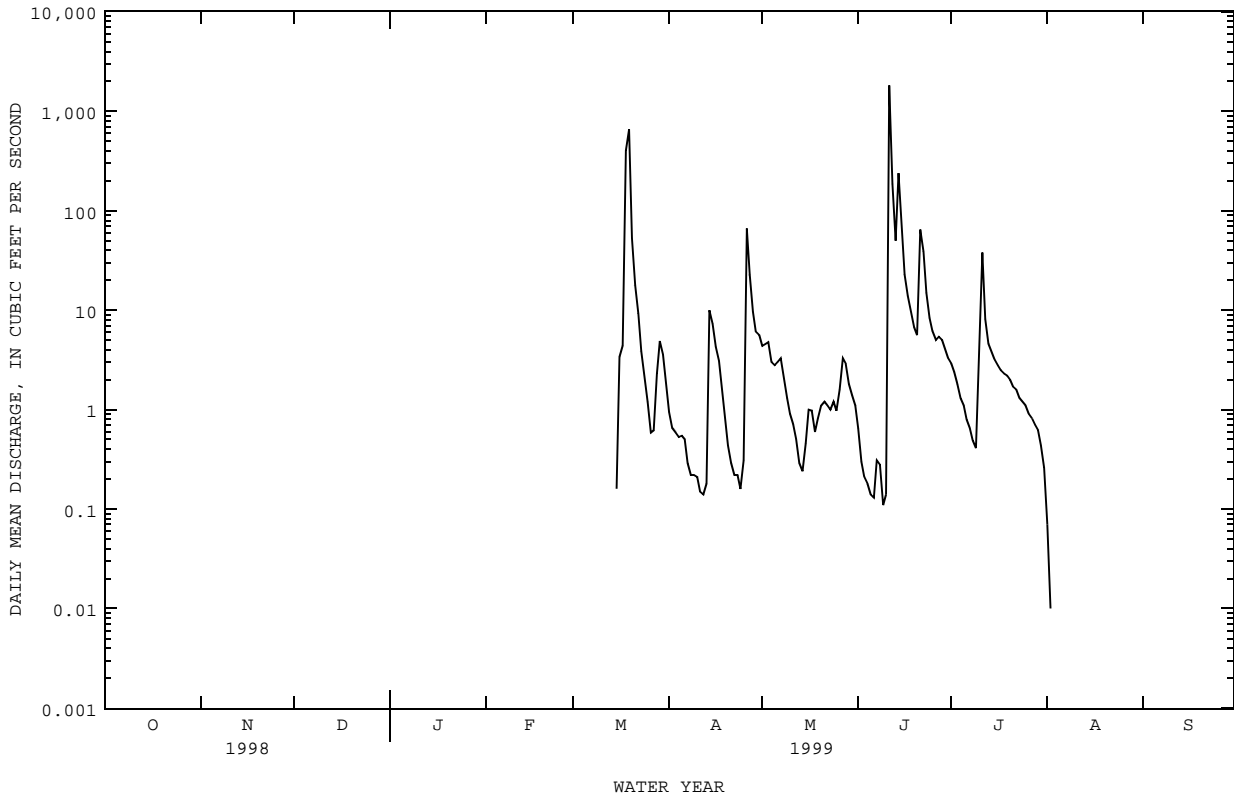


08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1967 - 1999	
ANNUAL TOTAL	9665.73		4037.34			
ANNUAL MEAN	26.5		11.1		66.5	
HIGHEST ANNUAL MEAN					303	1992
LOWEST ANNUAL MEAN					.49	1984
HIGHEST DAILY MEAN	5550	Mar 16	1810	Jun 11	94700	Aug 4 1978
LOWEST DAILY MEAN	.00	Jul 12	.00	Oct 1	.00	Apr 5 1967
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 12	.00	Oct 1	.00	Apr 24 1967
INSTANTANEOUS PEAK FLOW			6730	Jun 11	330000	Aug 4 1978
INSTANTANEOUS PEAK STAGE			16.80	Jun 11	41.41	Aug 4 1978
ANNUAL RUNOFF (AC-FT)	19170		8010		48150	
ANNUAL RUNOFF (CFSM)	.043		.018		.11	
ANNUAL RUNOFF (INCHES)	.59		.25		1.47	
10 PERCENT EXCEEDS	10		4.6		48	
50 PERCENT EXCEEDS	.12		.00		1.3	
90 PERCENT EXCEEDS	.00		.00		.00	

a From floodmark.

c From rating curve extended on basis of step-backwater method and computation of flow-through-culverts, contracted-openings, and flow-over-road determination of 330,000 ft³/s at site 4.5 mi downstream.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Oct 1966 to current year.
 PESTICIDE DATA: Nov 1972.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Oct 1966 to Nov 1970 (local observer), Dec 1970 to current year.
 WATER TEMPERATURE: Oct 1966 to Jul 1980 (local observer), Mar 1982 to current year.

INSTRUMENTATION.--Specific conductance recorder since Dec 1970. Water-temperature recorder since Mar 1982.

REMARKS.--Interruptions in the specific conductance and water temperature values Oct 1 to Mar 14 and Aug 3 to Sep 30 were due to no flow. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and a regression relation between each chemical constituent and specific conductance. New regression equations were developed based on data from water years 1990 to 1999. The standard error of estimate for dissolved solids is 3%, chloride is 12%, sulfate is 48% and for hardness is 10%. Regression equations developed for this station may be obtained from the U.S. Geological Survey Texas District Office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 21,200 microsiemens, Feb 15, 21, 1978; minimum measured, 180 microsiemens, Oct 27, 1984, May 13, 1985 and Oct 6, 1986; minimum estimated, 129 microsiemens, Aug 4, 1978.
 WATER TEMPERATURE: Maximum, 37.5°C, Jul 20, 1986; minimum, 0.0°C, on several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 6,720 microsiemens, Mar 16; minimum, 471 microsiemens, Jun 11.
 WATER TEMPERATURE: Maximum, 34.4°C, Jul 7; minimum, 10.6°C, Mar 16.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS TOTAL (MG/L) AS CACO3 (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) AS CA (00904)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	SODIUM, DIS-SOLVED (MG/L) AS NA (00930)
		APR 06...	1130	.61	1070	17.9	240	130	66
JUN 09...	1455	.10	1550	28.9	310	170	82	26	186
JUL 08...	1300	.46	960	30.8	230	100	62	18	94

DATE	SODIUM AD-SORPTION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L) AS K (00935)	ALKA-LINITY WAT DIS-FIX FIELD CAC03 (MG/L) (39036)	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 CONSTITUENTS, DIS-SOLVED (MG/L) (70301)
		APR 06...	3	4.3	110	93	200	.22
JUN 09...	5	6.0	140	110	330	.29	8.3	831
JUL 08...	3	5.4	130	66	170	.27	9.1	505

BRAZOS RIVER BASIN

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	896	836	870	1250	1110	1140
2	---	---	---	---	---	---	942	896	922	1300	1060	1130
3	---	---	---	---	---	---	973	942	959	1120	1110	1120
4	---	---	---	---	---	---	1010	973	980	1140	1110	1130
5	---	---	---	---	---	---	1070	1010	1040	1150	1140	1150
6	---	---	---	---	---	---	1140	1030	1070	1160	1130	1150
7	---	---	---	---	---	---	1180	1080	1130	1150	1120	1140
8	---	---	---	---	---	---	1270	1130	1200	1170	1130	1150
9	---	---	---	---	---	---	1290	1150	1220	1210	1170	1190
10	---	---	---	---	---	---	1360	1200	1300	1290	1200	1230
11	---	---	---	---	---	---	1520	1210	1360	1400	1250	1300
12	---	---	---	---	---	---	1520	1230	1340	1500	1290	1380
13	---	---	---	---	---	---	1510	1290	1400	1510	1290	1370
14	---	---	---	---	---	---	1550	854	1030	1500	1330	1380
15	---	---	---	6470	6250	6400	887	854	864	1500	1340	1400
16	---	---	---	6720	6300	6490	940	885	906	1520	1360	1410
17	---	---	---	6610	6130	6400	1020	940	978	1580	1390	1460
18	---	---	---	6390	535	3800	1070	1020	1050	1570	1400	1460
19	---	---	---	2460	518	768	1130	1070	1100	1620	1450	1510
20	---	---	---	575	563	569	1170	1120	1140	1620	1470	1530
21	---	---	---	582	560	570	1250	1160	1200	1650	1520	1560
22	---	---	---	677	582	618	1350	1160	1240	1720	1540	1620
23	---	---	---	721	677	698	1390	1190	1270	1670	1530	1580
24	---	---	---	743	721	732	1300	1240	1260	1950	1590	1710
25	---	---	---	784	743	759	1850	1170	1560	2000	1660	1720
26	---	---	---	805	784	793	1770	491	1130	1990	1760	1860
27	---	---	---	1090	805	902	1270	1020	1180	1980	1350	1670
28	---	---	---	945	829	887	1330	1120	1250	1370	1340	1350
29	---	---	---	829	744	768	1210	1100	1180	1360	1340	1350
30	---	---	---	791	750	763	1250	1170	1200	1380	1350	1360
31	---	---	---	836	791	812	---	---	---	1410	1370	1390
MONTH	---	---	---	---	---	---	1850	491	1140	2000	1060	1380
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1490	1410	1450	825	806	813	795	746	766	---	---	---
2	1530	1420	1470	848	825	835	799	773	790	---	---	---
3	1500	1460	1470	859	846	852	---	---	---	---	---	---
4	1560	1500	1520	879	855	865	---	---	---	---	---	---
5	1560	1520	1540	898	872	882	---	---	---	---	---	---
6	1580	1520	1550	933	891	905	---	---	---	---	---	---
7	1550	1510	1530	962	919	936	---	---	---	---	---	---
8	1560	1530	1540	992	930	956	---	---	---	---	---	---
9	1570	1480	1540	1030	964	993	---	---	---	---	---	---
10	2260	990	1540	1080	889	1000	---	---	---	---	---	---
11	2340	471	1100	889	623	752	---	---	---	---	---	---
12	1340	516	580	635	608	621	---	---	---	---	---	---
13	550	504	521	608	583	592	---	---	---	---	---	---
14	968	550	634	607	590	598	---	---	---	---	---	---
15	644	587	629	606	594	602	---	---	---	---	---	---
16	674	643	658	613	599	606	---	---	---	---	---	---
17	701	672	685	620	609	616	---	---	---	---	---	---
18	742	699	721	632	618	625	---	---	---	---	---	---
19	773	742	752	645	621	632	---	---	---	---	---	---
20	821	773	802	668	631	653	---	---	---	---	---	---
21	850	710	808	696	649	677	---	---	---	---	---	---
22	859	678	726	718	671	695	---	---	---	---	---	---
23	914	859	887	742	690	712	---	---	---	---	---	---
24	938	692	735	744	654	713	---	---	---	---	---	---
25	951	921	938	767	698	735	---	---	---	---	---	---
26	958	930	944	771	708	746	---	---	---	---	---	---
27	985	953	965	770	720	748	---	---	---	---	---	---
28	1010	766	925	797	738	763	---	---	---	---	---	---
29	808	778	789	788	739	759	---	---	---	---	---	---
30	816	797	807	784	748	762	---	---	---	---	---	---
31	---	---	---	768	746	758	---	---	---	---	---	---
MONTH	2340	471	1030	1080	583	755	---	---	---	---	---	---

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	20.6	16.3	18.3	23.1	20.9	21.6
2	---	---	---	---	---	---	21.4	18.7	19.9	24.1	19.9	21.8
3	---	---	---	---	---	---	21.8	18.9	20.2	25.6	21.4	23.3
4	---	---	---	---	---	---	20.8	17.2	19.0	25.4	22.2	23.7
5	---	---	---	---	---	---	21.3	16.9	19.3	24.7	21.2	22.8
6	---	---	---	---	---	---	21.8	15.7	18.6	25.2	19.0	21.7
7	---	---	---	---	---	---	21.6	17.3	19.5	25.1	18.5	21.6
8	---	---	---	---	---	---	24.6	20.3	22.0	25.2	20.8	23.0
9	---	---	---	---	---	---	25.4	19.5	22.4	24.3	22.4	23.5
10	---	---	---	---	---	---	23.7	19.6	21.6	25.5	21.8	23.5
11	---	---	---	---	---	---	23.8	17.8	20.2	29.4	21.9	25.1
12	---	---	---	---	---	---	22.1	18.6	20.3	29.6	21.7	25.1
13	---	---	---	---	---	---	21.7	20.0	20.8	25.1	21.2	23.3
14	---	---	---	---	---	---	22.2	18.1	20.2	25.3	22.3	23.9
15	---	---	---	14.4	12.6	13.4	20.4	16.7	18.1	26.7	23.5	25.0
16	---	---	---	14.5	10.6	12.8	19.7	15.7	17.3	26.4	24.6	25.4
17	---	---	---	15.6	13.1	14.2	19.8	14.8	16.8	29.7	23.9	25.9
18	---	---	---	15.4	14.4	14.9	19.8	14.1	17.0	30.0	23.0	25.8
19	---	---	---	15.0	14.1	14.5	21.9	16.5	19.3	26.5	22.2	24.4
20	---	---	---	14.7	13.4	14.1	23.0	18.8	20.9	25.5	23.4	24.6
21	---	---	---	19.0	13.6	15.9	23.2	19.2	21.3	29.6	23.6	25.7
22	---	---	---	18.3	14.0	15.9	24.6	20.0	22.3	27.8	24.2	26.0
23	---	---	---	16.5	14.8	15.6	27.5	21.8	24.0	29.2	24.7	26.7
24	---	---	---	15.3	14.0	14.6	21.8	19.0	20.2	28.5	25.1	26.3
25	---	---	---	18.9	13.2	15.6	20.7	17.0	19.1	31.9	24.2	26.9
26	---	---	---	17.6	13.4	15.5	20.5	16.0	19.0	27.6	22.2	25.1
27	---	---	---	16.2	14.0	15.0	22.7	18.9	20.5	28.4	22.4	25.3
28	---	---	---	15.0	13.5	14.1	26.8	20.4	23.2	29.6	23.6	26.4
29	---	---	---	15.0	13.7	14.3	24.8	20.7	22.6	28.6	24.4	26.1
30	---	---	---	16.0	14.0	14.9	25.4	20.6	22.8	30.1	24.5	27.0
31	---	---	---	18.9	14.6	16.6	---	---	---	30.1	26.2	28.1
MONTH	---	---	---	---	---	---	27.5	14.1	20.2	31.9	18.5	24.7

BRAZOS RIVER BASIN

08086212 HUBBARD CREEK BELOW ALBANY, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

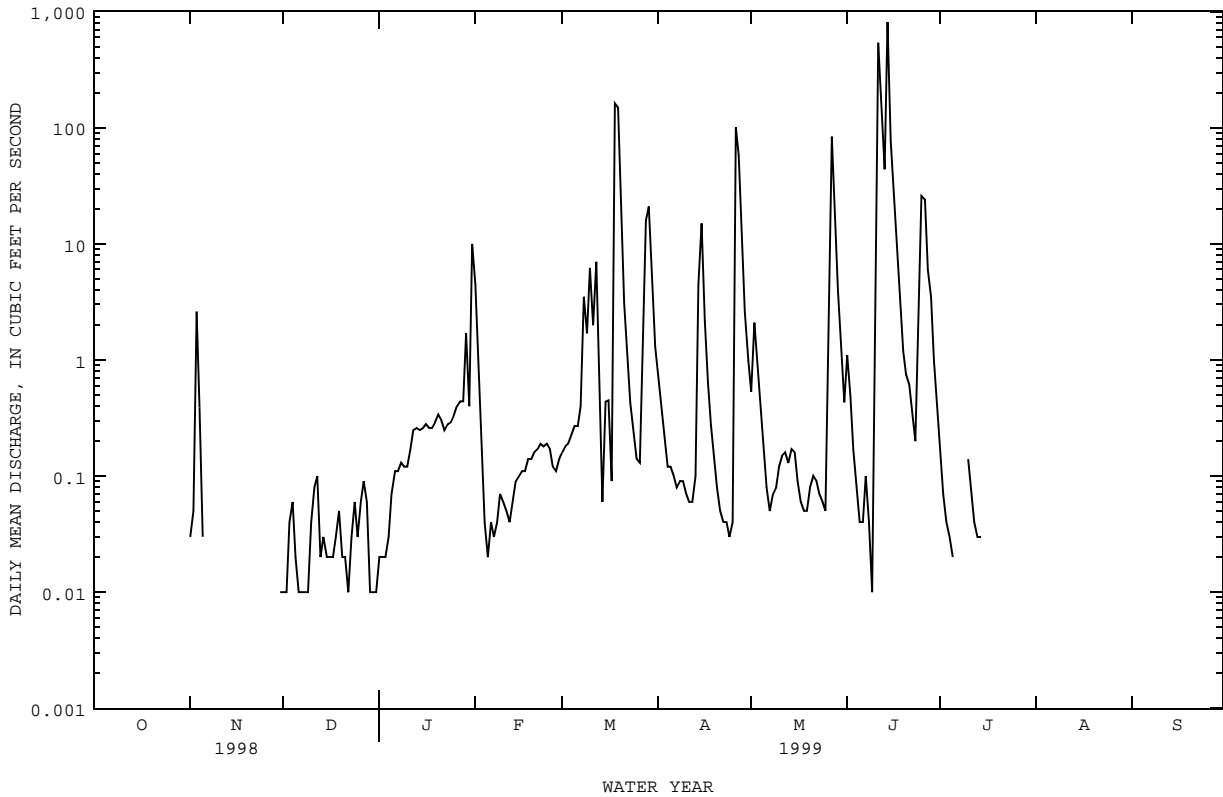
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	33.0	25.5	28.6	31.0	27.4	29.1	31.7	27.4	29.3	---	---	---
2	30.6	26.5	28.1	31.0	27.5	29.2	32.3	27.6	29.1	---	---	---
3	28.8	26.3	27.4	30.7	27.3	29.0	---	---	---	---	---	---
4	28.4	24.7	26.6	31.2	27.3	29.0	---	---	---	---	---	---
5	28.1	24.6	26.4	30.9	27.2	28.9	---	---	---	---	---	---
6	28.3	25.0	26.4	33.4	27.3	29.9	---	---	---	---	---	---
7	28.6	24.8	26.7	34.4	27.6	30.7	---	---	---	---	---	---
8	30.1	26.1	27.8	32.5	27.8	30.2	---	---	---	---	---	---
9	29.8	26.5	28.0	32.6	28.0	30.1	---	---	---	---	---	---
10	30.0	25.6	28.0	29.9	27.2	28.4	---	---	---	---	---	---
11	26.7	20.1	22.8	27.9	26.1	26.8	---	---	---	---	---	---
12	23.8	22.6	23.0	30.1	25.3	27.4	---	---	---	---	---	---
13	24.2	23.2	23.7	30.2	25.9	27.9	---	---	---	---	---	---
14	24.4	23.3	23.9	30.6	27.0	28.7	---	---	---	---	---	---
15	25.4	23.6	24.3	29.5	26.7	28.1	---	---	---	---	---	---
16	26.4	24.2	25.1	29.4	25.6	27.6	---	---	---	---	---	---
17	26.0	22.7	24.1	30.7	26.7	28.5	---	---	---	---	---	---
18	28.1	23.4	25.4	30.6	27.0	28.9	---	---	---	---	---	---
19	29.3	25.0	27.1	31.1	27.3	29.1	---	---	---	---	---	---
20	27.9	26.0	26.6	31.5	27.4	29.3	---	---	---	---	---	---
21	26.0	24.7	25.3	30.5	27.1	29.0	---	---	---	---	---	---
22	26.4	24.4	25.1	30.0	26.4	28.4	---	---	---	---	---	---
23	28.7	24.8	26.5	30.2	26.4	28.6	---	---	---	---	---	---
24	27.9	26.3	27.0	31.9	26.9	28.9	---	---	---	---	---	---
25	31.3	25.7	28.1	32.3	27.0	29.2	---	---	---	---	---	---
26	31.2	27.0	29.1	31.2	27.5	29.2	---	---	---	---	---	---
27	31.4	27.8	29.5	32.2	27.5	29.4	---	---	---	---	---	---
28	32.8	27.8	30.2	31.1	27.6	29.3	---	---	---	---	---	---
29	32.0	29.5	30.8	31.4	27.7	29.4	---	---	---	---	---	---
30	30.6	28.6	29.7	30.9	27.6	29.4	---	---	---	---	---	---
31	---	---	---	31.2	27.8	29.3	---	---	---	---	---	---
MONTH	33.0	20.1	26.7	34.4	25.3	28.9	---	---	---	---	---	---

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08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1962 - 1999	
ANNUAL TOTAL	6236.77		2456.98		29.5	
ANNUAL MEAN	17.1		6.73		114	
HIGHEST ANNUAL MEAN					2.47	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	3750	Mar 16	816	Jun 14	28100	Oct 13 1981
LOWEST DAILY MEAN	.00	Jul 11	.00	Oct 1	.00	Feb 1 1962
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 15	.00	Oct 1	.00	Feb 1 1962
INSTANTANEOUS PEAK FLOW			2050	Jun 14	180000	Oct 13 1981
INSTANTANEOUS PEAK STAGE			12.20	Jun 14	a28.60	Oct 13 1981
ANNUAL RUNOFF (AC-FT)	12370		4870		21380	
ANNUAL RUNOFF (CFSM)	.061		.024		.11	
ANNUAL RUNOFF (INCHES)	.83		.33		1.43	
10 PERCENT EXCEEDS	6.3		2.1		15	
50 PERCENT EXCEEDS	.10		.04		.08	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated
a From floodmark.
i From field determination, based on 2-section slope-area measurement of peak flow.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Nov 1975 to current year.
 SEDIMENT DATA: Oct 1967 to Sep 1975.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Feb 1962 to Nov 1970 (local observer), Dec 1970 to current year.
 WATER TEMPERATURE: Feb 1962 to Feb 1982 (local observer), Mar 1982 to current year.

INSTRUMENTATION.--Specific conductance recorder since Dec 1970. Water-temperature recorder since Mar 1982.

REMARKS.--Interruptions in the maximum and minimum specific conductance values were due to malfunctions of the instrument. Interruptions in the specific conductance and water temperature values for Oct 1-31, Nov 6-29, Jul 6-9, and Jul 15 to Sep 30 were due to no flow. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and a regression relation between each chemical constituent and specific conductance. New regression equations were developed based on data from water years 1990 to 1999. The standard error of estimate for dissolved solids is 3%, chloride is 67%, sulfate is 25% and for hardness is 20%. 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, 28,700 microsiemens Apr 5, 10, 1976; minimum daily, 59 microsiemens, Nov 21, 1963.
 WATER TEMPERATURE: Maximum, 37.0°C, Aug 9, 1987, Jul 16, 1989; minimum, 0.0°C, Jan 9, 10, 1977, Dec 2, 3, 1985.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 16,100 microsiemens, Jan 28; minimum, 158 microsiemens, Jun 11.
 WATER TEMPERATURE: Maximum, 33.4°C, Jun 28; minimum, 1.5°C, Dec 25.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L) AS CACO3 (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) AS CA (00904)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	SODIUM, DIS-SOLVED (MG/L) AS NA (00930)
		DEC 15...	0915	.02	8900	7.3	1400	1300	410
FEB 10...	1315	.06	6250	14.8	1000	920	280	80	934
APR 06...	0915	.10	2800	15.1	570	430	170	32	360
JUN 10...	0945	.01	2120	27.4	460	320	140	29	259

DATE	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L) AS K (00935)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	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)
		DEC 15...	15	8.6	130	540	2400	.17
FEB 10...	13	6.3	110	400	1800	.20	.87	3540
APR 06...	7	5.8	140	150	720	.24	5.8	1540
JUN 10...	5	6.9	140	110	520	.26	6.6	1160

08086290 BIG SANDY CREEK ABOVE BRECKENRIDGE, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1998 TO SEPTEMBER 1999

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- SIEMENS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT. 1998	0	--	--	--	--	--	--	--	--
NOV. 1998	3.11	1810	994	8.3	460	3.9	120	0.98	350
DEC. 1998	1	9230	5460	14.7	2800	7.5	560	1.5	1700
JAN. 1999	18.2	11390	6920	340	3700	180	680	33.3	2000
FEB. 1999	8	8160	4780	103	2400	52.2	500	10.8	1500
MAR. 1999	399.37	2230	1260	1350	610	655	140	151	420
APR. 1999	197.06	1860	1020	545	480	255	120	63.4	360
MAY 1999	125.75	1450	794	269	370	126	93	31.4	280
JUNE 1999	1703.86	443	239	1100	110	501	29	132	87
JULY 1999	0.63	1530	835	1.4	390	0.66	98	0.17	300
AUG. 1999	0	--	--	--	--	--	--	--	--
SEPT 1999	0	--	--	--	--	--	--	--	--
TOTAL	2456.98	**	**	3740	**	1780	**	425	**
WTD.AVG.	6.7	1010	563	**	270	**	64	**	190

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	---	---	---	---	---	---	---	---	---	---	---	---
1	---	---	---	2310	2150	2240	7860	7660	7750	12000	10900	11600
2	---	---	---	2450	2310	2390	7820	7650	7790	11800	11200	11400
3	---	---	---	2530	1300	1770	7860	7660	7790	12000	11500	11900
4	---	---	---	1980	1500	1830	7950	7740	7840	12500	12000	12200
5	---	---	---	2110	1980	2050	7980	7590	7820	12500	12200	12300
6	---	---	---	---	---	---	8070	7770	7990	12400	12100	12300
7	---	---	---	---	---	---	8280	7950	8160	12500	12200	12400
8	---	---	---	---	---	---	8370	8270	8310	12800	12400	12600
9	---	---	---	---	---	---	8430	8310	8390	13100	12600	12800
10	---	---	---	---	---	---	8390	8230	8320	13500	13000	13300
11	---	---	---	---	---	---	8330	8090	8280	13600	13100	13400
12	---	---	---	---	---	---	8450	7950	8110	14000	13200	13400
13	---	---	---	---	---	---	8670	8450	8550	14200	13400	13800
14	---	---	---	---	---	---	8910	8650	8810	14100	13800	13900
15	---	---	---	---	---	---	9080	8820	8970	14300	13800	14100
16	---	---	---	---	---	---	9260	8990	9140	14400	14100	14300
17	---	---	---	---	---	---	9320	9050	9210	14600	14200	14400
18	---	---	---	---	---	---	9350	9030	9190	14800	14400	14600
19	---	---	---	---	---	---	9400	9090	9220	15000	14600	14800
20	---	---	---	---	---	---	9560	9190	9340	15200	14900	15000
21	---	---	---	---	---	---	9890	9480	9630	15300	15100	15200
22	---	---	---	---	---	---	10000	9860	9980	15400	15200	15300
23	---	---	---	---	---	---	10200	9990	10100	15500	15300	15400
24	---	---	---	---	---	---	10300	10100	10200	15600	15300	15500
25	---	---	---	---	---	---	10500	10200	10400	15800	15500	15600
26	---	---	---	---	---	---	10600	10400	10500	15800	15600	15700
27	---	---	---	---	---	---	10800	10500	10600	15900	15700	15800
28	---	---	---	---	---	---	11100	10500	10900	16100	15800	15900
29	---	---	---	---	---	---	11300	10900	11200	16000	13800	15300
30	---	---	---	7710	7500	7610	11500	10500	11100	14300	12700	13600
31	---	---	---	---	---	---	11600	10900	11300	13700	5380	8650
MONTH	---	---	---	---	---	---	11600	7590	9190	16100	5380	13800

BRAZOS RIVER BASIN

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SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	9870	5260	7490	13400	13100	13200	---	---	e970	1520	1280	1400
2	9790	7130	8050	14100	13300	13700	---	---	e1200	1650	1220	1420
3	7130	5990	6310	14400	14100	14200	---	---	e1550	1280	1220	1240
4	6900	6260	6610	14600	14400	14500	---	---	e1850	1630	1280	1470
5	7110	5680	6560	15200	14500	14700	---	---	e2350	2080	1620	1850
6	7170	6410	6920	15200	14700	15000	---	---	2890	2290	2080	2210
7	7380	6510	6910	15400	15100	15300	3400	3110	3310	2540	2280	2420
8	7050	6820	6920	15900	13600	14900	3560	3390	3470	2720	2530	2640
9	7000	6860	6910	14400	13800	14100	3750	3540	3660	2860	2720	2800
10	6980	6860	6910	15400	4600	9290	4210	3750	3920	3030	2850	2950
11	7320	6940	7050	7920	4600	6170	4520	4110	4280	3210	3030	3110
12	7460	7270	7360	8520	2980	5780	5080	4490	4660	3470	3200	3360
13	7720	7300	7520	3860	3220	3720	5810	5030	5280	3710	3460	3610
14	7900	7630	7750	3730	3630	3680	7610	1100	5110	3980	3710	3860
15	8110	7820	7950	5040	3660	4010	4200	913	1870	4260	3960	4110
16	8610	8000	8250	4680	3240	3580	1110	904	961	4550	4260	4390
17	8680	8320	8510	3750	3280	3580	1370	1110	1210	5190	4550	4720
18	8930	8640	8740	4570	507	3210	1630	1370	1560	5460	5180	5330
19	9640	8920	9180	764	510	635	2050	1580	1840	5680	5460	5590
20	9850	9250	9540	612	555	575	2490	2020	2270	5920	5670	5800
21	10100	9480	9730	756	612	669	2800	2490	2630	6240	5910	6040
22	10400	9790	10000	936	756	831	3020	2750	2880	6570	6240	6390
23	10400	10200	10300	1220	936	1060	3250	3000	3130	6870	6570	6680
24	10800	10400	10600	1450	1220	1330	3640	3230	3460	7120	6870	6970
25	11500	10800	11200	1690	1450	1540	4080	3590	3720	7250	7110	7190
26	12200	11400	11600	1950	1690	1820	7030	442	2400	8070	3460	6070
27	12900	11800	12200	2560	1950	2180	1080	832	901	3460	847	1350
28	13100	12300	12800	2490	1080	1530	945	885	904	---	---	e900
29	---	---	---	1120	576	681	1090	945	1020	---	---	e1000
30	---	---	---	---	---	e630	1280	1090	1190	---	---	e1100
31	---	---	---	---	---	e760	---	---	---	---	---	e1200
MONTH	13100	5260	8570	---	---	6030	---	---	2550	---	---	3520
DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	e1300	---	---	e900	---	---	---	---	---	---
2	---	---	e1400	---	---	e900	---	---	---	---	---	---
3	---	---	e1500	---	---	e1000	---	---	---	---	---	---
4	---	---	e1600	---	---	e1000	---	---	---	---	---	---
5	---	---	e1600	---	---	e1100	---	---	---	---	---	---
6	---	---	e1700	---	---	---	---	---	---	---	---	---
7	---	---	e1800	---	---	---	---	---	---	---	---	---
8	---	---	e1900	---	---	---	---	---	---	---	---	---
9	---	---	e2000	---	---	---	---	---	---	---	---	---
10	---	---	2190	2070	1530	1740	---	---	---	---	---	---
11	6380	158	477	2470	2070	2310	---	---	---	---	---	---
12	430	288	390	2650	2380	2520	---	---	---	---	---	---
13	474	430	449	2700	2480	2580	---	---	---	---	---	---
14	---	---	e400	2690	2530	2620	---	---	---	---	---	---
15	---	---	e400	---	---	---	---	---	---	---	---	---
16	---	---	e400	---	---	---	---	---	---	---	---	---
17	---	---	e500	---	---	---	---	---	---	---	---	---
18	---	---	e600	---	---	---	---	---	---	---	---	---
19	---	---	e700	---	---	---	---	---	---	---	---	---
20	---	---	e800	---	---	---	---	---	---	---	---	---
21	---	---	e900	---	---	---	---	---	---	---	---	---
22	---	---	e1100	---	---	---	---	---	---	---	---	---
23	---	---	e1200	---	---	---	---	---	---	---	---	---
24	---	---	e1400	---	---	---	---	---	---	---	---	---
25	---	---	e1000	---	---	---	---	---	---	---	---	---
26	---	---	e600	---	---	---	---	---	---	---	---	---
27	---	---	e600	---	---	---	---	---	---	---	---	---
28	---	---	e700	---	---	---	---	---	---	---	---	---
29	---	---	e700	---	---	---	---	---	---	---	---	---
30	---	---	e800	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	1040	---	---	---	---	---	---	---	---	---

e Estimated

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TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	17.4	16.2	16.9	14.1	12.3	13.1	10.1	7.6	8.7
2	---	---	---	17.3	15.8	16.6	14.8	12.6	13.6	9.9	6.2	7.2
3	---	---	---	16.9	13.1	15.3	14.8	13.9	14.2	7.2	3.3	4.2
4	---	---	---	15.3	13.3	14.2	14.6	12.8	13.8	4.7	3.1	4.1
5	---	---	---	13.3	11.8	12.3	15.4	13.0	14.2	5.4	2.5	4.4
6	---	---	---	---	---	---	15.6	14.1	15.1	5.7	4.1	5.0
7	---	---	---	---	---	---	14.1	11.3	12.7	6.3	5.1	5.7
8	---	---	---	---	---	---	11.3	8.8	9.8	6.4	3.6	5.4
9	---	---	---	---	---	---	8.8	6.7	7.7	4.9	2.0	3.6
10	---	---	---	---	---	---	8.3	7.7	8.0	5.8	4.7	5.2
11	---	---	---	---	---	---	7.7	7.0	7.4	7.3	4.5	5.8
12	---	---	---	---	---	---	8.3	6.9	7.4	9.9	6.7	8.1
13	---	---	---	---	---	---	8.7	8.2	8.4	9.4	6.8	8.0
14	---	---	---	---	---	---	8.9	8.2	8.6	7.6	6.0	7.0
15	---	---	---	---	---	---	9.0	7.3	8.3	7.9	3.5	6.6
16	---	---	---	---	---	---	9.5	7.8	8.7	8.3	6.6	7.4
17	---	---	---	---	---	---	9.1	7.1	8.2	9.0	6.9	8.1
18	---	---	---	---	---	---	8.6	7.3	7.8	9.1	6.8	8.3
19	---	---	---	---	---	---	8.6	7.2	7.9	10.6	6.3	8.4
20	---	---	---	---	---	---	8.1	6.9	7.4	11.6	8.1	9.7
21	---	---	---	---	---	---	8.5	4.5	7.3	12.4	10.2	11.2
22	---	---	---	---	---	---	4.5	1.9	2.7	11.8	8.8	10.0
23	---	---	---	---	---	---	2.7	2.0	2.3	9.4	7.1	8.4
24	---	---	---	---	---	---	3.8	1.6	2.5	10.8	7.0	8.8
25	---	---	---	---	---	---	3.9	1.5	2.8	9.8	8.3	9.1
26	---	---	---	---	---	---	4.2	3.5	3.8	12.0	8.0	9.8
27	---	---	---	---	---	---	5.2	2.2	4.1	13.4	10.7	11.8
28	---	---	---	---	---	---	6.4	5.2	5.7	13.2	12.0	12.4
29	---	---	---	---	---	---	7.4	6.4	6.9	12.0	8.9	10.3
30	---	---	---	16.0	14.1	14.8	9.2	5.5	7.6	9.7	9.0	9.4
31	---	---	---	---	---	---	8.8	6.2	7.7	10.3	7.4	9.1
MONTH	---	---	---	---	---	---	15.6	1.5	8.2	13.4	2.0	7.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	12.2	6.6	9.3	16.9	13.3	15.2	21.3	16.6	18.7	21.5	18.9	19.9
2	11.5	7.7	9.8	17.1	13.8	15.4	22.3	18.9	20.3	23.2	18.1	20.0
3	12.3	7.2	9.9	15.6	12.4	14.3	22.3	18.8	20.3	25.0	19.8	22.3
4	11.8	9.6	11.0	16.2	12.0	14.0	20.0	15.9	18.1	25.7	21.7	23.4
5	15.0	10.5	12.8	18.2	14.5	16.0	21.0	17.3	19.2	24.3	20.0	22.2
6	15.3	13.9	14.3	16.0	13.6	14.9	20.1	14.9	17.7	23.1	18.1	20.8
7	14.9	10.9	13.5	14.9	12.9	13.8	21.5	17.2	19.2	23.8	17.6	20.6
8	14.8	11.8	13.2	16.5	12.5	14.5	24.5	20.2	21.8	25.1	19.5	22.1
9	14.2	12.1	13.2	16.2	13.7	15.1	23.1	19.8	21.6	24.8	22.2	23.6
10	17.1	11.8	14.2	18.0	14.0	15.9	22.1	20.3	21.3	26.8	22.2	24.1
11	15.9	12.8	14.6	16.7	14.2	15.3	20.6	16.8	18.7	27.0	22.5	24.5
12	12.8	9.3	10.9	14.2	11.4	12.9	20.3	17.4	18.7	27.4	22.2	24.5
13	11.3	7.5	9.4	11.4	7.7	9.6	21.3	19.3	20.3	25.0	21.5	23.4
14	11.4	7.5	9.6	12.0	5.8	8.6	21.9	17.7	19.9	26.2	22.6	24.4
15	13.9	9.1	11.3	15.1	8.2	11.4	18.6	14.9	16.6	29.1	24.2	26.2
16	13.4	11.4	12.7	17.1	10.4	13.8	18.7	13.0	15.4	28.1	25.5	26.6
17	13.3	9.8	11.6	15.3	13.5	14.4	17.9	11.4	14.6	29.3	25.0	26.7
18	13.2	10.9	12.1	15.7	13.8	15.1	18.2	12.0	15.0	28.2	23.3	25.6
19	13.0	9.9	11.6	15.7	12.9	14.2	21.8	15.3	18.2	26.9	21.9	24.4
20	12.9	10.9	12.0	16.7	11.6	13.9	24.1	18.1	20.7	26.8	23.7	25.2
21	12.1	8.9	11.2	19.0	11.2	14.7	24.4	20.1	22.1	27.7	24.1	25.8
22	11.2	8.8	10.2	20.5	13.3	16.5	26.2	21.2	23.4	29.8	24.9	27.0
23	12.3	7.3	9.8	18.2	15.5	16.7	26.7	22.9	24.2	29.2	25.5	27.2
24	14.9	8.2	11.5	15.6	13.9	14.6	22.9	18.3	20.0	27.7	25.2	26.4
25	17.8	12.6	15.2	19.0	12.3	15.1	19.0	17.4	18.1	28.5	23.5	25.7
26	18.0	15.9	17.0	17.0	12.6	15.2	21.3	16.9	19.0	26.6	19.8	22.2
27	17.6	15.3	16.6	16.7	13.0	14.8	22.5	17.5	20.0	23.4	19.0	21.3
28	16.7	12.8	14.7	13.6	12.2	12.9	26.4	19.3	22.4	24.8	21.3	23.0
29	---	---	---	14.2	13.1	13.6	23.5	20.1	21.8	26.6	22.1	24.0
30	---	---	---	15.3	13.2	14.2	23.7	19.2	21.3	29.8	22.9	26.0
31	---	---	---	21.1	13.9	16.9	---	---	---	30.5	25.5	27.8
MONTH	18.0	6.6	12.3	21.1	5.8	14.3	26.7	11.4	19.6	30.5	17.6	24.1

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BRAZOS RIVER BASIN

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX

LOCATION.--Lat 32°49'53", long 98°58'03", Stephens County, Hydrologic Unit 12060105, on left bank just upstream from dam on Hubbard Creek, 1.4 mi upstream from U.S. Highway 183, 6.5 mi northwest of Breckenridge, and 12.6 mi upstream from mouth.

DRAINAGE AREA.--1,085 mi².

WATER-CONTENT RECORDS

PERIOD OF RECORD.--Oct 1962 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area. WDR TX-95-2: 1990-94.

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

REMARKS.--Records good except those for estimated daily contents, which are fair. The reservoir is formed by a rolled earthfill dam 5,630 ft long. There are two additional levees, the north and south, making an overall length of 3.5 mi. Storage began Sep 1962 and the dam was completed in Dec 1962. The emergency spillway is a 2,000-foot-wide cut through natural ground near the left end of dam. The service spillway is a partially controlled morning-glory type, with 12 lift gates designed to discharge 30,000 ft³/s with a 17.5-ft head through a 22.0-ft-diameter concrete conduit. The dam is the property of the West Central Texas Municipal Water District. Prior to Oct 1, 1998, contents determined from capacity table dated Aug 1, 1962 furnished by West Central Texas Municipal Water District. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	1,208.0
Crest of emergency spillway.....	1,194.0
Top of gates.....	1,185.1
Top of conservation pool.....	1,183.0
Crest of spillway.....	1,176.6
Sill of gate.....	1,138.0
Lowest gated outlet (invert).....	1,136.0

COOPERATION.--The capacity table dated Oct 1, 1998 was furnished by the Texas Water Development Board and is based on a Feb 1997 volumetric survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 441,200 acre-ft, Oct 14, 1981, for several hours (elevation, 1,190.22 ft); minimum since normal operating level was reached in May 1969, 157,400 acre-ft, Oct 1, 1984 (elevation, 1,169.89 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 275,800 acre-ft, Oct 2 (elevation, 1,179.54 ft); minimum contents, 221,900 acre-ft, Sep 30 (elevation, 1,175.34 ft).

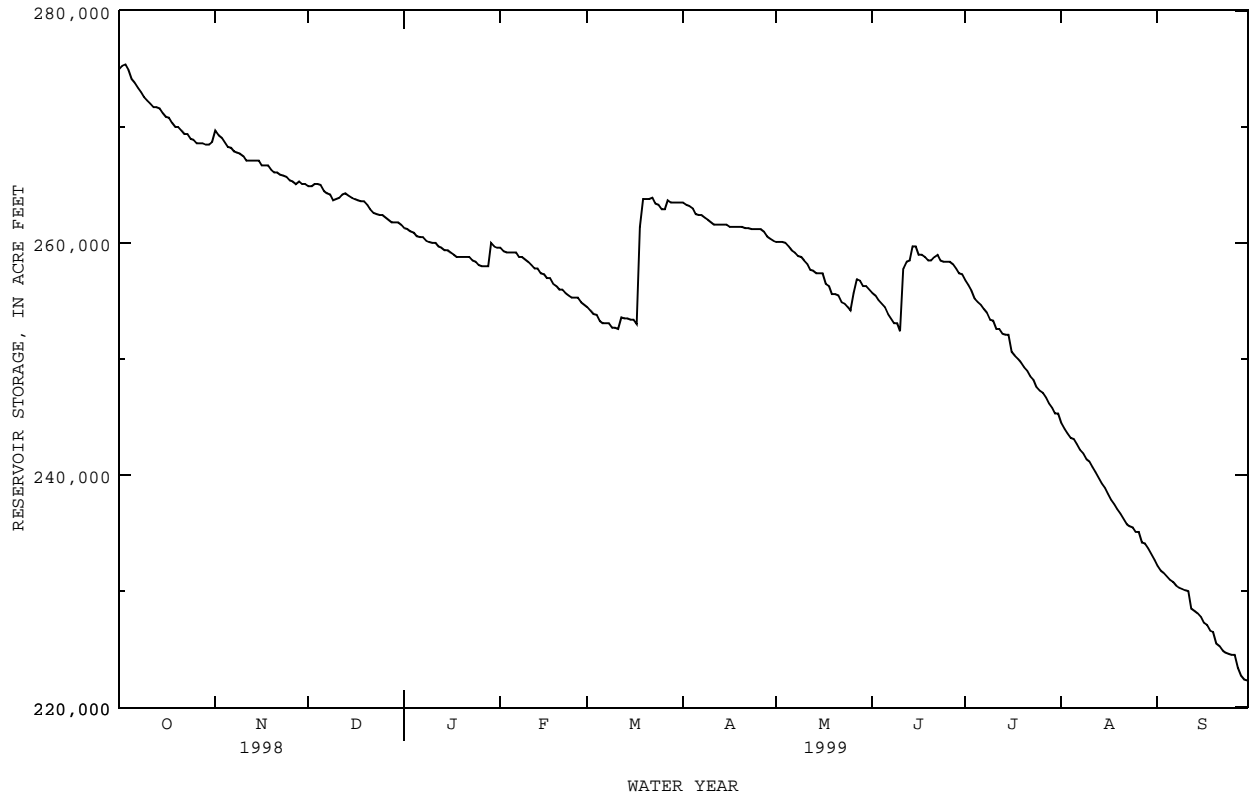
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	275000	269700	264900	261300	259600	254500	263500	260100	255700	256800	244500	232200
2	275300	269300	264900	261200	259300	254200	263300	260100	255500	256400	244000	231800
3	275400	269100	265100	261000	259200	253900	263200	260100	255100	255900	243600	231600
4	274900	268700	265100	260900	259200	253800	263000	260000	254800	255200	243200	231300
5	274100	268300	265000	260600	259200	253300	262500	259700	254500	254900	243100	231000
6	273800	268200	264500	260500	259200	253100	262400	259400	253900	254700	242700	230800
7	273400	267900	264300	260500	258800	253100	262400	259200	253500	254300	242200	230500
8	273000	267800	264200	260200	258800	253100	262200	258900	253100	254000	241900	230300
9	272600	267700	263700	260100	258600	252700	262000	258800	253100	254000	241400	230200
10	272300	267500	263800	260000	258400	252700	261800	258500	252400	253300	241200	230100
11	272000	267100	263900	260000	258100	252600	261600	258200	257800	252600	240700	230000
12	271700	267100	264200	259700	257800	253600	261600	257700	258400	252600	240300	228500
13	271700	267100	264300	259600	257800	253500	261600	257600	258500	252200	239800	228300
14	271600	267100	264100	259400	257400	253500	261600	257400	259700	252100	239300	228100
15	271200	267100	263900	259400	257300	253400	261600	257400	259700	252100	238900	227800
16	270900	266700	263800	259200	257000	253400	261400	257400	259000	250600	238400	227300
17	270800	266700	263700	259000	257000	253000	261400	256500	259000	250300	237900	227100
18	270400	266700	263600	258800	256500	261400	261400	256300	258800	250000	237500	226600
19	270000	266300	263600	258800	256300	263800	261400	255600	258500	249700	237100	226500
20	270000	266100	263300	258800	256000	263800	261400	255600	258500	249300	236700	225500
21	269700	266100	262900	258800	256000	263800	261300	255500	258800	249000	236300	225300
22	269400	265900	262600	258800	255700	263900	261300	254900	259000	248500	235800	224900
23	269400	265800	262500	258500	255500	263400	e261200	254800	258500	248200	235600	224700
24	269000	265700	262400	258400	255300	263300	e261200	254500	258400	247600	235500	224600
25	268900	265400	262400	258100	255300	262900	e261200	254200	258400	247300	235100	224500
26	268600	265300	262200	258000	255300	262900	261200	255700	258400	247100	235100	224500
27	268600	265100	262000	258000	254900	263700	261000	256900	258200	246700	234200	223400
28	268600	265300	261800	258000	254700	263500	260600	256800	257800	246200	234100	222700
29	268500	265100	261800	260000	---	263500	260400	256300	257400	245800	233700	222400
30	268500	265100	261800	259700	---	263500	260200	256300	257300	245300	233200	222300
31	268700	---	261600	259600	---	263500	---	256000	---	245300	232700	---
MAX	275400	269700	265100	261300	259600	263900	263500	260100	259700	256800	244500	232200
MIN	268500	265100	261600	258000	254700	252600	260200	254200	252400	245300	232700	222300
(+)	1179.02	1178.75	1178.48	1178.33	1177.96	1178.63	1178.38	1178.06	1178.16	1177.23	1176.23	1175.37
(@)	+1100	-3600	-3500	-2000	-4900	+8800	-3300	-4200	+1300	-12000	-12600	-10400
CAL YR 1998	MAX 318100	MIN 261600	(@) -31600									
WTR YR 1999	MAX 275400	MIN 222300	(@) -45300									

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

e Estimated

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued



BRAZOS RIVER BASIN

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Sep 1963 to current year.

BIOCHEMICAL DATA: Sep 1963 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

324932098575101 - HUBBARD CREEK RESERVOIR SITE P01

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, SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL AS CACO3 (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
FEB											
17...	1014	257000	1.00	1130	8.0	11.5	1.01	9.9	95	250	140
17...	1017	--	10.0	1130	8.1	11.0	--	9.9	94	--	--
17...	1021	--	20.0	1130	8.1	11.0	--	9.8	93	--	--
17...	1024	--	30.0	1130	8.1	11.0	--	9.9	94	--	--
17...	1028	--	40.0	1130	8.1	11.0	--	9.9	94	--	--
17...	1032	--	50.0	1130	8.1	11.0	--	9.9	94	--	--
17...	1036	--	64.0	1130	8.1	11.0	--	9.8	93	250	130
SEP											
14...	1109	228000	1.00	1200	8.0	27.0	1.04	6.3	82	270	170
14...	1112	--	10.0	1200	8.0	27.0	--	6.2	81	--	--
14...	1115	--	20.0	1200	8.0	27.0	--	6.1	80	--	--
14...	1118	--	30.0	1200	8.0	26.5	--	6.2	80	--	--
14...	1120	--	40.0	1200	8.0	26.5	--	6.2	80	--	--
14...	1124	--	50.0	1200	8.0	26.5	--	6.2	80	--	--
14...	1127	--	57.0	1200	8.0	26.5	--	6.2	80	270	170

324932098575101 - HUBBARD CREEK RESERVOIR SITE P01

DATE	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K (00935)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L) AS S04 (39036)	SULFATE DIS- SOLVED (MG/L) AS S04 (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)
FEB										
17...	66	22	107	3	7.2	120	74	240	.28	7.1
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	65	21	107	3	6.8	110	74	240	.28	7.3
SEP										
14...	69	24	124	3	8.6	100	79	260	.35	8.6
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	69	24	124	3	8.5	100	78	260	.35	8.7

324932098575101 - HUBBARD CREEK RESERVOIR SITE P01

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L) AS N (00607)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L) AS N (00623)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) AS P (00671)	IRON, DIS- SOLVED (UG/L) AS FE (01046)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN (01056)
FEB										
17...	593	<.010	<.050	.020	.33	.35	<.050	<.010	<10	<3.0
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	590	<.010	<.050	.027	.33	.35	<.050	<.010	<10	26
SEP										
14...	636	<.010	<.050	<.020	--	.40	<.050	<.010	<10	<2.2
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	635	<.010	<.050	<.020	--	.34	<.050	<.010	<10	2.8

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

324649099000501 - HUBBARD CR RES SITE P09

DATE	TIME	SAM-PLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TRANSPARANCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS-SOLVED (PERCENT) (00300)	OXYGEN, SATUR-ATION (MG/L) (00301)	HARD-NESS TOTAL (MG/L) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
FEB										
17...	0943	1.00	1130	8.1	11.0	.94	10.0	95	250	140
17...	0945	10.0	1130	8.1	11.0	--	10.0	95	--	--
17...	0948	20.0	1130	8.1	11.0	--	10.0	95	--	--
17...	0951	30.0	1130	8.1	11.0	--	10.0	95	--	--
17...	0954	40.0	1130	8.1	11.0	--	10.0	95	--	--
17...	0958	45.0	1130	8.0	11.0	--	9.8	93	260	150
SEP										
14...	1031	1.00	1190	8.1	26.0	.91	7.3	94	280	170
14...	1036	10.0	1200	7.9	26.0	--	7.3	94	--	--
14...	1041	20.0	1210	7.8	26.0	--	6.6	85	--	--
14...	1046	30.0	1210	7.7	26.0	--	6.2	80	--	--
14...	1051	41.0	1210	7.4	26.0	--	6.1	78	280	170

324649099000501 - HUBBARD CR RES SITE P09

DATE	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNESIUM, DIS-SOLVED (MG/L) AS MG (00925)	SODIUM, DIS-SOLVED (MG/L) AS NA (00930)	SODIUM AD-SORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L) AS K (00935)	ALKALINITY WAT DIS FIX END (MG/L) (39036)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	CHLORIDE, DIS-SOLVED (MG/L) AS CL (00940)	FLUORIDE, DIS-SOLVED (MG/L) AS F (00950)	SILICA, DIS-SOLVED (MG/L) AS SIO2 (00955)
FEB										
17...	65	21	109	3	7.1	110	75	240	.28	7.3
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	69	22	111	3	7.5	110	75	240	.20	7.2
SEP										
14...	70	24	124	3	8.7	110	79	260	.35	8.6
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	71	24	125	3	8.5	110	79	260	.36	8.6

324649099000501 - HUBBARD CR RES SITE P09

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	NITROGEN, NITRITE DIS-SOLVED (MG/L) AS N (00613)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITROGEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L) AS N (00623)	PHOSPHORUS, DIS-SOLVED (MG/L) AS P (00666)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L) AS P (00671)	PHOSPHATE, DIS-SOLVED (MG/L) AS PO4 (00660)	IRON, DIS-SOLVED (UG/L) AS FE (01046)	MANGANESE, DIS-SOLVED (UG/L) AS MN (01056)
FEB										
17...	595	<.010	<.050	<.020	.33	<.050	<.010	--	<10	E2.3
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
17...	599	<.010	<.050	<.020	.33	<.050	<.010	--	<10	4.0
SEP										
14...	640	<.010	<.050	<.020	.30	<.050	<.010	--	<10	<2.2
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	641	<.010	<.050	<.020	.32	<.050	.010	.03	<10	5.2

BRAZOS RIVER BASIN

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

324606099000201 - HUBBARD CR RES SITE P10

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)	OXYGEN, DIS- SOLVED SATUR- ATION (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (PER- CENT) (00301)
FEB							
17...	1227	1.00	1140	8.5	12.0	9.9	96
17...	1229	10.0	1140	8.5	11.5	9.9	95
17...	1231	20.0	1140	8.4	11.5	9.8	94
17...	1233	34.0	1140	8.4	11.5	9.8	94
SEP							
14...	1309	1.00	1210	8.3	26.0	7.6	98
14...	1311	10.0	1210	8.3	26.0	7.4	95
14...	1313	20.0	1210	8.2	25.5	6.9	88
14...	1315	29.0	1210	8.2	25.5	6.6	84

324514099010201 - HUBBARD CR RES SITE P11

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)	OXYGEN, DIS- SOLVED SATUR- ATION (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (PER- CENT) (00301)
FEB							
17...	1242	1.00	1140	8.5	12.0	9.8	95
17...	1244	10.0	1140	8.4	12.0	9.8	95
17...	1246	23.0	1140	8.4	12.0	9.6	93
SEP							
14...	1326	1.00	1210	8.4	26.0	7.9	102
14...	1328	10.0	1220	8.3	26.0	7.7	99
14...	1330	20.0	1220	8.2	25.5	6.8	87

324301099001701 - HUBBARD CR RES SITE P12

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 SATUR- ATION (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (PER- CENT) (00301)	HARD- NESS TOTAL (MG/L) CACO3 (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
FEB										
17...	1258	1.00	1240	8.1	12.5	.34	9.6	94	280	160
17...	1304	10.0	1240	8.1	12.5	--	9.6	94	290	170
SEP										
14...	1350	1.00	1280	8.4	25.5	.12	8.2	104	300	180
14...	1355	7.00	1290	8.3	25.0	--	8.1	102	300	180

324301099001701 - HUBBARD CR RES SITE P12

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	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)
FEB										
17...	74	23	118	3	7.2	120	82	260	.27	5.5
17...	77	24	123	3	7.4	120	82	270	.27	5.6
SEP										
14...	76	25	134	3	9.1	110	80	280	.38	8.3
14...	77	26	135	3	8.8	110	80	290	.38	8.3

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

324301099001701 - HUBBARD CR RES SITE P12

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS-SOLVED (MG/L) AS N) (00613)	NITRO- GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N) (00631)	NITRO- GEN, AMMONIA DIS-SOLVED (MG/L) AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L) AS N) (00623)	PHOS- PHORUS DIS-SOLVED (MG/L) AS P) (00666)	PHOS- PHORUS ORTHO, DIS-SOLVED (MG/L) AS P) (00671)	IRON, DIS-SOLVED (UG/L) AS FE) (01046)	MANGA- NESE, DIS-SOLVED (UG/L) AS MN) (01056)
FEB									
17...	646	<.010	<.050	<.020	.35	<.050	<.010	<10	E1.5
17...	659	<.010	<.050	<.020	.34	<.050	<.010	<10	E1.7
SEP									
14...	684	<.010	<.050	<.020	.43	<.050	<.010	<10	<2.2
14...	688	<.010	<.050	<.020	.36	<.050	<.010	<10	<2.2

324949098594301 - HUBBARD CR RES SITE P13

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)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- CENT SATUR- ATION) (00301)
FEB							
17...	1048	1.00	1130	8.4	11.5	9.9	95
17...	1051	10.0	1130	8.4	11.5	9.9	95
17...	1054	20.0	1130	8.4	11.5	9.9	95
17...	1057	30.0	1130	8.4	11.5	9.9	95
17...	1100	40.0	1130	8.4	11.5	9.8	94
17...	1103	50.0	1130	8.4	11.5	9.8	94
17...	1106	57.0	1130	8.4	11.5	9.8	94
SEP							
14...	1140	1.00	1200	8.2	27.0	6.9	90
14...	1142	10.0	1200	8.2	27.0	6.8	89
14...	1145	20.0	1200	8.2	26.5	6.7	87
14...	1147	30.0	1210	8.2	26.5	6.6	86
14...	1150	40.0	1200	8.1	26.5	6.5	84
14...	1153	52.0	1200	8.1	26.5	6.3	82

324802099021601 - HUBBARD CR RES SITE P15

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)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- CENT SATUR- ATION) (00301)
FEB							
17...	1123	1.00	1130	8.5	11.5	9.9	95
17...	1125	10.0	1130	8.5	11.5	10.0	96
17...	1128	20.0	1130	8.4	11.5	9.9	95
17...	1130	34.0	1130	8.4	11.5	9.9	95
SEP							
14...	1209	1.00	1200	8.3	26.5	7.5	97
14...	1211	10.0	1210	8.2	26.0	7.2	93
14...	1214	20.0	1220	8.1	25.5	6.4	82
14...	1217	30.0	1220	8.1	25.5	6.2	79

324653099032401 - HUBBARD CR RES SITE P16

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- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L) AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
FEB										
17...	1143	1.00	1140	8.5	12.0	.49	10.0	97	260	150
17...	1148	10.0	1140	8.5	11.5	--	9.9	95	--	--
17...	1153	18.0	1140	8.5	11.5	--	9.9	95	270	150
SEP										
14...	1231	1.00	1230	8.4	25.5	.49	8.0	102	280	180
14...	1235	10.0	1230	8.3	25.0	--	7.6	96	--	--
14...	1240	17.0	1230	8.2	25.0	--	6.5	82	280	180

BRAZOS RIVER BASIN

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

324653099032401 - HUBBARD CR RES SITE P16

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	SULFATE DIS- SOLVED (MG/L AS S04) (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)
FEB										
17...	68	22	110	3	7.7	120	75	240	.28	7.2
17...	--	--	--	--	--	--	--	--	--	--
17...	70	23	112	3	7.4	120	76	240	.29	6.9
SEP										
14...	71	25	130	3	9.1	100	81	270	.37	8.8
14...	--	--	--	--	--	--	--	--	--	--
14...	70	25	129	3	8.9	100	81	270	.37	8.8

324653099032401 - HUBBARD CR RES SITE P16

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS. SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, DIS- SOLVED (MG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB									
17...	601	<.010	<.050	<.020	.30	<.050	<.010	<10	<3.0
17...	--	--	--	--	--	--	--	--	--
17...	606	<.010	<.050	<.020	.32	<.050	<.010	<10	E1.9
SEP									
14...	660	<.010	<.050	<.020	.32	<.050	<.010	<10	<2.2
14...	--	--	--	--	--	--	--	--	--
14...	653	<.010	<.050	<.020	.28	<.050	<.010	<10	<2.2

324608099042101 - HUBBARD CR RES SITE P17

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
FEB							
17...	1348	1.00	1220	8.2	12.5	9.1	90
17...	1350	10.0	1220	8.2	12.5	8.8	87
17...	1353	16.0	1220	8.2	12.5	8.9	88
SEP							
14...	1449	1.00	1290	8.2	26.0	7.9	102
14...	1452	13.0	1280	7.7	25.5	2.4	31

324541099053601 - HUBBARD CR RES SITE P18

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	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)
FEB										
17...	1407	1.00	1500	8.2	14.0	.40	9.0	92	370	230
17...	1411	10.0	1490	8.1	13.0	--	8.6	86	--	--
17...	1415	17.0	1690	8.0	13.0	--	7.5	75	420	280
SEP										
14...	1509	1.00	1440	7.8	27.0	.40	6.4	84	340	220
14...	1513	14.0	1480	7.7	26.5	--	4.4	57	350	230

08086400 HUBBARD CREEK RESERVOIR NEAR BRECKENRIDGE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

324541099053601 - HUBBARD CR RES SITE P18

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	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)
FEB										
17...	30	146	3	7.4	140	130	310	.16	6.3	814
17...	--	--	--	--	--	--	--	--	--	--
17...	34	164	3	7.2	150	150	360	.27	6.7	920
SEP										
14...	29	146	3	8.5	120	98	320	.35	11	767
14...	30	149	3	8.4	120	100	330	.34	11	788

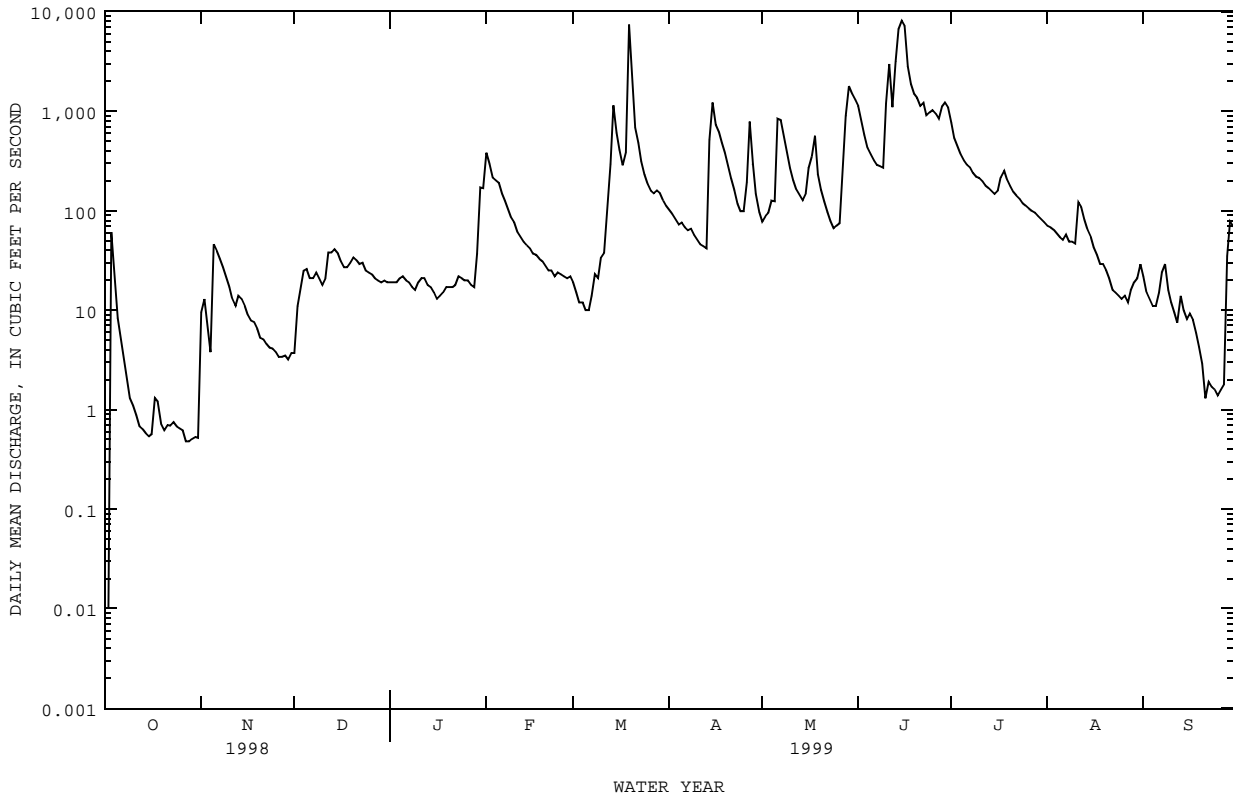
324541099053601 - HUBBARD CR RES SITE P18

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB										
17...	.372	.010	.382	.151	.42	.57	<.050	<.010	<10	8.2
17...	--	--	--	--	--	--	--	--	--	--
17...	.703	.014	.717	.181	.42	.60	<.050	<.010	<10	58
SEP										
14...	--	<.010	<.050	.032	.33	.36	<.050	<.010	<10	9.7
14...	--	<.010	<.050	.081	.36	.44	<.050	<.010	<10	79

08088000 BRAZOS RIVER NEAR SOUTH BEND, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1962 - 1999z	
ANNUAL TOTAL	63825.16		101824.74		713	
ANNUAL MEAN	175		279		189	
HIGHEST ANNUAL MEAN					2966	1992
LOWEST ANNUAL MEAN					189	1998
HIGHEST DAILY MEAN	14500	Mar 17	8100	Jun 15	74700	Aug 6 1978
LOWEST DAILY MEAN	.00	Aug 27	.00	Oct 1	.00	Aug 3 1964
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 27	.54	Oct 25	.00	Aug 3 1964
INSTANTANEOUS PEAK FLOW			9750	Mar 19	87400	May 4 1941
INSTANTANEOUS PEAK STAGE			16.31	Mar 19	41.50	Aug 6 1978
ANNUAL RUNOFF (AC-FT)	126600		202000		516800	
10 PERCENT EXCEEDS	191		707		1280	
50 PERCENT EXCEEDS	45		38		131	
90 PERCENT EXCEEDS	.01		3.3		16	

e Estimated
z Period of regulated streamflow.



BRAZOS RIVER BASIN

08088400 LAKE GRAHAM NEAR GRAHAM, TX

LOCATION.--Lat 33°08'04", long 98°36'48", Young County, Hydrologic Unit 12060201, near left end of earthen dam on Salt Creek, 2.2 mi northwest of Graham, 5 mi downstream from Briar Creek, and 9.5 mi upstream from mouth.

DRAINAGE AREA.--221 mi².

PERIOD OF RECORD.--Mar 1958 to Sep 1963 (unpublished record), Oct 1963 to current year. Prior to Oct 1965, end of month contents only.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1.30 ft above sea level. Prior to Oct 1963, nonrecording gage at same site and datum. Satellite telemeter at station.

REMARKS.--Records good. The lake is formed by a rolled earthfill dam 5,000 ft long. Lake Graham was connected with Lake Eddleman in 1959 by a cut channel at a gage height of 1,050.0 ft. Deliberate impoundment began Apr 28, 1958, and dam was completed in Jul 1958. The uncontrolled emergency spillway is a 1,050-foot-wide cut at the right end of dam. The spillway is designed to discharge 136,500 ft³/s at a gage height of 1,087.5 ft. The dam is the property of the city of Graham and was built to impound water for municipal and industrial uses. In addition, water is used by the Texas Electric Service Co. for operation of their steam generating powerplant. The capacity table is based on an original survey of Lake Eddleman in 1928 and a Salt Creek survey of 1953. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Gage height (feet)
Top of dam.....	1,092.0
Crest of spillway.....	1,075.0
Bottom of interconnecting channel.....	1,050.0
Lowest gated outlet (invert).....	1,050.0

COOPERATION.--Capacity table was provided by Freese and Nichols Inc., Consulting Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 63,280 acre-ft, May 3, 1990 (gage height, 1,078.52 ft); minimum, 23,390 acre-ft May 1, 1980 (gage height, 1,061.23 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 52,210 acre-ft, Jun 13-14 (gage height, 1,074.42 ft); minimum contents, 37,370 acre-ft, Mar 8 (gage height, 1,068.19 ft).

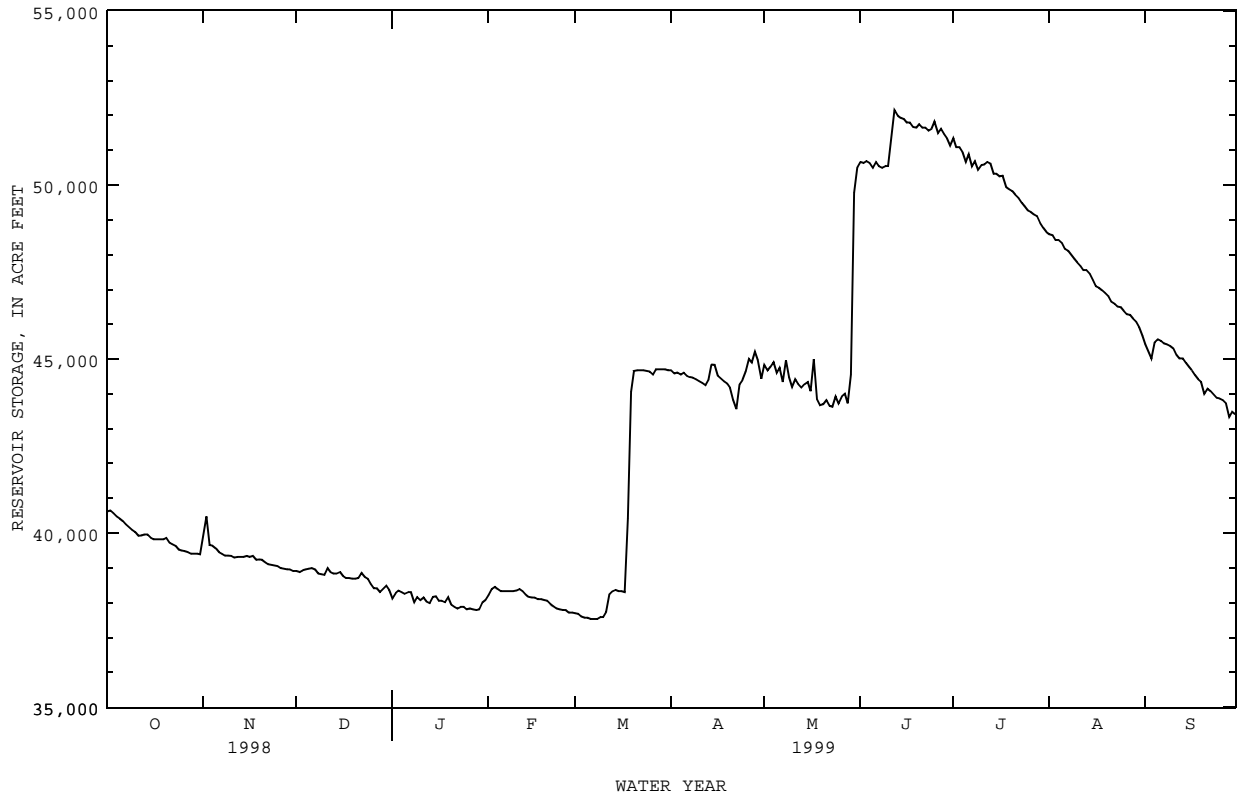
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40630	39940	38910	38130	38220	37700	44680	44830	50670	51340	48590	45430
2	40650	40490	38890	38280	38400	37680	44590	44680	50640	51090	48560	45210
3	40580	39660	38930	38350	38460	37610	44610	44780	50690	51090	48420	45020
4	40490	39640	38960	38310	38400	37570	44560	44920	50640	50940	48420	45480
5	40420	39570	38980	38260	38330	37570	44610	44610	50500	50670	48340	45570
6	40350	39460	39000	38310	38330	37540	44520	44760	50670	50890	48170	45520
7	40260	39410	38960	38310	38330	37540	44490	44350	50540	50540	48120	45450
8	40170	39360	38840	38020	38330	37540	44470	44970	50500	50690	48000	45430
9	40100	39360	38820	38170	38330	37590	44420	44470	50540	50450	47880	45380
10	40030	39340	38800	38080	38350	37590	44370	44200	50540	50570	47780	45310
11	39920	39300	39000	38150	38400	37750	44320	44420	51370	50590	47680	45120
12	39940	39320	38890	38040	38330	38240	44250	44280	52160	50670	47560	45020
13	39960	39320	38840	37990	38240	38330	44420	44180	52000	50620	47560	45020
14	39960	39320	38840	38170	38170	38370	44850	44280	51930	50320	47460	44900
15	39870	39340	38890	38190	38150	38330	44830	44350	51900	50320	47270	44780
16	39820	39320	38780	38060	38150	38330	44520	44080	51800	50250	47100	44680
17	39820	39340	38710	38060	38100	38310	44440	45000	51800	50270	47050	44540
18	39820	39230	38710	38020	38100	40420	44370	43840	51670	49950	46980	44420
19	39820	39250	38690	38170	38080	44060	44300	43680	51650	49880	46900	44350
20	39870	39230	38690	37950	38060	44660	44180	43700	51750	49830	46810	44010
21	39730	39160	38710	37880	37970	44680	43820	43820	51650	49730	46660	44160
22	39690	39110	38860	37840	37900	44680	43560	43660	51650	49630	46590	44080
23	39640	39090	38750	37880	37840	44680	44280	43630	51570	49500	46510	43990
24	39530	39070	38690	37880	37810	44660	44400	43920	51620	49400	46490	43890
25	39500	39050	38550	37810	37790	44640	44640	43730	51830	49280	46390	43870
26	39480	39000	38420	37840	37790	44560	45000	43920	51500	49230	46290	43820
27	39460	38980	38420	37810	37720	44710	44900	44010	51620	49160	46270	43730
28	39410	38960	38310	37790	37720	44710	45210	43730	51470	49110	46170	43350
29	39410	38960	38400	37810	---	44710	44970	44560	51340	48910	46080	43490
30	39410	38910	38490	38010	---	44710	44440	49780	51140	48780	45910	43420
31	39390	---	38370	38080	---	44680	---	50520	---	48660	45670	---
MAX	40650	40490	39000	38350	38460	44710	45210	50520	52160	51340	48590	45570
MIN	39390	38910	38310	37790	37720	37540	43560	43630	50500	48660	45670	43350
(+)	1069.09	1068.88	1068.64	1068.51	1068.35	1071.36	1071.26	1073.75	1074.00	1073.00	1071.77	1070.83
(@)	-1060	-480	-540	-290	-360	+6960	-240	+6080	+620	-2480	-2990	-2250

CAL YR 1998 MAX 53100 MIN 38310 (@) -6750
WTR YR 1999 MAX 52160 MIN 37540 (@) +2970

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

08088400 LAKE GRAHAM NEAR GRAHAM, TX--Continued



BRAZOS RIVER BASIN

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX

LOCATION.--Lat 32°52'20", long 98°25'32", Palo Pinto County, Hydrologic Unit 12060201, at Morris Sheppard Dam on the Brazos River, 2.6 mi upstream from Loving Creek, 11.3 mi southwest of Graford, and at mile 687.5.

DRAINAGE AREA.--23,596 mi², approximately, of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--Mar 1941 to current year. Prior to Oct 1977, published as "Possum Kingdom Reservoir".
Water-quality records.--Chemical data: Mar 1962 to Sep 1977. Biochemical data: Feb 1978 to Sep 1997.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.10 ft above sea level. Satellite telemeter at station.

REMARKS.--The lake is formed by reinforced concrete dam, Ambursen-type, massive buttress with flat-slab deck, a controlled spillway, two bulkhead sections, and an earthen-dike section. Total length of dam is 2,740 ft long. The dam was completed and storage begun Mar 21, 1941. The spillway has nine roof-weir gates (modified bear-trap type) that are 73.66 by 13 ft each and are designed to discharge about 100,000 ft³/s at a gage height of 1,000.0 ft. The outlet works consist of one controlled 54-inch diameter conduit. Water is used for power development, irrigation, municipal, industrial, and recreational purposes. Two generators located in the powerhouse at dam can produce 22,500 kilowatts at a 1,000-foot gage height. Eleven major reservoirs, with a combined capacity of 607,800 acre-ft, largely regulate the inflow. For statement regarding regulation by Natural Resources Conservation Service floodwater-retarding structures, see station 08080950. Data regarding the dam are given in the following table:

	Gage height (feet)
Top of dam.....	1,024.0
Design flood (top of gates).....	1,000.0
Crest of spillway.....	987.0
Invert of penstock.....	911.5
Lowest gated outlet (invert of 54-inch conduit).....	874.8

COOPERATION.--Capacity table 3-C was provided by the Brazos River Authority. Capacity table 4-C, provided by the Texas Water Development Board, was put into use Oct 1, 1995.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 743,700 acre-ft, Oct 5, 1941 (gage height, 1,001.0 ft); maximum gage height, 1,003.60 ft Oct 13, 1981; minimum contents observed, 273,000 acre-ft, Feb 19 to Mar 17, 1953 (gage height, 967.0 ft), using capacity table 3-C.

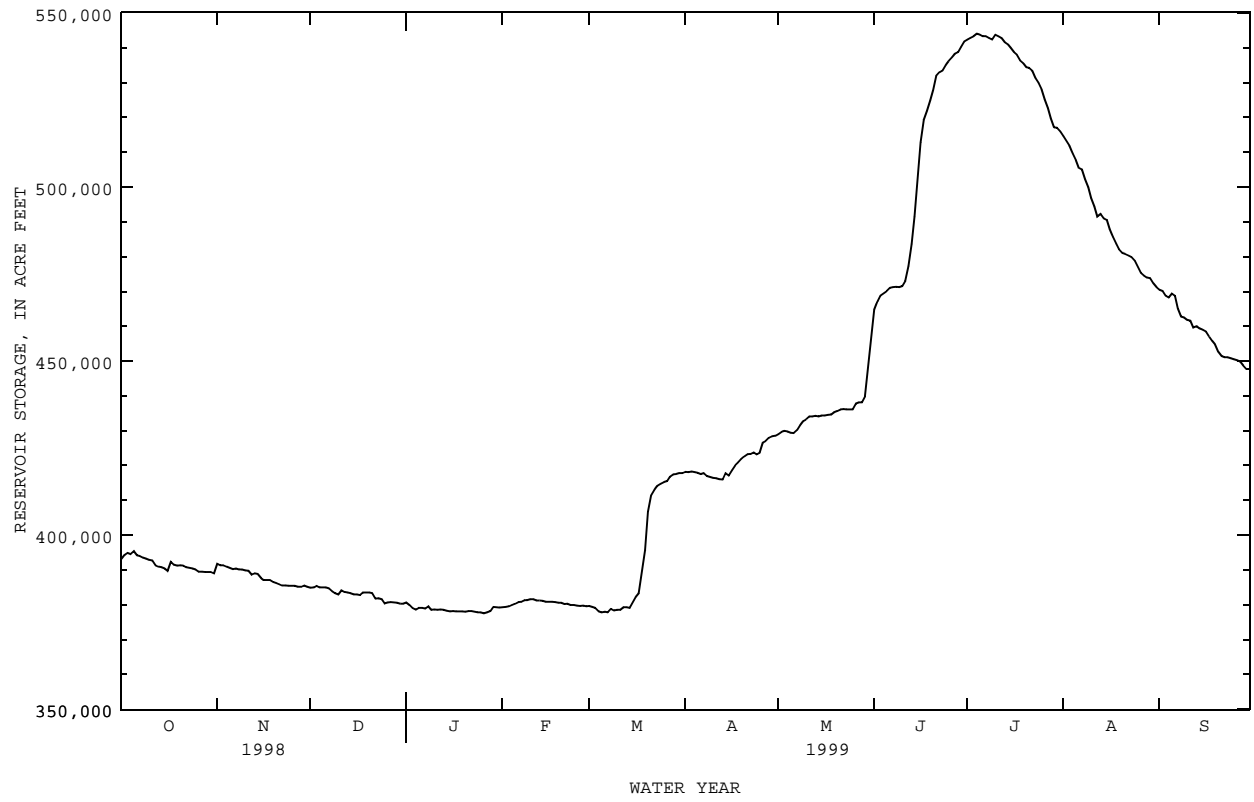
EXTREMES FOR CURRENT YEAR.--Maximum contents, 544,100 acre-ft, Jul 4-5, 10 (gage height, 999.30 ft); minimum contents, 377,300 acre-ft, Mar 7 (gage height, 988.03 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	393200	391800	384900	380700	379300	379700	418200	429000	464800	542400	514700	470500
2	394400	391400	385000	379900	379400	379400	418100	429700	467200	542900	513200	470100
3	394900	391400	385500	379100	379600	379100	418300	430000	468900	543400	511900	468900
4	394500	391000	385000	378700	379900	378100	418100	429800	469500	544100	509700	468300
5	395400	390600	385000	379100	380300	377800	417900	429400	470100	543800	507800	469400
6	394200	390300	385000	379100	380800	378000	417600	429300	471100	543400	505600	468800
7	394000	390400	384700	378900	380900	377800	417800	430100	471200	543400	505100	465100
8	393600	390100	383900	379600	381300	378800	417000	431600	471400	542900	502300	462800
9	393300	390100	383400	378600	381300	378400	416700	432800	471200	542400	499900	462500
10	392900	389900	383000	378700	381600	378600	416500	433300	471500	543800	496800	461900
11	392700	389800	384200	378600	381600	378600	416300	434100	473100	543400	494400	461600
12	391300	388700	383700	378700	381200	379300	416100	434100	477300	542900	491600	459700
13	391000	389000	383500	378600	381200	379300	416000	434300	483700	541700	492300	460000
14	390800	388900	383300	378300	381100	379100	417800	434100	491600	541000	491000	459400
15	390400	387800	383000	378100	380900	380800	417200	434400	502300	540000	490500	459000
16	389800	387100	383000	378200	380900	382300	418700	434400	512900	538800	487900	458500
17	392400	387100	382800	378100	380900	383300	420000	434500	519400	538100	485700	457100
18	391500	387100	383500	378100	380800	389200	420900	434700	521900	536400	483800	455800
19	391200	386500	383500	378100	380600	395800	421900	435300	524900	535600	482100	454800
20	391300	386300	383500	378000	380600	406800	422600	435700	527800	534400	481100	452700
21	391200	385900	383300	378200	380200	411600	423200	436100	532000	534200	480800	451500
22	390800	385600	381800	378200	380300	413200	423400	436200	533000	533400	480300	451100
23	390600	385600	381900	378000	379900	414300	423800	436100	533500	531300	479900	451100
24	390400	385500	381600	377800	379900	414800	423200	436100	535100	530000	478900	450800
25	390100	385500	380400	377800	379800	415200	423700	436100	536200	528100	477200	450600
26	389500	385400	380700	377600	379700	415500	426700	437800	537300	525100	475400	450300
27	389500	385200	380800	377800	379800	416800	427100	438100	538400	522700	474600	449900
28	389400	385200	380700	378200	379600	417400	428000	438100	538800	519700	474000	448700
29	389400	385600	380600	379400	---	417600	428400	439900	540300	517200	473800	447800
30	389400	385200	380300	379300	---	417800	428600	448700	541900	517000	472300	447800
31	389000	---	380300	379200	---	417800	---	457700	---	516000	471200	---
MAX	395400	391800	385500	380700	381600	417800	428600	457700	541900	544100	514700	470500
MIN	389000	385200	380300	377600	379300	377800	416000	429000	464800	516000	471200	447800
(+)	988.97	988.66	988.27	988.18	988.21	991.18	991.97	993.98	999.17	997.64	994.86	993.31
(@)	-4600	-3800	-4900	-1100	+400	+38200	+10800	+29100	+84200	-25900	-44800	-23400
CAL YR 1998	MAX 540700	MIN 380300	(@) -74500									
WTR YR 1999	MAX 544100	MIN 377600	(@) +54200									

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

08088500 POSSUM KINGDOM LAKE NEAR GRAFORD, TX--Continued



BRAZOS RIVER BASIN

08088610 BRAZOS RIVER NEAR GRAFORD, TX

LOCATION.--Lat 32°51'29", long 98°24'41", Palo Pinto County, Hydrologic Unit 1206021, on State Highway 16, 1.25 mi downstream of Morris Sheppard Dam (formerly Possum Kingdom Dam), 1.3 mi upstream from Loving Creek, 11.3 mi southwest of Graford, and 18.8 mi upstream from Brazos River near Palo Pinto (station 08089000).

DRAINAGE AREA.--23,596 mi², approximately, of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--Oct 1989 to current year. Prior to Feb 8, 1995, published as Brazos River at Morris Shepard Dam near Graford (station 08088600) at site 1.25 mi upstream.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 800.00 ft above sea level. Prior to Feb 8, 1995, at site 1.25 mi upstream at datum 4.92 ft higher. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since installation of gage in Oct 1989, at least 10% of contributing drainage area has been regulated by Possum Kingdom Lake (station 08088500, normal storage 724,700 acre-ft). No known diversions.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	13	14	36	75	32	67	74	68	279	492	201
2	29	5.1	15	196	25	32	67	76	71	268	692	81
3	27	4.4	17	35	25	32	65	74	103	125	683	313
4	27	5.1	103	272	25	32	65	74	103	87	496	341
5	28	15	16	34	25	32	64	73	101	249	964	137
6	26	16	16	34	25	32	65	73	100	344	999	182
7	25	16	15	34	25	32	66	74	104	149	587	267
8	25	16	369	33	27	34	401	74	104	242	756	277
9	26	17	39	30	25	33	79	75	103	219	1220	123
10	26	17	218	246	25	30	79	76	101	281	1260	155
11	26	19	29	27	24	45	85	75	101	85	1110	54
12	556	534	26	27	24	35	86	76	100	87	813	49
13	41	36	25	26	23	33	86	77	101	627	633	213
14	29	22	136	86	22	34	87	77	104	312	420	98
15	20	336	117	26	22	34	82	77	279	91	97	59
16	11	318	25	26	22	35	79	76	1040	581	633	48
17	64	26	24	26	22	34	73	77	1230	430	717	518
18	15	23	25	25	22	60	73	65	1230	656	872	414
19	11	266	23	25	22	42	70	62	768	608	1090	507
20	11	57	23	25	23	40	71	63	104	463	160	388
21	11	43	205	25	27	42	71	64	108	304	86	286
22	11	41	343	25	32	60	74	65	245	377	83	47
23	11	34	37	25	32	64	75	62	1140	824	87	46
24	11	13	37	25	31	64	73	66	433	864	205	46
25	93	9.8	405	25	32	63	74	64	253	621	463	46
26	136	26	65	26	33	65	81	65	543	1350	912	46
27	17	24	35	26	32	69	77	65	222	1010	352	205
28	13	11	37	26	32	67	71	66	646	1330	82	66
29	9.9	11	37	29	---	66	72	65	502	1110	80	45
30	4.4	12	130	26	---	67	74	78	248	1040	283	40
31	4.1	---	37	25	---	68	---	69	---	518	344	---
TOTAL	1371.4	1986.4	2643	1552	779	1408	2552	2197	10355	15531	17671	5298
MEAN	44.2	66.2	85.3	50.1	27.8	45.4	85.1	70.9	345	501	570	177
MAX	556	534	405	272	75	69	401	78	1230	1350	1260	518
MIN	4.1	4.4	14	25	22	30	64	62	68	85	80	40
AC-FT	2720	3940	5240	3080	1550	2790	5060	4360	20540	30810	35050	10510

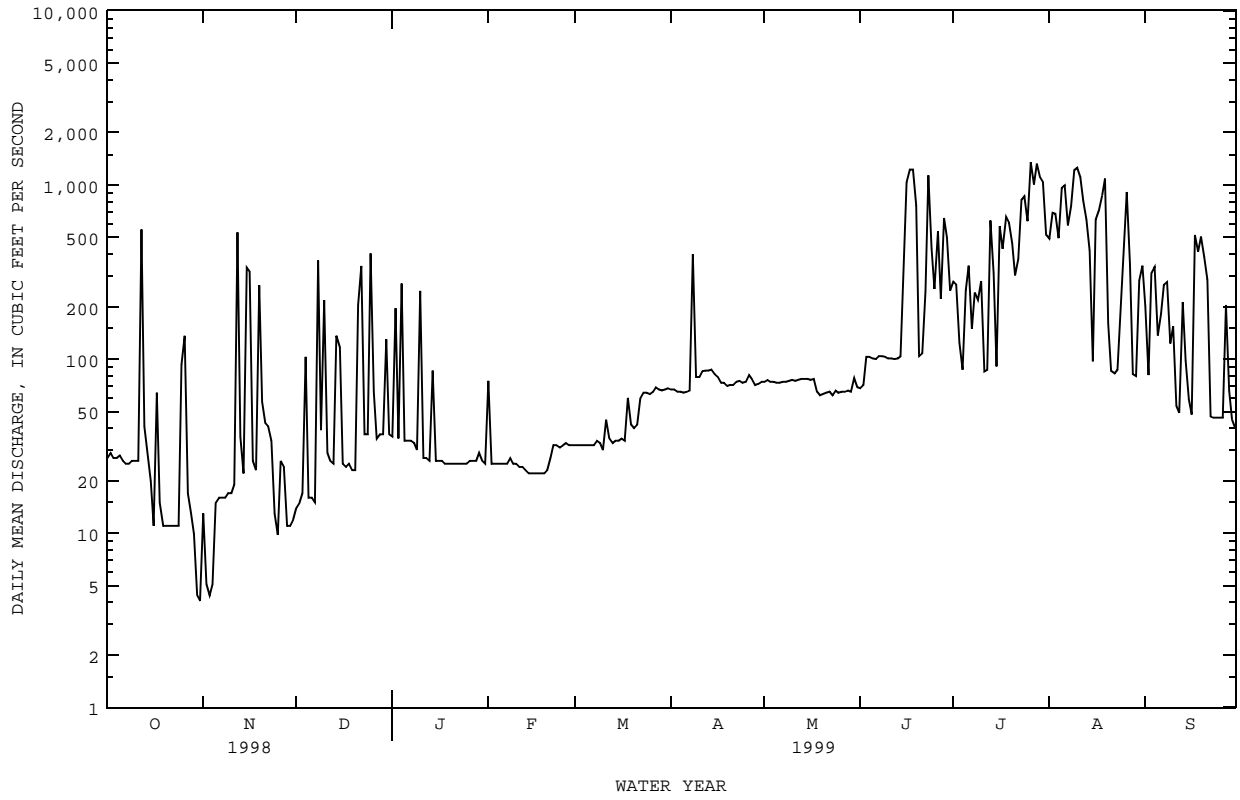
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1999, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		
MEAN	410	281	985	397	1297	1044	1214	1650	2372	519	591	681
MAX	1819	656	7172	2197	8659	4948	7952	8503	8024	1201	1228	1751
(WY)	1992	1992	1992	1992	1992	1992	1990	1992	1992	1995	1996	1996
MIN	44.2	66.2	78.9	50.1	27.8	45.4	85.1	62.9	69.9	40.6	53.0	153
(WY)	1999	1999	1994	1999	1999	1999	1999	1996	1996	1996	1996	1998

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1990 - 1999
ANNUAL TOTAL	86706.8	63343.8	
ANNUAL MEAN	238	174	949
HIGHEST ANNUAL MEAN			3170
LOWEST ANNUAL MEAN			174
HIGHEST DAILY MEAN	4120	Mar 18	43800
LOWEST DAILY MEAN	4.1	Oct 31	4.1
ANNUAL SEVEN-DAY MINIMUM	6.6	Oct 29	6.6
INSTANTANEOUS PEAK FLOW		7890	43800
INSTANTANEOUS PEAK STAGE		77.45	89.79
ANNUAL RUNOFF (AC-FT)	172000	125600	687400
10 PERCENT EXCEEDS	637	538	1530
50 PERCENT EXCEEDS	103	66	264
90 PERCENT EXCEEDS	21	21	36

08088610 BRAZOS RIVER NEAR GRAFORD, TX--Continued



BRAZOS RIVER BASIN

08089000 BRAZOS RIVER NEAR PALO PINTO, TX

LOCATION.--Lat 32°51'45", long 98°18'08", Palo Pinto County, Hydrologic Unit 12060201, on right bank 25 ft upstream from bridge on Farm Road 4, 300 ft downstream from Dark Valley Creek, 6.5 mi north of Palo Pinto, and at mile 667.3.

DRAINAGE AREA.--23,811 mi², of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--Feb 1924 to current year. Published as "near Mineral Wells" 1924-33.

REVISED RECORDS.--WSP 1512: 1924-25, 1929, 1932-34. WSP 1712: 1935-36, 1937-38(M), 1939, 1940(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 834.23 ft above sea level. Prior to Nov 15, 1933, nonrecording gage at site 19 mi downstream at datum 38.19 ft lower. Nov 15, 1933 to Apr 10, 1989 at location 125 ft upstream from present site at datum 3.00 ft higher. Satellite telemeter at station.

REMARKS.--Records good. Since 1941, at least 10% of contributing drainage area has been regulated by Possum Kingdom Lake (station 08088500, normal storage 724,700 acre-ft) 20 mi upstream. No known diversions

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--16 years (water years 1925-40) prior to completion of Possum Kingdom Lake, 1,262 ft³/s (724,700 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1925-40).--Maximum discharge, 95,600 ft³/s Jun 16, 1930, at site 19 mi downstream from Mineral Wells (gage height, 30 ft, present site and datum); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage occurred in 1876, from data by U.S. Army Corps of Engineers, and was several feet higher than the flood of Jun 16, 1930, which reached a stage of about 30 ft and was the highest since at least 1876.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	28	11	51	31	49	73	50	75	157	465	165
2	56	27	10	54	63	49	71	69	71	427	791	58
3	46	19	12	176	48	53	68	72	74	78	849	37
4	36	9.8	18	53	29	64	64	60	100	85	499	369
5	28	9.3	91	81	29	432	62	54	103	57	1070	272
6	28	9.0	49	48	33	75	61	51	110	347	1170	110
7	25	9.1	28	34	34	43	61	50	116	239	1150	191
8	22	9.4	20	29	34	57	59	53	112	127	288	310
9	21	9.8	378	27	36	47	397	54	110	373	1460	157
10	21	9.6	175	24	40	36	91	55	108	288	1460	39
11	20	9.2	200	24	38	31	66	57	123	91	1380	78
12	20	11	68	25	40	40	63	53	141	60	949	26
13	615	620	46	25	37	46	60	67	134	116	1190	111
14	90	96	37	26	36	36	78	78	162	876	105	45
15	41	42	133	67	37	31	80	63	401	91	428	39
16	29	376	130	47	38	28	64	65	720	175	140	25
17	22	455	51	32	42	29	58	64	1670	758	1010	9.8
18	26	74	38	28	40	736	56	66	1570	383	1050	608
19	50	38	36	26	42	2260	55	65	1460	920	1110	366
20	27	292	34	24	42	262	53	65	165	573	640	525
21	20	93	29	24	43	101	48	65	121	506	99	513
22	12	57	440	23	44	69	44	67	172	91	54	46
23	9.3	52	257	25	42	59	46	65	1050	831	41	16
24	9.3	49	64	24	44	65	46	65	934	1070	40	11
25	9.5	41	40	23	45	62	47	67	125	733	175	9.0
26	23	25	347	24	48	58	123	82	576	1300	969	8.5
27	131	15	102	23	49	61	131	83	387	1220	852	37
28	54	20	45	26	50	93	71	100	339	1460	77	99
29	23	29	32	41	---	107	61	103	996	1370	46	43
30	12	20	29	46	---	88	54	487	328	1310	40	19
31	9.8	---	107	37	---	78	---	103	---	746	545	---
TOTAL	1589.9	2554.2	3057	1217	1134	5245	2311	2498	12553	16858	20142	4342.3
MEAN	51.3	85.1	98.6	39.3	40.5	169	77.0	80.6	418	544	650	145
MAX	615	620	440	176	63	2260	397	487	1670	1460	1460	608
MIN	9.3	9.0	10	23	29	28	44	50	71	57	40	8.5
AC-FT	3150	5070	6060	2410	2250	10400	4580	4950	24900	33440	39950	8610

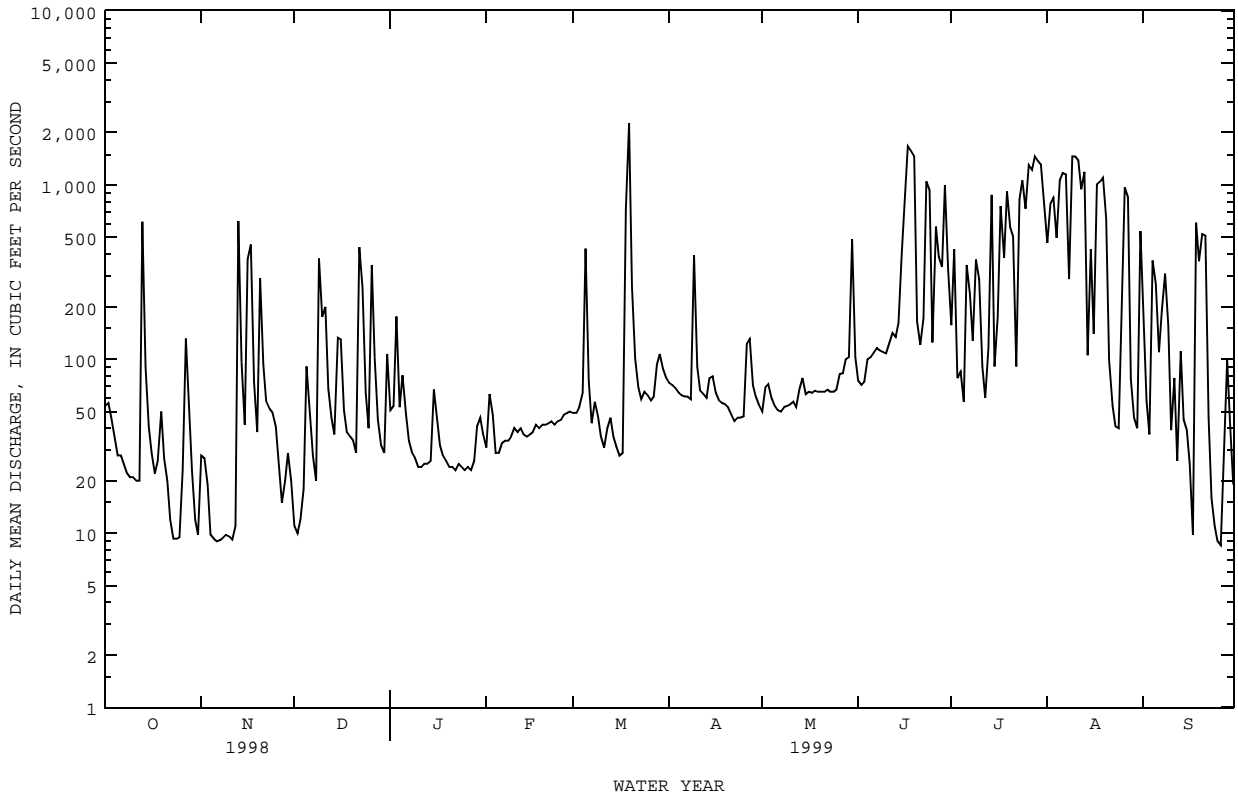
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999z, BY WATER YEAR (WY)

MEAN	1339	517	477	426	569	524	873	2047	1811	878	744	1014
MAX	13140	3021	7800	2254	9064	5280	8881	30210	10540	3971	7486	7650
(WY)	1942	1975	1992	1992	1992	1992	1957	1957	1941	1961	1978	1966
MIN	22.6	34.1	29.5	25.7	12.4	23.0	26.5	26.9	53.8	34.2	78.9	30.4
(WY)	1953	1953	1955	1953	1971	1976	1971	1971	1978	1971	1988	1988

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1941 - 1999z	
ANNUAL TOTAL	124032.1		73501.4			
ANNUAL MEAN	340		201		936	
HIGHEST ANNUAL MEAN					4145	
LOWEST ANNUAL MEAN					98.5	
HIGHEST DAILY MEAN	8170	Mar 18	2260	Mar 19	81700	Apr 29 1957
LOWEST DAILY MEAN	9.0	Nov 6	8.5	Sep 26	3.4	Apr 15 1949
ANNUAL SEVEN-DAY MINIMUM	9.3	Nov 5	9.3	Nov 5	5.6	Nov 2 1940
INSTANTANEOUS PEAK FLOW			6730		85400	
INSTANTANEOUS PEAK STAGE			8.41		28.87	
ANNUAL RUNOFF (AC-FT)	246000		145800		678300	
10 PERCENT EXCEEDS	844		672		1670	
50 PERCENT EXCEEDS	135		60		216	
90 PERCENT EXCEEDS	26		22		30	

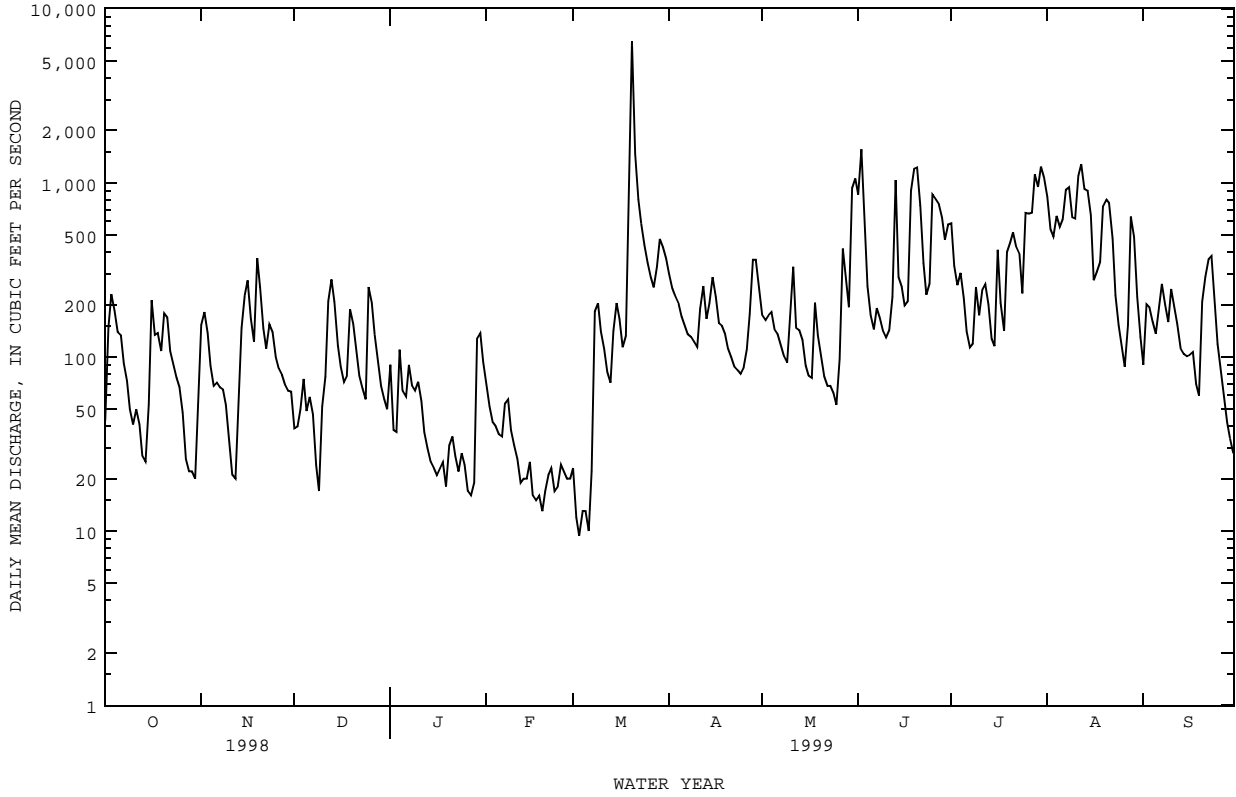
z Period of regulated streamflow.

08089000 BRAZOS RIVER NEAR PALO PINTO, TX--Continued



08090800 BRAZOS RIVER NEAR DENNIS, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1968 - 1999	
ANNUAL TOTAL	149027		89966.4		1095	
ANNUAL MEAN	408		246		4141	
HIGHEST ANNUAL MEAN					120	
LOWEST ANNUAL MEAN					1982	
HIGHEST DAILY MEAN	18900	Mar 17	6530	Mar 20	87700	Oct 14 1981
LOWEST DAILY MEAN	17	Dec 9	9.4	Mar 3	1.2	Aug 2 1978
ANNUAL SEVEN-DAY MINIMUM	35	Oct 25	14	Feb 28	3.0	Jul 29 1978
INSTANTANEOUS PEAK FLOW			9940	Mar 20	96600	Oct 14 1981
INSTANTANEOUS PEAK STAGE			11.90	Mar 20	31.85	Oct 14 1981
ANNUAL RUNOFF (AC-FT)	295600		178400		793100	
10 PERCENT EXCEEDS	597		643		2100	
50 PERCENT EXCEEDS	184		135		281	
90 PERCENT EXCEEDS	62		24		49	



BRAZOS RIVER BASIN

08090900 LAKE GRANBURY NEAR GRANBURY, TX

LOCATION.--Lat 32°22'27", long 97°41'20", Hood County, Hydrologic Unit 12060201, at right end of spillway of DeCordova Bend Dam on Brazos River, 2.6 mi upstream from Fall Creek, 7.5 mi southeast of Granbury, and at mile 542.5.

DRAINAGE AREA.--25,679 mi², of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--Oct 1968 to current year.

Water-quality records.--Chemical data: Sep 1970 to Sep 1997. Biochemical data: Sep 1970 to Sep 1997.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1.11 ft below sea level. Satellite telemeter at station.

REMARKS.--Records good. The lake is formed by an Ambursen-type concrete and earthfill dam 2,256 ft long, including a 932-ft concrete spillway. The dam was completed on Aug 30, 1969, and deliberate impoundment began Sep 15, 1969. The spillway consists of sixteen 36- by 35-ft tainter gates and two 7- by 8-ft sluice gates. Outflow through the sluice gates discharges into a bay where the outflow is then controlled by two 4- by 4.5-ft sluice gates with invert at 625.8 ft. Flow is affected at times by discharge from the flood-detention pools of 12 floodwater-retarding structures with a combined detention capacity of 13,940 acre-ft. These structures control runoff from 53.9 mi² in the East Keechi, Kickapoo, and Ruckers Creeks drainage basins. The lake was built by the Brazos River Authority for the conservation of water for irrigation, municipal, and industrial uses. Water is also diverted into Squaw Creek Reservoir. The city of Granbury returns wastewater effluent into Lake Granbury. Data regarding the dam is given in the following table:

	Gage height (feet)
Top of dam.....	706.5
Top of tainter gates (design flood).....	693.0
Crest of spillway.....	658.0
Lowest gated outlet (invert).....	640.0

COOPERATION.--The capacity table, Table No. 2-C, was provided by the Texas Water Development Board and put into use Oct 1, 1995.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 158,800 acre-ft, Mar 27, 1977 (gage height, 693.60 ft); minimum contents since normal operating level was reached in Oct 1969, 97,600 acre-ft, Aug 9, 1978 (gage height, 685.28 ft), using Capacity Table 1-C.

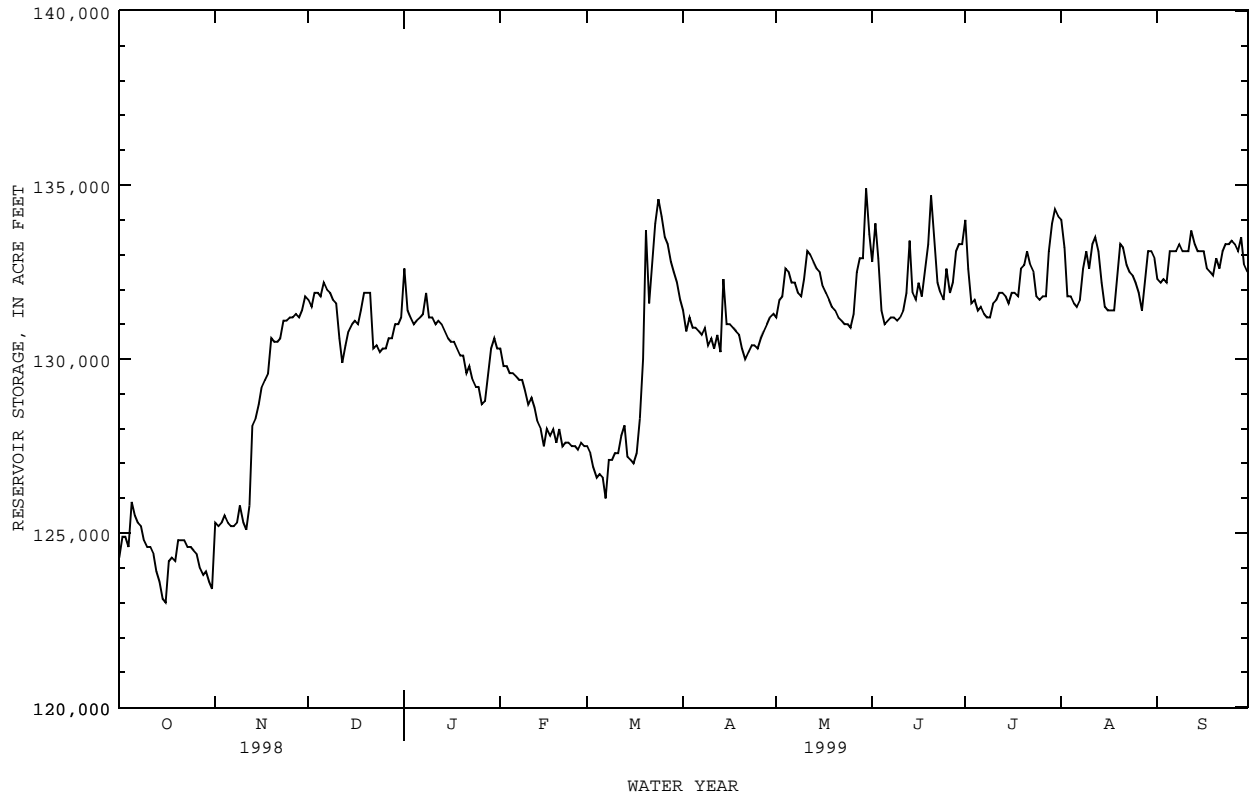
EXTREMES FOR CURRENT YEAR.--Maximum contents, 136,200 acre-ft, Mar 20 (gage height, 692.91 ft); minimum contents, 123,000 acre-ft, Oct 16-17 (gage height, 691.22 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124300	125300	131700	132600	130300	127500	131400	131200	132800	134000	134000	132300
2	124900	125200	131500	131400	129800	127300	130800	131700	133900	132600	133200	132200
3	124900	125300	131900	131200	129800	126900	131200	131800	132900	131600	131800	132300
4	124600	125500	131900	131000	129600	126600	130900	132600	131400	131700	131800	132200
5	125900	125300	131800	131100	129600	126700	130900	132500	131000	131400	131600	133100
6	125500	125200	132200	131200	129500	126600	130800	132200	131100	131500	131500	133100
7	125300	125200	132000	131300	129400	126000	130700	132200	131200	131300	131700	133100
8	125200	125300	131900	131900	129400	127100	130900	131900	131200	131200	132600	133300
9	124800	125800	131700	131200	129100	127100	130400	131800	131100	131200	133100	133100
10	124600	125300	131600	131200	128700	127300	130600	132300	131200	131600	132600	133100
11	124600	125100	130600	131000	128900	127300	130300	133100	131400	131700	133300	133100
12	124400	125800	129900	131100	128600	127800	130700	133000	131900	131900	133500	133700
13	123900	128100	130400	131000	128200	128100	130200	132800	133400	131900	133100	133300
14	123600	128300	130800	130800	128000	127200	132300	132600	131900	131800	132200	133100
15	123100	128700	131000	130600	127500	127100	131000	132500	131700	131600	131500	133100
16	123000	129200	131100	130500	128000	127000	131000	132100	132200	131900	131400	133100
17	124200	129400	131000	130500	127800	127300	130900	131900	131800	131900	131400	132600
18	124300	129600	131400	130300	128000	128300	130800	131700	132600	131800	131400	132500
19	124200	130600	131900	130100	127600	130000	130700	131500	133300	132600	132300	132400
20	124800	130500	131900	130100	128000	133700	130300	131400	134700	132700	133300	132900
21	124800	130500	131900	129600	127500	131600	130000	131200	133300	133100	133200	132600
22	124800	130600	130300	129800	127600	132700	130200	131100	132200	132700	132700	133100
23	124600	131100	130400	129400	127600	133900	130400	131000	131900	132500	132500	133300
24	124600	131100	130200	129200	127500	134600	130400	131000	131700	131800	132400	133300
25	124500	131200	130300	129200	127500	134100	130300	130900	132600	131700	132200	133400
26	124400	131200	130300	128700	127400	133500	130600	131300	131900	131800	131900	133300
27	124000	131300	130600	128800	127600	133300	130800	132500	132200	131800	131400	133100
28	123800	131200	130600	129600	127500	132800	131000	132900	133100	133100	132200	133500
29	123900	131400	131000	130300	---	132500	131200	132900	133300	133900	133100	132700
30	123600	131800	131000	130600	---	132200	131300	134900	133300	134300	133100	132500
31	123400	---	131200	130300	---	131700	---	133600	---	134100	132900	---
MAX	125900	131800	132200	132600	130300	134600	132300	134900	134700	134300	134000	133700
MIN	123000	125100	129900	128700	127400	126000	130000	130900	131000	131200	131400	132200
(+)	691.29	692.37	692.28	692.17	691.81	692.36	692.30	692.60	692.56	692.65	692.50	692.45
(@)	-1500	+8400	-600	-900	-2800	+4200	-400	+2300	-300	+800	-1200	-400
CAL YR 1998	MAX 135100	MIN 123000	(@) -1400									
WTR YR 1999	MAX 134900	MIN 123000	(@) +7600									

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

08090900 LAKE GRANBURY NEAR GRANBURY, TX--Continued



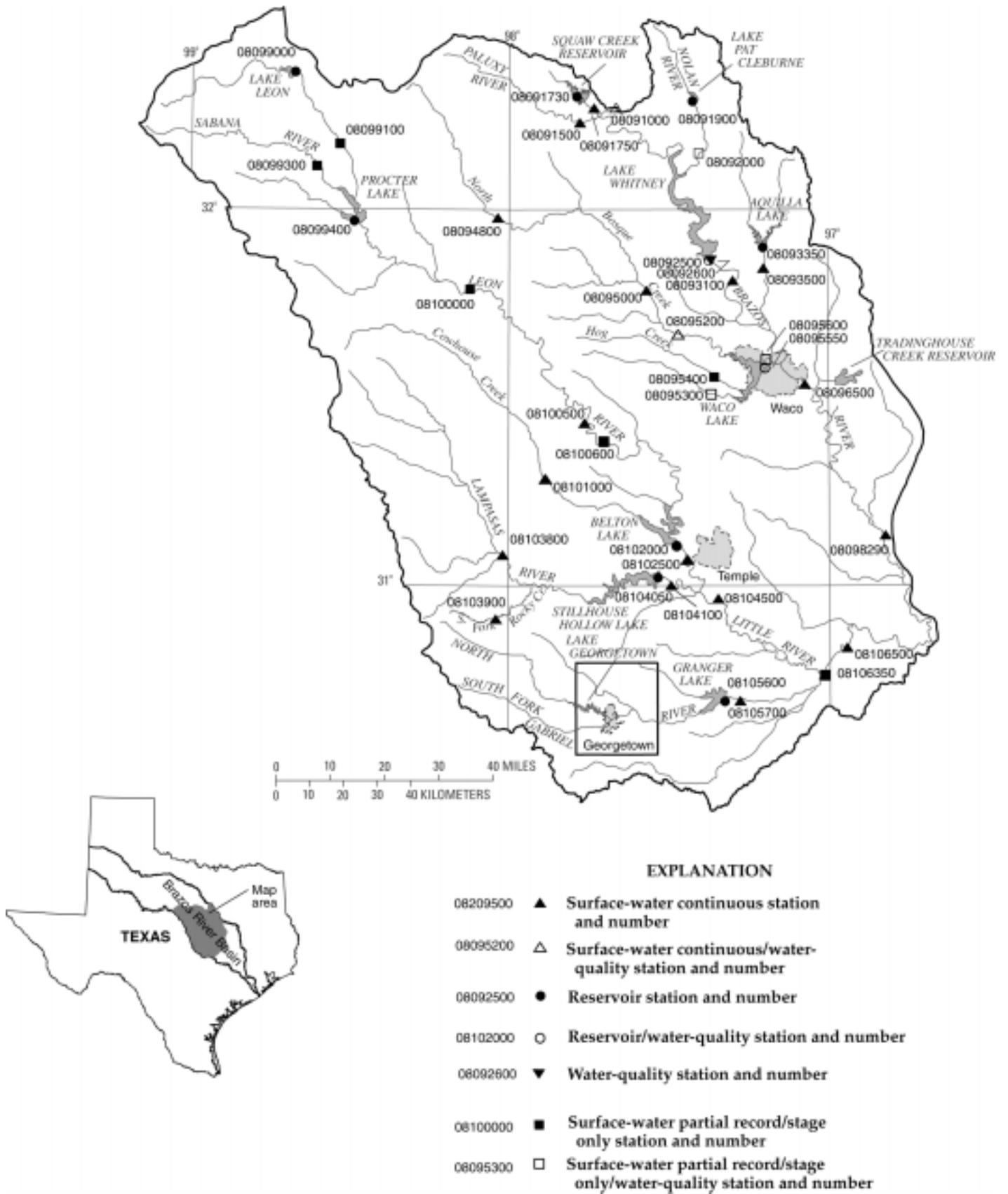


Figure 7.--Map showing location of gaging stations in the third section of the Brazos River Basin

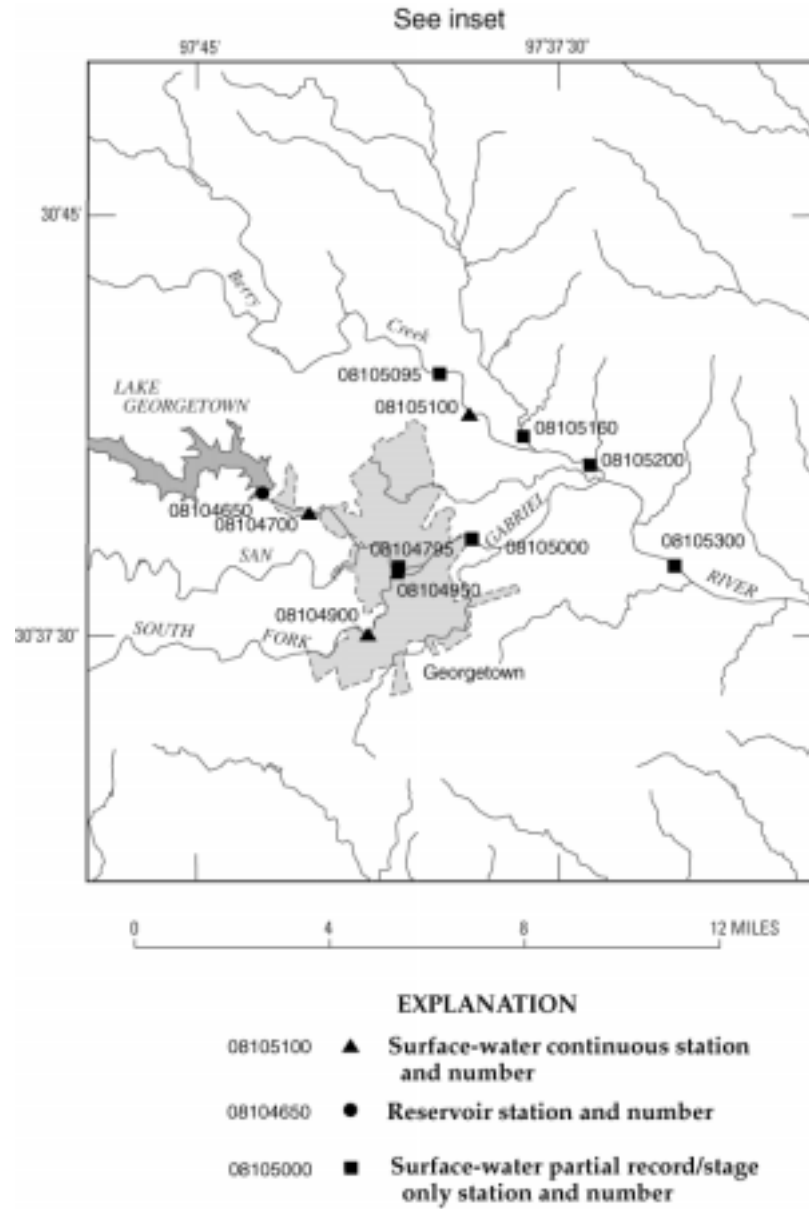


Figure 8.--Map showing location of gaging stations in the Georgetown inset of the Brazos River Basin

08091000	Brazos River near Glen Rose, TX	278
08091500	Paluxy River at Glen Rose, TX	282
08091730	Squaw Creek Reservoir near Glen Rose, TX	284
08091750	Squaw Creek near Glen Rose, TX	286
08091900	Lake Pat Cleburne near Cleburne, TX	288
08092000	Nolan River at Blum, TX	292
08092500	Lake Whitney near Whitney, TX	296
08092600	Brazos River at Whitney Dam near Whitney, TX	310
08093100	Brazos River near Aquilla, TX	312
08093350	Aquilla Lake above Aquilla, TX	314
08093500	Aquilla Creek near Aquilla, TX	316
08094800	North Bosque River at Hico, TX	318
08095000	North Bosque River near Clifton, Tx	320
08095200	North Bosque River at Valley Mills, TX	322
08095300	Middle Bosque River near McGregor, TX	326
08095400	Hog Creek near Crawford, TX	330
08095550	Waco Lake near Waco, TX	332
08095600	Bosque River near Waco, TX	344, 437
08096500	Brazos River at Waco, TX	346
08098290	Brazos River near Highbank, TX	348
08099000	Leon Reservoir near Ranger, TX	350
08099100	Leon River near De Leon, Tx	352
08099300	Sabana River near DeLeon, TX	354
08099400	Proctor Lake near Proctor, TX	356
08100000	Leon River near Hamilton, TX	358
08100500	Leon River at Gatesville, TX	360
08100600	Leon River at North Fort Hood, TX	437
08101000	Cowhouse Creek at Pidcoke, TX	362
08102000	Belton Lake near Belton, TX	364
08102500	Leon River near Belton, TX	366
08103800	Lampasas River near Kempner, TX	368
08103900	South Fork Rocky Creek near Briggs, TX	370
08104050	Stillhouse Hollow Lake near Belton, TX	372
08104100	Lampasas River near Belton, TX	374
08104500	Little River near Little River, TX	376
08104650	Lake Georgetown near Georgetown, TX	378
08104700	North Fork San Gabriel River near Georgetown, TX	380
08104795	North Fork San Gabriel River upstream from State Highway 418 at Georgetown, TX	436
08104900	South Fork San Gabriel River at Georgetown, TX	382
08104950	South Fork San Gabriel River upstream from State Highway 418 at Georgetown, TX	433
08105000	San Gabriel River at Georgetown, TX	433
08105095	Berry Creek upstream from IH-35 near Georgetown, TX	433
08105100	Berry Creek near Georgetown, TX	384
08105160	Dry Berry Creek near Georgetown, TX	433
08105200	Berry Creek at State Highway 971 near Georgetown, TX	433
08105300	San Gabriel River near Weir, TX	433
08105600	Granger Lake near Granger, TX	386
08105700	San Gabriel River near Laneport, TX	388
08106350	Little River near Rockdale, TX	390
08106500	Little River at Cameron, TX	392

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BRAZOS RIVER BASIN

08091000 BRAZOS RIVER NEAR GLEN ROSE, TX

LOCATION.--Lat 32°16'18", long 97°39'48", Somervell County, Hydrologic Unit 12060201, at downstream side of bridge on U.S. Highway 67, 600 ft downstream from George's Creek, 4.1 mi upstream from Paluxy River, 6 mi northeast of Glen Rose, and at mile 511.2.

DRAINAGE AREA.--25,818 mi², of which 9,566 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Oct 1923 to current year.

REVISED RECORDS.--WSP 1058: 1932. WSP 1512: 1946-47, 1949. WSP 1712: 1928(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 567.82 ft above sea level. Prior to May 7, 1931, nonrecording gage at site 2.5 mi downstream at same datum. May 7, 1931, to Sep 30, 1957, water-stage recorder at site 2.4 mi downstream at same datum, used as supplementary gage Oct 1, 1957 to Apr 1, 1959. Apr 27, 1950 to Sep 30, 1957, water-stage recorder, present gage, used as supplementary gage. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since 1941, at least 10% of contributing drainage area has been regulated by Possum Kingdom Lake (station 08088500, normal storage 724,700 acre-ft) 176 mi upstream. Since 1969, there has been additional regulation by Lake Granbury (station 08090900, normal storage 153,485 acre-ft) 31.3 mi upstream. There are many diversions above station for irrigation and municipal supplies, and for oil field operations.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--17 years (water years 1924-40) prior to regulation by Possum Kingdom Lake, 1,581 ft³/s (1,145,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1924-40)--Maximum discharge, 97,600 ft³/s May 18, 1935 (gage height, 23.68 ft, from floodmarks); no flow at times prior to construction of Morris Sheppard Dam (1941) on the Brazos River, forming Possum Kingdom Lake.

EXTREMES OUTSIDE PERIOD OF RECORD.--Second highest known flood since at least 1876 occurred in May 1922 and reached a stage of 29.5 ft, and flood in May 1908 reached a stage of 27 ft, each at site 2.4 mi downstream, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	43	52	55	77	35	526	28	1410	208	1060	15
2	23	46	53	51	60	35	528	30	1530	208	1070	15
3	25	48	53	51	53	34	548	35	1660	1110	1070	15
4	25	37	79	62	48	33	540	38	1120	675	1050	16
5	28	32	109	52	47	34	354	34	1090	223	548	20
6	42	32	84	51	47	34	109	31	501	214	483	39
7	46	32	65	52	47	34	65	30	99	164	482	45
8	38	34	61	50	45	49	51	30	44	63	481	34
9	31	35	61	46	46	61	45	29	31	34	482	29
10	28	37	87	47	44	79	42	39	26	27	480	27
11	27	35	724	49	42	58	39	38	29	26	469	25
12	26	43	1300	49	38	48	38	37	42	25	487	26
13	27	1050	413	47	43	43	36	33	45	24	1430	27
14	28	363	135	45	45	38	40	30	249	24	1470	31
15	27	123	93	45	38	38	35	28	1030	20	1470	31
16	26	74	78	46	37	39	40	26	407	18	865	29
17	28	57	70	45	37	37	58	27	121	17	273	28
18	33	49	71	45	37	46	44	317	53	16	74	26
19	33	46	78	45	35	66	37	311	157	16	36	25
20	36	42	83	41	37	868	34	77	775	15	26	26
21	38	40	80	43	37	5770	32	39	1410	15	21	23
22	36	39	835	41	37	497	32	32	1840	109	893	23
23	34	39	581	38	37	126	32	29	597	448	572	24
24	32	42	158	38	37	82	32	27	231	461	171	25
25	30	44	125	39	38	67	32	25	234	464	61	27
26	30	43	122	38	38	225	32	34	1110	466	32	27
27	31	41	122	37	38	510	32	40	1260	466	23	26
28	30	42	121	40	36	533	32	49	443	468	18	27
29	30	44	113	113	---	523	31	93	224	340	16	24
30	31	50	79	114	---	526	30	65	213	268	15	23
31	31	---	59	100	---	527	---	726	---	994	15	---
TOTAL	953	2682	6144	1615	1201	11095	3526	2407	17981	7626	15643	778
MEAN	30.7	89.4	198	52.1	42.9	358	118	77.6	599	246	505	25.9
MAX	46	1050	1300	114	77	5770	548	726	1840	1110	1470	45
MIN	23	32	52	37	35	33	30	25	26	15	15	15
AC-FT	1890	5320	12190	3200	2380	22010	6990	4770	35670	15130	31030	1540

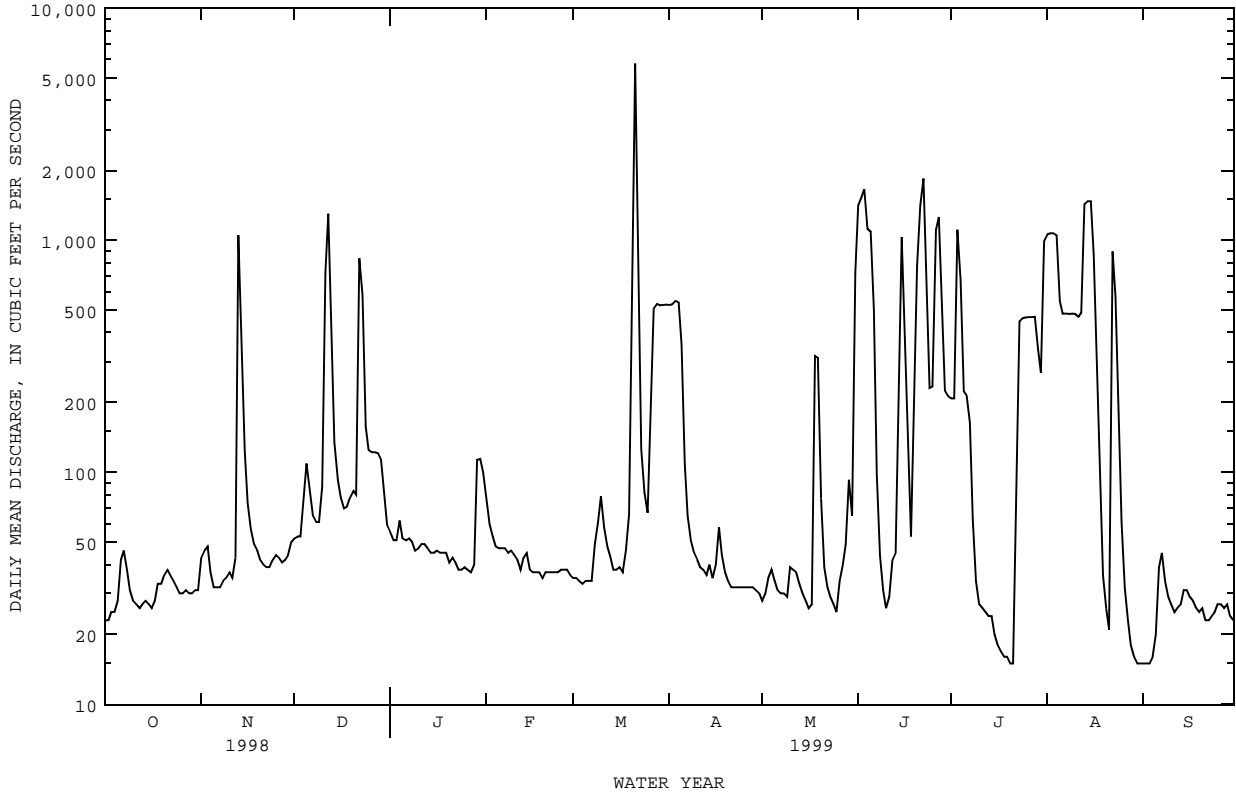
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999z, BY WATER YEAR (WY)

	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953
MEAN	1803	830	775	583	978	1028	1338	3289	2308	1031	810	1104	
MAX	17860	6209	14960	3180	11290	6684	14360	44800	13660	4873	6621	9994	
(WY)	1982	1975	1992	1968	1992	1992	1990	1957	1982	1982	1978	1966	
MIN	7.42	13.7	25.1	34.4	15.9	34.3	9.99	15.7	17.5	12.1	17.2	15.9	
(WY)	1953	1989	1989	1989	1984	1974	1974	1996	1996	1978	1984	1998	

08091000 BRAZOS RIVER NEAR GLEN ROSE, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1941 - 1999z	
ANNUAL TOTAL	225807.8		71651		1325	
ANNUAL MEAN	619		196		5494	
HIGHEST ANNUAL MEAN					115	
LOWEST ANNUAL MEAN					1957	
HIGHEST DAILY MEAN	30800	Mar 16	5770	Mar 21	85100	May 1 1957
LOWEST DAILY MEAN	7.2	Jul 31	15	Jul 20	.10	Oct 30 1952
ANNUAL SEVEN-DAY MINIMUM	7.6	Jul 25	15	Aug 29	.36	Oct 27 1952
INSTANTANEOUS PEAK FLOW			7650	Mar 21	89600	Dec 21 1991
INSTANTANEOUS PEAK STAGE			11.41	Mar 21	35.76	Apr 28 1990
ANNUAL RUNOFF (AC-FT)	447900		142100		959800	
10 PERCENT EXCEEDS	1190		536		2480	
50 PERCENT EXCEEDS	100		43		353	
90 PERCENT EXCEEDS	15		26		38	

z Period of regulated streamflow.



BRAZOS RIVER BASIN

08091000 BRAZOS RIVER NEAR GLEN ROSE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Aug 1946 to Nov 1946, Oct 1980 to Jun 1987, Oct 1998 to Sep 1999.

BIOCHEMICAL DATA: Oct 1980 to Jun 1987, Oct 1998 to Sep 1999.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) UNITS (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	HARD-NESS TOTAL AS CACO3 (MG/L) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
FEB 17...	1540	37	1690	8.2	18.5	2.1	13.8	151	.2	310	190
JUN 02...	1632	1510	2340	7.8	29.0	20	9.1	121	1.0	370	260
JUN 30...	1224	211	2060	8.2	30.0	--	7.7	104	1.6	350	240
AUG 11...	1329	467	1950	8.2	31.6	.95	6.8	95	1.2	290	170

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	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, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
FEB 17...	81	25	213	5	5.1	120	160	360	.30	2.4	972
JUN 02...	96	33	318	7	6.8	120	220	530	.31	6.9	1360
JUN 30...	88	31	297	7	6.9	110	200	480	.33	5.5	1250
AUG 11...	73	26	249	6	6.8	120	180	440	.31	5.8	1090

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N) (00623)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00660)
FEB 17...	929	27	<.010	<.050	<.020	--	.41	<.050	<.010	--
JUN 02...	1280	10	<.010	<.050	.048	.29	.34	<.050	.012	.04
JUN 30...	1180	2	<.010	<.050	.027	.31	.34	<.050	.011	.03
AUG 11...	1050	2	<.010	<.050	<.020	--	.40	<.050	.011	.03

DATE	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	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)
FEB 17...	4.0	1.3	<1.0	4	122	<1.0	<1.0	5.8	<1.0	1.2
JUN 02...	7.0	3.6	<1.0	<1	163	<1.0	<1.0	--	<1.0	2.1
JUN 30...	7.5	--	--	--	--	--	--	--	--	--
AUG 11...	5.4	2.0	<1.0	2	140	<1.0	<1.0	<1.0	<1.0	1.3

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)
FEB 17...	<10	<1.0	5.4	<.1	1.9	2.4	<1	<1.0	1.9	2.0
JUN 02...	<30	<1.0	7.5	<.1	2.2	2.2	--	<1.0	4.1	1.7
JUN 30...	E16	--	E12	--	--	--	--	--	--	--
AUG 11...	<10	<1.0	11	<.1	2.0	2.5	<1	<1.0	1.4	1.5

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BRAZOS RIVER BASIN

08091500 PALUXY RIVER AT GLEN ROSE, TX

LOCATION.--Lat 32°13'53", long 97°46'37", Somervell County, Hydrologic Unit 12060202, on left bank at downstream side of remaining pier of dismantled highway bridge, 500 ft upstream from bridge on U.S. Highway 67, 1.0 mi upstream from Cross Branch, 1.2 mi southwest of Glen Rose, and 5.1 mi upstream from mouth.

DRAINAGE AREA.--410 mi².

PERIOD OF RECORD.--Oct 1923 to Sep 1925, May 1947 to current year (water year 1924 is not complete). Prior to Oct 1965, published as "Paluxy Creek at Glen Rose".

REVISED RECORDS.--WSP 1392: 1949, 1952. WSP 2122: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 609.66 ft above sea level. Oct 27, 1923 to Sep 30, 1925, nonrecording gage at bridge 1.8 mi downstream at datum 13.62 ft lower. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since 1981, at least 10% of contributing drainage area has been regulated by 14 floodwater-retarding structures with a combined capacity of 20,100 acre-ft. These structures control runoff from 90.8 mi². No known diversions.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--35 years (water years 1925, 1948-81), 65.2 ft³/s (47,220 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1925, 1948-81).--Maximum discharge, 50,000 ft³/s Oct 4, 1959 (gage height, 25.40 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1877, 27.2 ft Apr 17, 1908, present site and datum (discharge, 59,000 ft³/s). Flood of May 21, 1922, reached a stage of 26.0 ft, present site and datum (discharge, 53,000 ft³/s). Flood in Nov 1918 reached about the same stage as flood of May 21, 1922, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	25	19	19	26	13	15	11	10	17	.14	.00
2	8.1	45	19	17	22	13	15	12	1050	14	.09	.00
3	21	32	20	16	19	13	22	13	147	12	.05	.00
4	14	23	21	16	18	13	24	14	60	10	.03	.00
5	17	18	29	16	17	13	18	12	40	9.5	.02	.00
6	27	16	25	16	17	13	16	10	32	9.2	.00	.00
7	16	16	21	17	17	12	14	9.2	26	8.4	.00	.00
8	14	16	20	16	16	19	14	8.8	24	7.7	.00	.00
9	12	16	19	15	16	21	14	8.2	21	6.9	.00	.00
10	12	17	25	15	15	17	13	15	19	7.9	.00	.00
11	12	16	28	15	15	16	13	27	18	36	.00	.00
12	12	21	28	15	14	15	13	27	35	52	.00	.00
13	11	372	29	15	14	15	13	18	133	25	.00	.00
14	11	121	28	15	14	14	14	15	44	17	.00	.00
15	11	58	24	15	14	14	16	12	28	11	.00	.00
16	10	39	21	15	14	13	17	11	53	8.5	.00	.00
17	12	32	21	15	14	13	14	10	19	7.1	.00	.00
18	15	27	22	15	14	17	13	9.9	16	6.0	.00	.00
19	16	24	24	15	14	28	13	9.2	15	5.1	.00	.00
20	15	22	24	14	14	61	12	8.8	14	4.4	.00	.00
21	19	20	22	14	14	27	11	8.4	24	4.0	.00	.00
22	17	20	21	14	13	21	11	7.8	28	3.2	.00	.00
23	15	19	20	13	14	19	11	6.9	26	2.9	.00	.00
24	14	19	20	13	14	17	11	6.4	31	2.3	.00	.00
25	14	19	20	13	14	15	11	5.9	32	1.7	.00	.00
26	13	19	21	14	14	15	18	9.6	125	1.2	.00	.00
27	13	19	21	14	14	15	19	17	58	.93	.00	.00
28	13	19	20	14	13	16	16	24	33	.66	.00	.00
29	14	19	19	27	---	17	13	15	25	.45	.00	.00
30	14	21	19	62	---	17	12	14	21	.31	.00	.00
31	13	---	19	42	---	16	---	11	---	.21	.00	---
TOTAL	433.9	1150	689	552	434	548	436	387.1	2207	292.56	0.33	0.00
MEAN	14.0	38.3	22.2	17.8	15.5	17.7	14.5	12.5	73.6	9.44	.011	.000
MAX	27	372	29	62	26	61	24	27	1050	52	.14	.00
MIN	8.1	16	19	13	13	12	11	5.9	10	.21	.00	.00
AC-FT	861	2280	1370	1090	861	1090	865	768	4380	580	.7	.00

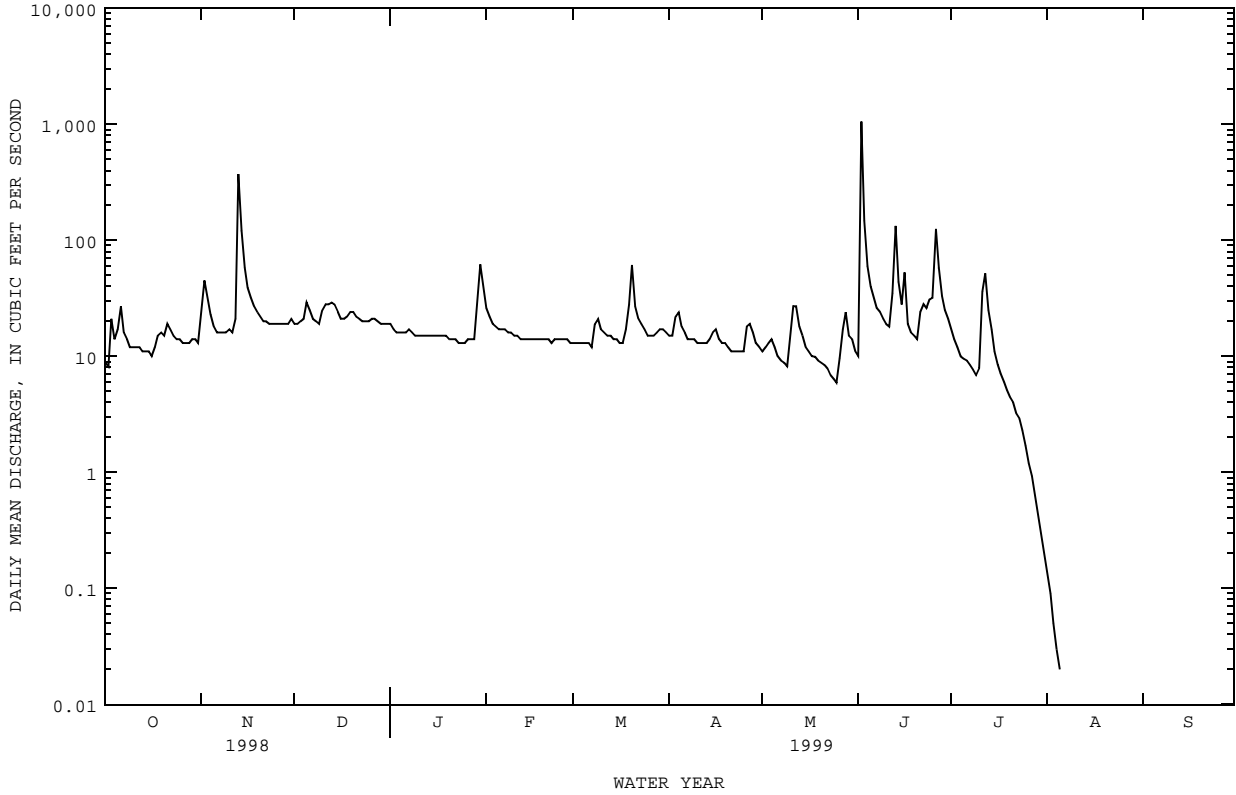
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1999z, BY WATER YEAR (WY)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	57.2	44.1	106	50.9	143	153	129	234	195	39.7	58.7	41.8						
MAX	424	211	1382	380	933	654	828	975	890	245	721	323						
(WY)	1992	1992	1992	1992	1992	1998	1990	1989	1995	1995	1986							
MIN	.22	1.05	3.47	4.70	5.49	7.54	6.47	3.34	7.50	1.18	.000	.000						
(WY)	1984	1984	1989	1984	1984	1986	1986	1988	1984	1984	1984	1984						

08091500 PALUXY RIVER AT GLEN ROSE, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1982 - 1999z	
ANNUAL TOTAL	36390.2		7129.89		104	
ANNUAL MEAN	99.7		19.5		361	
HIGHEST ANNUAL MEAN					6.24	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	8670	Mar 16	1050	Jun 2	17200	Dec 20 1991
LOWEST DAILY MEAN	1.1	Sep 10	.00	Aug 6	.00	Aug 28 1983
ANNUAL SEVEN-DAY MINIMUM	1.6	Sep 5	.00	Aug 6	.00	Aug 28 1983
INSTANTANEOUS PEAK FLOW			3200	Jun 2	32300	Dec 20 1991
INSTANTANEOUS PEAK STAGE			6.99	Jun 2	21.28	Dec 20 1991
ANNUAL RUNOFF (AC-FT)	72180		14140		75440	
10 PERCENT EXCEEDS	143		27		170	
50 PERCENT EXCEEDS	27		14		21	
90 PERCENT EXCEEDS	7.0		.00		2.8	

z Period of regulated streamflow.



BRAZOS RIVER BASIN

08091730 SQUAW CREEK RESERVOIR NEAR GLEN ROSE, TX

LOCATION.--Lat 32°18'00", long 97°47'12", Somervell County, Hydrologic Unit 12060202, on upstream side of intake structure near power house on Squaw Creek, 1.8 mi upstream from dam, 3.9 mi north of Glen Rose, and 6.1 mi upstream from mouth.

DRAINAGE AREA.--64.0 mi².

PERIOD OF RECORD.--Feb 1977 to current year.
Water-quality records.--Chemical data: Oct 1982 to Sep 1984.

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

REMARKS.--Records good. The reservoir is formed by a rolled earthfill dam 4,360 ft long. Deliberate impoundment began in Feb 1977, and the dam was completed in Jun 1977. The flood-control outlet works consist of an ungated 100-foot-long concrete ogee spillway located at right end of dam. The low-flow outlet works consist of a concrete outlet tower with three 4 by 6-foot slide gates and one 6 by 6-foot slide gate, which feed into a 6-foot inside diameter concrete conduit that extends through the dam. Water can be diverted by pipeline from Lake Granbury into this reservoir. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	796.0
Crest of spillway.....	783.0
Crest of spillway (normal operating level).....	775.0
Invert of slide gate (No. 1).....	764.0
Invert of slide gate (No. 2).....	715.0
Invert of slide gate (No. 3).....	666.5
Lowest gated outlet (invert).....	653.0

COOPERATION.--Capacity Table 1-C was provided by Texas Utilities Services, Inc.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 164,700 acre-ft, Dec 19, 1991 (elevation, 779.14 ft); minimum contents since first appreciable storage in 1979, 141,200 acre-ft, Sep 16, 1992 (elevation, 771.98 ft).

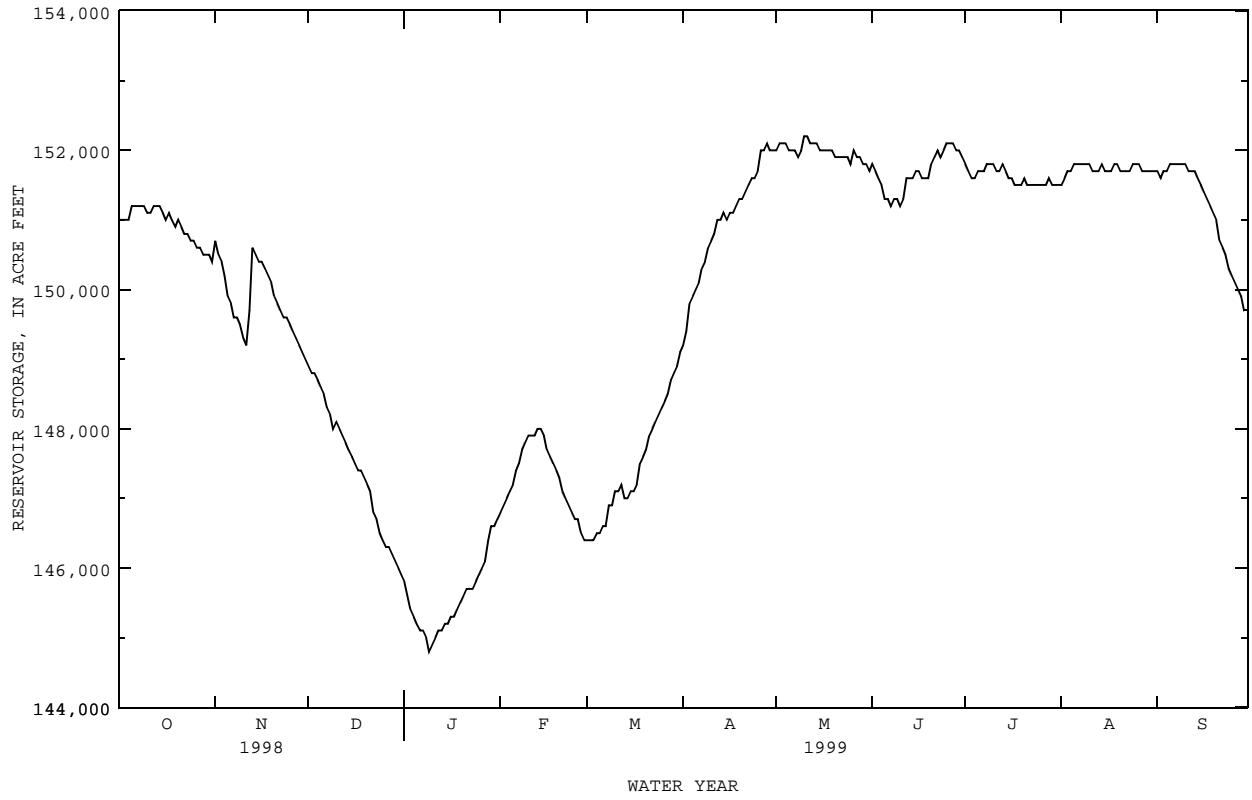
EXTREMES FOR CURRENT YEAR.--Maximum contents, 152,200 acre-ft, May 10 (elevation, 775.38 ft); minimum contents, 144,800 acre-ft, Jan 9-10 (elevation, 773.11 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151000	150700	148900	145800	146800	146400	149200	152000	151800	151800	151500	151700
2	151000	150500	148800	145600	146900	146400	149400	152100	151700	151700	151600	151600
3	151000	150400	148800	145400	147000	146400	149800	152100	151600	151600	151700	151700
4	151000	150200	148700	145300	147100	146500	149900	152100	151500	151600	151700	151700
5	151200	149900	148600	145200	147200	146500	150000	152000	151300	151700	151800	151800
6	151200	149800	148500	145100	147400	146600	150100	152000	151300	151700	151800	151800
7	151200	149600	148300	145100	147500	146600	150300	152000	151200	151700	151800	151800
8	151200	149600	148200	145000	147700	146900	150400	151900	151300	151800	151800	151800
9	151200	149500	148000	144800	147800	146900	150600	152000	151300	151800	151800	151800
10	151100	149300	148100	144900	147900	147100	150700	152200	151200	151800	151800	151800
11	151100	149200	148000	145000	147900	147100	150800	152200	151300	151700	151700	151700
12	151200	149700	147900	145100	147900	147200	151000	152100	151600	151700	151700	151700
13	151200	150600	147800	145100	148000	147000	151000	152100	151600	151800	151700	151700
14	151200	150500	147700	145200	148000	147000	151100	152100	151600	151700	151800	151600
15	151100	150400	147600	145200	147900	147100	151000	152000	151700	151600	151700	151500
16	151000	150400	147500	145300	147700	147100	151100	152000	151700	151600	151700	151400
17	151100	150300	147400	145300	147600	147200	151100	152000	151600	151500	151700	151300
18	151000	150200	147400	145400	147500	147500	151200	152000	151600	151500	151800	151200
19	150900	150100	147300	145500	147400	147600	151300	152000	151600	151500	151800	151100
20	151000	149900	147200	145600	147300	147700	151300	151900	151800	151600	151700	151000
21	150900	149800	147100	145700	147100	147900	151400	151900	151900	151500	151700	150700
22	150800	149700	146800	145700	147000	148000	151500	151900	152000	151500	151700	150600
23	150800	149600	146700	145700	146900	148100	151600	151900	151900	151500	151700	150500
24	150700	149600	146500	145800	146800	148200	151600	151900	152000	151500	151800	150300
25	150700	149500	146400	145900	146700	148300	151700	151800	152100	151500	151800	150200
26	150600	149400	146300	146000	146700	148400	152000	152000	152100	151500	151800	150100
27	150600	149300	146300	146100	146500	148500	152000	151900	152100	151500	151700	150000
28	150500	149200	146200	146400	146400	148700	152100	151900	152000	151600	151700	149900
29	150500	149100	146100	146600	---	148800	152000	151800	152000	151500	151700	149700
30	150500	149000	146000	146600	---	148900	152000	151800	151900	151500	151700	149700
31	150400	---	145900	146700	---	149100	---	151700	---	151500	151700	---
MAX	151200	150700	148900	146700	148000	149100	152100	152200	152100	151800	151800	151800
MIN	150400	149000	145900	144800	146400	146400	149200	151700	151200	151500	151500	149700
(+)	774.83	774.40	773.44	773.68	773.61	774.42	775.32	775.23	775.29	775.16	775.24	774.61
(@)	-600	-1400	-3100	+800	-300	+2700	+2900	-300	+200	-400	+200	-2000
CAL YR 1998	MAX 155800	MIN 145900	(@) -3300									
WTR YR 1999	MAX 152200	MIN 144800	(@) -1300									

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

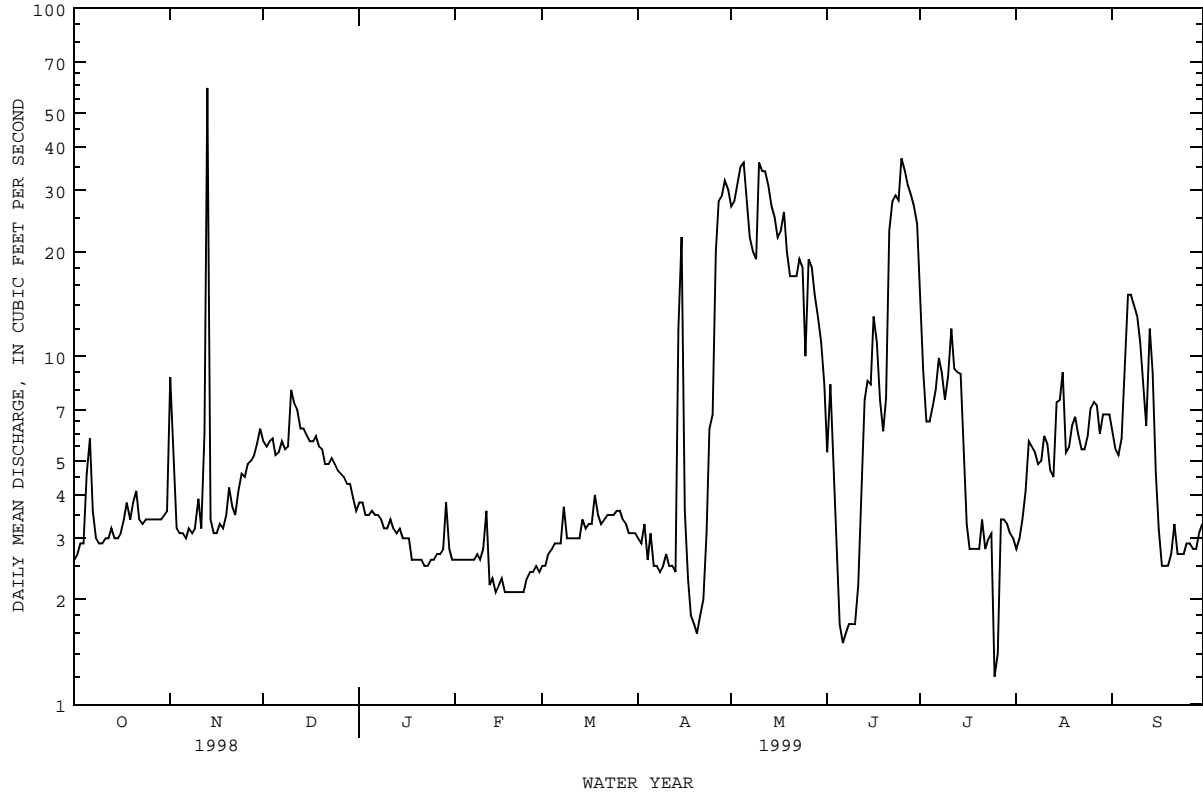
08091730 SQUAW CREEK RESERVOIR NEAR GLEN ROSE, TX--Continued



08091750 SQUAW CREEK NEAR GLEN ROSE, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1978 - 1999z	
ANNUAL TOTAL	4186.6		2594.6		19.4	
ANNUAL MEAN	11.5		7.11		2.18	
HIGHEST ANNUAL MEAN					89.9 1992	
LOWEST ANNUAL MEAN					2.18 1978	
HIGHEST DAILY MEAN	1060	Mar 16	59	Nov 13	4380	Dec 20 1991
LOWEST DAILY MEAN	1.1	Jan 1	1.2	Jul 25	.54	Aug 5 1996
ANNUAL SEVEN-DAY MINIMUM	1.4	Jan 12	1.7	Jun 5	.70	Oct 22 1992
INSTANTANEOUS PEAK FLOW			441	Nov 13	8940	Jun 13 1989
INSTANTANEOUS PEAK STAGE			4.87	Nov 13	11.85	Jun 13 1989
ANNUAL RUNOFF (AC-FT)	8300		5150		14040	
10 PERCENT EXCEEDS	6.5		19		21	
50 PERCENT EXCEEDS	3.7		3.6		4.0	
90 PERCENT EXCEEDS	2.1		2.5		2.2	

z Period of regulated streamflow.



BRAZOS RIVER BASIN

08091900 LAKE PAT CLEBURNE NEAR CLEBURNE, TX

LOCATION.--Lat 32°17'20", long 97°24'54", Johnson County, Hydrologic Unit 12030109, at side of walkway from dam to outlet structure near left end of Cleburne Dam on Nolan river, 2.2 mi upstream from Buffalo Creek, 4.3 mi south of Cleburne, and 21.4 mi upstream from mouth.

DRAINAGE AREA.--100 mi².

PERIOD OF RECORD.--April 1965 to September 1985, June 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (Homer Hunter Associates, Consulting Engineers benchmark). Satellite telemeter at station.

REMARKS.--Records good. The lake is formed by a rock-faced earthfill dam 5,050 ft long, including a 150-ft wide uncontrolled concrete service spillway at left end of dam. A spillway, 500 ft wide, is cut in ground on the right bank about 400 ft from right end of dam. Storage began Aug 4, 1964. Lake is the property of the city of Cleburne and was built to impound water for municipal use. Capacity table based on survey of 1958 from Geological Survey topographic maps. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)	Capacity (acre-ft)
Top of dam.....	753.0	--
Top of design flood pool.....	752.3	66,700
Crest of spillway.....	744.0	45,430
Crest of spillway (top of conservation pool).....	733.5	25,560
Lowest gated outlet (invert).....	690.0	115

COOPERATION.--Capacity table provided by Homer Hunter Associates, Consulting Engineers for the city of Cleburne.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 31,130 acre-ft, Apr 28, 1985 (elevation, 736.86 ft); minimum 14,500 acre-ft on Oct 5, 6, 1984 (elevation, 724.85 ft).

EXTREMES FOR WATER YEAR 1998.--Maximum contents, 23,700 acre-ft, Jun 16 (elevation, 732.26 ft); minimum contents, 18,520 acre-ft, Sep 30 (elevation, 728.39 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 26,440 acre-ft, Jan 30 (elevation, 734.06 ft); minimum contents, 17,870 acre-ft, Nov 12 (elevation, 727.86 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	22680	20700	19470
2	---	---	---	---	---	---	---	---	---	22630	20650	19440
3	---	---	---	---	---	---	---	---	---	22540	20570	19380
4	---	---	---	---	---	---	---	---	---	22570	20730	19320
5	---	---	---	---	---	---	---	---	---	22530	20700	19240
6	---	---	---	---	---	---	---	---	---	22470	20680	19180
7	---	---	---	---	---	---	---	---	---	22430	20620	19130
8	---	---	---	---	---	---	---	---	---	22360	20570	19070
9	---	---	---	---	---	---	---	---	---	22300	20520	19010
10	---	---	---	---	---	---	---	---	---	22230	20470	18920
11	---	---	---	---	---	---	---	---	---	22160	20410	18950
12	---	---	---	---	---	---	---	---	---	22100	20380	18960
13	---	---	---	---	---	---	---	---	---	22030	20360	18930
14	---	---	---	---	---	---	---	---	---	21960	20350	18920
15	---	---	---	---	---	---	---	---	---	21890	20310	18890
16	---	---	---	---	---	---	---	---	---	21840	20260	18970
17	---	---	---	---	---	---	---	---	23580	21770	20220	18950
18	---	---	---	---	---	---	---	---	23520	21720	20170	18920
19	---	---	---	---	---	---	---	---	23480	21650	20130	18900
20	---	---	---	---	---	---	---	---	23380	21580	20080	18870
21	---	---	---	---	---	---	---	---	23330	21500	20030	18820
22	---	---	---	---	---	---	---	---	23260	21430	19980	18800
23	---	---	---	---	---	---	---	---	23190	21380	19920	18760
24	---	---	---	---	---	---	---	---	23120	21300	19890	18730
25	---	---	---	---	---	---	---	---	23060	21220	19830	18680
26	---	---	---	---	---	---	---	---	22990	21150	19780	18650
27	---	---	---	---	---	---	---	---	22920	21080	19730	18630
28	---	---	---	---	---	---	---	---	22870	21010	19690	18600
29	---	---	---	---	---	---	---	---	22810	20930	19630	18550
30	---	---	---	---	---	---	---	---	22740	20840	19580	18520
31	---	---	---	---	---	---	---	---	---	20760	19530	---
MAX	---	---	---	---	---	---	---	---	---	22680	20730	19470
MIN	---	---	---	---	---	---	---	---	---	20760	19530	18520

08091900 LAKE PAT CLEBURNE NEAR CLEBURNE, TX--Continued

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

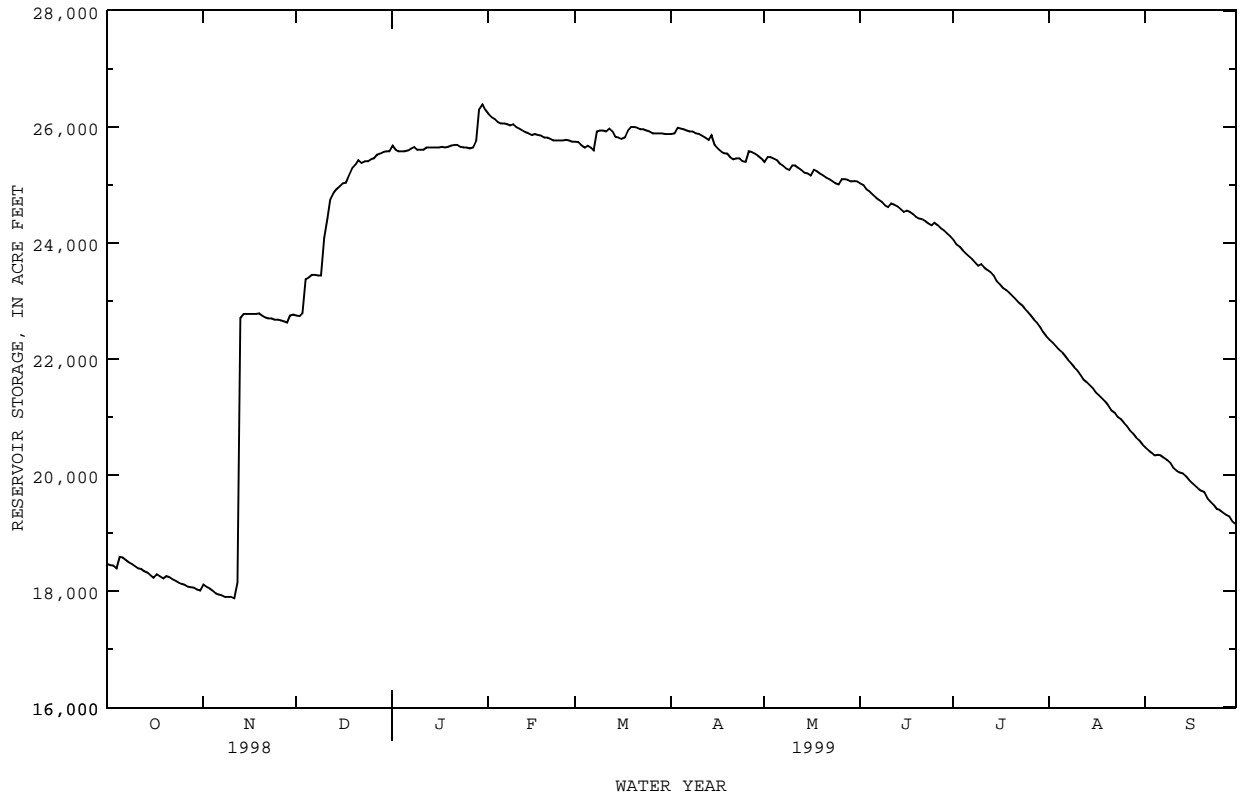
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18470	18120	22750	25680	26230	25750	25880	25400	25030	24060	22340	20480
2	18450	18080	22740	25610	26170	25740	25890	25480	25000	23980	22290	20430
3	18440	18050	22790	25580	26140	25690	25990	25480	24930	23940	22230	20390
4	18390	18010	23380	25580	26090	25650	25970	25460	24890	23880	22170	20340
5	18590	17960	23410	25580	26060	25680	25960	25430	24840	23820	22120	20350
6	18580	17940	23450	25600	26060	25650	25940	25370	24790	23780	22060	20340
7	18540	17930	23450	25630	26050	25600	25920	25340	24750	23730	21990	20300
8	18500	17900	23440	25660	26030	25920	25920	25290	24710	23670	21930	20260
9	18470	17900	23440	25610	26050	25940	25890	25260	24650	23610	21860	20210
10	18430	17900	24090	25610	26000	25940	25880	25340	24620	23640	21810	20130
11	18390	17880	24420	25610	25970	25920	25850	25340	24680	23580	21730	20080
12	18380	18150	24760	25650	25940	25970	25820	25300	24660	23540	21650	20050
13	18340	22710	24870	25650	25910	25920	25780	25260	24630	23500	21610	20030
14	18320	22780	24930	25650	25890	25830	25860	25210	24590	23440	21550	19990
15	18270	22780	24980	25650	25860	25820	25690	25200	24540	23350	21500	19920
16	18230	22780	25030	25650	25880	25800	25630	25170	24560	23290	21430	19870
17	18290	22780	25040	25660	25860	25820	25580	25270	24540	23230	21380	19820
18	18260	22780	25170	25650	25850	25940	25550	25240	24500	23190	21320	19770
19	18220	22790	25290	25660	25820	26000	25540	25200	24450	23150	21270	19730
20	18260	22750	25350	25680	25820	26000	25480	25170	24420	23090	21200	19710
21	18240	22720	25430	25690	25800	25990	25440	25130	24410	23040	21120	19600
22	18210	22700	25380	25690	25770	25960	25460	25100	24380	22980	21080	19540
23	18180	22700	25410	25660	25770	25960	25460	25070	24340	22940	21010	19490
24	18150	22680	25410	25650	25770	25940	25410	25030	24310	22880	20970	19420
25	18130	22680	25440	25650	25770	25920	25400	25010	24350	22820	20910	19400
26	18110	22670	25460	25630	25780	25890	25580	25100	24310	22750	20850	19360
27	18080	22650	25520	25650	25770	25890	25570	25100	24260	22680	20770	19320
28	18070	22630	25540	25770	25750	25890	25540	25090	24220	22630	20720	19290
29	18060	22750	25570	26310	---	25890	25510	25060	24170	22550	20650	19210
30	18030	22770	25580	26390	---	25880	25460	25070	24120	22470	20600	19160
31	18010	---	25580	26300	---	25880	---	25060	---	22400	20530	---
MAX	18590	22790	25580	26390	26230	26000	25990	25480	25030	24060	22340	20480
MIN	18010	17880	22740	25580	25750	25600	25400	25010	24120	22400	20530	19160
(+)	727.98	731.61	733.51	733.97	733.62	733.70	733.43	733.17	732.54	731.35	729.98	728.91
(@)	-530	+4760	+2810	+720	-550	+130	-420	-400	-940	-1720	-1470	-1370

WTR YR 1999 MAX 26390 MIN 17880 (@) +620

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

BRAZOS RIVER BASIN

08091900 LAKE PAT CLEBURNE NEAR CLEBURNE, TX--Continued



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BRAZOS RIVER BASIN

08092000 NOLAN RIVER AT BLUM, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 32°09'02", long 97°24'09", Hill County, Hydrologic Unit 12060202, on right bank 60 ft upstream from bridge on Farm Road 933, 0.6 mi northwest of Blum 2.8 mi downstream from Mustang Creek, 3.0 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 3.2 mi upstream from Rock Creek, and 8.5 mi upstream from mouth.

DRAINAGE AREA.--282 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Jul 1924 to Sep 1925, Nov 1947 to Sep 1985, Oct 1985 to current year (peaks above base discharge).

REVISED RECORDS.--WSP 1312: 1925(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 551.48 ft above sea level. Jul 29, 1924 to Sep 30, 1925 and Nov 14, 1947 to May 28, 1949 nonrecording gage at railway bridge (now abandoned) 0.5 mi upstream at datum 5.00 ft higher. May 29 to Jul 7, 1949, nonrecording gage at present site and datum then in use (5.00 ft higher than present datum). Satellite telemeter at station.

REMARKS.--Records good. Peak discharges less than 1,200 ft³/s are not published. Since water year 1965, at least 10% of contributing drainage area has been regulated by Lake Pat Cleburne (station 08091900, normal storage 25,600 acre-ft) located 13 mi upstream. The city of Cleburne diverts water from Lake Pat Cleburne and returns wastewater effluent to a tributary upstream.

AVERAGE DISCHARGE.--17 years (water years 1925, 1949-64) prior to regulation by Lake Pat Cleburne, 66.1 ft³/s (47,890 acre-ft/yr); 21 years (water years 1965-85) regulated, 81.2 ft³/s (58,830 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge prior to regulation by Lake Pat Cleburne, 25,000 ft³/s May 17, 1949 (gage height, 24.0 ft, from floodmark); maximum discharge for regulated period, 79,600 ft³/s May 17, 1989 (gage height, 33.44 ft), from rating curve extended above 22,200 ft³/s on basis of contracted-opening measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1887, 35.0 ft May 8, 1922, present site and datum, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,220 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov 13	0830	13,300	15.12	Dec 10	1815	2,250	6.25

08092000 NOLAN RIVER AT BLUM, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Oct 1998 to Sep 1999.

BIOCHEMICAL DATA: Oct 1998 to Sep 1999.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
FEB 17...	1325	17	655	8.5	16.0	1.5	14.2	146	.3	240	22
JUN 02...	1051	8.5	608	9.0	28.0	20	11.4	148	7.0	170	16
JUN 29...	0947	6.0	810	8.4	28.0	--	10.2	133	3.0	210	53
AUG 11...	1242	.65	1670	8.2	31.2	2.2	9.0	125	1.2	190	57

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS FIX END CAC03 (MG/L) (39036)	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, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
FEB 17...	83	6.9	45	1	7.6	220	76	35	.33	3.6	417
JUN 02...	59	5.3	58	2	11	150	78	38	.37	8.4	409
JUN 29...	73	6.8	84	3	14	160	150	59	.41	10	510
AUG 11...	60	10	258	8	26	140	470	130	.83	14	1120

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDE (MG/L) (00530)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N) (00623)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)
FEB 17...	399	10	3.92	.028	3.95	<.020	--	.46	.201	.190	.58
JUN 02...	362	4	2.40	.018	2.42	.132	1.2	1.4	.630	.492	1.5
JUN 29...	501	7	.777	.027	.804	.065	.63	.70	.329	.272	.83
AUG 11...	1070	<1	--	<.010	4.30	.028	1.2	1.2	.539	.577	1.8

BRAZOS RIVER BASIN

08092000 NOLAN RIVER AT BLUM, TX--Continued

DATE	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	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)	BARIIUM, 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)
FEB 17...	4.2	1.9	<1.0	2	64	<1.0	<1.0	9.4	<1.0	1.6
JUN 02...	6.5	9.2	<1.0	3	50	<1.0	<1.0	--	<1.0	13
29...	9.4	--	--	--	--	--	--	--	--	--
AUG 11...	12	19	<1.0	7	77	<1.0	1.1	<1.0	1.0	3.0

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	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)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)
FEB 17...	<10	<1.0	2.3	<.1	130	2.9	<1	<1.0	5.1	<1.0
JUN 02...	<10	<1.0	4.3	<.1	90	4.3	--	<1.0	23	<1.0
29...	<10	--	4.3	--	--	--	--	--	--	--
AUG 11...	<10	<1.0	11	<.1	354	7.1	--	<1.0	8.9	<1.0

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BRAZOS RIVER BASIN

08092500 LAKE WHITNEY NEAR WHITNEY, TX

LOCATION.--Lat 31°51'55", long 97°22'18", Bosque County, Hydrologic Unit 12060202, on State Highway 22, in intake structure of Whitney Dam on Brazos River, 2.4 mi upstream from Coon Creek, 3.5 mi upstream from Iron Creek, 7.4 mi southwest of Whitney, at mile 442.4.

DRAINAGE AREA.--27,189 mi², approximately, of which 9,566 mi² probably is noncontributing.

WATER-CONTENT RECORDS

PERIOD OF RECORD.--Dec 1951 to current year. Prior to Oct 1970, published as "Whitney Reservoir". Prior to Oct 1980, published as "Whitney Lake".

Water-quality records.--Chemical data: Mar 1960 to Sep 1987. Biochemical data: Sep 1970 to Aug 1987.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

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

REMARKS.--The lake is formed by a concrete-gravity and rolled earthfill dam 17,695 ft long, including spillway. The dam was completed in Apr 1951, and deliberate impoundment began Dec 10, 1951. Concrete spillway is 680 ft long and includes 17 tainter gates 38.0 by 40.0 ft each. Outlet works are comprised of 16 gate-operated conduits that are 5.0- by 9.0 ft each. The space between elevations 522.0 and 571.0 ft is reserved for flood-control storage. At maximum design elevation of 573.0 ft the spillway is designed to discharge 684,000 ft³/s. The capacity table is based on a survey made in Apr and May 1959. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	584.0
Design flood.....	573.0
Top of gates.....	571.0
Crest of spillway (sill of gates).....	533.0
Top of conservation pool (top of designated power storage).....	533.0
Lowest controlled outlet (invert).....	448.83

COOPERATION.--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, 1,980,000 acre-ft, May 29, 1957 (elevation, 570.25 ft); minimum since power pool elevation first reached in Apr 1954, 250,200 acre-ft, Nov 1, 1956 (elevation 509.52 ft).

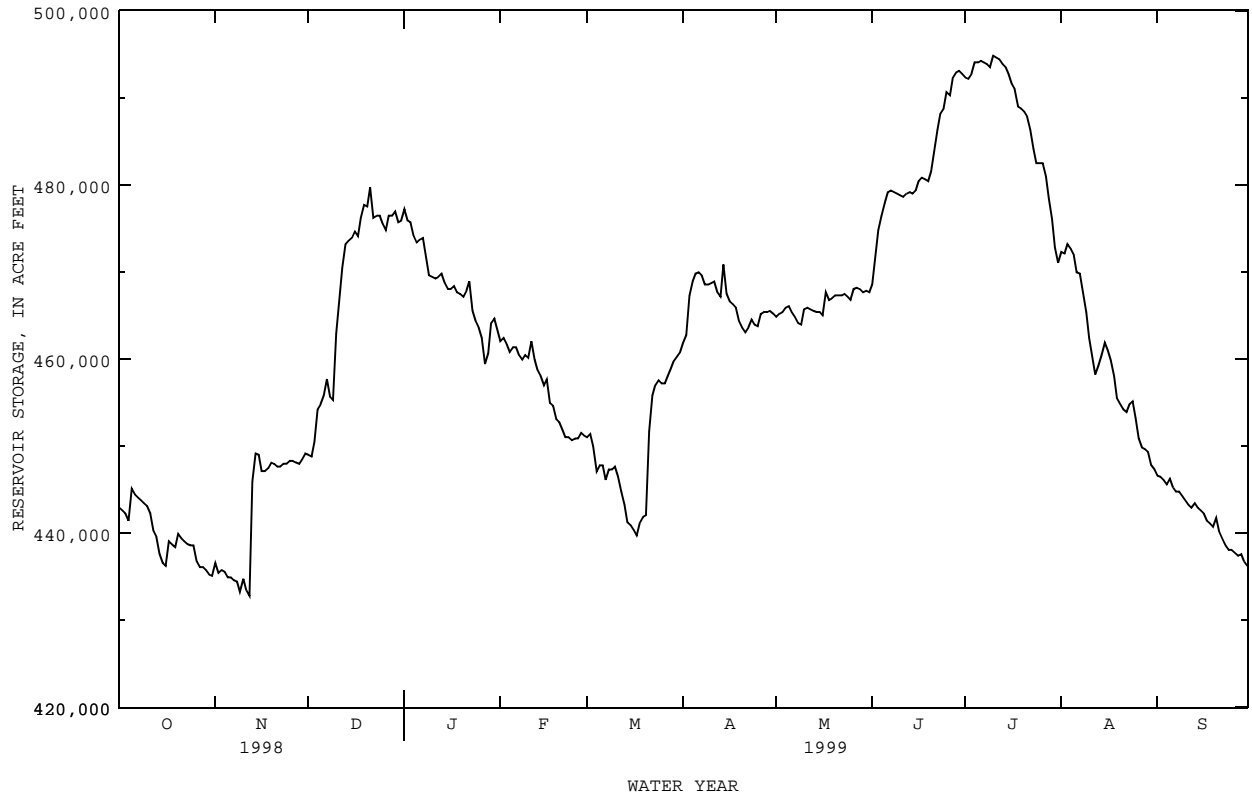
EXTREMES FOR CURRENT YEAR.--Maximum contents, 494,900 acre-ft, Jul 10 (elevation, 526.74 ft); minimum contents, 431,400 acre-ft, Nov 12 (elevation, 523.24 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	442900	436600	449000	477200	462100	451000	461900	464900	468600	492400	472300	446600
2	442600	435400	448800	475900	462400	451400	462800	465200	472000	492200	472100	446500
3	442300	435800	450500	475700	461700	450000	467300	465400	474800	492800	473200	446100
4	441400	435600	454300	474100	460800	447100	468900	465900	476500	494100	472700	445600
5	445100	434900	454800	473400	461400	447800	469800	466100	477900	494100	472000	446300
6	444400	434900	455800	473800	461400	447800	470000	465400	479200	494300	470000	445300
7	444100	434600	457700	473900	460500	446100	469600	464900	479400	494100	469800	444800
8	443800	434400	455700	471800	460000	447300	468600	464200	479200	493900	467500	444800
9	443400	433300	455300	469600	460500	447300	468600	464000	479000	493500	465400	444300
10	443100	434800	462900	469500	460100	447600	468800	465700	478800	494900	462400	443800
11	442300	433400	467200	469300	462100	446500	468900	465900	478600	494700	460100	443300
12	440300	432800	470500	469500	460000	444800	467700	465700	479000	494500	458200	442900
13	439600	446000	473200	469800	458800	443300	467200	465600	479200	493900	459300	443400
14	437600	449200	473600	468800	458100	441300	470900	465400	479000	493500	460500	442900
15	436600	449000	473900	468000	457000	440900	467500	465400	479400	492800	461900	442600
16	436300	447100	474700	468000	457700	440400	466600	465000	480500	491600	461000	442300
17	439100	447100	474100	468400	455000	439800	466300	467700	480800	491100	459800	441400
18	438700	447500	476300	467700	454600	441300	465900	466800	480700	489000	458100	441100
19	438400	448100	477700	467500	453100	441900	464300	467000	480500	488800	455500	440800
20	439900	448000	477600	467200	452700	442100	463600	467300	481600	488400	454800	441800
21	439400	447600	479700	467900	451900	451700	463100	467300	484000	487900	454300	440100
22	439100	447600	476300	468900	451000	455800	463600	467300	486400	486400	453900	439300
23	438700	448000	476500	465600	451000	457000	464500	467500	488300	484200	454800	438600
24	438600	448000	476500	464300	450700	457600	464000	467200	488800	482500	455100	438100
25	438600	448300	475600	463600	450900	457200	463800	466800	490700	482500	453300	438100
26	436800	448300	474800	462400	450900	457200	465200	468000	490300	482500	450900	437700
27	436100	448100	476500	459500	451500	458100	465400	468200	492400	481000	449800	437400
28	436100	448000	476500	460700	451200	458900	465400	468000	493000	478500	449700	437600
29	435800	448500	477000	464200	---	459800	465600	467700	493100	476100	449300	436800
30	435300	449200	475700	464700	---	460300	465200	467900	492800	472900	447800	436300
31	435100	---	475900	463500	---	460800	---	467700	---	471100	447300	---
MAX	445100	449200	479700	477200	462400	460800	470900	468200	493100	494900	473200	446600
MIN	435100	432800	448800	459500	450700	439800	461900	464000	468600	471100	447300	436300
(+)	523.46	524.31	525.84	525.14	524.43	524.99	525.24	523.38	526.75	525.57	524.20	523.54
(@)	-8300	+14100	+26700	-12400	-12300	+9700	+4400	+2500	+25100	-21700	-23800	-11000
CAL YR 1998	MAX 764200	MIN 432800	(@) -55400									
WTR YR 1999	MAX 494900	MIN 432800	(@) -7100									

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

08092500 LAKE WHITNEY NEAR WHITNEY, TX--Continued



BRAZOS RIVER BASIN

08092500 LAKE WHITNEY NEAR WHITNEY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Mar 1960 to Aug 1987, Jan 1999 to Aug 1999.

BIOCHEMICAL DATA: Sep 1970 to Aug 1987, Jan 1999 to Aug 1999.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

315203097222601 - LAKE WHITNEY SITE AC

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 (PER- CENT SOLVED SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SOLVED SATUR- ATION) (MG/L) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
FEB												
17...	1250	1.00	1120	8.1	13.0	1.28	9.5	91	--	--	210	120
17...	1252	10.0	1120	8.1	12.5	--	9.5	90	--	--	--	--
17...	1254	20.0	1120	8.0	12.5	--	9.4	89	--	--	--	--
17...	1256	30.0	1120	8.0	12.5	--	9.4	89	--	--	--	--
17...	1258	40.0	1120	8.0	12.5	--	9.5	90	--	--	--	--
17...	1300	50.0	1120	8.0	12.5	--	9.3	88	--	--	--	--
17...	1302	60.0	1120	8.0	12.0	--	8.9	84	--	--	--	--
17...	1304	70.0	1120	7.9	12.0	--	8.3	78	--	--	--	--
17...	1306	80.0	1120	7.8	11.5	--	7.8	72	--	--	--	--
17...	1308	90.0	1120	7.7	11.5	--	7.6	71	--	--	220	120
JUN												
02...	1410	1.00	1140	8.0	25.0	2.13	4.3	53	K4	K0	230	120
02...	1412	10.0	1140	7.9	24.5	--	4.1	50	--	--	--	--
02...	1414	20.0	1140	7.6	23.5	--	2.6	31	--	--	--	--
02...	1416	30.0	1140	7.4	23.0	--	1.1	13	--	--	--	--
02...	1418	40.0	1130	7.4	22.0	--	1.0	12	--	--	--	--
02...	1420	50.0	1130	7.4	20.5	--	.3	3	--	--	--	--
02...	1422	60.0	1130	7.4	20.0	--	.0	0	--	--	--	--
02...	1424	70.0	1120	7.4	19.0	--	.0	0	--	--	--	--
02...	1426	80.0	1120	7.4	18.5	--	.0	0	--	--	--	--
02...	1428	90.0	1120	7.3	18.0	--	.4	4	--	--	230	110
AUG												
11...	1154	1.00	1240	8.1	29.5	1.89	5.1	68	K4	K0	220	120
11...	1156	3.00	1240	8.1	29.5	--	5.2	70	--	--	--	--
11...	1158	12.0	1240	7.9	29.0	--	4.5	60	--	--	--	--
11...	1200	21.0	1240	7.4	29.0	--	1.6	21	--	--	--	--
11...	1202	30.0	1230	7.3	28.5	--	1.2	16	--	--	--	--
11...	1204	39.0	1220	7.2	27.5	--	.0	0	--	--	--	--
11...	1206	48.0	1190	7.2	26.0	--	.0	0	--	--	--	--
11...	1208	57.0	1150	7.1	22.5	--	.0	0	--	--	--	--
11...	1210	66.0	1150	7.1	21.5	--	.0	0	--	--	--	--
11...	1212	75.0	1140	7.1	20.0	--	.0	0	--	--	--	--
11...	1214	84.0	1140	7.1	19.5	--	.0	0	--	--	--	--
11...	1216	89.0	1140	7.0	19.5	--	.0	0	--	--	230	81

BRAZOS RIVER BASIN

08092500 LAKE WHITNEY NEAR WHITNEY, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

315203097222601 - LAKE WHITNEY SITE AC

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	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)
FEB											
17...	58	16	127	4	5.2	94	100	220	.20	8.4	592
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	61	17	131	4	5.1	110	100	210	.19	8.0	605
JUN											
02...	62	17	135	4	5.0	110	110	220	.25	7.2	617
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	64	17	133	4	4.9	120	100	210	.25	8.8	617
AUG											
11...	58	19	151	4	4.9	100	120	250	.29	8.5	670
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	63	17	129	4	5.1	150	87	220	.20	13	621

315203097222601 - LAKE WHITNEY SITE AC

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB											
17...	--	<.010	.216	.077	.24	.32	<.050	<.010	--	<10	3.2
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	<.010	.212	.202	.27	.47	<.050	.020	.06	<10	30
JUN											
02...	.061	.014	.075	.045	.30	.34	<.050	.010	.03	<10	E1.9
02...	--	--	--	--	--	--	--	--	--	--	--
02...	.109	.013	.122	.063	.30	.36	<.050	.011	.03	<10	3.0
02...	--	--	--	--	--	--	--	--	--	--	--
02...	.174	.011	.185	.048	.31	.36	<.050	.011	.03	<10	13
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	.186	.027	.213	.238	.24	.48	.091	.085	.26	16	738
AUG											
11...	--	<.010	<.050	<.020	--	.25	<.050	<.010	--	<10	<3.0
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	<.010	<.050	<.020	--	.17	<.050	<.010	--	<10	4.6
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	<.010	<.050	1.34	.07	1.4	.288	.300	.92	110	821

BRAZOS RIVER BASIN

08092500 LAKE WHITNEY NEAR WHITNEY, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

315214097222001 - LAKE WHITNEY SITE AL

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)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION) (00301)
FEB							
17...	1315	1.00	1120	8.1	13.0	9.9	95
17...	1317	10.0	1120	8.1	12.5	9.9	94
17...	1319	20.0	1120	8.0	12.5	9.8	93
17...	1321	30.0	1120	8.0	12.5	9.8	93
17...	1323	40.0	1120	8.0	12.5	9.7	92
17...	1325	49.0	1120	8.0	12.5	9.6	91
JUN							
02...	1446	1.00	1140	8.0	25.0	4.9	60
02...	1448	10.0	1130	7.9	24.5	4.4	54
02...	1450	20.0	1140	7.7	24.0	2.9	35
02...	1452	30.0	1140	7.5	23.0	1.4	17
02...	1454	40.0	1130	7.4	22.0	1.3	15
02...	1456	49.0	1130	7.4	21.5	1.0	11
AUG							
11...	1244	1.00	1240	8.2	29.5	6.1	82
11...	1246	10.0	1240	8.2	29.5	5.6	75
11...	1248	20.0	1240	7.7	29.0	2.6	34
11...	1250	30.0	1230	7.3	28.0	.6	8
11...	1252	40.0	1220	7.2	27.5	.1	1
11...	1254	48.0	1190	7.2	25.5	.0	0

315432097234601 - LAKE WHITNEY SITE CC

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)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION) (00301)
FEB							
17...	1200	1.00	1110	8.1	13.5	9.5	92
17...	1202	10.0	1110	8.0	12.5	9.5	90
17...	1204	20.0	1110	8.0	12.5	9.4	89
17...	1206	30.0	1110	8.0	12.5	9.4	89
17...	1208	40.0	1120	8.0	12.5	9.2	87
17...	1210	50.0	1120	8.0	12.5	8.9	84
17...	1212	60.0	1120	7.9	12.0	8.3	78
17...	1214	70.0	1120	7.8	12.0	8.0	75
17...	1216	80.0	1120	7.8	12.0	7.7	72
JUN							
02...	1338	1.00	1140	8.4	26.5	6.3	80
02...	1340	10.0	1140	8.3	26.0	6.1	76
02...	1342	20.0	1150	8.0	25.5	4.8	60
02...	1344	30.0	1150	7.5	23.0	1.1	13
02...	1346	40.0	1140	7.4	22.5	.6	7
02...	1348	50.0	1140	7.4	20.5	.2	2
02...	1350	60.0	1130	7.4	19.5	.2	2
02...	1352	70.0	1130	7.4	19.5	.3	3
02...	1354	79.0	1130	7.4	19.0	.4	4
AUG							
11...	1107	1.00	1260	8.1	30.5	5.8	79
11...	1109	10.0	1270	8.1	30.0	5.4	73
11...	1111	20.0	1290	7.5	29.5	2.4	32
11...	1113	30.0	1240	7.3	28.5	1.3	17
11...	1115	40.0	1230	7.2	27.5	.0	0
11...	1117	50.0	1190	7.2	25.5	.0	0
11...	1119	60.0	1160	7.1	22.0	.0	0
11...	1121	70.0	1160	7.1	21.0	.0	0
11...	1123	79.0	1150	7.0	21.0	.0	0

BRAZOS RIVER BASIN

08092500 LAKE WHITNEY NEAR WHITNEY, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

315722097240201 - LAKE WHITNEY SITE DC

DATE	TIME	SAM-PLING DEPTH (FEET) (00003)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (00400)	TEMPER-ATURE (DEG C) (00010)	TRANS-PAR-ENCY (SECCHI DISK) (M) (00078)	OXYGEN, OXYGEN, SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
FEB												
17...	0937	1.00	1100	8.1	13.0	.91	9.5	91	--	--	220	120
17...	0939	10.0	1100	8.0	13.0	--	9.5	91	--	--	--	--
17...	0941	20.0	1100	8.0	13.0	--	9.4	90	--	--	--	--
17...	0943	30.0	1100	8.0	13.0	--	9.3	89	--	--	--	--
17...	0945	40.0	1110	8.0	12.5	--	9.3	88	--	--	--	--
17...	0947	50.0	1110	8.0	12.5	--	9.2	87	--	--	--	--
17...	0949	60.0	1110	8.0	12.5	--	9.0	85	--	--	--	--
17...	0951	68.0	1110	7.9	12.5	--	8.6	82	--	--	220	120
JUN												
02...	1042	1.00	1160	8.3	26.5	1.31	6.5	82	K5	K0	230	120
02...	1044	10.0	1160	8.3	26.5	--	6.4	81	--	--	--	--
02...	1046	20.0	1160	8.3	26.5	--	6.2	78	--	--	--	--
02...	1048	30.0	1160	8.3	26.5	--	5.5	70	--	--	--	--
02...	1050	40.0	1240	7.6	25.0	--	2.0	25	--	--	--	--
02...	1052	50.0	1170	7.4	21.0	--	.2	2	--	--	--	--
02...	1054	60.0	1150	7.4	21.0	--	.3	3	--	--	--	--
02...	1056	69.0	1150	7.4	20.0	--	.4	4	--	--	230	110
AUG												
11...	0844	1.00	1300	8.0	30.0	1.40	5.1	69	K0	K0	220	130
11...	0846	10.0	1300	8.0	30.0	--	5.2	70	--	--	--	--
11...	0848	20.0	1300	8.0	30.0	--	5.4	73	--	--	--	--
11...	0850	30.0	1450	7.3	30.0	--	1.2	16	--	--	--	--
11...	0852	40.0	1280	7.2	27.5	--	.0	0	--	--	--	--
11...	0854	50.0	1230	7.2	25.5	--	.0	0	--	--	--	--
11...	0856	60.0	1180	7.0	22.5	--	.0	0	--	--	--	--
11...	0858	68.0	1180	6.9	22.0	--	.0	0	--	--	230	77

315722097240201 - LAKE WHITNEY SITE DC

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY, WAT DIS FIX END FIELD CACO3 (MG/L) (39036)	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)
FEB											
17...	62	16	126	4	5.1	100	100	210	.18	7.1	587
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	60	17	136	4	5.2	100	100	210	.20	8.6	604
JUN											
02...	61	18	141	4	5.0	100	110	220	.25	6.9	630
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	64	17	133	4	4.8	120	100	220	.28	9.2	623
AUG											
11...	57	20	161	5	5.1	95	120	270	.28	8.6	703
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	63	17	133	4	5.3	150	87	220	.19	13	633

BRAZOS RIVER BASIN

08092500 LAKE WHITNEY NEAR WHITNEY, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

315722097240201 - LAKE WHITNEY SITE DC

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB											
17...	--	<.010	.273	.075	.27	.35	<.050	<.010	--	<10	<3.0
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
17...	--	<.010	.228	.125	.26	.38	<.050	<.010	--	<10	3.2
JUN											
02...	--	<.010	<.050	.036	.26	.30	<.050	.010	.03	<10	<3.0
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	.049	.035	.084	.066	.29	.36	<.050	.010	.03	<10	86
02...	--	--	--	--	--	--	--	--	--	--	--
02...	.084	.036	.120	.229	.27	.50	E.030	.033	.10	34	692
AUG											
11...	--	<.010	<.050	<.020	--	.21	<.050	<.010	--	<10	<3.0
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	<.010	<.050	<.020	--	.22	<.050	<.010	--	<10	141
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	<.010	<.050	1.72	.07	1.8	.205	.207	.63	100	1240

320122097260901 - LAKE WHITNEY 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, (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00613)
FEB										
17...	1045	1.00	1080	8.2	14.0	.70	9.4	92	--	<.010
17...	1047	10.0	1080	8.1	13.5	--	9.0	87	--	--
17...	1049	20.0	1080	8.1	13.0	--	8.7	83	--	--
17...	1051	30.0	1080	8.0	13.0	--	7.9	76	--	--
17...	1053	44.0	1100	7.6	13.0	--	6.3	60	.359	.017
JUN										
02...	1206	1.00	1220	8.4	28.0	.95	5.6	73	--	<.010
02...	1208	10.0	1220	8.4	27.5	--	5.4	69	--	--
02...	1210	20.0	1240	8.1	27.0	--	4.3	55	--	--
02...	1212	30.0	1300	7.8	26.5	--	3.0	38	--	--
02...	1214	44.0	1350	7.4	25.5	--	.9	11	.009	.055
AUG										
11...	0951	1.00	1310	8.3	31.0	.73	6.4	88	--	<.010
11...	0953	10.0	1330	8.1	31.0	--	5.0	69	--	--
11...	0955	20.0	1420	7.7	30.5	--	3.0	41	--	--
11...	0957	30.0	1630	7.3	30.5	--	.6	8	--	--
11...	0959	43.0	1680	7.0	28.5	--	.0	0	--	<.010

BRAZOS RIVER BASIN

08092500 LAKE WHITNEY NEAR WHITNEY, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

320122097260901 - LAKE WHITNEY SITE FC

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB									
17...	.387	.057	.26	.32	<.050	<.010	--	<10	3.2
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	.376	.423	.29	.71	<.050	.012	.04	<10	109
JUN									
02...	<.050	.026	.29	.32	<.050	<.010	--	<10	E2.2
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	.064	.284	.30	.58	<.050	.018	.06	<10	479
AUG									
11...	<.050	<.020	--	.21	<.050	<.010	--	<10	3.4
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	<.050	1.77	.03	1.8	.340	.390	1.2	650	1400

315907097222801 - LAKE WHITNEY SITE P07

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, SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
FEB									
17...	1015	1.00	1090	8.0	13.0	.85	9.4	90	<.010
17...	1017	10.0	1090	8.0	13.0	--	9.3	89	--
17...	1019	20.0	1090	8.0	13.0	--	9.1	87	--
17...	1021	30.0	1090	8.0	13.0	--	8.8	84	--
17...	1023	40.0	1100	7.9	13.0	.85	8.5	82	<.010
JUN									
02...	1127	1.00	1170	8.4	27.5	1.31	6.4	82	<.010
02...	1129	10.0	1170	8.4	27.5	--	6.3	81	--
02...	1131	20.0	1160	8.3	27.0	--	5.9	75	--
02...	1133	30.0	1170	8.2	26.5	--	5.2	66	--
02...	1135	40.0	1180	7.7	26.0	--	2.8	35	<.010
AUG									
11...	0920	1.00	1270	8.2	31.0	1.43	6.5	89	<.010
11...	0922	10.0	1280	8.2	31.0	--	5.9	81	--
11...	0924	20.0	1320	7.6	30.0	--	2.8	38	--
11...	0926	30.0	1310	7.2	30.0	--	.2	3	--
11...	0928	40.0	1290	7.2	29.0	--	.0	0	<.010

315907097222801 - LAKE WHITNEY SITE P07

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB									
17...	.285	.078	.26	.33	<.050	<.010	--	<10	E1.9
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
17...	.263	.119	.26	.38	<.050	<.010	--	<10	4.5
JUN									
02...	<.050	.025	.29	.32	<.050	.011	.03	<10	<3.0
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	<.050	.069	.27	.34	<.050	.014	.04	<10	108
AUG									
11...	<.050	<.020	--	.19	<.050	<.010	--	<10	<3.0
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
11...	<.050	.326	.25	.57	E.039	.039	.12	250	449

BRAZOS RIVER BASIN

08092500 LAKE WHITNEY NEAR WHITNEY, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

320401097291301 - LAKE WHITNEY SITE P11

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, OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL AS CACO3 (MG/L) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
FEB												
17...	1115	1.00	1120	8.1	14.0	.55	8.9	87	--	--	270	130
17...	1117	10.0	1120	8.0	13.5	--	8.6	83	--	--	--	--
17...	1119	16.0	1130	8.0	13.5	--	8.3	81	--	--	270	120
JUN												
02...	1238	1.00	1590	8.4	28.5	.55	6.2	81	K0	K5	290	170
02...	1240	10.0	1570	8.1	28.0	--	5.2	67	--	--	--	--
02...	1242	17.0	1600	7.9	28.0	--	4.1	53	--	--	290	170
AUG												
11...	1018	1.00	1870	7.9	31.0	.43	5.0	69	K2	74	290	200
11...	1020	10.0	1850	7.8	31.0	--	4.3	59	--	--	--	--
11...	1022	17.0	1880	7.5	31.0	--	3.3	45	--	--	290	200

320401097291301 - LAKE WHITNEY SITE P11

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)	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 SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)
FEB											
17...	79	18	116	3	5.1	140	110	180	.23	5.3	607
17...	--	--	--	--	--	--	--	--	--	--	--
17...	79	18	118	3	5.0	150	110	190	.24	5.3	616
JUN											
02...	74	25	207	5	6.4	120	160	330	.33	6.2	882
02...	--	--	--	--	--	--	--	--	--	--	--
02...	74	25	207	5	6.5	120	160	340	.33	6.2	891
AUG											
11...	70	29	264	7	7.1	90	180	430	.26	8.3	1040
11...	--	--	--	--	--	--	--	--	--	--	--
11...	69	29	261	7	6.4	93	180	430	.33	8.5	1030

320401097291301 - LAKE WHITNEY SITE P11

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB											
17...	.780	.025	.805	.099	.26	.36	<.050	<.010	--	<10	<3.0
17...	--	--	--	--	--	--	--	--	--	--	--
17...	.765	.027	.792	.130	.28	.41	<.050	<.010	--	<10	9.0
JUN											
02...	--	<.010	<.050	.032	.34	.37	<.050	.012	.04	<10	E1.9
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	<.010	<.050	.055	.35	.40	<.050	.014	.04	<10	65
AUG											
11...	--	<.010	<.050	<.020	--	.29	<.050	<.010	--	<30	<12
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	<.010	<.050	<.020	--	.19	<.050	<.010	--	<30	62

BRAZOS RIVER BASIN

08092500 LAKE WHITNEY NEAR WHITNEY, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

315500097204001 - LAKE WHITNEY SITE P15

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 SATUR- ATION (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (MG/L) (00301)	NITRO- GEN, NITRITE DIS- SOLVED AS N) (00613)
FEB									
17...	1230	1.00	1120	8.2	13.5	.79	9.8	95	<.010
17...	1232	10.0	1110	8.1	12.5	--	9.5	90	--
17...	1234	21.0	1110	8.1	12.5	--	9.2	87	<.010
JUN									
02...	1506	1.00	1130	8.5	28.0	.85	6.0	78	<.010
02...	1508	10.0	1130	8.4	27.5	--	5.7	73	--
02...	1510	21.0	1130	8.3	27.0	--	5.3	68	<.010
AUG									
11...	1310	1.00	1240	8.3	31.5	--	5.9	82	<.010
11...	1312	10.0	1240	8.3	31.0	--	5.9	81	--
11...	1314	20.0	1240	7.4	30.0	--	1.6	22	<.010

315500097204001 - LAKE WHITNEY SITE P15

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB									
17...	.205	.026	.25	.27	<.050	<.010	--	<10	<3.0
17...	--	--	--	--	--	--	--	--	--
17...	.195	.031	.26	.29	<.050	<.010	--	<10	<3.0
JUN									
02...	<.050	.032	.29	.32	<.050	.010	.03	<10	<3.0
02...	--	--	--	--	--	--	--	--	--
02...	<.050	.035	.27	.31	<.050	.011	.03	<10	<3.0
AUG									
11...	<.050	<.020	--	.47	<.050	<.010	--	<10	E1.6
11...	--	--	--	--	--	--	--	--	--
11...	<.050	<.020	--	.21	<.050	<.010	--	<10	68

BRAZOS RIVER BASIN

08092500 LAKE WHITNEY NEAR WHITNEY, TX--Continued

Lake Whitney Site AC (315203097222601)

Phytoplankton Analyses October 1998 to September 1999

	Date	2/17/99
	Time	1250
	TOTAL CELLS/mL	5,099
	NUMBER OF SPECIES	9
	DEPTH COLLECTED (ft.)	2.1
Organisms		Cells/mL
BACILLARIOPHYTA		
Order Centrales		
<i>Stephanodiscus astraea</i>		30
Order Pennales		
<i>Asterionella formosa</i> var. <i>formosa</i>		15
<i>Navicula</i> sp.		15
CHLOROPHYTA		
<i>Chlamydomonas</i> sp.		150
<i>Oocystis</i> sp.		60
<i>Scenedesmus opoliensis</i>		30
CYANOPHYTA		
<i>Aphanocapsa delicatissima</i>		4,199
EUGLENOPHYTA		
<i>Trachelomonas</i> sp.		510
CRYPTOPHYTA		
<i>Cryptomonas erosa</i>		90

Lake Whitney Site P11 (320401097291301)

Phytoplankton Analyses October 1998 to September 1999

	Date	2/17/99
	Time	1115
	TOTAL CELLS/mL	5,128
	NUMBER OF SPECIES	7
	DEPTH COLLECTED (ft.)	0.90
Organisms		Cells/mL
BACILLARIOPHYTA		
Order Centrales		
<i>Cyclotella ocellata</i>		30
Order Pennales		
<i>Asterionella formosa</i> var. <i>formosa</i>		30
<i>Cocconeis placentula</i> var. <i>placentula</i>		30
CHLOROPHYTA		
<i>Ankistrodesmus falcatus</i>		90
<i>Chlamydomonas</i> sp.		120
<i>Oocystis</i> sp.		30
CYANOPHYTA		
<i>Aphanocapsa delicatissima</i>		4,798

08092500 LAKE WHITNEY NEAR WHITNEY, TX--Continued

Lake Whitney Site AC (315203097222601)

Phytoplankton Analyses October 1998 to September 1999

Date	6/2/99
Time	1410
<hr/>	
TOTAL CELLS/mL	30,109
NUMBER OF SPECIES	11
DEPTH COLLECTED (ft.)	3.5

Organisms	Cells/mL
BACILLARIOPHYTA	
Order Centrales	
<i>Melosira varians</i>	60
Order Pennales	
<i>Fragilaria crotonensis</i> var. <i>crotonensis</i>	67
<i>Navicula</i> sp.	22
CHLOROPHYTA	
<i>Chlamydomonas</i> sp.	90
<i>Crucigenia tetrapedia</i>	90
<i>Oocystis</i> sp.	120
<i>Scenedesmus opoliensis</i>	30
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	26,391
<i>Chroococcus limneticus</i>	720
<i>Merismopedia tenuissima</i>	2,399
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	120

Lake Whitney Site P11 (320401097291301)

Phytoplankton Analyses October 1998 to September 1999

Date	6/2/99
Time	1238
<hr/>	
TOTAL CELLS/mL	49,186
NUMBER OF SPECIES	17
DEPTH COLLECTED (ft.)	0.9

Organisms	Cells/mL
BACILLARIOPHYTA	
Order Centrales	
<i>Cyclotella ocellata</i>	129
<i>Melosira varians</i>	51
Order Pennales	
<i>Naviculus</i> sp.	380
<i>Synedra ulna</i> var. <i>ulna</i>	190
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	840
<i>Chlamydomonas</i> sp.	60
<i>Cosmarium</i> sp.	30
<i>Crucigenia tetrapedia</i>	120
<i>Scenedesmus acuminatus</i>	90
<i>Scenedesmus opoliensis</i>	300
<i>Selenastrum Westii</i>	60
<i>Staurastrum</i> sp.	90
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	22,193
<i>Chroococcus limneticus</i>	1,200
<i>Merismopedia tenuissima</i>	13,436
<i>Oscillatoria</i> sp.	9,897
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	120

BRAZOS RIVER BASIN

08092500 LAKE WHITNEY NEAR WHITNEY, TX--Continued

Lake Whitney Site AC (315203097222601)

Phytoplankton Analyses October 1998 to September 1999

	Date	8/11/99
	Time	1154
	TOTAL CELLS/mL	271,230
	NUMBER OF SPECIES	13
	DEPTH COLLECTED (ft.)	3.1
Organisms		Cells/mL
BACILLARIOPHYTA		
Order Pennales		
<i>Fragilaria crotonensis</i> var. <i>crotonensis</i>		125
<i>Synedra ulna</i> var. <i>ulna</i>		25
CHLOROPHYTA		
<i>Ankistrodesmus falcatus</i>		2,159
<i>Chlamydomonas</i> sp.		630
<i>Cosmarium</i> sp.		210
CYANOPHYTA		
<i>Aphanizomenon flos-aquae</i>		600
<i>Aphanocapsa delicatissima</i>		13,795
<i>Chroococcus limneticus</i>		840
<i>Merismopedia tenuissima</i>		3,839
<i>Oscillatoria</i> sp.		248,317
EUGLENOPHYTA		
<i>Phacus</i> sp.		30
<i>Trachelomonas</i> sp.		480
CRYPTOPHYTA		
<i>Cryptomonas erosa</i>		180

Lake Whitney Site P11 (320401097291301)

Phytoplankton Analyses October 1998 to September 1999

	Date	8/11/99
	Time	1018
	TOTAL CELLS/mL	137,776
	NUMBER OF SPECIES	13
	DEPTH COLLECTED (ft.)	0.7
Organisms		Cells/mL
BACILLARIOPHYTA		
Order Pennales		
<i>Fragilaria crotonensis</i> var. <i>crotonensis</i>		60
CHLOROPHYTA		
<i>Ankistrodesmus falcatus</i>		360
<i>Chlamydomonas</i> sp.		300
<i>Cosmarium</i> sp.		90
<i>Oocystis</i> sp.		30
<i>Scenedesmus opoliensis</i>		30
CYANOPHYTA		
<i>Aphanizomenon flos-aquae</i>		600
<i>Aphanocapsa delicatissima</i>		6,598
<i>Chroococcus limneticus</i>		1,440
<i>Merismopedia tenuissima</i>		960
<i>Oscillatoria</i> sp.		125,958
EUGLENOPHYTA		
<i>Trachelomonas</i> sp.		1,050
CRYPTOPHYTA		
<i>Cryptomonas erosa</i>		300

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BRAZOS RIVER BASIN

08092600 BRAZOS RIVER AT WHITNEY DAM NEAR WHITNEY, TX

WATER-QUALITY RECORDS

LOCATION.--Lat 31°52'00", long 97°22'00", Hill Country, Hydrologic Unit 12060202, immediately below Whitney Dam, 9.0 mi upstream fro gaging station near Whitney, 4.0 mi upstream from Iron Creek, and 7.4 mi southwest of Whitney.

DRAINAGE AREA.--27,189 mi², of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--

CHEMICAL DATA: Aug 1946 to Sep 1997, Oct 1998 to Sep 1999.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Oct 1947 to Sep 1997.

WATER TEMPERATURE: Aug 1947 to Sep 1997.

INSTRUMENTATION.--From Jul 1953 to Sep 1966, water temperature was continuously recorded at this station.

REMARKS.--Records of discharge are given for Brazos River near Aquilla (station 08093100). No appreciable inflow between dam and gaging station except during periods of heavy local rains. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relations between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the U.S. Geological Survey District Office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,620 microsiemens, Aug 24, 1978; minimum daily, 203 microsiemens, May 23, 1952.

WATER TEMPERATURE: Maximum daily, 33.5oC Jul 3, 1973; minimum daily, 0.0oC on Jan 28, 29, 1948.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, (PER-CENT SATUR-ATION) (MG/L) (00301)	HARD-NESS TOTAL (MG/L) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	
FEB 17...	1140	1540	1140	7.9	15.5	4.9	9.6	98	--	220	110
JUN 02...	1402	55	1080	8.0	26.0	--	10.6	133	3.1	220	100
JUN 29...	1203	112	1050	8.3	30.0	--	11.2	150	3.7	230	110
AUG 11...	1132	255	1200	8.4	30.5	.65	12.4	170	1.0	230	99

DATE	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SODIUM, DIS-SOLVED (MG/L) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L) (00935)	ALKA-LINITY WAT DIS FIX END CACO3 (MG/L) (39036)	SULFATE DIS-SOLVED (MG/L) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) (00950)	SILICA, DIS-SOLVED (MG/L) (00955)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L) (70300)
FEB 17...	60	17	133	4	5.2	110	100	220	.20	7.3	640
JUN 02...	59	17	132	4	5.1	120	100	210	.27	8.0	660
JUN 29...	63	17	134	4	4.4	120	100	220	.27	8.5	644
AUG 11...	63	17	135	4	4.8	130	100	220	.20	9.5	662

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, DIS-SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L) (00607)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L) (00660)
FEB 17...	617	21	--	<.010	.218	.068	.32	.39	<.050	<.010	--
JUN 02...	607	<1	--	<.010	.205	.073	.52	.60	<.050	.058	.18
JUN 29...	619	1	.069	.016	.085	.029	.37	.40	.506	.023	.07
AUG 11...	631	2	--	<.010	.081	.235	.20	.44	E.035	.041	.13

BRAZOS RIVER BASIN

08092600 BRAZOS RIVER AT WHITNEY DAM NEAR WHITNEY, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	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)	BARIIUM, 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)
FEB 17...	4.5	<1.0	<1.0	1	100	<1.0	<1.0	5.3	<1.0	1.6
JUN 02...	4.1	--	--	--	--	--	--	--	--	--
29...	5.5	--	--	--	--	--	--	--	--	--
AUG 11...	4.6	1.0	<1.0	3	102	<1.0	<1.0	<1.0	<1.0	<1.0

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	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)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)
FEB 17...	<10	<1.0	2.1	<.1	3.6	2.2	1	<1.0	11	1.6
JUN 02...	<10	--	18	--	--	--	--	--	--	--
29...	22	--	40	--	--	--	--	--	--	--
AUG 11...	11	<1.0	340	<.1	3.7	2.0	--	<1.0	2.6	1.1

BRAZOS RIVER BASIN

08093100 BRAZOS RIVER NEAR AQUILLA, TX

LOCATION.--Lat 31°48'44", long 97°17'51", Bosque County, Hydrologic Unit 12060202, on right bank at downstream side of highway embankment near right end of bridge on Farm Road 2114, 2.0 mi downstream from Tener Creek, 4.9 mi downstream from Iron Creek, 5.4 mi southwest of Aquilla, 9.0 mi downstream from Whitney Dam, and at river mile 434.0.

DRAINAGE AREA.--27,244 mi², of which 9,566 mi², probably is noncontributing.

PERIOD OF RECORD.--Oct 1938 to current year. Prior to Oct 1974, published as Brazos River near Whitney.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 404.29 ft above sea level. Prior to Oct 1, 1948, nonrecording gage at site 13.9 mi upstream at datum 27.77 ft higher. Oct 1, 1948, to Feb 12, 1975, at site 5.6 mi upstream at datum 13.10 ft higher. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since water year 1940, at least 10% of contributing drainage area has been regulated by Possum Kingdom Lake (station 08088500, normal storage 724,700 acre-ft). Most flow occurs as releases from Lake Whitney (station 08092500) 9.0 mi upstream. The Brazos River at Whitney Dam (station 08092600) uses the discharge record at this station for publication of water-quality records. Several observations of water temperature were made during the year. There are diversions above station for irrigation and industrial operations.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--2 years (water years 1939-40) prior to regulation by Possum Kingdom Lake (station 08088500), 1,149 ft³/s (832,500 acre-ft/yr), at site and datum then in use.

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1939-40).--Maximum discharge, 39,800 ft³/s Jun 19, 1939 (gage height, 19.16 ft), maximum gage height, 19.92 ft Aug 20, 1940, at site and datum then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1853, 45 ft May 9, 1922, at site and datum in use Oct 1, 1948, to Feb 12, 1975, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	227	230	390	264	1310	40	25	24	550	44	262	33
2	39	122	36	370	64	490	25	25	83	28	244	29
3	35	409	35	55	559	35	336	27	33	28	531	29
4	35	112	1430	584	513	975	88	27	31	30	443	28
5	36	204	117	488	53	449	48	50	31	70	610	28
6	64	33	78	157	155	30	34	77	32	387	903	34
7	35	33	65	313	561	538	248	35	32	63	709	29
8	32	33	193	556	487	160	628	97	31	29	525	27
9	33	94	536	1300	48	28	226	220	31	28	1340	28
10	34	231	1100	432	36	25	62	42	31	30	1150	28
11	134	762	618	226	36	593	30	34	32	34	1320	27
12	830	430	279	126	440	1720	496	31	33	33	707	27
13	586	1320	130	332	678	1580	153	30	35	34	664	29
14	356	80	471	335	343	152	35	29	36	34	160	31
15	800	229	285	315	528	41	260	29	33	33	152	28
16	36	1340	260	433	49	198	168	30	441	283	487	27
17	199	321	346	55	1220	450	37	48	163	309	705	28
18	472	48	116	358	594	269	28	59	34	774	790	27
19	407	43	153	350	556	37	493	28	34	477	1150	26
20	242	39	306	202	420	27	550	26	33	37	417	27
21	512	36	457	46	220	26	41	27	36	33	28	26
22	41	36	1170	34	412	26	109	27	36	176	24	26
23	34	36	202	954	219	26	116	27	32	707	24	27
24	34	35	562	629	195	25	27	27	28	1020	24	27
25	33	35	360	427	37	25	25	27	47	441	261	31
26	531	34	950	700	29	24	34	33	263	33	889	30
27	574	34	59	1690	28	24	29	32	76	595	658	27
28	51	34	52	669	26	26	35	43	243	1120	32	27
29	297	33	51	265	---	25	69	60	294	1190	24	26
30	306	140	814	226	---	25	24	36	52	1310	167	26
31	49	---	165	616	---	25	---	33	---	1250	347	---
TOTAL	7094	6566	11786	13507	9816	8114	4479	1340	2866	10660	15747	843
MEAN	229	219	380	436	351	262	149	43.2	95.5	344	508	28.1
MAX	830	1340	1430	1690	1310	1720	628	220	550	1310	1340	34
MIN	32	33	35	34	26	24	24	24	28	28	24	26
AC-FT	14070	13020	23380	26790	19470	16090	8880	2660	5680	21140	31230	1670

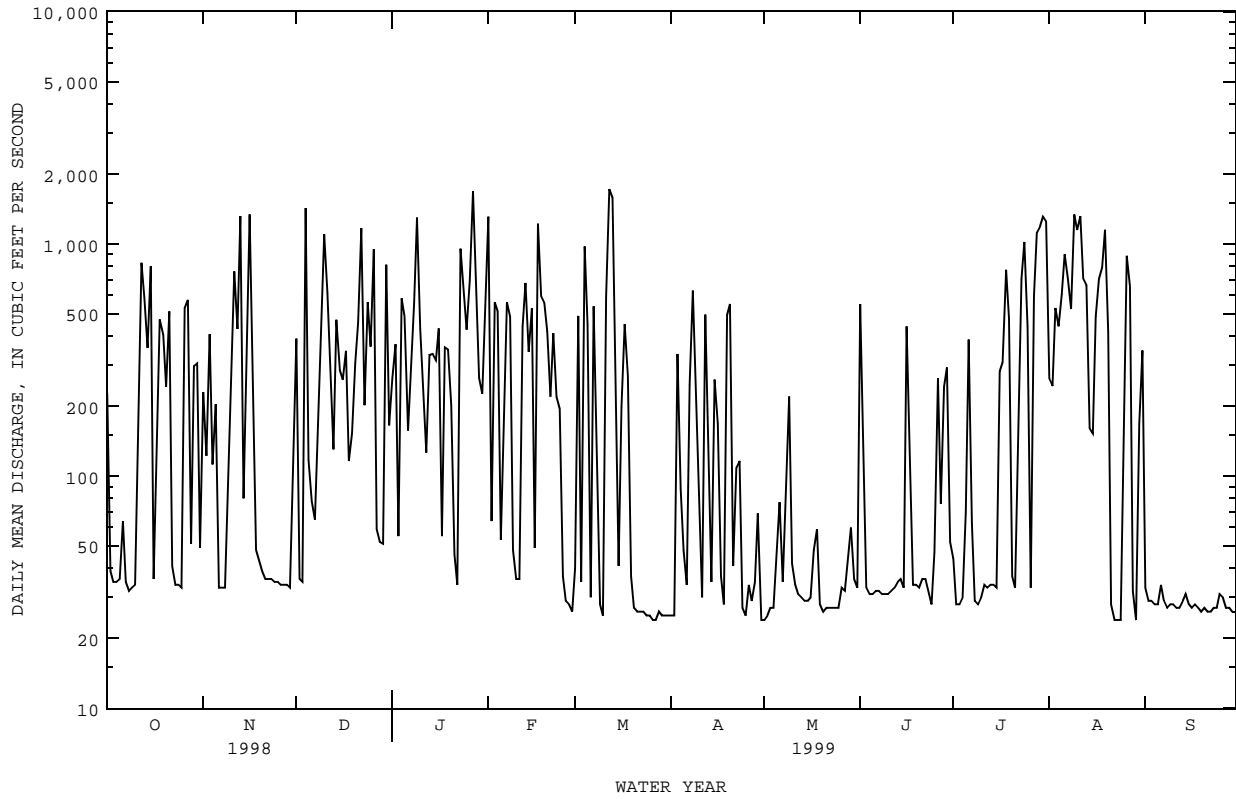
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999z, BY WATER YEAR (WY)

MEAN	1642	1095	901	1130	1240	1540	1558	3616	3355	1371	976	1047
MAX	12300	7201	7148	18010	11190	13700	14340	29670	35640	8110	5252	8249
(WY)	1982	1975	1992	1992	1992	1992	1942	1957	1957	1982	1995	1966
MIN	24.5	20.5	29.0	9.92	15.6	26.7	12.5	13.0	95.5	28.6	61.5	28.1
(WY)	1989	1984	1984	1953	1984	1953	1953	1988	1999	1978	1988	1999

08093100 BRAZOS RIVER NEAR AQUILLA, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1941 - 1999z	
ANNUAL TOTAL	410201		92818		1624	
ANNUAL MEAN	1124		254		6566	
HIGHEST ANNUAL MEAN					141	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	23500	Mar 18	1720	Mar 12	66100	May 18 1949
LOWEST DAILY MEAN	14	Feb 8	24	Mar 26	.40	May 9 1953
ANNUAL SEVEN-DAY MINIMUM	34	Nov 23	25	Mar 24	.80	May 4 1953
INSTANTANEOUS PEAK FLOW			4410	Jul 29	g71800	May 18 1949
INSTANTANEOUS PEAK STAGE			11.71	Jul 29	g31.03	May 18 1949
ANNUAL RUNOFF (AC-FT)	813600		184100		1176000	
10 PERCENT EXCEEDS	1650		687		3250	
50 PERCENT EXCEEDS	537		60		633	
90 PERCENT EXCEEDS	36		27		46	

z Period of regulated streamflow.
g At site and datum then in use.



BRAZOS RIVER BASIN

08093350 AQUILLA LAKE ABOVE AQUILLA, TX

LOCATION.--Lat 31°53'59", long 97°12'09", Hill County, Hydrologic Unit 12060202, 450 ft upstream from Farm Road 310 it runs along top of Aquilla Dam on Aquilla Creek, and 3.4 miles north-northeast of Aquilla.

DRAINAGE AREA.--255 mi².

PERIOD OF RECORD.--Oct 1983 to current year.

Water-quality records.--Chemical data: Feb 1984 to Jul 1992. Biochemical data: Feb 1984 to Jul 1992.

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

REMARKS.--The lake is formed by an earthfill dam with a crest length of 11,890 ft and a top width of 38.0 ft. A reinforced concrete inlet structure, near center of dam, houses the flood-control gates and operating equipment. Closure of the dam began Mar 20, 1982, and the dam was completed in Jan 1983. The dam was built and is owned by the U.S. Army Corps of Engineers. Deliberate impoundment began Apr 29, 1983. The lake was built for water supply, flood control, and recreation purposes. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	582.5
Spillway crest (uncontrolled).....	564.5
Top of flood-control pool.....	556.0
Top of conservation pool.....	537.5
Lowest gated outlet (invert).....	503.0

COOPERATION.--Record of contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey. A new capacity table, provided by the Texas Water Development Board, was put into use beginning Oct 1, 1995.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 119,000 acre-ft, Dec 23, 1991 (elevation, 551.89 ft); minimum contents after initial filling, 35,520 acre-ft, Aug 23, 1996 (elevation, 533.91 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 61,960 acre-ft, Dec 12 (elevation, 541.87 ft); minimum contents, 37,920 acre-ft, Oct 16 (elevation, 534.82 ft).

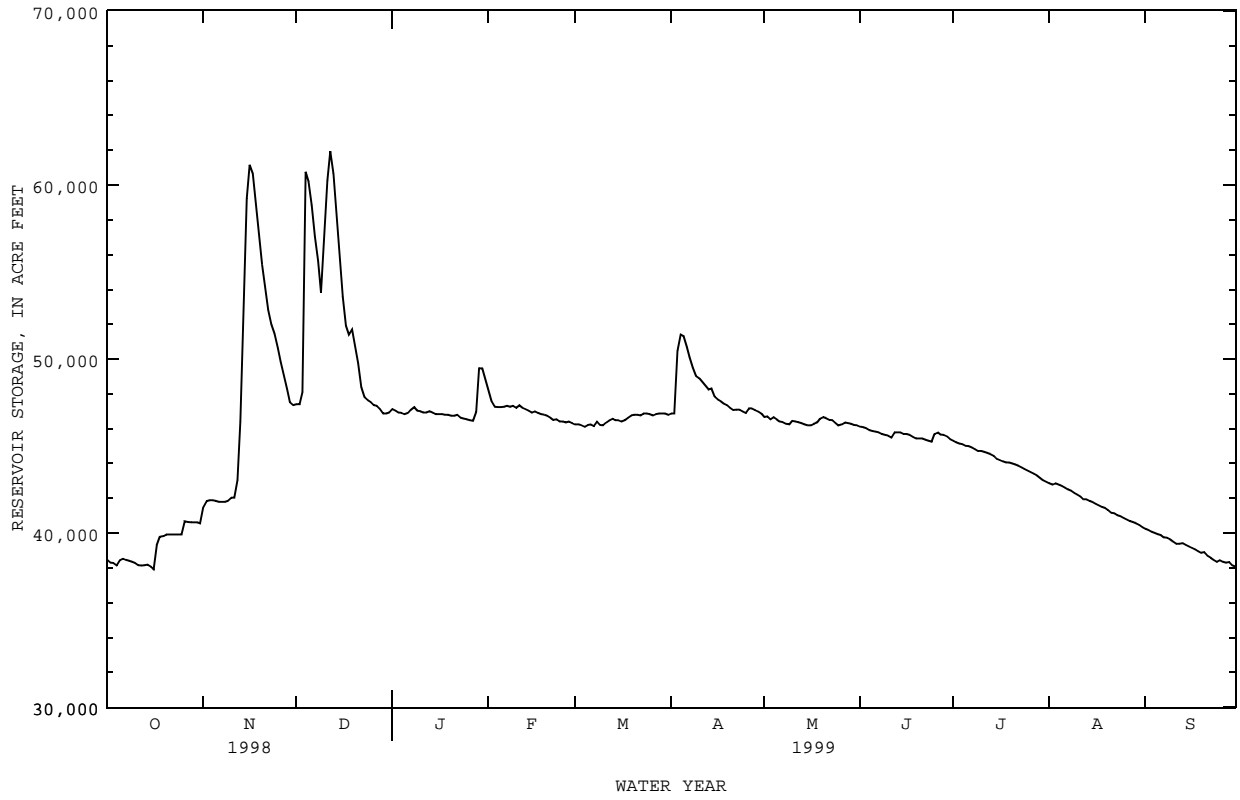
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38480	41500	47410	47140	48210	46250	46880	46680	46120	45310	42860	40270
2	38310	41830	47410	47040	47580	46250	46880	46710	46090	45220	42800	40180
3	38280	41890	48110	46940	47270	46220	50480	46550	46020	45150	42860	40090
4	38170	41890	60760	46910	47240	46120	51420	46680	45930	45120	42800	40000
5	38450	41860	60210	46840	47240	46220	51320	46550	45860	45020	42710	39950
6	38540	41800	58840	46910	47270	46250	50720	46420	45830	44990	42620	39890
7	38480	41800	57040	47110	47310	46150	50100	46380	45800	44930	42530	39770
8	38420	41800	55650	47240	47270	46420	49510	46280	45700	44830	42440	39740
9	38370	41860	53820	47040	47310	46220	49030	46250	45630	44740	42320	39660
10	38280	42040	57040	47010	47210	46190	48890	46450	45600	44740	42220	39510
11	38170	42040	60290	46940	47340	46350	48690	46420	45500	44670	42100	39400
12	38140	43050	61960	46940	47210	46480	48490	46380	45800	44610	41950	39400
13	38170	46420	60640	47010	47140	46580	48250	46320	45800	44550	41950	39420
14	38200	53170	58450	46940	47040	46480	48320	46250	45800	44450	41860	39340
15	38090	59230	55950	46840	46940	46480	47840	46190	45700	44290	41770	39250
16	37920	61160	53600	46840	47010	46420	47680	46190	45700	44200	41680	39170
17	39340	60640	51920	46840	46910	46480	47580	46280	45630	44140	41590	39080
18	39800	58840	51420	46810	46840	46650	47440	46350	45540	44070	41500	38970
19	39830	57120	51740	46810	46810	46780	47340	46580	45440	44070	41440	38880
20	39920	55430	50720	46740	46740	46810	47210	46680	45440	44010	41330	38910
21	39920	54070	49790	46740	46650	46810	47080	46610	45440	43950	41180	38710
22	39920	52850	48380	46810	46510	46780	47110	46510	45380	43890	41150	38590
23	39920	51990	47810	46650	46550	46880	47110	46480	45310	43790	41030	38480
24	39920	51460	47640	46580	46420	46880	47010	46320	45250	43700	40970	38370
25	39920	50650	47540	46550	46420	46840	46910	46190	45700	43600	40880	38450
26	40680	49850	47340	46480	46350	46780	47180	46250	45800	43510	40790	38370
27	40650	49060	47310	46450	46420	46840	47180	46350	45670	43420	40710	38310
28	40620	48280	47140	46980	46320	46880	47080	46320	45630	43330	40650	38340
29	40620	47510	46880	49480	---	46880	47010	46280	45570	43170	40560	38170
30	40620	47340	46880	49480	---	46880	46880	46220	45410	43050	40470	38090
31	40560	---	46940	48860	---	46810	---	46190	---	42960	40350	---
MAX	40680	61160	61960	49480	48210	46880	51420	46710	46120	45310	42860	40270
MIN	37920	41500	46880	46450	46320	46120	46880	46190	45250	42960	40350	38090
(+)	535.75	537.85	537.74	538.30	537.56	537.70	537.72	537.52	537.30	536.54	535.68	534.88
(@)	+2020	+6780	-400	+1920	-2540	+490	+70	-690	-780	-2450	-2610	-2260

CAL YR 1998 MAX 69480 MIN 37920 (@) -10860
WTR YR 1999 MAX 61960 MIN 37920 (@) -450

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

08093350 AQUILLA LAKE ABOVE AQUILLA, TX--Continued



BRAZOS RIVER BASIN

08093500 AQUILLA CREEK NEAR AQUILLA, TX

LOCATION.--Lat 31°50'40", long 97°12'04", Hill County, Hydrologic Unit 12060202, at downstream side of highway embankment near left end of bridge on Farm Road 1304, 1.0 mi southeast of Aquilla, 1.2 mi downstream from Cobb Creek, 4.7 mi below Aquilla Dam, and 18.2 mi upstream from mouth.

DRAINAGE AREA.--308 mi².

PERIOD OF RECORD.--Jan 1939 to current year. Dec 1924 to Aug 1925, these records of daily discharges published in wsp 608 are unreliable, and should not be used.

Water-quality records.--Chemical data: Mar 1960 to Jun 1966, Oct 1967 to Sep 1993. Biochemical data: Jan 1968 to Sep 1992. Specific conductance: May 1965 to Jun 1966, Nov 1967 to Sep 1982. Water temperature: May 1965 to Jun 1966, Nov 1967 to Sep 1982.

REVISED RECORDS.--WSP 1712: 1944(M), 1957-58. WDR TX-76-2: Drainage area. See PERIOD OF RECORD.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 451.48 ft above sea level (levels by U.S. Army Corps of Engineers). Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. Since Apr 1983, at least 10% of contributing drainage area has been regulated by Aquilla Lake (station 08093350, normal storage 52,400 acre-ft), 4.7 mi upstream. No known diversions

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--43 years (water years 1940-82) 119 ft³/s (5.25 in/yr), 86,220 acre-ft/yr.

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1939-82).--Maximum discharge, 53,300 ft³/s Jun 16, 1981 (gage height, 31.35 ft), from rating curve extended above 25,900 ft³/s on basis of slope-area measurement of 74,200 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug 31, 1887, reached a stage of 34 ft, from information by local resident. Flood of Sep 27, 1936, was the highest since 1887 and reached a stage of 33 ft from floodmark; discharge 84,500 ft³/s (by slope-area measurements at site 9 mi downstream) and 74,200 ft³/s (adjusted to gage site).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	73	.17	50	354	40	11	24	.38	1.7	1.1	1.8
2	5.4	15	1.9	52	350	40	13	24	.22	1.8	1.1	2.7
3	4.3	.60	8.6	48	262	39	154	24	.16	1.9	1.2	3.0
4	2.6	.10	808	48	47	39	99	24	.06	1.8	1.9	2.2
5	.98	.04	967	49	45	39	90	24	.05	2.4	2.1	1.9
6	42	.04	944	50	45	39	86	19	.06	2.9	1.4	2.0
7	2.5	.12	923	50	45	38	84	.12	.06	3.0	1.5	1.7
8	.03	.41	908	50	44	35	84	.10	.04	2.9	.74	1.3
9	.02	.93	902	48	44	21	85	.12	.04	3.2	.65	1.3
10	.02	7.7	1630	47	43	11	83	.82	.04	3.2	.68	1.3
11	.03	1.3	1170	47	43	11	85	.85	.04	3.4	.74	.91
12	.04	1.2	1130	49	41	11	84	1.3	1.5	3.4	.85	1.2
13	.05	916	957	49	41	11	85	.93	2.8	3.1	1.0	1.6
14	.05	63	1040	48	41	11	86	.66	.32	2.9	1.1	1.8
15	.06	57	1160	48	41	11	87	.50	.25	2.8	1.3	1.1
16	.09	16	1140	48	40	11	63	.39	.10	2.8	1.6	.91
17	445	358	904	48	40	11	27	26	1.1	3.8	1.6	.86
18	283	949	773	47	40	11	27	51	6.5	2.9	1.6	.75
19	5.3	936	805	46	40	11	28	.99	6.1	3.0	1.8	.95
20	526	843	652	47	40	11	27	8.4	5.4	3.4	1.6	.71
21	78	646	642	47	40	11	27	28	6.3	3.0	1.2	.79
22	9.8	634	629	47	40	11	27	27	5.2	2.9	1.5	1.0
23	.97	635	415	45	39	11	27	26	5.4	2.7	1.4	1.2
24	.13	453	132	45	40	11	26	26	5.3	2.5	1.4	1.0
25	.06	305	130	45	40	11	26	26	10	2.2	1.2	2.0
26	.04	301	130	45	39	10	37	27	3.1	2.1	1.1	1.5
27	.04	297	129	45	39	10	33	16	2.2	1.8	1.3	2.0
28	.04	301	128	46	40	10	27	69	2.1	1.8	1.4	2.6
29	.05	300	95	372	---	11	26	2.9	2.0	1.3	1.3	2.6
30	.04	192	49	427	---	11	25	.71	2.0	1.3	1.2	1.3
31	.06	---	49	361	---	10	---	.56	---	1.4	1.8	---
TOTAL	1411.20	8302.44	19351.67	2494	2003	568	1669	480.35	68.82	79.3	40.36	45.98
MEAN	45.5	277	624	80.5	71.5	18.3	55.6	15.5	2.29	2.56	1.30	1.53
MAX	526	949	1630	427	354	40	154	69	10	3.8	2.1	3.0
MIN	.02	.04	.17	45	39	10	11	.10	.04	1.3	.65	.71
AC-FT	2800	16470	38380	4950	3970	1130	3310	953	137	157	80	91

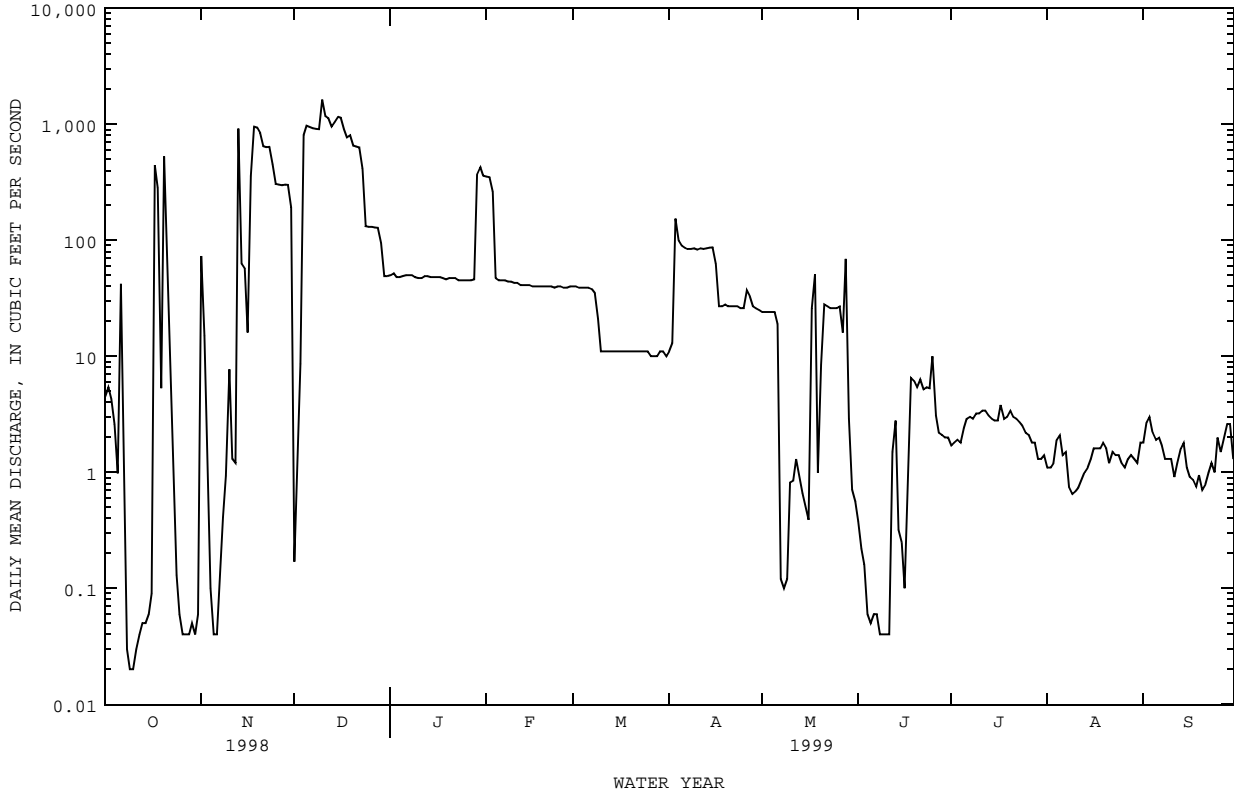
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1999z, BY WATER YEAR (WY)

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	41.7	72.5	197	179	182	249	125	207	180	23.5	14.3	6.22					
MAX	237	392	640	1221	924	1054	674	1281	717	111	122	39.8					
(WY)	1994	1992	1992	1992	1997	1992	1995	1995	1987	1987	1995	1991					
MIN	.000	.15	.32	.59	.18	.58	1.00	.021	.000	.000	.000	.000					
(WY)	1983	1983	1990	1984	1984	1996	1984	1984	1998	1984	1984	1983					

08093500 AQUILLA CREEK NEAR AQUILLA, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1983 - 1999z	
ANNUAL TOTAL	75800.37		36514.12			
ANNUAL MEAN	208		100		123	
HIGHEST ANNUAL MEAN					396	
LOWEST ANNUAL MEAN					2.24	
HIGHEST DAILY MEAN	2050	Jan 6	1630	Dec 10	3990	Dec 21 1991
LOWEST DAILY MEAN	.00	May 17	.02	Oct 9	.00	Oct 1 1982
ANNUAL SEVEN-DAY MINIMUM	.00	May 17	.03	Oct 8	.00	Oct 1 1982
INSTANTANEOUS PEAK FLOW			2480		14200	
INSTANTANEOUS PEAK STAGE			18.69		28.38	
ANNUAL RUNOFF (AC-FT)	150400		72430		89080	
10 PERCENT EXCEEDS	903		323		390	
50 PERCENT EXCEEDS	3.4		11		6.0	
90 PERCENT EXCEEDS	.00		.24		.00	

z Period of regulated streamflow.



BRAZOS RIVER BASIN

08094800 NORTH BOSQUE RIVER AT HICO, TX

LOCATION.--Lat 31°58'41", long 98°02'04", Hamilton County, Hydrologic Unit 12060204, on left bank at downstream side of bridge on U.S. Highway 281 near south boundary of Hico, 2.6 mi downstream from Gilmore Creek, 5.0 mi upstream from Honey Creek, and 92.4 mi upstream from mouth.

DRAINAGE AREA.--359 mi².

PERIOD OF RECORD.--Jan 1962 to current year.

Water-quality records.--Chemical data: Sep 1991 to Mar 1994. Biochemical data: Sep 1991 to Mar 1994

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 982.46 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since installation of gage in Jan 1962, at least 10% of contributing drainage area has been affected at times by discharge from the flood-detention pools of 40 floodwater-retarding structures with a combined detention capacity of 65,720 acre-ft. These structures control runoff from 202 mi² in the North Bosque River and Green Creek drainage basins. The city of Stephenville discharges wastewater effluent into the river above this station. No known diversions.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1880, 27.6 ft May 23, 1952, from floodmarks (discharge, 87,800 ft³/s, by contracted-opening measurement).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	30	5.8	4.5	12	4.6	9.3	5.3	2.6	1.3	.00	.00
2	1.9	47	5.9	4.3	7.7	4.4	8.3	6.3	2.2	1.0	.00	.00
3	1.7	13	6.7	3.8	6.2	4.5	19	6.0	4.1	.97	.00	.00
4	1.6	5.8	31	3.1	5.5	3.9	12	5.7	2.7	.86	.00	.00
5	1.6	3.7	28	4.0	5.3	3.5	7.9	5.7	2.3	.82	.00	.00
6	3.0	2.5	14	5.0	5.2	4.0	6.4	4.4	1.7	.75	.00	.00
7	2.2	2.2	8.4	5.9	4.9	5.1	7.7	4.3	1.7	.71	.00	.00
8	4.4	2.3	5.7	6.1	4.6	15	8.1	4.3	1.6	.70	.00	.00
9	2.7	2.5	4.5	6.1	4.7	12	6.9	4.5	1.4	.65	.00	.00
10	1.8	2.5	8.8	5.9	4.7	13	6.5	8.0	1.4	4.1	.00	.00
11	1.4	1.8	12	5.8	4.4	9.2	5.0	34	1.9	12	.00	.00
12	1.4	3.0	20	6.7	4.1	9.3	5.0	76	1.3	18	.00	.00
13	1.4	682	27	6.1	4.3	6.7	5.2	47	9.7	4.0	.00	.00
14	1.3	139	14	6.2	4.1	5.8	8.0	16	5.6	1.7	.00	.00
15	1.2	72	9.2	6.1	4.4	5.5	19	8.1	2.6	1.2	.00	.00
16	1.4	42	6.2	6.1	4.4	5.2	14	4.6	2.3	.84	.00	.00
17	2.6	26	5.6	6.0	4.3	5.0	8.3	3.7	1.7	.70	.00	.00
18	3.6	18	5.3	5.9	4.4	11	6.5	3.8	1.5	.63	.00	.00
19	3.2	15	6.1	6.3	4.6	21	5.6	3.3	1.4	.53	.00	.00
20	6.1	12	13	6.1	4.7	25	4.5	3.4	1.1	.44	.00	.00
21	5.4	11	8.7	7.2	4.8	16	3.7	3.1	1.2	.38	.00	.00
22	5.6	9.8	6.1	5.0	4.8	12	3.2	3.2	1.3	.34	.00	.00
23	7.3	9.3	5.4	4.9	4.5	11	3.4	2.6	1.8	.26	.00	.00
24	5.3	7.8	4.6	5.1	4.6	9.4	3.9	2.0	1.6	.16	.00	.00
25	3.2	7.5	4.5	5.4	5.0	7.8	4.0	1.8	240	.07	.00	.00
26	2.3	7.9	4.5	6.0	5.4	7.0	10	5.4	85	.00	.00	.00
27	2.0	8.6	4.2	5.6	5.2	7.0	27	17	20	.00	.00	.00
28	1.8	7.9	3.9	12	4.7	10	16	20	5.7	.00	.00	.00
29	1.9	7.7	4.3	53	---	10	9.5	7.0	3.5	.00	.00	.00
30	1.8	7.0	4.1	30	---	11	5.9	4.1	2.4	.00	.00	.00
31	2.0	---	4.4	19	---	11	---	3.3	---	.00	.00	---
TOTAL	84.4	1206.8	291.9	263.2	143.5	285.9	259.8	323.9	413.3	53.11	0.00	0.00
MEAN	2.72	40.2	9.42	8.49	5.13	9.22	8.66	10.4	13.8	1.71	.000	.000
MAX	7.3	682	31	53	12	25	27	76	240	18	.00	.00
MIN	1.2	1.8	3.9	3.1	4.1	3.5	3.2	1.8	1.1	.00	.00	.00
AC-FT	167	2390	579	522	285	567	515	642	820	105	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1999, BY WATER YEAR (WY)

MEAN	36.7	25.8	54.4	36.9	85.9	96.9	96.1	173	102	17.3	35.4	30.0
MAX	348	189	1288	410	1203	1020	507	768	740	81.1	552	266
(WY)	1992	1992	1992	1992	1997	1997	1990	1990	1986	1969	1995	1996
MIN	.000	.000	.42	1.06	1.59	1.59	1.06	.84	.57	.000	.000	.000
(WY)	1964	1981	1979	1986	1976	1976	1981	1962	1974	1974	1963	1981

SUMMARY STATISTICS

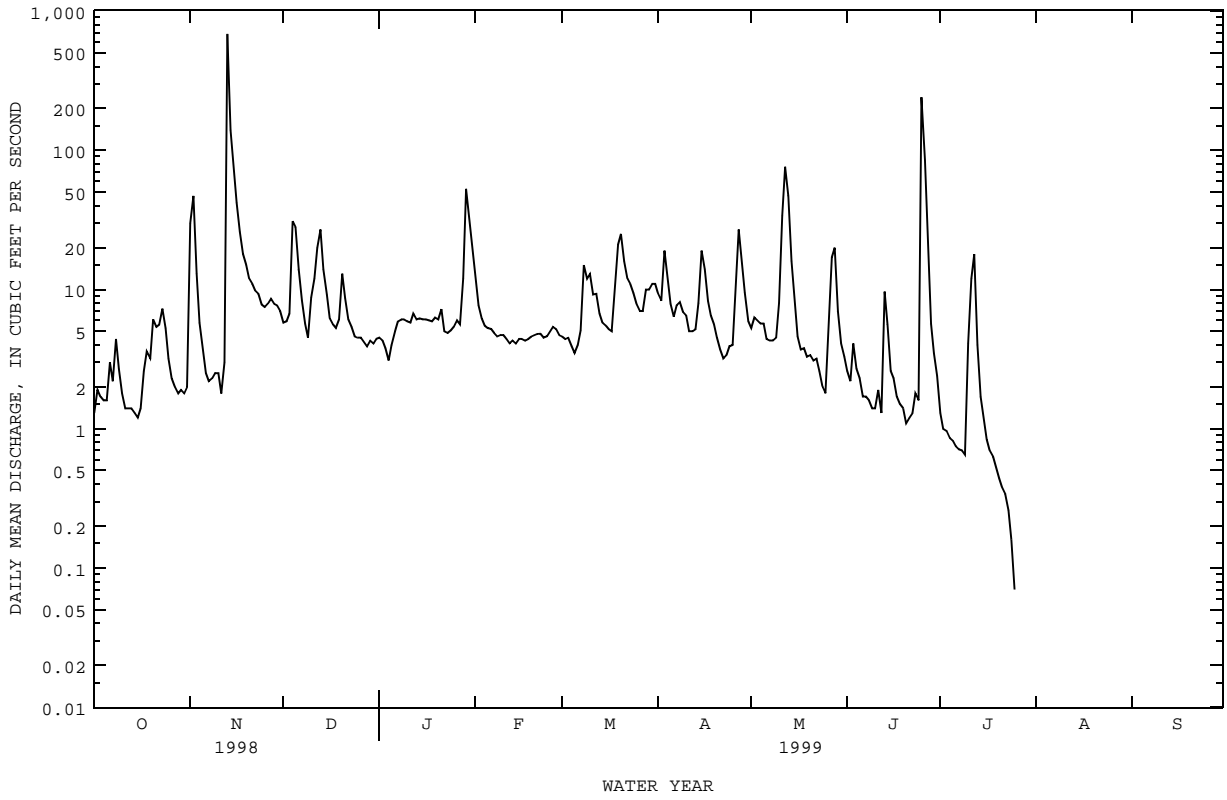
FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1962 - 1999

ANNUAL TOTAL	28798.09	3325.81	
ANNUAL MEAN	78.9	9.11	67.0
HIGHEST ANNUAL MEAN			320
LOWEST ANNUAL MEAN			3.42
HIGHEST DAILY MEAN	5480	Mar 16	13500
LOWEST DAILY MEAN	.17	Sep 11	.00
ANNUAL SEVEN-DAY MINIMUM	.30	Sep 6	.00
INSTANTANEOUS PEAK FLOW			2150
INSTANTANEOUS PEAK STAGE			6.79
ANNUAL RUNOFF (AC-FT)	57120	6600	48540
10 PERCENT EXCEEDS	121	14	106
50 PERCENT EXCEEDS	13	4.4	5.5
90 PERCENT EXCEEDS	1.2	.00	.30

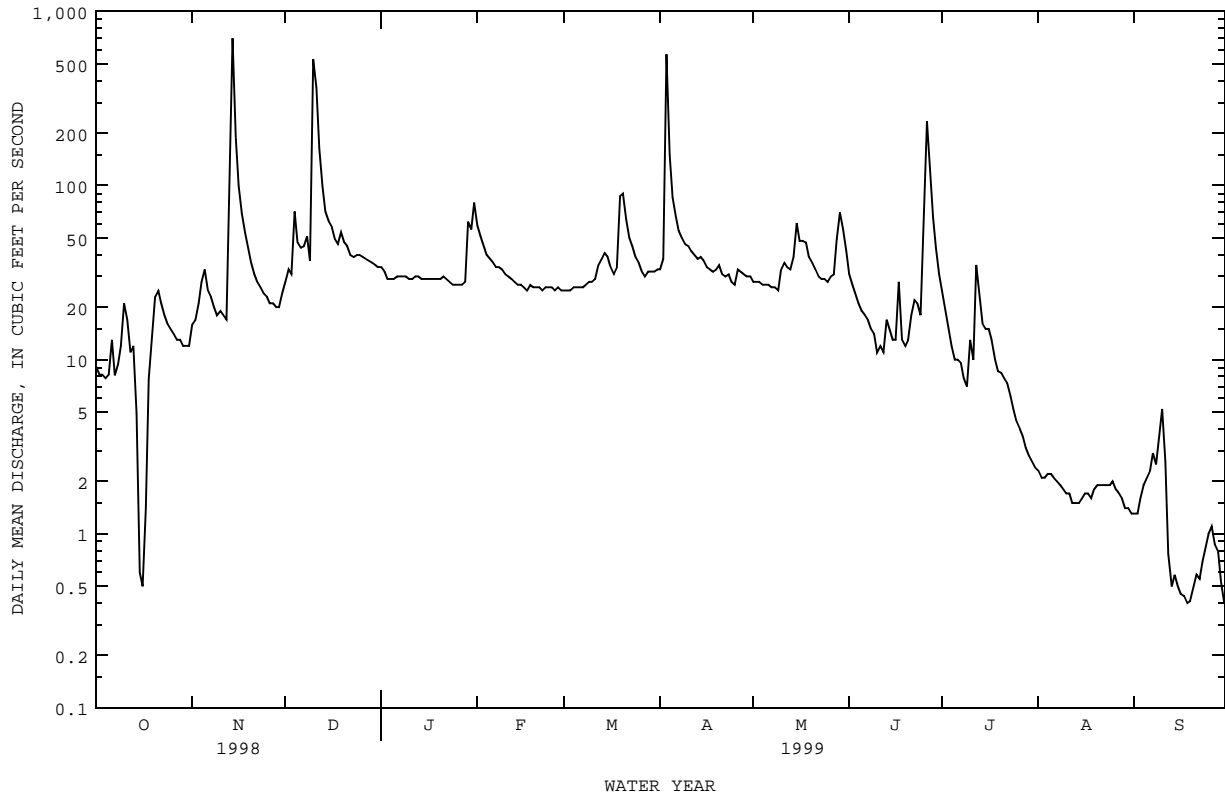
08094800 NORTH BOSQUE RIVER AT HICO, TX--Continued



08095000 NORTH BOSQUE RIVER NEAR CLIFTON, TX--Continued
(Hydrologic index station)

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1968 - 1999z	
ANNUAL TOTAL	118717.41		11981.88			
ANNUAL MEAN	325		32.8		243	
HIGHEST ANNUAL MEAN					1366	
LOWEST ANNUAL MEAN					11.7	
HIGHEST DAILY MEAN	53200		700		96800	
LOWEST DAILY MEAN	.50		.40		.01	
ANNUAL SEVEN-DAY MINIMUM	4.9		.47		.03	
INSTANTANEOUS PEAK FLOW	Mar 16		Nov 14		Dec 21 1991	
INSTANTANEOUS PEAK STAGE	Oct 16		Sep 18		Oct 28 1983	
ANNUAL RUNOFF (AC-FT)	235500		23770		176000	
10 PERCENT EXCEEDS	373		50		378	
50 PERCENT EXCEEDS	49		26		29	
90 PERCENT EXCEEDS	7.9		1.7		3.4	

e Estimated
z Period of regulated streamflow.



BRAZOS RIVER BASIN

08095200 NORTH BOSQUE RIVER AT VALLEY MILLS, TX

LOCATION.--Lat 31°40'10", long 97°28'09", Bosque County, Hydrologic Unit 12060204, on right bank at downstream side of bridge on Farm Road 56, about 0.8 mi downstream from Thompson Hollow, 0.8 mi north of intersection of State Highway 6 and Farm Road 56 in Valley Mills, and 28.0 mi upstream from mouth.

DRAINAGE AREA.--1,146 mi².

WATER-DISCHARGE RECORDS

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

Water-quality records.--Chemical data: Oct 1980 to Sep 1982. Biochemical data: Oct 1980 to Sep 1982.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 524.55 ft above sea level. Prior to Dec 29, 1959, nonrecording gage at same site and datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since water year 1968, at least 10% of contributing drainage area has been regulated by upstream reservoirs. Flow is affected at times by discharge from the flood-detention pools of 42 floodwater-retarding structures with a combined detention capacity of 66,800 acre-ft. These structures control runoff from 207 mi². There are several small diversions above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--8 years (water years 1960-67), 263 ft³/s (190,500 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1960-67).--Maximum discharge, 107,000 ft³/s Oct 4, 1959 (gage height, 40.22 ft, from floodmarks), from rating curve extended above 28,200 ft³/s on basis of slope-area measurement of 107,000 ft³/s; no flow Oct 5-12, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1868. Flood in May 1908, reached a stage of 43 ft, floods in Sept 1936, and Apr 1945, reached a stage of about 38 ft, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	29	40	77	102	54	63	39	35	35	8.2	3.8
2	20	31	41	75	88	53	63	40	30	29	7.6	3.9
3	20	32	42	70	83	51	561	41	27	24	7.7	3.9
4	20	34	667	68	76	52	408	40	26	21	7.2	3.9
5	20	43	92	69	74	54	147	36	25	17	7.1	4.0
6	36	40	80	71	73	54	100	31	24	16	6.3	5.1
7	27	36	63	70	70	52	79	27	23	16	5.7	6.1
8	21	34	92	71	67	57	70	26	22	16	5.7	5.6
9	22	32	70	68	66	57	63	25	20	15	5.6	5.4
10	25	32	1410	67	63	56	60	45	19	19	5.6	5.2
11	30	32	852	67	62	62	57	46	19	36	5.4	5.0
12	27	31	361	68	58	70	53	38	18	28	5.2	5.0
13	23	43	216	68	56	78	52	33	22	52	5.2	5.5
14	22	868	153	64	57	74	54	30	38	33	4.8	6.3
15	19	293	127	63	58	72	52	51	17	26	5.1	6.1
16	14	136	118	64	58	67	46	48	17	28	4.8	5.2
17	20	85	104	63	56	63	43	40	36	28	4.7	4.9
18	34	65	101	61	57	68	42	65	24	25	4.6	4.6
19	26	52	121	61	56	174	42	40	17	22	4.3	4.2
20	66	45	106	62	56	147	43	32	15	21	3.8	4.0
21	64	40	99	65	56	113	44	28	20	20	3.6	3.8
22	43	38	89	62	56	87	39	25	40	19	3.8	3.5
23	34	36	86	60	56	80	38	22	29	16	3.9	3.6
24	31	35	87	59	55	73	35	21	24	15	3.9	3.9
25	29	34	87	58	56	70	35	20	61	14	3.8	4.8
26	27	33	86	59	56	64	50	24	196	13	3.8	4.9
27	26	33	86	59	55	61	58	29	195	12	3.7	4.6
28	26	33	82	62	54	65	49	47	86	11	3.8	4.2
29	25	33	80	249	---	65	43	62	59	10	3.9	3.8
30	24	47	77	109	---	64	39	44	43	9.3	3.7	3.5
31	24	---	75	125	---	63	---	35	---	8.9	3.7	---
TOTAL	867	2355	5790	2314	1780	2220	2528	1130	1227	655.2	156.2	138.3
MEAN	28.0	78.5	187	74.6	63.6	71.6	84.3	36.5	40.9	21.1	5.04	4.61
MAX	66	868	1410	249	102	174	561	65	196	52	8.2	6.3
MIN	14	29	40	58	54	51	35	20	15	8.9	3.6	3.5
AC-FT	1720	4670	11480	4590	3530	4400	5010	2240	2430	1300	310	274

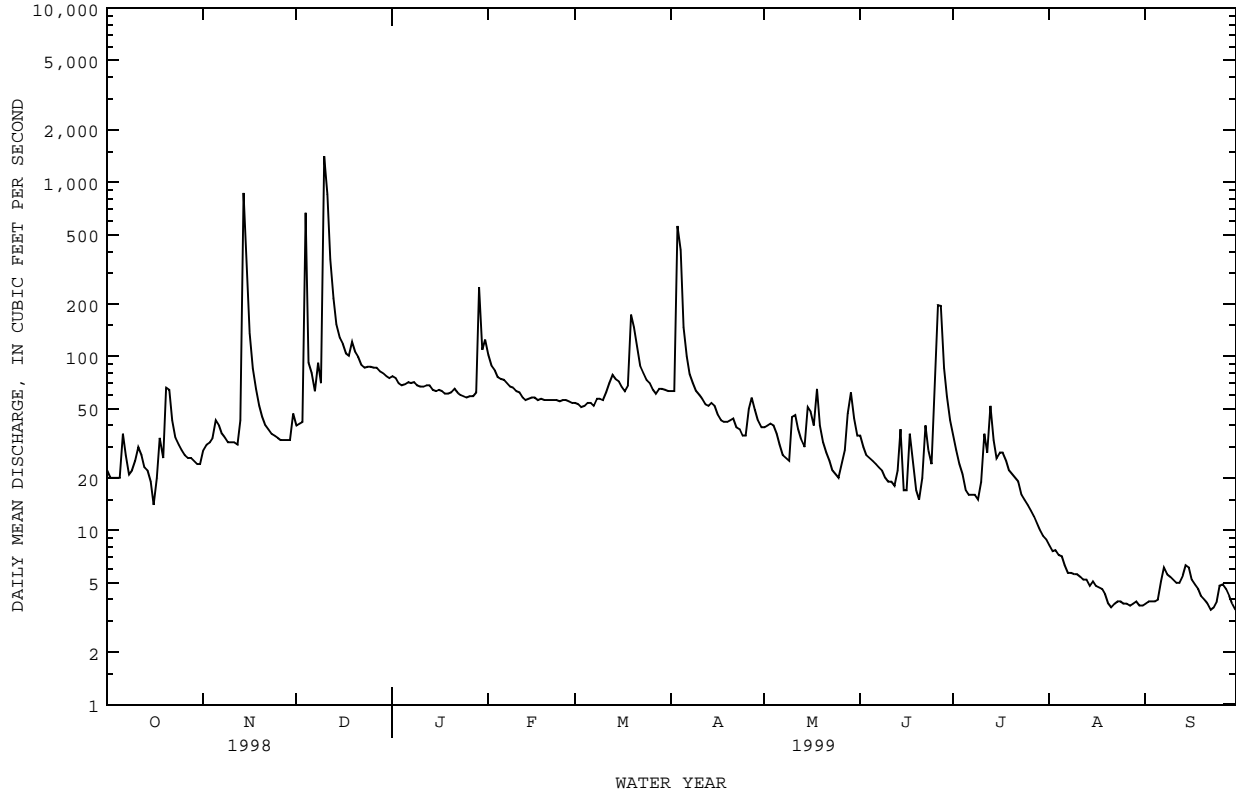
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1999z, BY WATER YEAR (WY)

MEAN	140	88.1	354	197	477	508	459	674	433	94.6	111	81.4
MAX	1349	549	7469	1760	5156	2865	2392	2776	1609	712	1625	544
(WY)	1972	1992	1992	1992	1992	1998	1977	1968	1989	1968	1995	1996
MIN	1.35	2.69	4.10	6.78	14.5	15.4	6.02	2.94	.63	.11	1.43	.000
(WY)	1979	1984	1979	1984	1984	1986	1984	1984	1984	1984	1978	1984

08095200 NORTH BOSQUE RIVER AT VALLEY MILLS, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1968 - 1999z	
ANNUAL TOTAL	142788		21160.7		301	
ANNUAL MEAN	391		58.0		1664	
HIGHEST ANNUAL MEAN					14.6	
LOWEST ANNUAL MEAN					123000	
HIGHEST DAILY MEAN	37100	Mar 16	1410	Dec 10	Dec 21 1991	
LOWEST DAILY MEAN	12	Jul 29	3.5	Sep 22	Jun 1 1984	
ANNUAL SEVEN-DAY MINIMUM	13	Sep 4	3.8	Aug 25	Jun 17 1984	
INSTANTANEOUS PEAK FLOW			3580	Dec 10	220000	
INSTANTANEOUS PEAK STAGE			10.60	Dec 10	44.60	
ANNUAL RUNOFF (AC-FT)	283200		41970		217700	
10 PERCENT EXCEEDS	533		86		494	
50 PERCENT EXCEEDS	87		39		43	
90 PERCENT EXCEEDS	19		5.0		7.2	

z Period of regulated streamflow.



BRAZOS RIVER BASIN

08095200 NORTH BOSQUE RIVER AT VALLEY MILLS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Oct 1980 to Sep 1982, Oct 1997 to current year.

BIOCHEMICAL DATA: Oct 1980 to Sep 1982, Oct 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	HARD- NESS TOTAL AS CACO3 (MG/L) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
OCT 28...	1335	27	484	8.2	22.0	13	4.7	8.8	103	.6	190	17
FEB 09...	1410	67	527	8.4	19.5	5	3.6	9.5	105	1.6	230	39
MAY 05...	1010	39	471	7.4	24.0	--	10	6.8	83	.5	200	30
AUG 09...	1320	5.4	389	8.0	32.5	--	.70	11.8	167	1.5	140	2
DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS FIX END CACO3 (MG/L) (39036)	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 STO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	
OCT 28...	65	6.9	22	.7	2.0	170	31	18	.23	9.7	--	
FEB 09...	79	7.7	21	.6	2.5	190	38	20	.27	3.8	298	
MAY 05...	68	7.3	22	.7	1.9	170	33	20	.28	7.3	254	
AUG 09...	47	6.5	25	.9	2.0	140	25	19	.26	19	239	
DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	RESIDUE VOLATILE TILE, SUS- PENDE (MG/L) (00535)	RESIDUE FIXED NON FILTER- ABLE (MG/L) (00540)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	
OCT 28...	263	4	4	.00	.888	.010	.898	.043	.14	.19	<.050	
FEB 09...	296	11	6	5	--	<.010	.561	<.020	--	.22	<.050	
MAY 05...	264	18	--	--	.661	.013	.674	.023	.19	.21	<.050	
AUG 09...	228	1	--	--	--	<.010	.069	<.020	--	.22	<.050	
DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	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)	BARIIUM, 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)	
OCT 28...	<.010	--	2.4	--	--	--	--	--	--	--	--	
FEB 09...	<.010	--	2.8	1.5	<1.0	<1	64	<1.0	<1.0	4.9	<1.0	
MAY 05...	.012	.04	3.0	8.4	<1.0	<1	62	<1.0	<1.0	--	<1.0	
AUG 09...	<.010	--	3.3	1.8	<1.0	2	51	<1.0	<1.0	<1.0	<1.0	

08095200 NORTH BOSQUE RIVER AT VALLEY MILLS, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)	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)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)
OCT 28...	--	--	--	--	--	--	--	--	--	--	--
FEB 09...	<1.0	E5.0	<1.0	6.8	<.1	1.6	2.2	<1	<1.0	4.4	1.6
MAY 05...	<1.0	<10	<1.0	6.2	<.1	1.7	1.5	<1	<1.0	3.9	1.1
AUG 09...	<1.0	19	<1.0	14	<.1	1.7	1.8	<1	<1.0	4.5	<1.0

BRAZOS RIVER BASIN

08095300 MIDDLE BOSQUE RIVER NEAR MCGREGOR, TX
 (Flood-hydrograph partial-record station)

LOCATION.--Lat 31°30'34", long 97°21'55", McLennan County, Hydrologic Unit 12060203, at left downstream side of bridge on Farm Road 3047, 1,100 ft downstream from Pecan Creek, 5.0 mi upstream from mouth, and 5.2 mi northeast of McGregor.

DRAINAGE AREA.--182 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Aug 1959 to Sep 1985 (daily mean discharge), Oct 1985 to current year (peak discharges greater than base discharge).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 530.51 ft above sea level. Prior to Oct 27, 1959, nonrecording gage at same site and datum. Satellite telemeter at station.

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

AVERAGE DISCHARGE.--26 years (water years 1960-1985), 78.4 ft³/s (56,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,300 ft³/s Oct 31, 1974 (gage height, 24.62 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1889, which reached a stage of 28.5 ft. A flood in 1957 reached a stage of 28.2 ft; and floods in 1913 and 1942 or 1943 reached a stage of about 28 ft, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 17	1600	9,570	11.63	No other peak greater than base discharge.			

BRAZOS RIVER BASIN

08095300 MIDDLE BOSQUE RIVER NEAR MCGREGOR, TX--Continued
(Flood-hydrograph partial-record station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Oct 1997 to current year.
BIOCHEMICAL DATA: Oct 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
OCT											
28...	1115	477	8.3	21.0	13	1.6	10.5	120	.7	220	43
FEB											
09...	1150	433	8.8	19.0	5	.58	10.7	117	1.5	200	40
MAY											
05...	1245	392	7.6	24.0	--	8.0	9.8	120	.8	170	26
AUG											
10...	0925	299	7.7	29.0	--	5.1	5.0	67	1.9	110	13

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)	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, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
OCT											
28...	84	2.2	7.9	.2	1.6	180	20	7.7	.31	11	--
FEB											
09...	78	2.2	9.0	.3	1.0	160	19	8.6	.33	4.3	243
MAY											
05...	65	2.5	11	.4	1.1	150	21	12	.31	8.5	221
AUG											
10...	40	2.8	16	.7	1.8	98	23	14	.37	26	201

BRAZOS RIVER BASIN

08095300 MIDDLE BOSQUE RIVER NEAR MCGREGOR, TX--Continued
(Flood-hydrograph partial-record station)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDEDED (MG/L) (00530)	RESIDUE VOLATILE, SUS- PENDEDED (MG/L) (00535)	RESIDUE FIXED NON FILTER- ABLE (MG/L) (00540)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L) AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L) AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L) AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P) (00666)
OCT 28...	278	10	2	8	8.79	.014	8.80	.030	.33	.36	<.050
FEB 09...	239	1	9	.00	4.75	.013	4.76	.024	.12	.14	<.050
MAY 05...	215	3	--	--	1.49	.012	1.50	.112	.07	.18	<.050
AUG 10...	182	9	--	--	--	<.010	<.050	.097	.46	.56	<.050

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L) AS PO4) (00660)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)	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)
OCT 28...	.010	.03	3.2	--	--	--	--	--	--	--	--
FEB 09...	<.010	--	1.6	<1.0	<1.0	<1	45	<1.0	<1.0	4.7	<1.0
MAY 05...	.037	.11	1.0	5.9	<1.0	1	50	<1.0	<1.0	<1.0	<1.0
AUG 10...	<.010	--	8.1	36	<1.0	11	38	<1.0	<1.0	<1.0	<1.0

BRAZOS RIVER BASIN

08095300 MIDDLE BOSQUE RIVER NEAR MCGREGOR, TX--Continued
(Flood-hydrograph partial-record station)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)	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)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)
OCT 28...	--	--	--	--	--	--	--	--	--	--	--
FEB 09...	<1.0	E5.3	<1.0	2.8	<.1	<1.0	1.9	<1	<1.0	1.4	<1.0
MAY 05...	<1.0	<10	<1.0	5.0	<.1	<1.0	1.3	<1	<1.0	2.4	<1.0
AUG 10...	<1.0	15	<1.0	1.1	<.1	1.3	2.4	--	<1.0	1.4	<1.0

BRAZOS RIVER BASIN

08095400 HOG CREEK NEAR CRAWFORD, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 31°33'20", long 97°21'22", McLennan County, Hydrologic Unit 12060203, on downstream side of bridge on Farm Road 185, 5.6 mi east of Crawford, and 9.8 mi upstream from South Bosque River.

DRAINAGE AREA.--78.2 mi².

PERIOD OF RECORD.--Aug 1959 to Sep 1985 (daily mean discharge), Oct 1985 to current year (peak discharges greater than base discharge).

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 560.54 ft above sea level. Prior to Oct 27, 1959, nonrecording gage at same site and datum. Satellite telemeter at station.

REMARKS.--Record good. Since water year 1980, at least 10% of the contributing drainage area has been regulated by two floodwater-retarding structures with a detention capacity of 9,600 acre-ft. These structures control runoff from 42.0 mi² in the Hog Creek drainage basin.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--20 years (water years 1960-1979), 37.7 ft³/s (27,310 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1959-1979).--Maximum discharge, 15,400 ft³/s Oct 4, 1959 (gage height, 14.31 ft); no flow at times in 1959, 1963-64, 1971, and 1978-79.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1900, 17.5 ft Sep 26, 1936. Flood in Apr or May 1957 reached a stage of 15.7 ft, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s:

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

No peak greater than base discharge.

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BRAZOS RIVER BASIN

08095550 WACO LAKE NEAR WACO, TX

LOCATION.--Lat 31°34'46", long 97°11'51", McLennan County, Hydrologic Unit 12060203, in intake structure at Waco Dam on Bosque River, at northwest edge of city limits of Waco, and 4.6 mi upstream from mouth.

DRAINAGE AREA.--1,652 mi².

WATER-CONTENT RECORDS

PERIOD OF RECORD.--Feb 1965 to current year. Prior to Oct 1970, published as "Waco Reservoir".
Water-quality records.--Chemical data: Oct 1969 to Sep 1982

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

REMARKS.--The lake is formed by a rolled earthfill dam 24,618 ft long, including spillway. The lake was built for flood control and water conservation. From Oct 1, 1964, to Feb 26, 1965, the lake was operated as a detention basin only. On Feb 26, 1965, old Lake Waco was breached and deliberate impoundment began. The spillway is controlled by fourteen 40.0- by 35.0-foot tainter gates. The outlet works consists of three gate-controlled outlets, 6.7 by 20.0 ft, opening into a 20.0-foot-diameter concrete conduit and two 54-inch concrete pipes. Low-flow releases are made through two 54-inch butterfly valves. Flow into two wet wells is controlled by four 5.0- by 6.0-foot slide gates that are used to release water downstream for the city of Waco municipal water supply. Flow is affected at times by discharge from the flood-detention pools of 44 floodwater-retarding structures with a combined detention capacity of 76,460 acre-ft. These structures control runoff from 248 mi² in the Bosque River and Hog Creek drainage basins. An unknown amount of water was diverted for municipal and industrial uses. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	510.0
Design flood.....	505.0
Top of gates.....	500.0
Crest of spillway	465.0
Top of conservation pool	455.0
Lowest controlled outlet (invert).....	400.0

COOPERATION.--Record of contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey. A new capacity table, provided by the Texas Water Development Board, was put into use beginning Oct 1, 1995.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 521,100 acre-ft, Dec 24, 1991 (elevation, 488.48 ft); minimum since normal operating level was reached, 86,360 acre-ft, Oct 8, 1984 (elevation, 445.10 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 235,000 acre-ft, Apr 8 (elevation, 465.68 ft); minimum contents, 286 acre-ft, Oct 9-17 (elevation, 400.05 ft).

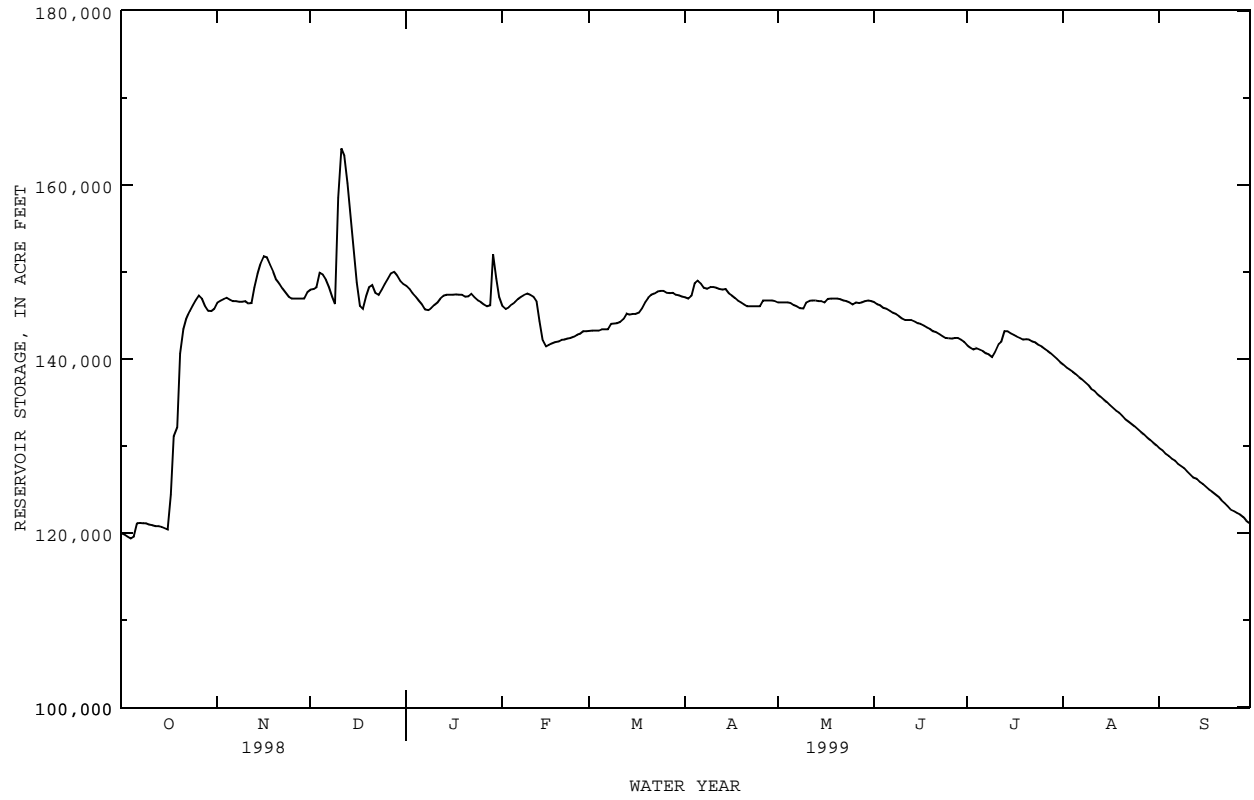
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120000	146500	148000	148400	146100	143300	147100	146500	146600	141600	139400	129800
2	119900	146700	148000	148100	145800	143300	147000	146500	146300	141300	139100	129500
3	119600	146900	148300	147600	146000	143300	147300	146500	146200	141100	138800	129200
4	119400	147100	149900	147200	146300	143300	148700	146500	145900	141300	138600	128900
5	119600	146900	149800	146700	146600	143400	149000	146500	145800	141100	138300	128600
6	121100	146700	149200	146300	146900	143400	148700	146200	145600	141000	138000	128300
7	121200	146700	148300	145700	147200	143400	148200	146100	145300	140700	137700	128000
8	121100	146600	147200	145600	147400	144100	148100	145900	145200	140500	137400	127700
9	121100	146600	146400	145900	147500	144100	148300	145800	144900	140300	137000	127500
10	121000	146700	158500	146200	147400	144100	148300	146500	144700	140900	e136600	127100
11	120900	146400	164200	146500	147200	144300	148200	146700	144500	141700	136400	126700
12	120800	146400	163400	146900	146600	144600	148000	146700	144500	142000	136000	126400
13	120800	148300	160200	147300	144400	145200	148000	146700	144500	143200	135700	126300
14	120700	149800	156500	147400	142200	145100	148000	146700	144300	143200	135400	125900
15	120600	151100	152500	147400	141500	145200	147600	146700	144100	143000	135100	125700
16	120400	151800	148800	147400	141600	145200	147300	146500	144100	142800	134800	125400
17	124500	151700	146100	147500	141800	145300	147000	146900	143900	142600	134400	125000
18	131100	150800	145800	147400	142000	145800	146700	147000	143600	142400	134100	124800
19	132200	150000	147200	147400	142000	146500	146500	147000	143500	142200	133900	124500
20	140700	149100	148300	147200	142200	147000	146300	147000	143200	142300	133500	124200
21	143400	148700	148500	147200	142300	147400	146100	146900	143100	142300	133100	123800
22	144600	148100	147600	147500	142400	147600	146100	146700	142900	142000	132800	123500
23	145500	147700	147400	147100	142400	147800	146100	146700	142700	141900	132600	123100
24	146200	147200	148000	146800	142600	147800	146100	146500	142400	141600	132300	122700
25	146800	147000	148700	146600	142800	147800	146100	146300	142400	141500	132000	122600
26	147300	147000	149300	146300	142900	147600	146700	146500	142400	141200	131700	122300
27	146900	147000	149900	146100	143200	147600	146700	146500	142400	140900	131400	122200
28	146100	147000	150000	146200	143200	147600	146700	146500	142400	140700	131000	121900
29	145600	147000	149600	152100	---	147400	146700	146700	142200	140300	130700	121500
30	145500	147700	149000	149300	---	147300	146700	146700	142000	140100	130400	121200
31	145800	---	148600	147100	---	147200	---	146700	---	139700	130100	---
MAX	147300	151800	164200	152100	147500	147800	149000	147000	146600	143200	139400	129800
MIN	119400	146400	145800	145600	141500	143300	146100	145800	142000	139700	130100	121200
(+)	455.15	455.42	455.55	455.34	454.78	455.35	455.28	455.28	454.61	454.28	452.92	451.59
(@)	+25900	+1900	+900	-1500	-3900	+4000	-500	0	-4700	-2300	-9600	-8900
CAL YR 1998	MAX 235700	MIN 114400	(@) +2800									
WTR YR 1999	MAX 164200	MIN 119400	(@) +1300									

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

e Estimated

08095550 WACO LAKE NEAR WACO, TX--Continued



BRAZOS RIVER BASIN

08095550 WACO LAKE NEAR WACO, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Oct 1969 to Sep 1982, Feb 1998 to current year.

BIOCHEMICAL DATA: Oct 1969 to Sep 1982, Feb 1998 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

313430097113801 - WACO LAKE SITE AC

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 (PER- CENT SOLVED SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SOLVED SATUR- ATION) (MG/L) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL AS CACO3) (MG/L) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
FEB												
09...	0952	1.00	380	8.2	15.5	.76	9.3	94	57	K12	160	36
09...	0954	--	380	8.1	15.0	--	9.0	90	--	--	--	--
09...	0956	20.0	380	8.1	14.5	--	9.0	89	--	--	--	--
09...	0958	30.0	380	8.1	14.5	--	8.9	88	--	--	--	--
09...	1000	40.0	382	8.0	14.0	--	8.9	87	--	--	--	--
09...	1002	50.0	381	8.0	13.5	--	8.7	84	--	--	--	--
09...	1004	60.0	381	7.9	13.0	--	8.6	82	--	--	--	--
09...	1008	72.0	382	7.8	13.0	--	9.1	87	--	--	150	34
MAY												
07...	1020	1.00	373	8.2	22.5	.76	7.4	86	K0	K0	150	28
07...	1022	10.0	373	8.2	22.0	--	6.7	77	--	--	--	--
07...	1024	20.0	374	8.2	22.0	--	6.5	75	--	--	--	--
07...	1026	30.0	375	8.1	22.0	--	6.2	72	--	--	--	--
07...	1028	40.0	376	8.0	22.0	--	5.6	65	--	--	--	--
07...	1030	50.0	380	7.8	21.5	--	4.2	48	--	--	--	--
07...	1032	60.0	384	7.6	21.0	--	2.7	31	--	--	--	--
07...	1034	70.0	389	7.4	20.5	--	.3	3	--	--	160	24
AUG												
10...	1000	1.00	296	8.2	30.5	1.22	6.9	94	25	K0	100	11
10...	1002	7.00	296	8.2	30.5	--	6.4	87	--	--	--	--
10...	1004	14.0	300	8.0	30.0	--	5.6	75	--	--	--	--
10...	1006	21.0	304	7.6	30.0	--	4.2	57	--	--	--	--
10...	1008	28.0	307	7.4	29.5	--	2.6	35	--	--	--	--
10...	1010	35.0	319	7.2	29.0	--	.1	1	--	--	--	--
10...	1012	42.0	323	7.2	29.0	--	.1	1	--	--	--	--
10...	1014	49.0	324	7.2	29.0	--	.1	1	--	--	--	--
10...	1016	56.0	325	7.2	29.0	--	.1	1	--	--	--	--
10...	1018	63.0	328	7.2	28.5	--	.1	1	--	--	--	--
10...	1020	66.0	329	7.1	28.5	--	.1	1	--	--	120	7

313430097113801 - WACO LAKE SITE AC

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS FIX END CAC03 (MG/L) (39036)	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)
FEB											
09...	56	4.1	13	.5	2.9	120	27	13	.19	8.1	206
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	54	4.4	13	.5	3.0	120	26	13	.19	9.2	204
MAY											
07...	53	4.7	15	.5	2.9	120	27	13	.25	1.1	198
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	56	4.9	15	.5	2.8	140	27	14	.26	3.2	211
AUG											
10...	33	4.8	16	.7	3.1	90	27	15	.21	8.4	161
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	39	4.9	16	.6	3.0	110	25	14	.20	10	180

BRAZOS RIVER BASIN

08095550 WACO LAKE NEAR WACO, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

313430097113801 - WACO LAKE SITE AC

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB											
09...	2.09	.038	2.13	.045	.27	.32	<.050	<.010	--	<10	<3.0
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	1.86	.036	1.89	.180	.23	.41	<.050	<.010	--	<10	36
MAY											
07...	1.28	.053	1.33	.067	.16	.22	<.050	.016	.05	<10	<3.0
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	1.30	.064	1.37	.068	.17	.24	<.050	.014	.04	<10	E2.3
07...	--	--	--	--	--	--	--	--	--	--	--
07...	1.41	.063	1.47	.055	.18	.24	<.050	.019	.06	<10	6.4
07...	1.26	.091	1.35	.089	.22	.31	<.050	.016	.05	<10	215
AUG											
10...	--	<.010	<.050	<.020	--	.18	<.050	<.010	--	<10	<3.0
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	<.010	<.050	<.020	--	.31	<.050	<.010	--	<10	<3.0
10...	.061	.013	.074	.022	.12	.14	<.050	<.010	--	<10	3.4
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	<.010	<.050	.335	.13	.47	<.050	.032	.10	170	450

313511097122801 - WACO LAKE SITE AL

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)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
FEB							
09...	1024	1.00	385	8.1	15.0	9.8	98
09...	1026	10.0	385	8.1	15.0	9.7	97
09...	1028	20.0	386	8.1	14.5	9.6	95
09...	1030	32.0	386	8.1	14.5	9.6	95
MAY							
07...	1106	1.00	370	8.3	23.0	7.3	86
07...	1108	10.0	375	8.1	22.0	6.3	73
07...	1110	20.0	373	8.2	22.0	6.3	73
07...	1112	32.0	374	8.2	22.0	6.2	72
AUG							
10...	1104	1.00	293	8.2	30.5	7.0	95
10...	1106	10.0	193	8.2	30.5	6.7	91
10...	1108	20.0	316	7.8	30.0	4.8	65
10...	1110	34.0	316	7.3	29.5	.7	9

BRAZOS RIVER BASIN

08095550 WACO LAKE NEAR WACO, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

313338097130301 - WACO LAKE 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)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)
FEB							
09...	1200	1.00	393	8.1	15.5	8.2	83
09...	1202	10.0	390	8.1	15.0	8.2	82
09...	1204	20.0	386	8.1	14.5	8.3	82
09...	1206	33.0	384	8.1	14.5	8.3	82
MAY							
07...	1250	1.00	369	8.4	24.5	7.1	86
07...	1252	10.0	370	8.3	22.5	7.0	82
07...	1254	20.0	370	8.2	22.5	6.6	77
07...	1256	31.0	379	7.9	22.0	4.7	54
AUG							
10...	1231	1.00	308	7.8	30.0	5.4	73
10...	1233	10.0	306	7.7	30.0	5.1	69
10...	1235	20.0	304	7.6	29.5	4.5	60
10...	1237	29.0	307	7.6	29.5	4.0	53

313148097140601 - WACO LAKE SITE CC

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 SATUR- ATION (00301)	OXYGEN, DIS- SOLVED CENT (PER- CENT) (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL AS CACO3 (MG/L) (00900)	HARD- NESS NONCARB FLD. AS CACO3 (MG/L) (00904)
FEB													
09...	1214	1.00	407	8.0	16.5	.24	8.1	84	K300	K170	160	39	
09...	1216	10.0	395	8.0	15.0	--	8.2	82	--	--	--	--	
09...	1218	23.0	390	8.0	14.5	--	8.1	80	--	--	160	36	
MAY													
07...	1318	1.00	375	8.4	25.0	.52	7.9	97	K0	K0	150	26	
07...	1320	10.0	375	8.2	23.0	--	6.7	79	--	--	--	--	
07...	1322	22.0	384	7.8	22.5	--	4.3	50	--	--	160	33	
AUG													
10...	1255	1.00	316	7.8	30.5	.58	5.1	69	K2	K1	110	11	
10...	1257	10.0	314	7.6	29.5	--	4.2	56	--	--	--	--	
10...	1259	21.0	315	7.5	29.0	--	3.8	50	--	--	110	11	

313148097140601 - WACO LAKE SITE CC

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS FIX END CACO3 (MG/L) (39036)	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)
FEB											
09...	59	3.8	14	.5	2.8	120	29	12	.20	8.4	213
09...	--	--	--	--	--	--	--	--	--	--	--
09...	55	4.1	13	.5	2.9	120	27	13	.18	7.4	204
MAY											
07...	53	4.7	15	.5	2.9	130	28	13	.25	1.4	201
07...	--	--	--	--	--	--	--	--	--	--	--
07...	55	4.8	16	.5	2.8	130	28	13	.25	2.3	203
AUG											
10...	37	4.8	16	.7	3.0	100	26	14	.20	9.3	173
10...	--	--	--	--	--	--	--	--	--	--	--
10...	36	4.8	16	.7	3.2	99	26	14	.20	9.5	170

BRAZOS RIVER BASIN

08095550 WACO LAKE NEAR WACO, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

313148097140601 - WACO LAKE SITE CC

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB											
09...	2.54	.047	2.59	.087	.24	.32	<.050	<.010	--	<10	<3.0
09...	--	--	--	--	--	--	--	--	--	--	--
09...	2.10	.039	2.14	.092	.25	.34	<.050	<.010	--	<10	<3.0
MAY											
07...	1.20	.064	1.26	.055	.15	.21	<.050	.014	.04	<10	<3.0
07...	--	--	--	--	--	--	--	--	--	--	--
07...	1.12	.093	1.22	.074	.18	.25	<.050	.014	.04	<10	9.0
AUG											
10...	--	<.010	<.050	<.020	--	.21	<.050	<.010	--	<10	6.7
10...	--	--	--	--	--	--	--	--	--	--	--
10...	.058	.012	.070	.027	.14	.17	<.050	<.010	--	<10	19

313534097142401 - WACO LAKE SITE DC

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, SATUR- ATION (MG/L) (00301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
FEB										
09...	1042	1.00	390	8.2	16.0	.76	9.1	93	1.65	.027
09...	1044	10.0	390	8.2	16.0	--	9.0	92	--	--
09...	1046	20.0	384	8.1	15.0	--	8.8	88	--	--
09...	1048	30.0	389	7.9	14.0	--	8.0	78	--	--
09...	1050	36.0	393	7.8	14.0	--	8.4	82	1.55	.037
MAY										
07...	1130	1.00	373	8.2	23.0	.58	7.3	86	1.20	.049
07...	1132	10.0	373	8.2	22.0	--	6.6	76	--	--
07...	1134	20.0	373	8.2	22.0	--	6.5	75	--	--
07...	1136	30.0	375	8.1	21.5	--	6.0	69	--	--
07...	1138	35.0	376	8.1	22.0	--	5.7	66	1.21	.052
AUG										
10...	1121	1.00	291	8.2	31.5	.88	6.3	87	--	<.010
10...	1123	10.0	289	8.2	31.5	--	6.1	85	--	--
10...	1125	20.0	302	7.5	30.5	--	2.5	34	--	--
10...	1127	34.0	332	7.1	29.5	--	.0	0	--	<.010

313534097142401 - WACO LAKE SITE DC

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB									
09...	1.67	.026	.23	.26	<.050	<.010	--	<10	<3.0
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	1.59	.189	.26	.45	<.050	<.010	--	<10	10
MAY									
07...	1.25	.062	.15	.22	<.050	.013	.04	<10	<3.0
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
07...	1.26	.087	.19	.28	<.050	.013	.04	<10	8.2
AUG									
10...	<.050	<.020	--	.10	<.050	<.010	--	810	581
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	<.050	.582	.19	.77	<.050	.029	.09	<10	<3.0

BRAZOS RIVER BASIN

08095550 WACO LAKE NEAR WACO, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

313608097164501 - WACO LAKE SITE EC

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, OXYGEN, SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL AS CACO3 (MG/L) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
FEB												
09...	1118	1.00	497	8.0	17.5	.98	7.9	83	K12	K13	210	42
09...	1120	10.0	497	7.7	15.0	--	6.9	69	--	--	--	--
09...	1122	22.0	499	7.3	13.5	--	6.2	60	--	--	220	38
MAY												
07...	1206	1.00	462	7.9	23.5	.49	5.4	64	150	K340	190	20
07...	1208	10.0	462	7.9	23.5	--	4.8	57	--	--	--	--
07...	1210	21.0	463	7.8	23.5	--	4.5	53	--	--	190	24
AUG												
10...	1154	1.00	372	7.5	32.0	.37	3.1	43	K5	84	130	--
10...	1156	10.0	372	7.4	32.0	--	2.8	39	--	--	--	--
10...	1158	20.0	373	7.4	32.0	--	2.6	36	--	--	130	--

313608097164501 - WACO LAKE SITE EC

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)	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 SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
FEB											
09...	73	6.0	18	.5	2.0	170	33	16	.18	3.0	252
09...	--	--	--	--	--	--	--	--	--	--	--
09...	78	5.6	15	.5	2.2	180	30	14	.17	6.8	262
MAY											
07...	64	6.9	21	.7	2.1	170	30	19	.27	6.8	252
07...	--	--	--	--	--	--	--	--	--	--	--
07...	64	6.8	21	.7	2.0	160	29	19	.27	6.8	249
AUG											
10...	40	6.2	23	.9	3.2	130	18	21	.21	17	206
10...	--	--	--	--	--	--	--	--	--	--	--
10...	41	6.2	23	.9	3.2	130	18	21	.21	16	206

313608097164501 - WACO LAKE SITE EC

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
FEB											
09...	--	<.010	.517	.021	.11	.14	<.050	<.010	--	<10	E1.9
09...	--	--	--	--	--	--	--	--	--	--	--
09...	.417	.028	.445	.440	--	<.10	<.050	<.010	--	<10	227
MAY											
07...	.160	.011	.171	.164	.17	.33	<.050	.012	.04	<10	9.0
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	<.010	.169	.179	.15	.33	<.050	.013	.04	<10	15
AUG											
10...	--	<.010	<.050	.024	.19	.22	<.050	<.010	--	<10	17
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	<.010	<.050	.035	.18	.21	<.050	<.010	--	E6.3	24

08095550 WACO LAKE NEAR WACO, TX--Continued

Waco Lake Site AC (313430097113801)

Phytoplankton Analyses October 1998 to September 1999

Date	2/9/99
Time	952
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TOTAL CELLS/mL	5,339
NUMBER OF SPECIES	8
DEPTH COLLECTED (ft.)	1.25

Organisms	Cells/mL
BACILLARIOPHYTA	
Order Centrales	
<i>Stephanodiscus astraea</i>	390
Order Pennales	
<i>Cocconeis placentula</i> var. <i>placentula</i>	30
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	90
<i>Chlamydomonas</i> sp.	90
CYANOPHYTA	
<i>Anabaena spiroides</i>	1,380
<i>Aphanocapsa delicatissima</i>	2,999
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	180
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	180

Waco Lake Site CC (313148097140601)

Phytoplankton Analyses October 1998 to September 1999

Date	2/9/99
Time	1214
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TOTAL CELLS/mL	4,469
NUMBER OF SPECIES	8
DEPTH COLLECTED (ft.)	0.4

Organisms	Cells/mL
BACILLARIOPHYTA	
Order Centrales	
<i>Stephanodiscus astraea</i>	90
Order Pennales	
<i>Cocconeis placentula</i> var. <i>placentula</i>	20
<i>Navicula</i> sp.	10
CHLOROPHYTA	
<i>Chlamydomonas</i> sp.	60
<i>Oocystis</i> sp.	30
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	4,199
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	30
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	30

BRAZOS RIVER BASIN

08095550 WACO LAKE NEAR WACO, TX--Continued

Waco Lake Site EC (313608097164501)

Phytoplankton Analyses October 1998 to September 1999

Date	2/9/99
Time	1118

TOTAL CELLS/mL	5,159
NUMBER OF SPECIES	13
DEPTH COLLECTED (ft.)	1.6

Organisms	Cells/mL
BACILLARIOPHYTA	
Order Centrales	
<i>Stephanodiscus astraea</i>	30
Order Pennales	
<i>Cocconeis placentula</i> var. <i>placentula</i>	98
<i>Cymbella inelegans</i> var. <i>inelegans</i>	33
<i>Fragilaria crotonensis</i> var. <i>crotonensis</i>	65
<i>Navicula</i> sp.	98
<i>Surirella guatemalensis</i>	33
<i>Synedra ulna</i> var. <i>ulna</i>	33
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	90
<i>Chlamydomonas</i> sp.	330
<i>Scenedesmus opoliensis</i>	30
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	2,999
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	660
CRYPTIOPHYTA	
<i>Cryptomonas erosa</i>	660

Waco Lake Site AC (313430097113801)

Phytoplankton Analyses October 1998 to September 1999

Date	5/7/99
Time	1020

TOTAL CELLS/mL	28,881
NUMBER OF SPECIES	9
DEPTH COLLECTED (ft.)	1.25

Organisms	Cells/mL
BACILLARIOPHYTA	
Order Centrales	
<i>Stephanodiscus astraea</i>	60
Order Pennales	
<i>Cocconeis placentula</i> var. <i>placentula</i>	150
<i>Fragilaria crotonensis</i> var. <i>crotonensis</i>	150
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	150
<i>Chlamydomonas</i> sp.	60
CYANOPHYTA	
<i>Anabaena spiroides</i>	1,050
<i>Aphanocapsa delicatissima</i>	23,392
<i>Merismopedia tenuissima</i>	3,839
EUGLENOPHYTA	
<i>Phacus</i> sp.	30

08095550 WACO LAKE NEAR WACO, TX--Continued

Waco Lake Site CC (313608097164501)

Phytoplankton Analyses October 1998 to September 1999

Date	5/7/99
Time	1206
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TOTAL CELLS/mL	5,489
NUMBER OF SPECIES	10
DEPTH COLLECTED (ft.)	0.80

Organisms	Cells/mL
BACILLARIOPHYTA	
Order Centrales	
<i>Stephanodiscus astraea</i>	120
Order Pennales	
<i>Fragilaria crotonensis</i> var. <i>crotonensis</i>	93
<i>Navicula</i> sp.	187
<i>Synedra ulna</i> var. <i>ulna</i>	140
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	540
<i>Chlamydomonas</i> sp.	1,050
<i>Scenedesmus opoliensis</i>	30
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	2,999
<i>Merismopedia tenuissima</i>	240
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	90

Waco Lake Site EC (313148097140601)

Phytoplankton Analyses October 1998 to September 1999

Date	5/7/99
Time	1318
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TOTAL CELLS/mL	60,085
NUMBER OF SPECIES	11
DEPTH COLLECTED (ft.)	0.85

Organisms	Cells/mL
BACILLARIOPHYTA	
Order Centrales	
<i>Stephanodiscus astraea</i>	30
Order Pennales	
<i>Synedra ulna</i> var. <i>ulna</i>	15
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	150
<i>Chlamydomonas</i> sp.	750
CYANOPHYTA	
<i>Anabaena spiroides</i>	780
<i>Aphanocapsa delicatissima</i>	43,785
<i>Aphanocapsa delicatissima</i>	2,999
<i>Merismopedia tenuissima</i>	11,036
<i>Oscillatoria</i> sp.	300
CHRYSOPHYTA	
<i>Dinobryon sociale</i>	90
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	150

BRAZOS RIVER BASIN

08095550 WACO LAKE NEAR WACO, TX--Continued

Waco Lake Site AC (313430097113801)

Phytoplankton Analyses October 1998 to September 1999

Date	8/10/99
Time	1000

TOTAL CELLS/mL	22,864
NUMBER OF SPECIES	13
DEPTH COLLECTED (ft.)	2.0

Organisms	Cells/mL
BACILLARIOPHYTA	
Order Pennales	
<i>Fragilaria crotonensis</i> var. <i>crotonensis</i>	244
<i>Synedra ulna</i> var. <i>ulna</i>	97
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	120
<i>Cosmarium</i> sp.	90
<i>Crucigenia tetrapedia</i>	30
<i>Scenedesmus acuminatus</i>	30
<i>Scenedesmus opoliensis</i>	60
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	10,796
<i>Chroococcus limneticus</i>	840
<i>Merismopedia tenuissima</i>	1,440
<i>Oscillatoria</i> sp.	8,697
EUGLENOPHYTA	
<i>Trachelomonas</i> sp.	330
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	90

Waco Lake Site CC (313608097164501)

Phytoplankton Analyses October 1998 to September 1999

Date	8/10/99
Time	1255

TOTAL CELLS/mL	32,450
NUMBER OF SPECIES	15
DEPTH COLLECTED (ft.)	0.95

Organisms	Cells/mL
BACILLARIOPHYTA	
Order Pennales	
<i>Fragilaria crotonensis</i> var. <i>crotonensis</i>	400
<i>Synedra ulna</i> var. <i>ulna</i>	80
CHLOROPHYTA	
<i>Chlamydomonas</i> sp.	30
<i>Cosmarium</i> sp.	60
<i>Crucigenia tetrapedia</i>	60
<i>Oocystis</i> sp.	30
<i>Scenedesmus acuminatus</i>	30
<i>Scenedesmus opoliensis</i>	120
<i>Staurastrum</i> sp.	30
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	17,994
<i>Chroococcus limneticus</i>	120
<i>Merismopedia tenuissima</i>	6,718
<i>Oscillatoria</i> sp.	6,598
EUGLENOPHYTA	
<i>Phacus</i> sp.	30
<i>Trachelomonas</i> sp.	150

08095550 WACO LAKE NEAR WACO, TX--Continued

Waco Lake Site EC (313148097140601)

Phytoplankton Analyses October 1998 to September 1999

Date	8/10/99
Time	1154
<hr/>	
TOTAL CELLS/mL	22,943
NUMBER OF SPECIES	15
DEPTH COLLECTED (ft.)	0.60
<hr/>	

Organisms	Cells/mL
BACILLARIOPHYTA	
Order Pennales	
<i>Fragilaria crotonensis</i> var. <i>crotonensis</i>	244
<i>Pimularia brevicostata</i> var. <i>brevicostata</i>	49
<i>Synedra ulna</i> var. <i>ulna</i>	97
CHLOROPHYTA	
<i>Ankistrodesmus falcatus</i>	120
<i>Chlamydomonas</i> sp.	90
<i>Cosmarium</i> sp.	30
<i>Scenedesmus acuminatus</i>	30
<i>Scenedesmus opoliensis</i>	60
CYANOPHYTA	
<i>Aphanocapsa delicatissima</i>	10,796
<i>Chroococcus limneticus</i>	840
<i>Merismopedia tenuissima</i>	1,440
<i>Oscillatoria</i> sp.	8,697
EUGLENOPHYTA	
<i>Phacus</i> sp.	30
<i>Trachelomonas</i> sp.	330
CRYPTOPHYTA	
<i>Cryptomonas erosa</i>	90

BRAZOS RIVER BASIN

08095600 BOSQUE RIVER NEAR WACO, TX

LOCATION.--Lat 31°36'04", long 97°11'36", McLennan County, Hydrologic Unit 12060203, on downstream side of bridge on Farm Road 1637, 1.8 mi downstream from Waco Lake Dam, 2.8 mi upstream from mouth, and 4.7 mi northwest of courthouse in Waco.

DRAINAGE AREA.--1,656 mi².

PERIOD OF RECORD.--

CHEMICAL DATA: Feb 1998 to current year.

BIOCHEMICAL DATA: Feb 1998 to current year.

Water-discharge records.--Aug 1959 to Sep 1981. Oct 1981 to Sep 1982 (daily mean discharges above 2,000 ft³/s).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, 5 DAY (MG/L) (00310)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	
FEB	10...	0915	317	375	8.4	14.5	5	8.4	10.6	105	1.6	160
MAY	07...	0755	--	383	7.7	21.0	--	15	6.6	75	1.1	160
AUG	10...	0805	--	349	7.6	30.0	--	6.0	6.2	84	1.8	130
DATE	TIME	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)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	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)
FEB	10...	30	57	4.3	14	.5	2.9	130	26	13	.26	7.3
MAY	07...	38	56	4.8	15	.5	2.6	120	30	15	.26	2.3
AUG	10...	29	45	5.0	17	.6	2.7	110	33	17	.26	9.9
DATE	TIME	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDE (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDE (MG/L) (00535)	RESIDUE FIXED NON FILTER-ABLE (MG/L) (00540)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
FEB	10...	229	219	5	6	.00	2.00	.035	2.04	.073	.24	.31
MAY	07...	226	207	17	--	--	1.45	.086	1.53	<.020	--	.26
AUG	10...	207	193	13	--	--	--	<.010	.073	<.020	--	.66
DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	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)
FEB	10...	E.030	<.010	3.7	<1.0	<1.0	2	43	<1.0	<1.0	4.0	<1.0
MAY	07...	<.050	<.010	6.3	5.8	<1.0	2	50	<1.0	<1.0	--	<1.0
AUG	10...	<.050	<.010	4.8	4.0	<1.0	4	47	<1.0	<1.0	<1.0	<1.0
DATE	TIME	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)
FEB	10...	<1.0	<10	<1.0	1.3	<.1	1.4	2.1	<1	<1.0	<1.0	<1.0
MAY	07...	1.0	<10	<1.0	1.8	<.1	1.6	1.6	<1	<1.0	4.2	<1.0
AUG	10...	<1.0	E6.2	<1.0	<1.0	<.1	3.0	2.5	--	<1.0	2.5	<1.0

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BRAZOS RIVER BASIN

08096500 BRAZOS RIVER AT WACO, TX

LOCATION.--Lat 31°32'09", long 97°04'23", McLennan County, Hydrologic Unit 12060202, on left bank 2.2 mi downstream from bridge on LaSalle Avenue and at mile 400.7.

DRAINAGE AREA.--29,573 mi², approximately, of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--Sep 1898 to current year (Jan 1912 to Sep 1914 monthly records only, published in WSP 1312).

REVISED RECORDS.--WSP 850 and 878: 1899-1900, 1907-9 (monthly and yearly summaries only). WSP 1512: 1901-5, 1910, 1915, 1925-26(M), 1927-29. WSP 1922: 1957. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 349.34 ft above sea level. Sep 14, 1898 to Mar 28, 1918, May 6, 1922 to Feb 12, 1925, nonrecording gage, and Mar 28, 1918 to May 5, 1922, Feb 13, 1925 to Aug 14, 1969, water-stage recorder. Prior to Aug 14, 1969, at site 3.9 mi upstream at datum 7.46 ft higher. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since water year 1941, at least 10% of contributing drainage area has been regulated by Possum Kingdom Lake (station 08088500, normal storage 724,700 acre-ft). The combined capacity for 18 reservoirs above station is 4,135,000 acre-ft, of which 2,194,000 acre-ft is flood-control storage in Lake Whitney and in Waco Lake. The city of Waco diverts water above station for municipal use, and the Brazos River Authority returns treated wastewater effluent to the river above station. There are many other small diversions above station for municipal supply, irrigation, and for oil field operations that will not appreciably affect flow. Flow is affected at times by discharge from the flood-detention pools of eleven floodwater-retarding structures with a combined detention capacity of 6,420 acre-ft. These structures control runoff from 20.4 mi² in the Aquilla and Hackberry Creeks drainage basins. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--42 years (water years 1899-1940), 2,560 ft³/s (1,855,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1899-1940).--Maximum discharge since 1847, 246,000 ft³/s Sep 27, 1936 (gage height, 40.90 ft), at former site and datum, levee on left bank was overtopped and broken by flood; no flow Aug 20, 21, 1918, and probably for several days in Aug 1923.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage for 1847-98, 34.63 ft May 28, 1885, from floodmark at site 3.9 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	795	883	1110	2560	283	293	166	69	59	1020	201
2	131	997	446	888	2180	291	304	135	689	105	209	46
3	90	731	460	2620	2000	801	496	187	157	57	835	45
4	70	390	2760	1890	1610	152	1420	144	123	57	333	41
5	97	478	2570	1310	1320	1470	881	151	60	57	1220	37
6	970	412	2280	1320	826	47	1020	125	60	196	868	34
7	302	344	2170	1210	632	199	1130	195	83	338	1270	32
8	71	1500	2110	1090	989	1000	1060	104	60	124	543	30
9	63	1780	2400	1200	1050	269	1270	296	60	57	1140	28
10	56	552	5230	1460	851	165	547	534	60	116	1470	27
11	51	677	7190	951	717	159	403	191	85	261	1920	25
12	452	893	5830	605	423	1560	353	157	76	110	1250	24
13	1250	2530	5090	468	42	2300	905	80	107	188	1310	26
14	207	1880	4760	606	1780	1060	503	108	90	40	382	28
15	1290	1100	4960	754	1750	324	630	104	57	28	335	26
16	229	1360	4420	778	48	186	294	89	57	25	192	24
17	1100	2040	3840	849	65	341	488	262	599	392	1130	24
18	2560	2130	2600	619	1450	898	332	532	158	174	1080	24
19	755	2140	2770	734	615	763	309	208	57	1030	1120	23
20	2170	1930	1670	863	841	592	1130	105	105	370	1360	23
21	2540	1470	2010	812	662	31	520	94	75	154	253	22
22	676	1400	3030	784	585	32	222	113	58	41	61	18
23	231	1390	2130	653	1190	56	319	128	85	581	61	19
24	174	1350	962	1120	47	213	241	123	57	1280	89	20
25	99	871	1030	1140	158	308	196	67	154	1010	30	24
26	104	683	1730	1080	255	272	383	205	90	218	978	25
27	1460	701	779	1200	291	311	229	83	234	100	1240	27
28	1090	666	861	1780	194	324	212	122	125	990	275	28
29	678	708	1120	4710	---	290	155	275	379	1800	63	26
30	589	955	1150	6380	---	269	199	190	176	1530	48	21
31	405	---	1480	3510	---	272	---	123	---	1700	456	---
TOTAL	21010	34853	80721	44494	25131	15238	16444	5396	4245	13188	22541	998
MEAN	678	1162	2604	1435	898	492	548	174	142	425	727	33.3
MAX	2560	2530	7190	6380	2560	2300	1420	534	689	1800	1920	201
MIN	51	344	446	468	42	31	155	67	57	25	30	18
AC-FT	41670	69130	160100	88250	49850	30220	32620	10700	8420	26160	44710	1980

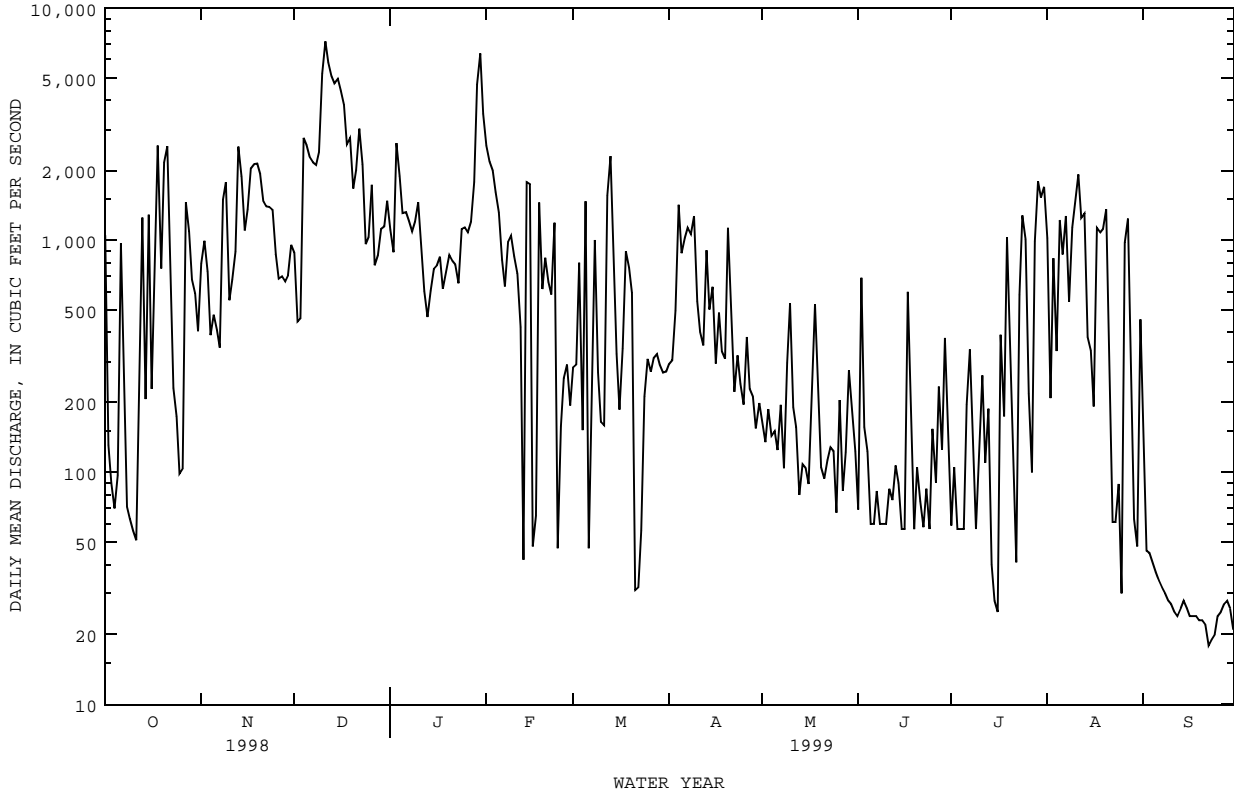
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999z, BY WATER YEAR (WY)

	1955	1465	1563	1895	2158	2580	2873	5477	4335	1688	1097	1234
MEAN	1955	1465	1563	1895	2158	2580	2873	5477	4335	1688	1097	1234
MAX	13540	11150	15070	28140	16860	20260	22470	36340	37140	9427	7300	9492
(WY)	1960	1975	1992	1992	1992	1992	1942	1957	1957	1982	1995	1966
MIN	46.6	55.8	40.8	44.6	28.0	77.3	160	43.5	142	49.2	98.3	33.3
(WY)	1984	1984	1955	1955	1984	1971	1955	1988	1999	1978	1988	1999

08096500 BRAZOS RIVER AT WACO, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1941 - 1999z	
ANNUAL TOTAL	833072		284259		2360	
ANNUAL MEAN	2282		779		9611	
HIGHEST ANNUAL MEAN					322	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	33900	Mar 19	7190	Dec 11	121000	Apr 22 1945
LOWEST DAILY MEAN	47	Sep 11	18	Sep 22	.12	Aug 7 1988
ANNUAL SEVEN-DAY MINIMUM	178	Sep 8	21	Sep 18	4.4	May 13 1988
INSTANTANEOUS PEAK FLOW			10900	Dec 10	144000	Apr 22 1945
INSTANTANEOUS PEAK STAGE			11.98	Dec 10	36.70	Apr 22 1945
ANNUAL RUNOFF (AC-FT)	1652000		563800		1710000	
10 PERCENT EXCEEDS	4800		1900		4860	
50 PERCENT EXCEEDS	1120		383		844	
90 PERCENT EXCEEDS	231		46		137	

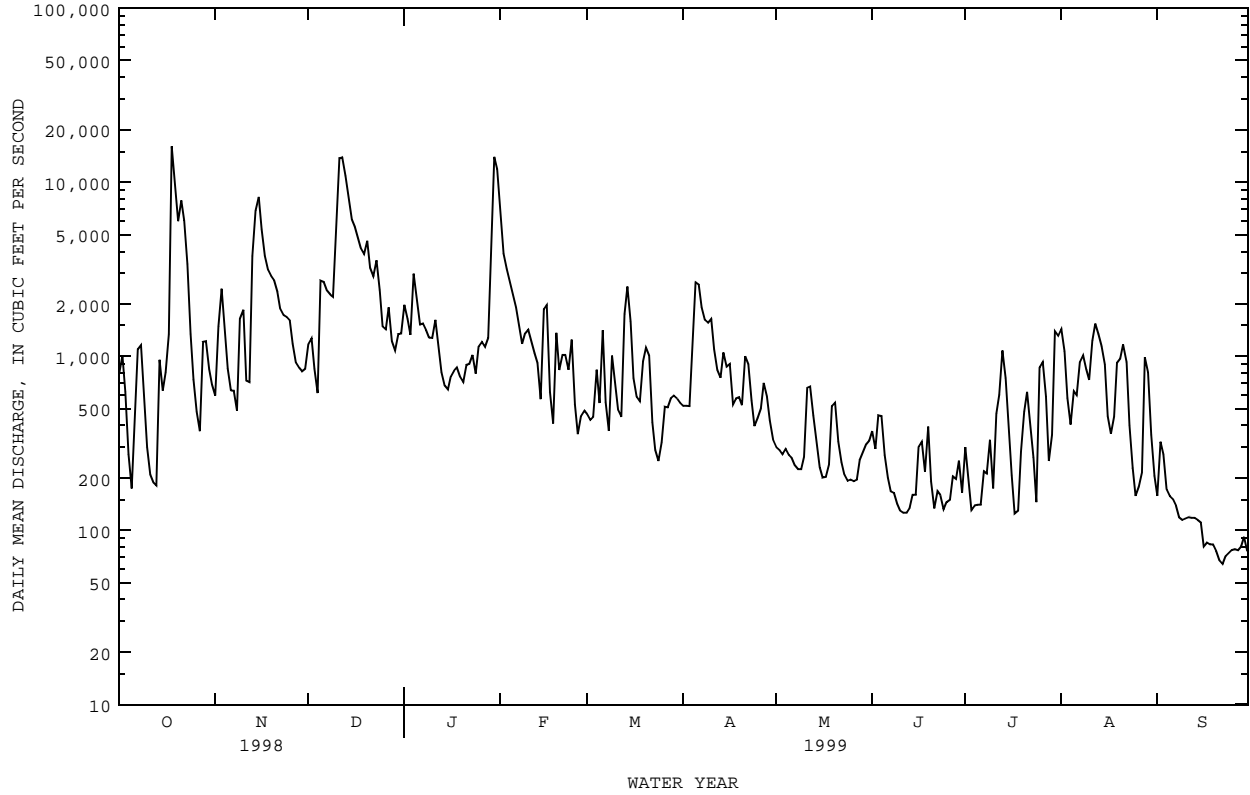
z Period of regulated streamflow.



08098290 BRAZOS RIVER NEAR HIGHBANK, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1966 - 1999	
ANNUAL TOTAL	1107159		464683		2902	
ANNUAL MEAN	3033		1273		329	
HIGHEST ANNUAL MEAN					11320	1992
LOWEST ANNUAL MEAN					329	1984
HIGHEST DAILY MEAN	33500	Jan 7	16100	Oct 18	70300	Dec 22 1991
LOWEST DAILY MEAN	170	Sep 10	64	Sep 22	23	Feb 24 1984
ANNUAL SEVEN-DAY MINIMUM	313	Sep 9	72	Sep 20	23	Sep 15 1984
INSTANTANEOUS PEAK FLOW			21200	Oct 18	78700	Feb 4 1986
INSTANTANEOUS PEAK STAGE			13.83	Oct 18	30.78	Dec 22 1991
ANNUAL RUNOFF (AC-FT)	2196000		921700		2102000	
10 PERCENT EXCEEDS	6650		2700		6560	
50 PERCENT EXCEEDS	1350		630		1040	
90 PERCENT EXCEEDS	537		141		230	

e Estimated



BRAZOS RIVER BASIN

0809900 LEON RESERVOIR NEAR RANGER, TX

LOCATION.--Lat 32°21'49", long 98°40'31", Eastland County, Hydrologic Unit 12070201, behind Lake Patrol Office, 180 ft upstream from dam and 100 ft left of outlet works near left end of dam on Leon River, 7.4 mi south of Ranger, 8.7 mi southeast of Eastland, and 274.1 mi upstream from mouth.

DRAINAGE AREA.--259 mi².

PERIOD OF RECORD.--Jan 1955 to Sep 1983, Mar 1999 to Sep 1999.
Water-quality records.--Chemical data: Oct 1969 to May 1983.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level. Jan 1955 to Sep 1983 nonrecording gage at same site and datum. Satellite telemeter at station.

REMARKS.--Records good. The reservoir is formed by a rolled earthfill dam 3,700 ft long. Storage began in Apr 1954 and dam was completed in Jun 1954. The emergency spillway is a 1,200-foot-wide cut through natural ground near the left end of dam. The service spillway is an uncontrolled circular concrete drop inlet designed for a maximum discharge of 5,000 ft³/s through an 11-foot-diameter concrete conduit. The dam is the property of Eastland County Water Supply District and was built to impound water for municipal use by the cities of Ranger, Olden, and Eastland. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	1,398.0
Crest of emergency spillway.....	1,382.0
Crest of service spillway (top of conservation pool).....	1,375.0
Lowest gated outlet (invert).....	1,335.0

COOPERATION.--The capacity curve dated Sep 23, 1952 was furnished by Eastland County Water Supply District and is based on a survey by Freese and Nichols, Consulting Engineers, Fort Worth, Texas.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 40,640 acre-ft, Jun 13, 1967 (elevation, 1,382.20 ft); minimum observed since first appreciable storage, 15,880 acre-ft Jan 11-21, Feb 5-7, Apr 29, 30, 1956 (elevation, 1,366.20 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 21,640 acre-ft, Jun 26 (elevation, 1,371.10 ft); minimum contents, 18,560 acre-ft, Sep 30 (elevation, 1,368.60 ft).

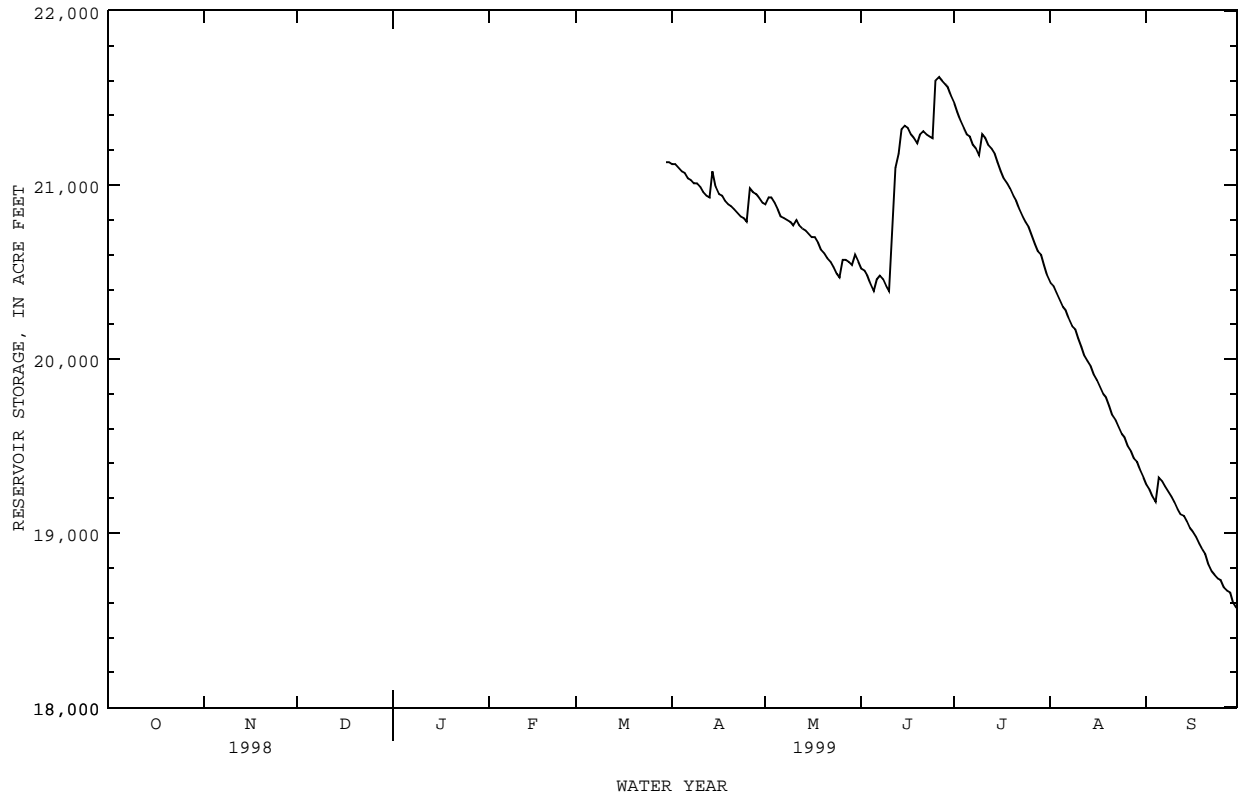
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	---	---	---	---	---	---	21120	20890	20520	21470	20440	19280	
2	---	---	---	---	---	---	21120	20930	20510	21420	20420	19250	
3	---	---	---	---	---	---	21100	20930	20480	21370	20380	19210	
4	---	---	---	---	---	---	21080	20900	20430	21330	20340	19180	
5	---	---	---	---	---	---	21070	20860	20390	21290	20300	19320	
6	---	---	---	---	---	---	21040	20820	20460	21280	20280	19300	
7	---	---	---	---	---	---	21030	20810	20480	21230	20230	19270	
8	---	---	---	---	---	---	21010	20800	20460	21210	20190	19240	
9	---	---	---	---	---	---	21010	20790	20420	21170	20170	19210	
10	---	---	---	---	---	---	20990	20770	20390	21290	20120	19180	
11	---	---	---	---	---	---	20960	20800	20700	21270	20070	19140	
12	---	---	---	---	---	---	20940	20770	21100	21230	20020	19110	
13	---	---	---	---	---	---	20930	20750	21180	21210	19990	19100	
14	---	---	---	---	---	---	21080	20740	21320	21180	19960	19070	
15	---	---	---	---	---	---	20990	20720	21340	21130	19910	19030	
16	---	---	---	---	---	---	20950	20700	21330	21080	19880	19010	
17	---	---	---	---	---	---	20940	20700	21290	21040	19840	18980	
18	---	---	---	---	---	---	20910	20670	21270	21010	19800	18940	
19	---	---	---	---	---	---	20890	20630	21240	20980	19780	18910	
20	---	---	---	---	---	---	20880	20610	21290	20940	19730	18880	
21	---	---	---	---	---	---	20860	20580	21310	20910	19680	18820	
22	---	---	---	---	---	---	20840	20560	21290	20860	19650	18780	
23	---	---	---	---	---	---	20820	20530	21280	20820	19610	18760	
24	---	---	---	---	---	---	20810	20490	21270	20790	19570	18740	
25	---	---	---	---	---	---	20790	20470	21600	20760	19550	18730	
26	---	---	---	---	---	---	20980	20570	21620	20710	19500	18690	
27	---	---	---	---	---	---	20960	20570	21600	20660	19470	18670	
28	---	---	---	---	---	---	20950	20560	21580	20620	19430	18660	
29	---	---	---	---	---	---	20930	20540	21560	20600	19410	18600	
30	---	---	---	---	---	---	21130	20900	20600	21510	20540	19360	18570
31	---	---	---	---	---	---	21130	---	20560	---	20480	19320	---
MAX	---	---	---	---	---	---	21120	20930	21620	21470	20440	19320	---
MIN	---	---	---	---	---	---	20790	20470	20390	20480	19320	18570	---
(+)	---	---	---	---	---	---	1370.52	1370.25	1371.00	1370.19	1369.24	1368.61	---
(@)	---	---	---	---	---	---	-230	-340	+950	-1030	-1160	-750	---

WTR YR 1999 MAX 21620 MIN 18570

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

08099000 LEON RESERVOIR NEAR RANGER, TX--Continued



BRAZOS RIVER BASIN

08099100 LEON RIVER NEAR DE LEON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 32°10'25", long 98°31'58", Comanche County, Hydrologic Unit 12070201, on left bank at downstream end of bridge on State Highway 16, 1.5 mi upstream from Flat Creek, 4.4 mi northeast of De Leon, 6 mi downstream from Hog Creek, and 250.1 mi upstream from mouth.

DRAINAGE AREA.--479 mi².

PERIOD OF RECORD.--Sep 1960 to Sep 1986 (daily mean discharge), Oct 1986 to Sep 1995 (daily discharges greater than 600 ft³/s), Oct 1995 to current year (peak discharges greater than base discharge).

Water-quality records.--Chemical data: May 1981 to Jul 1982, Nov 1990 to Aug 1997. Biochemical data: May 1981 to Jul 1982, Nov 1990 to Aug 1997.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,209.93 ft above sea level. Prior to Nov 22, 1960, nonrecording gage at same site and datum. Satellite telemeter at station.

REMARKS.--Records good. Since installation of gage in Sep 1960, at least 10% of contributing drainage area has been regulated by Leon Reservoir (station 08099000, normal storage 27,290 acre-ft), about 17.5 mi upstream. There are numerous diversions above station for municipal, steam powerplant operation, and other uses.

AVERAGE DISCHARGE.--26 years (water years 1961-86), 41.1 ft³/s (29,760 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,500 ft³/s Apr 26, 1990 (gage height, 19.00 ft, from floodmarks), from rating curve extended above 17,600 ft³/s; prior to Apr 26, 1990, maximum discharge, 7,540 ft³/s Jun 21, 1968, (gage height, 15.50 ft); no flow for many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 19.3 ft occurred in May 1908 at a point 2,000 ft downstream from present gage site and is the highest since that time, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar 19	1100	1,200	9.09	No other peak greater than base discharge.			

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BRAZOS RIVER BASIN

08099300 SABANA RIVER NEAR DE LEON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 32°06'50", long 98°36'19", Comanche County, Hydrologic Unit 12070201, on left bank at downstream end of bridge on Farm Road 587, 0.6 mi downstream from Spring Branch, 4.0 mi west of De Leon, 4.2 mi upstream from Turkey Creek, and 12.2 mi upstream from mouth.

DRAINAGE AREA.--264 mi².

PERIOD OF RECORD.--Sep 1960 to Sep 1986 (daily mean discharge), Oct 1986 to Sep 1995 (daily discharges greater than 250 ft³/s), Oct 1995 to current year (peak discharges greater than base discharge).
Water-quality records.--Chemical data: Nov 1990 to Aug 1997. Biochemical data: Nov 1990 to Aug 1997.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,209.59 ft above sea level (levels by Texas Department of Transportation). Prior to Nov 22, 1960, nonrecording gage at present site and datum. Satellite telemeter at station.

REMARKS.--Records good. No known regulation or diversions. Flow may be slightly affected by Nabors Lake 0.4 mi upstream on Spring Branch.

AVERAGE DISCHARGE.--26 years (water years 1961-86), 28.9 ft³/s (20,950 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,500 ft³/s Apr 26, 1990 (gage height, 23.65 ft), from floodmark, from rating curve extended above 17,000 ft³/s; prior to Apr 26, 1990, maximum discharge, 10,400 ft³/s Jun 5, 1986, (gage height, 21.99 ft); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1890, 24 ft in May 1908, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s:

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

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BRAZOS RIVER BASIN

08099400 PROCTOR LAKE NEAR PROCTOR, TX

LOCATION.--Lat 31°58'07", long 98°29'09", Comanche County, Hydrologic Unit 12070201, in intake structure at Proctor Lake on Leon River, 2.0 mi upstream from U.S. Highways 67 and 377, 3.5 mi west of Proctor, and 228.1 mi upstream from mouth.

DRAINAGE AREA.--1,259 mi².

PERIOD OF RECORD.--Jan 1963 to current year. Prior to Oct 1970, published as "Proctor Reservoir".

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to May 28, 1963, non-recording gage at same site and datum. Satellite telemeter at station.

REMARKS.--The lake is formed by a reinforced concrete gated structure and rolled earthfill dam, total length 13,460 ft. The lake was operated as a detention basin from Jan 30 to Jul 5, 1963. The gates were closed Jul 6, 1963, but the lake was operated as a detention basin to elevation 1,156.0 ft until construction was completed. Deliberate impoundment began Sep 30, 1963. The spillway is a gated concrete gravity structure located on the left bank, with an ogee weir section and basin. The spillway is controlled by eleven 40.0- by 35.0-foot tainter gates. The spillway was designed to discharge 431,800 ft³/s at an elevation of 1,201.0 ft. The lake is operated for flood control and water conservation. Inflow is partly regulated by one major reservoir (see station 08099000). Inflow is also affected at times by discharge from the flood-detention pools of 23 floodwater-retarding structures with a combined detention capacity of 43,690 acre-ft. These structures control runoff from 172 mi² in the Leon River and Rush Creek drainage basins. Borrow is not included in capacity totals. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	1,206.0
Design flood.....	1,201.0
Top of gates.....	1,197.0
Crest of spillway (top of conservation pool).....	1,162.0
Lowest gated outlet (invert).....	1,128.0

COOPERATION.--Record of contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey. A new capacity table, provided by the Texas Water Development Board, was put into use beginning Oct 1, 1995.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 383,100 acre-ft, May 2, 1990 (elevation, 1,197.63 ft); minimum since first filling of lake, 18,900 acre-ft, Oct 4, 1984 (elevation, 1,149.37 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 39,890 acre-ft, Jun 28-29 (elevation, 1,158.23 ft); minimum contents, 24,530 acre-ft, Sep 30 (elevation, 1,153.04 ft).

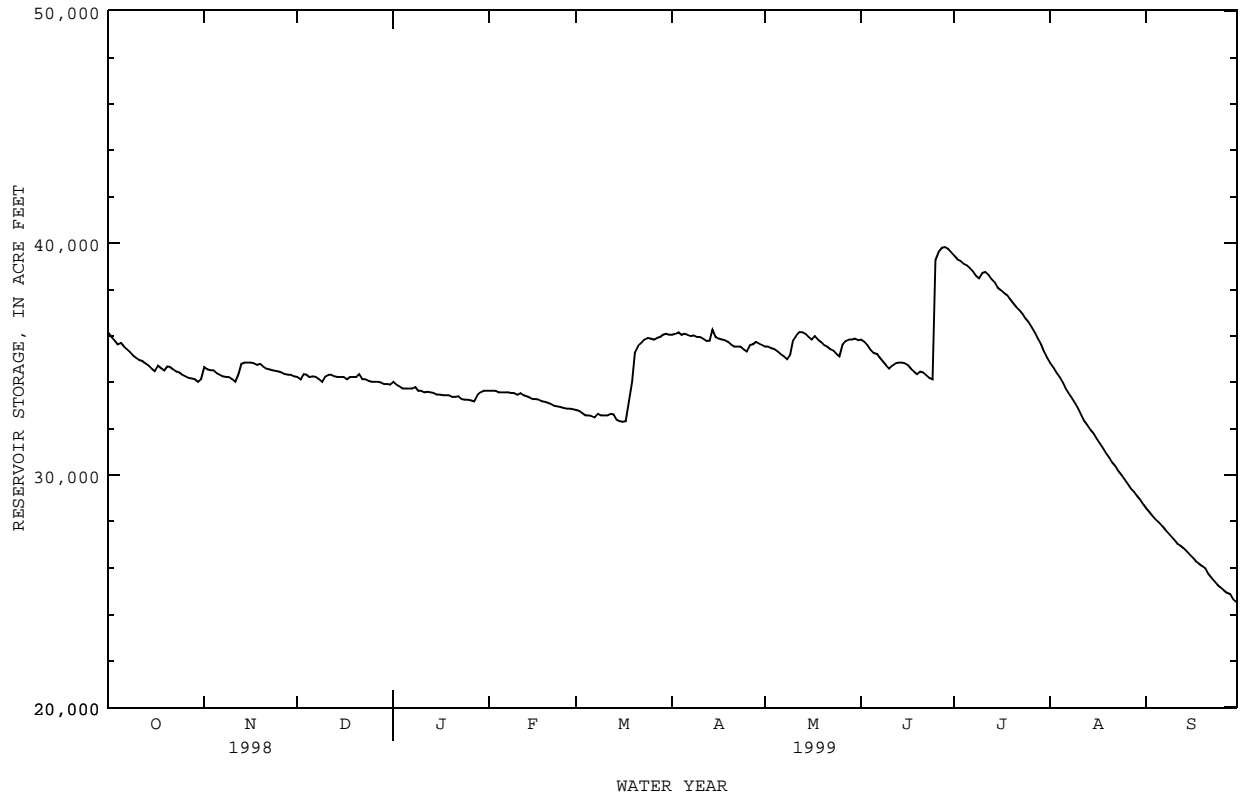
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36130	34660	34220	34030	33630	32800	36060	35540	35850	39460	34820	28570
2	35950	34560	34120	33890	33630	32770	36090	35540	35750	39310	34620	28390
3	35810	34520	34360	33830	33630	32680	36160	35470	35610	39230	34420	28240
4	35640	34520	34320	33730	33570	32580	36060	35440	35400	39120	34220	28090
5	35710	34390	34220	33730	33570	32580	36090	35330	35260	39050	33990	27960
6	35540	34320	34260	33730	33570	32550	36060	35230	35230	38940	33730	27810
7	35440	34260	34220	33730	33570	32490	35990	35130	35060	38790	33500	27660
8	35300	34220	34120	33800	33540	32640	36020	34990	34890	38600	33310	27510
9	35160	34220	34030	33630	33540	32580	35950	35200	34720	38490	33090	27360
10	35060	34120	34260	33630	33470	32580	35950	35810	34590	38710	32860	27220
11	34960	34030	34320	33570	33540	32580	35880	36020	34720	38750	32580	27040
12	34930	34360	34320	33600	33440	32640	35780	36160	34820	38640	32330	26970
13	34820	34790	34260	33570	33410	32610	35780	36160	34860	38460	32150	26850
14	34720	34860	34220	33540	33340	32390	36270	36090	34860	38310	31930	26730
15	34590	34860	34220	33470	33280	32330	35950	35950	34820	38090	31780	26580
16	34490	34860	34220	33470	33280	32300	35880	35850	34760	37980	31570	26460
17	34720	34820	34120	33440	33250	32330	35850	35990	34590	37870	31360	26290
18	34620	34760	34220	33440	33180	33180	35810	35850	34460	37760	31160	26190
19	34520	34790	34220	33440	33150	34030	35750	35750	34360	37580	30950	26100
20	34690	34690	34220	33380	33120	35300	35640	35610	34460	37400	30750	26000
21	34660	34590	34360	33380	33060	35570	35540	35540	34420	37260	30550	25740
22	34560	34560	34120	33410	32990	35710	35540	35440	34290	37120	30360	25570
23	34460	34520	34120	33280	32960	35850	35540	35370	34190	36940	30160	25430
24	34420	34490	34060	33250	32930	35920	35440	35230	34120	36760	30000	25260
25	34320	34460	34030	33250	32900	35880	35330	35130	39270	36580	29810	25170
26	34260	34420	34030	33210	32860	35850	35610	35640	39650	36370	29630	25050
27	34190	34360	34030	33180	32860	35920	35640	35780	39800	36130	29420	24930
28	34160	34320	33990	33440	32830	35950	35750	35850	39830	35880	29290	24880
29	34120	34320	33930	33570	---	36060	35680	35850	39760	35640	29110	24650
30	34030	34260	33930	33630	---	36090	35610	35880	39610	35330	28930	24530
31	34120	---	33890	33630	---	36060	---	35810	---	35060	28720	---
MAX	36130	34860	34360	34030	33630	36090	36270	36160	39830	39460	34820	28570
MIN	34030	34030	33890	33180	32830	32300	35330	34990	34120	35060	28720	24530
(+)	1156.60	1156.64	1156.53	1156.45	1156.20	1157.16	1157.05	1157.10	1158.16	1156.88	1154.75	1153.04
(@)	-2220	+240	-370	-240	-800	+3230	-450	+200	+3800	-4550	-6340	-4190

CAL YR 1998 MAX 110800 MIN 33890 (@) -14910
WTR YR 1999 MAX 39830 MIN 24530 (@) -11810

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

08099400 PROCTOR LAKE NEAR PROCTOR, TX--Continued



BRAZOS RIVER BASIN

08100000 LEON RIVER NEAR HAMILTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 31°47'19", long 98°07'16", Hamilton County, Hydrologic Unit 12070201, at downstream side of bridge on U.S. Highway 281, 2.2 mi upstream from Mesquite Creek, 3.6 mi downstream from Bear Creek, 5.9 mi north of Hamilton, and 172.9 mi upstream from mouth.

DRAINAGE AREA.--1,891 mi².

PERIOD OF RECORD.--Jan 1925 to Sep 1931, Sep 1960 to Sep 1996 (daily mean discharge), Oct 1996 to current year (peak discharges greater than base discharge).

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 955.38 ft above sea level. Jan 7, 1925, to Sep 30, 1931, nonrecording gage 1.4 mi downstream at datum 1.87 ft higher. Sep 1 to Nov 22, 1960, nonrecording gage at same site and at 5.00 ft higher datum. Nov 22, 1960 to Sep 30, 1972, recording gage at same site and at 5.00 ft higher datum. Satellite telemeter at station.

REMARKS.--Records good. Since water year 1964, at least 10% of contributing drainage area has been regulated by Proctor Lake (station 08099400, normal storage 59,400 acre-ft) 54 miles upstream and by several other smaller reservoirs. There are numerous diversions above station for irrigation, municipal supply, and for industrial uses. Flow is affected at times by discharge from the flood-detention pools of 14 floodwater-retarding structures with a combined detention capacity of 11,610 acre-ft. These structures control runoff from 43.9 mi².

AVERAGE DISCHARGE.-- 9 years (water years 1926-31, 1961-63) prior to regulation by Proctor Lake 148 ft³/s (107,500 acre-ft/yr); 33 years (water years 1964-96) regulated, 212 ft³/s (153,600 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,600 ft³/s Sep 9, 1962 (gage height, 26.93 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1858, 38.4 ft in May 1908 and Dec 1913; flood in Sep 1911 reached a stage of 37.0 ft, all at present site and datum, from information by local residents. The flood in Oct 1959 reached a stage of 34.1 ft, present datum.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,900 ft³/s:

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

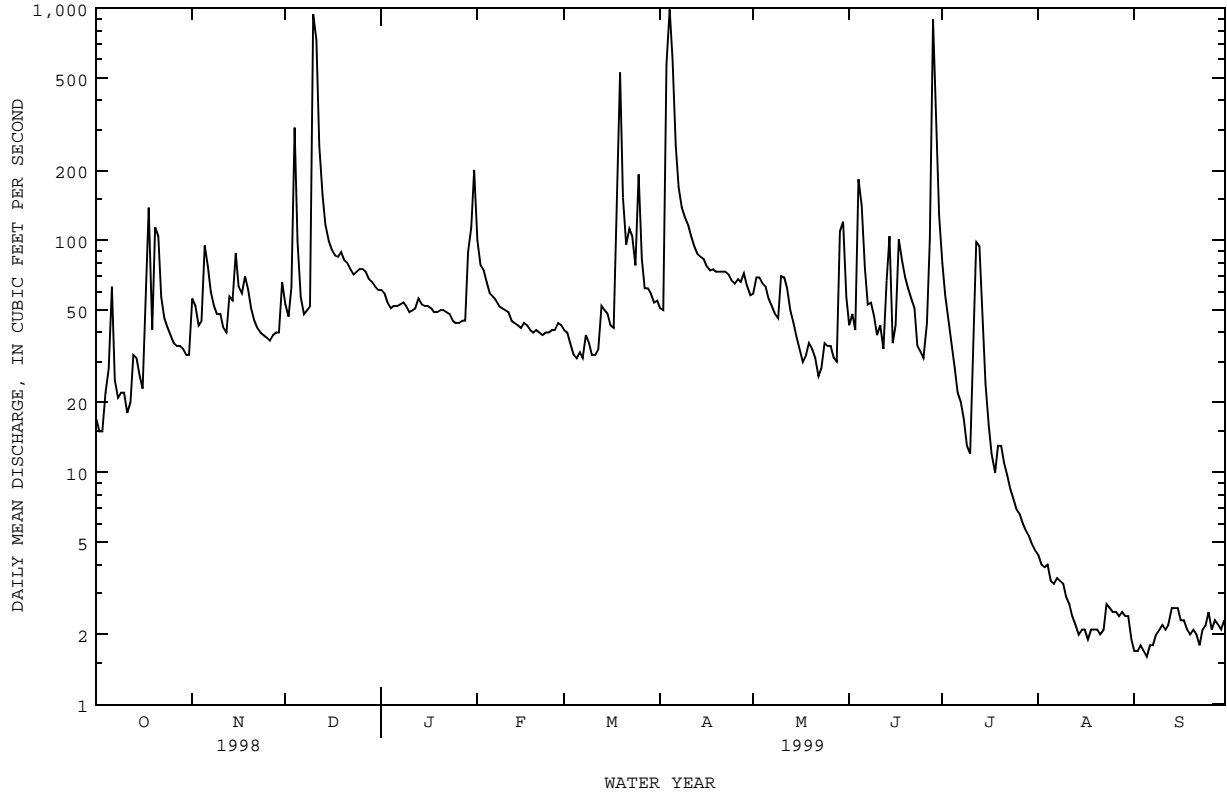
No peak greater than base discharge.

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08100500 LEON RIVER AT GATESVILLE, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1964 - 1999z	
ANNUAL TOTAL	127390		22808.4		332	
ANNUAL MEAN	349		62.5		1758	
HIGHEST ANNUAL MEAN					1992	
LOWEST ANNUAL MEAN					6.22	
HIGHEST DAILY MEAN	11400	Mar 17	986	Apr 4	49100	Dec 21 1991
LOWEST DAILY MEAN	11	Sep 7	1.6	Sep 5	.00	Jul 21 1971
ANNUAL SEVEN-DAY MINIMUM	13	Sep 5	1.7	Sep 1	.00	Aug 13 1984
INSTANTANEOUS PEAK FLOW			2190	Apr 3	68000	Dec 21 1991
INSTANTANEOUS PEAK STAGE			11.91	Apr 3	35.00	Dec 21 1991
ANNUAL RUNOFF (AC-FT)	252700		45240		240400	
10 PERCENT EXCEEDS	953		100		874	
50 PERCENT EXCEEDS	81		45		48	
90 PERCENT EXCEEDS	21		2.3		2.2	

z Period of regulated streamflow.



BRAZOS RIVER BASIN

08101000 COWHOUSE CREEK AT PIDCOKE, TX

LOCATION.--Lat 31°17'05", long 97°53'05", Coryell County, Hydrologic Unit 12070202, on left bank on upstream side of bridge on Farm Road 116, 0.1 mi downstream from Bee House Creek, 0.6 mi northeast of Pidcoke, 4.9 mi upstream from Table Rock Creek, and 34.6 mi upstream from mouth.

DRAINAGE AREA.--455 mi².

PERIOD OF RECORD.--Oct 1950 to current year.

Water-quality records.--Chemical data: Dec 1993 to Aug 1998. Biochemical data: Dec 1993 to Aug 1998.

REVISED RECORDS.--WSP 1712: 1955. WSP 1922: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 736.71 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. No known regulation or diversions. Several observations of water temperatures were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar 18	2000	6,710	14.97	Apr 3	1930	5,980	13.97

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	66	42	82	72	28	185	30	19	6.1	.43	.00
2	.00	65	34	82	60	27	179	27	15	6.0	.41	.00
3	.00	87	32	76	55	24	1700	28	13	5.9	.33	.00
4	.00	52	80	75	51	23	656	30	11	5.9	.29	.00
5	.44	39	46	75	45	23	237	26	10	5.8	.27	.00
6	12	32	33	76	42	22	159	21	9.1	5.8	.34	.00
7	3.7	29	27	75	44	21	132	16	8.5	5.8	.35	.00
8	2.1	28	36	75	43	30	123	13	7.6	5.9	.33	.00
9	1.2	27	30	72	42	40	113	10	7.0	6.0	.32	.00
10	.42	30	1000	69	40	38	101	55	6.5	5.5	.33	.00
11	.05	28	396	69	38	31	87	73	9.0	94	.24	.00
12	.00	24	266	71	37	30	79	42	13	52	.06	.00
13	.00	128	210	69	36	42	73	29	24	39	.00	.00
14	.00	109	174	66	34	44	80	21	79	11	.00	.00
15	.10	62	152	66	35	36	78	16	23	4.0	.00	.00
16	.15	54	138	67	34	31	69	12	15	1.9	.00	.00
17	6.3	46	128	65	33	28	60	9.1	10	1.2	.00	.00
18	242	42	121	63	34	1320	55	11	13	1.2	.00	.00
19	37	39	116	60	33	1070	53	9.4	9.4	1.1	.00	.00
20	130	35	109	59	29	427	49	7.3	6.9	1.0	.00	.00
21	82	33	114	62	27	311	43	6.4	13	.98	.00	.00
22	42	31	102	60	27	262	39	5.7	28	.96	.00	.00
23	30	32	97	57	27	234	34	5.7	28	.98	.00	.00
24	24	31	99	55	27	209	28	5.8	18	.94	.00	.00
25	20	31	103	54	26	293	24	5.8	50	.87	.00	.00
26	18	30	104	54	26	227	47	5.9	20	.76	.00	.00
27	17	28	102	54	28	193	91	6.0	17	.70	.00	.00
28	16	26	99	52	28	233	69	22	11	.69	.00	.00
29	16	26	96	395	---	224	48	122	7.9	.63	.00	.00
30	15	35	89	170	---	198	37	56	6.6	.57	.00	.00
31	14	---	83	95	---	193	---	31	---	.48	.00	---
TOTAL	729.46	1325	4258	2520	1053	5912	4728	758.1	508.5	273.66	3.70	0.00
MEAN	23.5	44.2	137	81.3	37.6	191	158	24.5	17.0	8.83	.12	.000
MAX	242	128	1000	395	72	1320	1700	122	79	94	.43	.00
MIN	.00	24	27	52	26	21	24	5.7	6.5	.48	.00	.00
AC-FT	1450	2630	8450	5000	2090	11730	9380	1500	1010	543	7.3	.00
CFSM	.05	.10	.30	.18	.08	.42	.35	.05	.04	.02	.00	.00
IN.	.06	.11	.35	.21	.09	.48	.39	.06	.04	.02	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1999, BY WATER YEAR (WY)

MEAN	79.3	37.8	85.4	76.1	158	144	144	225	115	35.3	19.3	33.3
MAX	1416	425	1894	767	2170	1274	1033	2116	702	399	240	433
(WY)	1960	1966	1992	1961	1997	1997	1957	1965	1987	1976	1966	1970
MIN	.000	.000	.000	.000	.000	.010	.000	.76	.073	.000	.000	.000
(WY)	1952	1952	1952	1952	1952	1952	1956	1978	1956	1954	1951	1952

SUMMARY STATISTICS

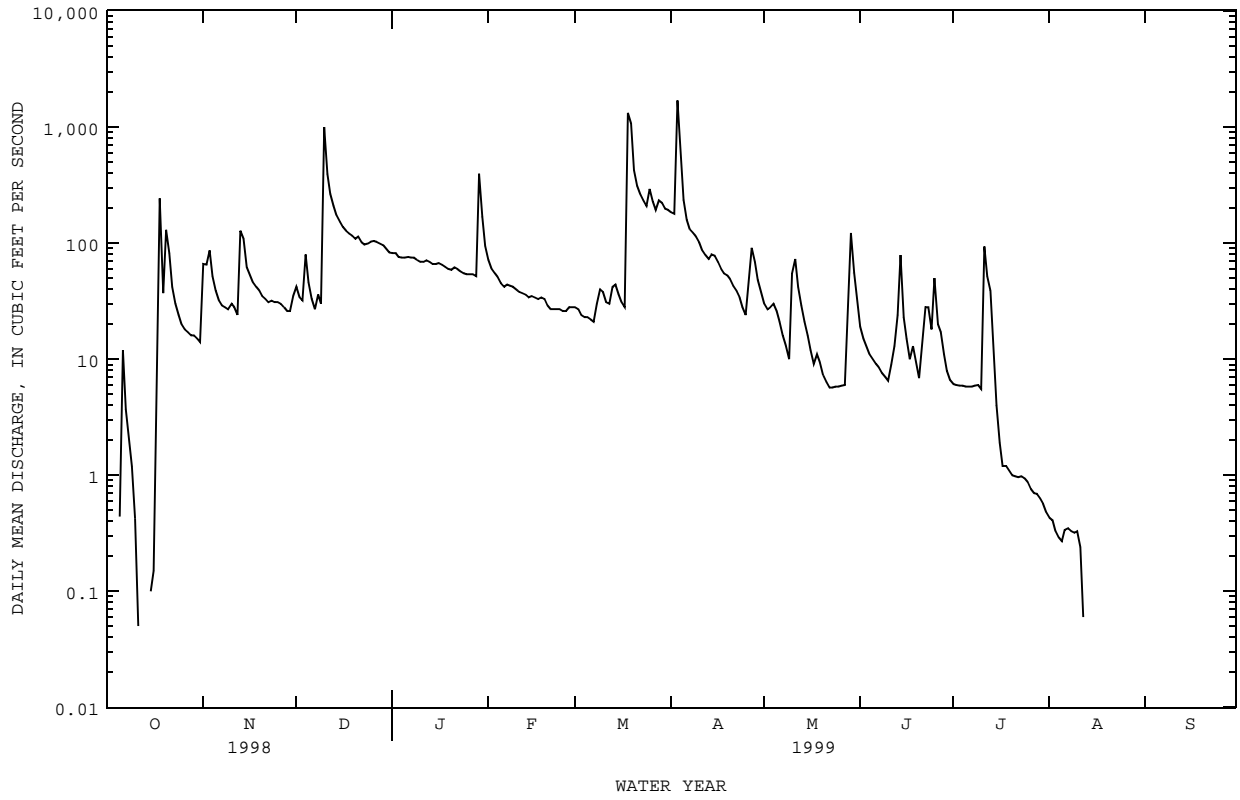
FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1951 - 1999

ANNUAL TOTAL	48856.62	22069.42	
ANNUAL MEAN	134	60.5	95.7
HIGHEST ANNUAL MEAN			482
LOWEST ANNUAL MEAN			1.18
HIGHEST DAILY MEAN	18600	Mar 16	1700
LOWEST DAILY MEAN	.00	Jul 25	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 25	.00
INSTANTANEOUS PEAK FLOW			6710
INSTANTANEOUS PEAK STAGE		14.97	Mar 18
ANNUAL RUNOFF (AC-FT)	96910	43770	69300
ANNUAL RUNOFF (CFSM)	.29	.13	.21
ANNUAL RUNOFF (INCHES)	3.99	1.80	2.86
10 PERCENT EXCEEDS	182	121	149
50 PERCENT EXCEEDS	31	28	6.5
90 PERCENT EXCEEDS	.00	.00	.00

08101000 COWHOUSE CREEK AT PIDCOKE, TX--Continued



08102000 BELTON LAKE NEAR BELTON, TX

LOCATION.--Lat 31°06'22", long 97°28'28", Bell County, Hydrologic Unit 12070201, in intake structure at Belton Dam on Leon River, 1.6 mi upstream from bridge on State Highway 317, 3.5 mi north of Belton, 8.9 mi upstream from Nolan Creek, and 16.7 mi upstream from mouth.

DRAINAGE AREA.--3,531 mi².

PERIOD OF RECORD.--Mar 1954 to current year. Prior to Oct 1970, published as "Belton Reservoir".

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Army Corps of Engineers). Prior to Feb 20, 1955, nonrecording gage at present site and datum. Satellite telemeter at station.

REMARKS.--The lake is formed by a rolled earthfill dam 5,524 ft long, including a 1,300-foot uncontrolled broad-crested spillway in a saddle near left end of dam and a 418-foot-long dike. Deliberate impoundment began Mar 8, 1954, and the dam was completed in Dec 1954. The lake was built for flood control and conservation storage. The controlled outlet works consist of a 22.0-foot-diameter conduit that is controlled by three 7.0- by 22.0-foot broome-type gates. The service outlet consists of a 36- by 36-inch gated outlet that discharges into the flood-control conduit. There are many small diversions upstream for irrigation, municipal supply, and oil field operations. For statement regarding regulation by National Resource Conservation Service floodwater-retarding structures, see station 08100500. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	662.0
Design flood.....	656.9
Crest of spillway.....	631.0
Top of conservation pool.....	594.0
Service outlet (invert).....	540.0
Lowest gated outlet (invert).....	483.0

COOPERATION.--Record of contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey. A new capacity table, provided by the Texas Water Development Board, was put into use beginning Oct 1, 1995.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,168,000 acre-ft, Mar 6, 1992 (elevation, 634.36 ft); minimum since initial filling, 113,400 acre-ft, Dec 16, 1956 (elevation, 553.06 ft).

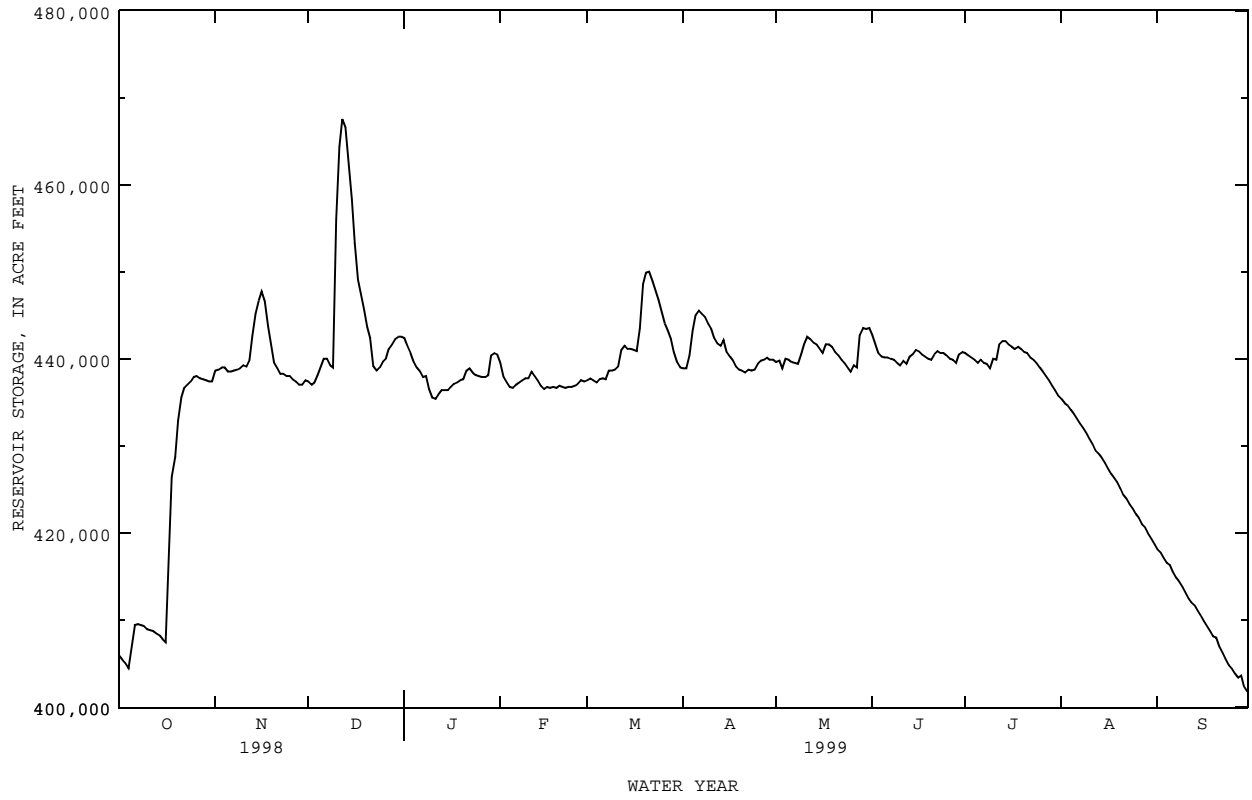
EXTREMES FOR CURRENT YEAR.--Maximum contents, 467,600 acre-ft, Dec 12 (elevation, 596.61 ft); minimum contents, 401,800 acre-ft, Sep 30 (elevation, 591.27 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	405900	438700	437400	442400	439600	437600	438900	439700	442800	440700	435400	418200
2	405400	438800	437100	441400	437900	437800	438900	439800	441700	440400	435000	417800
3	405100	439100	437300	440700	437300	437600	440400	438900	440700	440200	434700	417200
4	404500	439100	438200	439700	436800	437300	443300	440100	440300	439900	434200	416600
5	406800	438600	439100	439100	436700	437700	445100	439900	440200	439600	433700	416400
6	409400	438600	440100	438600	437100	437800	445600	439700	440200	439900	433200	415500
7	409600	438700	440100	437900	437300	437700	445200	439600	440100	439600	432600	414900
8	409400	438800	439300	438100	437600	438700	444800	439400	439900	439400	432100	414400
9	409300	438900	439100	436600	437800	438700	444100	440600	439600	438900	431500	413800
10	409000	439300	456100	435600	437800	438800	443500	441700	439300	440100	430900	413200
11	408900	439200	464400	435400	438600	439200	442400	442600	439800	439900	430300	412500
12	408700	439900	467600	435900	438100	441100	441800	442300	439400	441700	429500	412100
13	408500	442700	466700	436400	437600	441600	441600	441900	440300	442100	429200	411700
14	408300	445200	463100	436400	436900	441200	442200	441700	440600	442100	428700	411100
15	407800	446700	458400	436400	436600	441200	440800	441200	441100	441700	428100	410500
16	407400	447800	453400	436800	436800	441100	440300	440700	440900	441400	427500	409900
17	416000	446600	449100	437200	436700	440900	439800	441700	440600	441200	426800	409300
18	426500	443800	447500	437300	436800	443600	439200	441700	440300	441400	426400	408700
19	428800	441700	445700	437600	436700	448600	438800	441400	440100	441200	425900	408100
20	433000	439600	443700	437700	436900	449900	438700	440800	439900	440800	425100	408000
21	435600	438900	442400	438700	436800	450000	438400	440400	440600	440700	424400	407000
22	436700	438300	439200	438900	436700	449000	438800	439900	440900	440200	423900	406200
23	437100	438300	438700	438400	436800	448000	438700	439600	440700	439900	423300	405500
24	437400	438100	439100	438200	436800	446900	438800	439100	440700	439600	422800	404800
25	437900	438100	439700	438100	436900	445500	439400	438600	440400	439100	422200	404500
26	438100	437700	440100	437900	437200	444100	439800	439300	440100	438600	421800	403900
27	437800	437400	441200	437900	437600	443300	439900	439100	439900	438100	421000	403400
28	437700	437100	441700	438200	437400	442300	440200	442800	439600	437600	420700	403700
29	437600	437100	442300	440400	---	440800	439900	443600	440600	436900	420000	402400
30	437400	437600	442600	440700	---	439700	439900	443500	440800	436400	419400	401800
31	437400	---	442600	440600	---	439100	---	443600	---	435800	418800	---
MAX	438100	447800	467600	442400	439600	450000	445600	443600	442800	442100	435400	418200
MIN	404500	437100	437100	435400	436600	437300	438400	438600	439300	435800	418800	401800
(+)	594.23	594.24	594.65	594.48	594.23	594.36	594.43	594.73	594.50	594.10	592.71	591.27
(@)	+31000	+200	+5000	-2000	-3200	+1700	+800	+3700	-2800	-5000	-17000	-17000
CAL YR 1998	MAX 552800	MIN 403100	(@) -40400									
WTR YR 1999	MAX 467600	MIN 401800	(@) -4600									

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

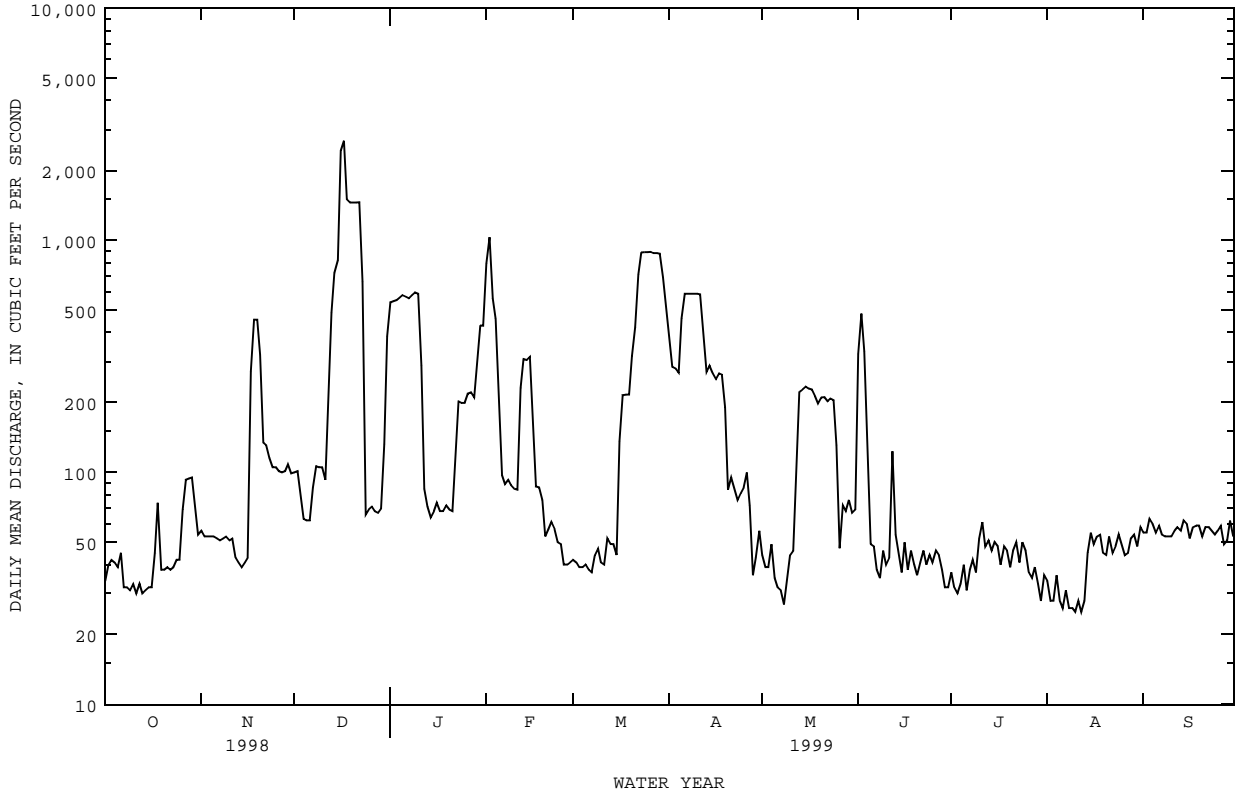
08102000 BELTON LAKE NEAR BELTON, TX--Continued



08102500 LEON RIVER NEAR BELTON, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1954 - 1999z	
ANNUAL TOTAL	287123		65650		592	
ANNUAL MEAN	787		180		4.71	
HIGHEST ANNUAL MEAN					3067	1992
LOWEST ANNUAL MEAN					4.71	1955
HIGHEST DAILY MEAN	4570	Apr 2	2680	Dec 17	10200	Mar 6 1992
LOWEST DAILY MEAN	19	Aug 18	25	Aug 10	.00	Oct 1 1953
ANNUAL SEVEN-DAY MINIMUM	20	Aug 20	27	Aug 6	.00	Oct 1 1953
INSTANTANEOUS PEAK FLOW			3460	Dec 16	10200	Mar 6 1992
INSTANTANEOUS PEAK STAGE			6.75	Dec 16	9.74	Mar 6 1992
ANNUAL RUNOFF (AC-FT)	569500		130200		428900	
10 PERCENT EXCEEDS	2720		548		2150	
50 PERCENT EXCEEDS	100		58		44	
90 PERCENT EXCEEDS	31		35		4.7	

z Period of regulated streamflow.



BRAZOS RIVER BASIN

08103800 LAMPASAS RIVER NEAR KEMPNER, TX

LOCATION.--Lat 31°04'54", long 98°00'59", Lampasas County, Hydrologic Unit 12070203, on left bank 800 ft upstream from centerline of U.S. Highway 190, 0.6 mi upstream from Mesquite Creek, 0.8 mi west of Kempner, 0.9 mi downstream from Sulphur Creek, and 72.3 mi upstream from mouth.

DRAINAGE AREA.--818 mi².

PERIOD OF RECORD.--Oct 1962 to current year.

Water-quality records.--Chemical data: Mar to Jun 1964, Oct 1980 to Sep 1982, Oct 1987 to Aug 1990. Biochemical data: Oct 1980 to Sep 1982, Oct 1987 to Aug 1990.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 828.38 ft above sea level. Prior to Aug 4, 1967, at site 800 ft downstream at present datum. Satellite telemeter at station.

REMARKS.--Records good. Since water year 1974, at least 10% of contributing drainage area has been regulated by upstream reservoirs. Flow is affected at times by discharge from the flood detention pools of 13 floodwater-retarding structures with a combined detention capacity of 38,570 acre-ft. These structures control runoff from 131 mi² in the Sulphur and Bennett Creeks drainage basins. There are many small diversions above station for irrigation and for municipal supply. The city of Lampasas diverts water upstream from this station and returns wastewater effluent to Sulphur Creek, upstream from this station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--11 years (water years 1963-73) prior to regulation, 151 ft³/s (109,400 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1963-73).--Maximum discharge, 71,000 ft³/s, May 16, 1965 (gage height, 32.98 ft), minimum daily, 1.4 ft³/s, Jul 17, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1871, occurred in Sep 1873 (stage about 45 ft). Flood of May 13, 1957, reached a stage of 37 ft, and flood of Oct 4, 1959, reached a stage of 34 ft, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	353	141	167	164	98	281	128	129	47	22	17
2	27	483	120	165	153	92	264	126	112	45	21	19
3	26	197	113	170	143	86	1570	129	95	43	21	19
4	24	129	126	152	136	84	1950	129	85	43	22	18
5	26	100	130	149	129	86	920	119	79	41	21	19
6	187	84	113	151	130	84	506	107	73	41	21	18
7	37	80	115	152	130	82	366	97	71	39	21	18
8	26	80	115	152	128	99	320	92	66	36	21	18
9	24	80	99	143	129	134	293	88	63	36	20	18
10	25	78	744	134	123	128	260	432	61	35	19	18
11	25	71	870	136	121	110	232	362	71	66	19	18
12	24	69	440	141	114	133	216	391	65	56	20	18
13	24	213	328	140	106	363	210	213	171	73	19	19
14	24	417	269	134	103	179	227	162	646	74	19	20
15	24	288	240	130	106	134	230	143	125	52	18	21
16	24	207	224	131	106	120	191	129	188	44	18	20
17	34	162	213	130	104	115	178	120	120	41	16	20
18	200	143	210	124	105	2790	173	118	92	38	17	21
19	96	134	219	121	102	2500	168	107	83	37	20	21
20	87	124	217	121	98	784	163	100	77	35	16	19
21	161	117	213	121	93	515	155	93	83	34	16	18
22	81	113	196	121	89	413	152	89	88	34	17	18
23	52	113	187	114	89	344	146	87	84	32	18	19
24	43	114	193	110	88	299	136	84	74	29	18	20
25	39	109	202	108	91	423	134	78	75	28	18	21
26	37	115	198	107	93	374	181	94	67	27	19	20
27	35	119	195	106	97	300	284	135	61	27	18	20
28	36	121	188	101	100	444	182	565	58	25	18	19
29	36	123	181	1320	---	358	151	437	54	24	18	19
30	35	132	170	324	---	306	134	191	50	23	17	19
31	33	---	167	194	---	299	---	146	---	22	17	---
TOTAL	1579	4668	7136	5569	3170	12276	10373	5291	3166	1227	585	572
MEAN	50.9	156	230	180	113	396	346	171	106	39.6	18.9	19.1
MAX	200	483	870	1320	164	2790	1950	565	646	74	22	21
MIN	24	69	99	101	88	82	134	78	50	22	16	17
AC-FT	3130	9260	14150	11050	6290	24350	20570	10490	6280	2430	1160	1130

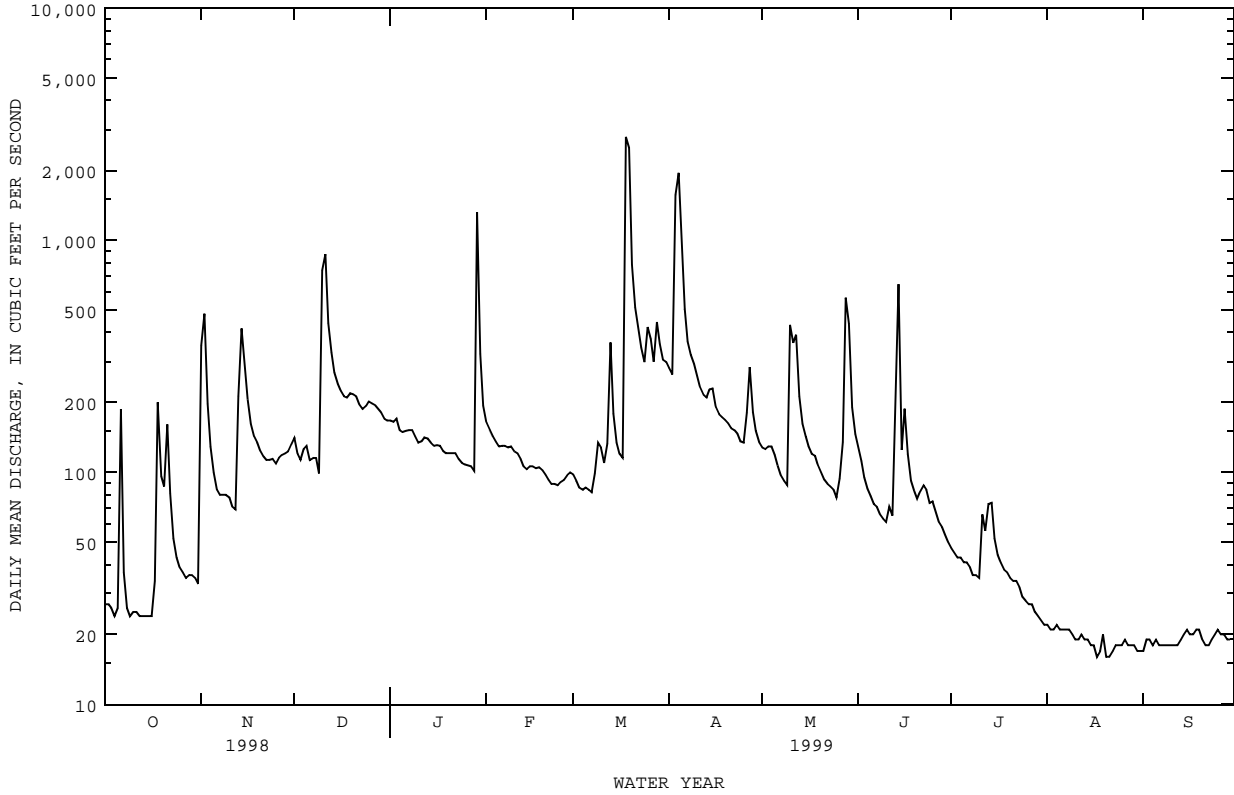
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1999z, BY WATER YEAR (WY)

	MEAN	75.9	59.1	193	113	349	288	225	247	323	66.3	41.7	41.7
MAX	453	398	3193	1107	3526	1559	1106	783	1716	365	206	171	
(WY)	1986	1987	1992	1992	1992	1997	1977	1997	1987	1976	1979	1974	
MIN	10.7	11.0	14.9	10.3	10.9	13.5	8.86	6.57	5.98	6.28	7.65	8.12	
(WY)	1996	1990	1984	1984	1984	1984	1984	1984	1984	1978	1984	1984	

08103800 LAMPASAS RIVER NEAR KEMPNER, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1974 - 1999z	
ANNUAL TOTAL	97853		55612		167	
ANNUAL MEAN	268		152		949	
HIGHEST ANNUAL MEAN					10.7	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	22300	Mar 16	2790	Mar 18	42500	Dec 21 1991
LOWEST DAILY MEAN	19	Jul 30	16	Aug 17	2.0	Jul 10 1984
ANNUAL SEVEN-DAY MINIMUM	19	Jul 29	17	Aug 16	2.9	Jul 9 1984
INSTANTANEOUS PEAK FLOW			15400	Mar 18	78000	Dec 20 1991
INSTANTANEOUS PEAK STAGE			14.57	Mar 18	35.00	Dec 20 1991
ANNUAL RUNOFF (AC-FT)	194100		110300		121200	
10 PERCENT EXCEEDS	435		295		308	
50 PERCENT EXCEEDS	105		104		32	
90 PERCENT EXCEEDS	26		19		12	

z Period of regulated streamflow.



08103900 SOUTH FORK ROCKY CREEK NEAR BRIGGS, TX

LOCATION.--Lat 30°54'41", long 98°02'12", Burnet County, Hydrologic Unit 12070203, at upstream side of bridge on Ranch Road 963, 6 mi above confluence with North Fork Rocky Creek, 7 mi west of Briggs, and 12.9 mi above mouth of Rocky Creek.

DRAINAGE AREA.--33.3 mi².

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

Water-quality records.--Chemical data: Oct 1961 to Jan 1964, Jan 1968 to Aug 1996. Biochemical data: Jan 1968 to Aug 1996. Radiochemical data: Jan 1968 to Aug 1996. Pesticide data: Jul 1971 to Jul 1982. Sediment data: May to Jun 1963.

REVISED RECORDS.--WRD TX-74-1: 1972-73(P). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder, concrete control, and crest-stage gages. Datum of gage is 955.8 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation or diversions. One observation of water temperature was made during the year.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 10	0915	1,190	5.59	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

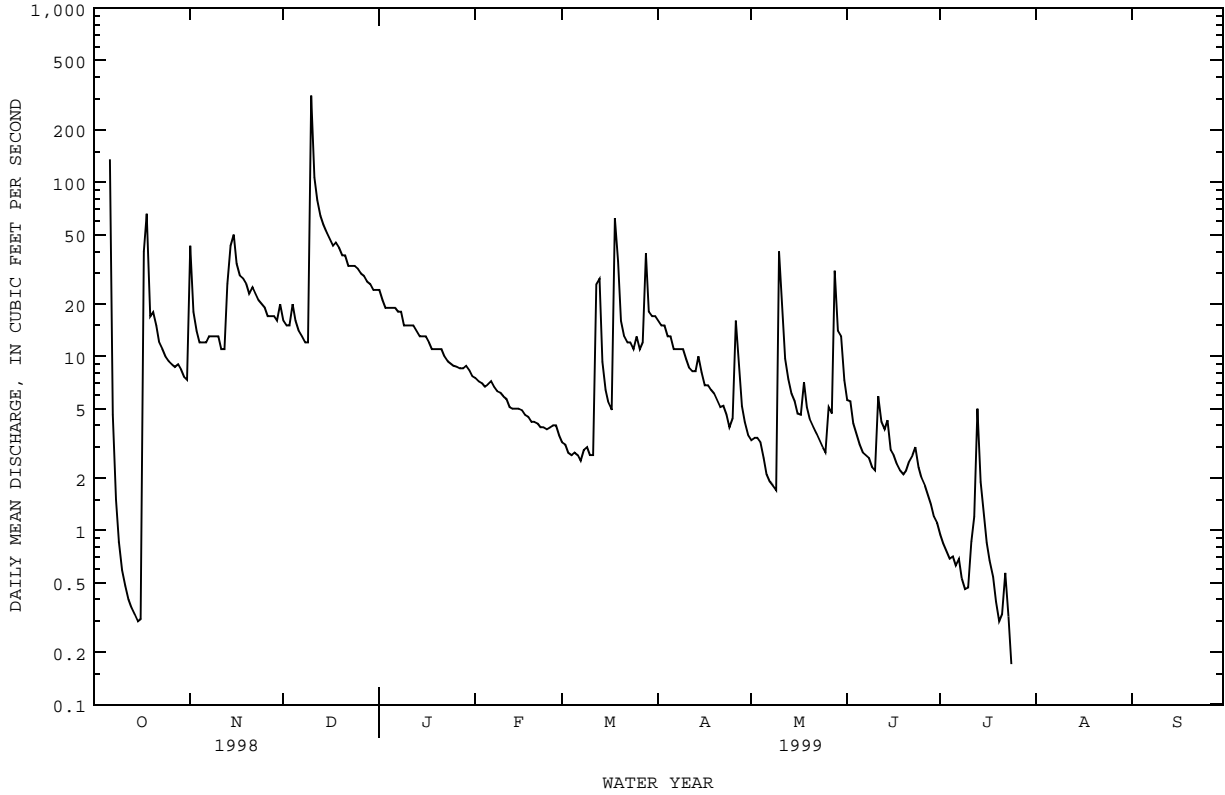
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	43	16	24	7.5	3.2	16	3.3	5.6	.94	.00	.00
2	.00	18	15	21	7.2	3.1	15	3.4	5.5	.84	.00	.00
3	.00	14	15	19	7.0	2.8	15	3.4	4.1	.76	.00	.00
4	.00	12	20	19	6.7	2.7	13	3.2	3.6	.69	.00	.00
5	.00	12	16	19	6.9	2.8	13	2.6	3.1	.71	.00	.00
6	135	12	14	19	7.2	2.7	11	2.1	2.8	.63	.00	.00
7	4.6	13	13	18	6.7	2.5	11	1.9	2.7	.69	.00	.00
8	1.5	13	12	18	6.3	2.9	11	1.8	2.6	.53	.00	.00
9	.86	13	12	15	6.2	3.0	11	1.7	2.3	.46	.00	.00
10	.59	13	315	15	5.9	2.7	9.6	40	2.2	.47	.00	.00
11	.48	11	107	15	5.7	2.7	8.6	19	5.9	.86	.00	.00
12	.40	11	79	15	5.1	26	8.2	9.7	4.2	1.2	.00	.00
13	.36	26	64	14	5.0	28	8.2	7.4	3.8	5.0	.00	.00
14	.33	43	57	13	5.0	9.3	10	6.1	4.3	1.9	.00	.00
15	.30	50	51	13	5.0	6.4	8.1	5.5	2.9	1.3	.00	.00
16	.31	34	47	13	4.9	5.4	6.8	4.7	2.7	.85	.00	.00
17	40	29	43	12	4.6	4.9	6.8	4.6	2.4	.67	.00	.00
18	66	28	45	11	4.5	62	6.4	7.1	2.2	.54	.00	.00
19	17	26	42	11	4.2	35	6.1	5.1	2.1	.39	.00	.00
20	18	23	38	11	4.2	16	5.6	4.3	2.2	.30	.00	.00
21	15	25	38	11	4.1	13	5.1	3.9	2.5	.33	.00	.00
22	12	23	33	10	3.9	12	5.2	3.6	2.7	.57	.00	.00
23	11	21	33	9.4	3.9	12	4.6	3.3	3.0	.32	.00	.00
24	9.9	20	33	9.1	3.8	11	3.9	3.0	2.3	.17	.00	.00
25	9.4	19	32	8.8	3.9	13	4.4	2.8	2.0	.00	.00	.00
26	9.0	17	30	8.7	4.0	11	16	5.1	1.8	.00	.00	.00
27	8.7	17	29	8.5	4.0	12	9.2	4.7	1.6	.00	.00	.00
28	9.0	17	27	8.5	3.5	39	5.2	31	1.4	.00	.00	.00
29	8.4	16	26	8.8	---	18	4.2	14	1.2	.00	.00	.00
30	7.6	20	24	8.3	---	17	3.5	13	1.1	.00	.00	.00
31	7.3	---	24	7.7	---	17	---	7.3	---	.00	.00	---
TOTAL	393.03	639	1350	413.8	146.9	399.1	261.7	228.6	86.8	21.12	0.00	0.00
MEAN	12.7	21.3	43.5	13.3	5.25	12.9	8.72	7.37	2.89	.68	.000	.000
MAX	135	50	315	24	7.5	62	16	40	5.9	5.0	.00	.00
MIN	.00	11	12	7.7	3.5	2.5	3.5	1.7	1.1	.00	.00	.00
AC-FT	780	1270	2680	821	291	792	519	453	172	42	.00	.00
CFSM	.38	.64	1.31	.40	.16	.39	.26	.22	.09	.02	.00	.00
IN.	.44	.71	1.51	.46	.16	.45	.29	.26	.10	.02	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1999, BY WATER YEAR (WY)

	4.07	4.21	10.3	11.0	19.3	19.4	13.7	21.9	19.5	4.58	2.03	3.29
MEAN	4.07	4.21	10.3	11.0	19.3	19.4	13.7	21.9	19.5	4.58	2.03	3.29
MAX	34.0	55.3	103	81.9	189	93.1	78.4	118	107	43.9	51.2	69.6
(WY)	1975	1975	1992	1968	1992	1992	1977	1965	1981	1976	1974	1974
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1968	1968	1971	1971	1971	1971	1971	1978	1967	1963	1963	1965

08103900 SOUTH FORK ROCKY CREEK NEAR BRIGGS, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1963 - 1999	
ANNUAL TOTAL	9052.76		3940.05		11.2	
ANNUAL MEAN	24.8		10.8		49.2	
HIGHEST ANNUAL MEAN					1992	
LOWEST ANNUAL MEAN					.036	
HIGHEST DAILY MEAN	876	Mar 16	315	Dec 10	1510	Jun 19 1976
LOWEST DAILY MEAN	.00	Jun 21	.00	Oct 1	.00	May 1 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 21	.00	Jul 25	.00	May 9 1963
INSTANTANEOUS PEAK FLOW			1190	Dec 10	31200	Jun 19 1976
INSTANTANEOUS PEAK STAGE			5.59	Dec 10	22.70	Jun 19 1976
ANNUAL RUNOFF (AC-FT)	17960		7820		8080	
ANNUAL RUNOFF (CFSM)	.74		.32		.34	
ANNUAL RUNOFF (INCHES)	10.11		4.40		4.55	
10 PERCENT EXCEEDS	57		26		26	
50 PERCENT EXCEEDS	10		5.0		.71	
90 PERCENT EXCEEDS	.00		.00		.00	



BRAZOS RIVER BASIN

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX

LOCATION.--Lat 31°01'20", long 97°31'57", Bell County, Hydrologic Unit 12070203, in intake structure at Stillhouse Hollow Dam on Lampasas River, 5 mi southwest of Belton, and 16.0 mi upstream from mouth.

DRAINAGE AREA.--1,313 mi².

PERIOD OF RECORD.--Sep 1966 to current year. Prior to Oct 1970, published as "Stillhouse Hollow Reservoir".

REVISED RECORDS.--WDR TX-76-2: Drainage area.

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

REMARKS.--The lake is formed by a rolled earthfill dam 15,624 ft long, including a 1,650-foot spillway and 5,894-foot dike. The lake was operated as a temporary detention basin from Sep 2, 1966 to Feb 19, 1968. Deliberate impoundment began Feb 19, 1968. The lake was built for flood control and water conservation. The spillway is an uncontrolled broad-crested weir 1,650 ft long located near right end of dam. The flood-control outlet consists of a 12.0-foot-diameter conduit controlled by two 5.67- by 12.0-foot slide gates at an invert elevation of 515.0 ft. There are many small diversions upstream for irrigation, municipal supply and for oil field operations. For statement regarding regulation by National Resource Conservation Service floodwater-retarding structures, see station 08103800. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	698.0
Design flood.....	693.2
Crest of spillway.....	666.0
Top of conservation pool.....	622.0
Lowest gated outlet (invert).....	515.0

COOPERATION.--Record of contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey. A new capacity table, provided by Texas Water Development Board, was put into use beginning Oct 1, 1995.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 654,000 acre-ft, Mar 4, 1992 (elevation, 667.97 ft); minimum since conservation storage was reached on Apr 12, 1969, 172,700 acre-ft, Aug 23, 1996 (elevation, 612.8 ft).

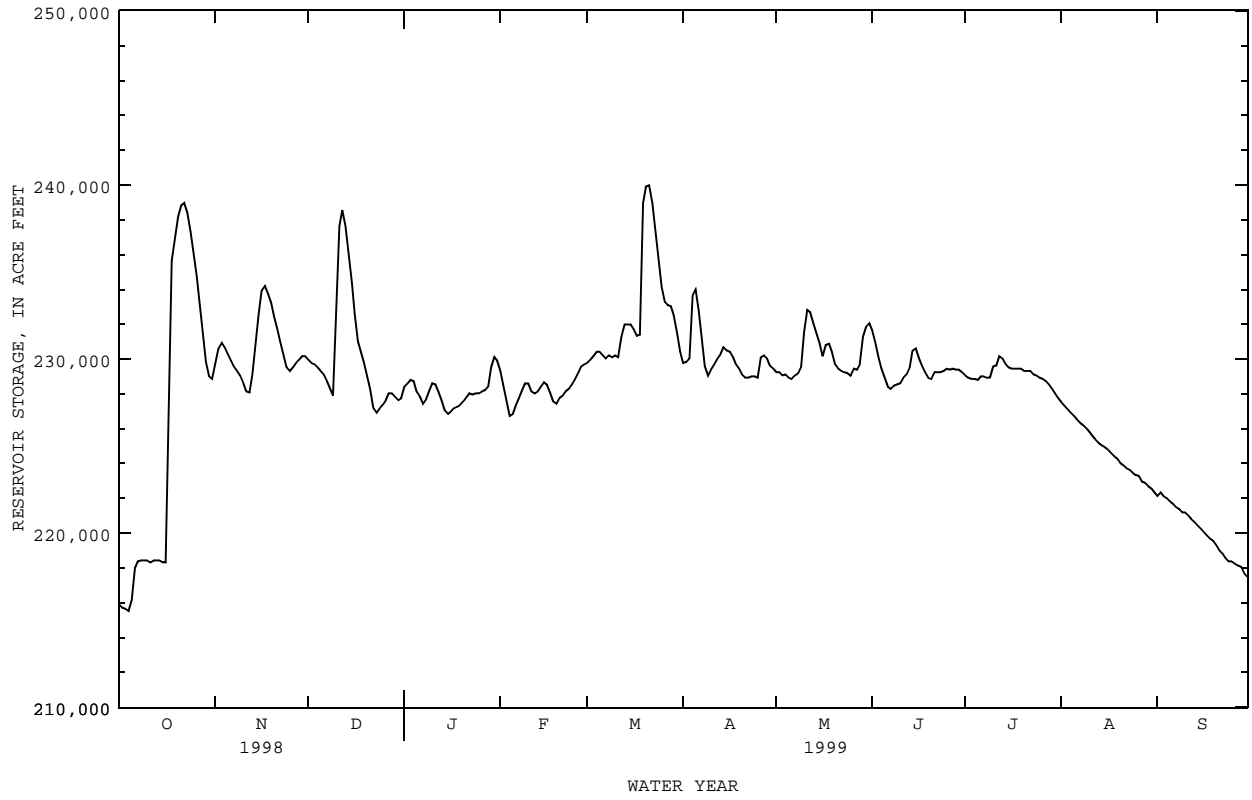
EXTREMES FOR CURRENT YEAR.--Maximum contents, 240,000 acre-ft, Mar 21 (elevation, 621.14 ft); minimum contents, 215,500 acre-ft, Oct 4 (elevation, 620.32 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	215900	229800	230000	228400	229300	229800	229800	229300	231700	229100	227500	222100
2	215700	230600	229800	228600	228400	230000	229800	229300	230900	228900	227300	222300
3	215600	230900	229700	228800	227500	230200	230000	229100	230200	228900	227100	222100
4	215500	230700	229500	228700	226700	230400	233700	229100	229500	228900	226900	222000
5	216100	230300	229300	228200	226900	230400	234000	228900	228900	228800	226700	221800
6	218000	229900	229100	227800	227400	230200	232800	228900	228400	229000	226500	221700
7	218400	229600	228700	227400	227800	230000	231200	229100	228300	229000	226400	221500
8	218400	229300	228300	227700	228200	230200	229600	229200	228500	228900	226200	221400
9	218400	229100	227900	228200	228600	230100	229100	229600	228500	228900	226000	221200
10	218400	228600	233600	228600	228600	230200	229500	231500	228600	229600	225800	221200
11	218300	228200	237600	228500	228200	230100	229700	232800	228900	229600	225600	221000
12	218400	228100	238600	228200	228000	231300	230000	232700	229100	230200	225400	220800
13	218400	229100	237600	227600	228200	232000	230300	232100	229500	230000	225200	220600
14	218400	230800	236100	227100	228400	232000	230700	231500	230500	229700	225100	220400
15	218300	232600	234400	226900	228700	232000	230500	230900	230600	229500	224900	220300
16	218300	234000	232600	227000	228500	231700	230400	230200	230100	229500	224800	220100
17	228000	234200	231000	227200	228100	231300	230100	230800	229600	229500	224600	219900
18	235700	233800	230400	227300	227600	231400	229700	230900	229300	229500	224400	219700
19	237100	233200	229800	227400	227400	239000	229500	230400	228900	229500	224300	219600
20	238200	232400	229000	227600	227800	239900	229100	229700	228900	229300	224000	219300
21	238800	231700	228300	227800	227900	240000	228900	229500	229300	229300	223900	219000
22	239000	231000	227200	228000	228200	239000	228900	229300	229300	229300	223700	218800
23	238400	230300	226900	228000	228300	237300	229000	229300	229300	229100	223700	218600
24	237300	229500	227200	228000	228500	235600	229000	229200	229300	229100	223500	218400
25	236200	229300	227400	228000	228900	234200	228900	229100	229500	228900	223300	218400
26	234800	229500	227600	228200	229200	233300	230100	229500	229400	228900	223300	218300
27	233200	229800	228000	228200	229600	233100	230200	229400	229500	228700	223000	218100
28	231500	230000	228000	228400	229700	233000	230000	229700	229400	228500	222900	218100
29	229800	230200	227800	229500	---	232500	229600	231300	229400	228300	222700	217700
30	229000	230200	227600	230100	---	231500	229500	231900	229300	228000	222600	217500
31	228900	---	227800	229900	---	230400	---	232100	---	227800	222300	---
MAX	239000	234200	238600	230100	229700	240000	234000	232800	231700	230200	227500	222300
MIN	215500	228100	226900	226900	226700	229800	228900	228900	228300	227800	222300	217500
(+)	622.44	622.64	622.27	622.60	622.57	622.67	622.54	622.94	622.50	622.27	621.41	620.64
(@)	+12900	+1300	-2400	+2100	-200	+700	-900	+2600	-2800	-1500	-5500	-4800
CAL YR 1998	MAX 284200	MIN 213200	(@) -25600									
WTR YR 1999	MAX 240000	MIN 215500	(@) +1500									

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

08104050 STILLHOUSE HOLLOW LAKE NEAR BELTON, TX--Continued



BRAZOS RIVER BASIN

08104100 LAMPASAS RIVER NEAR BELTON, TX

LOCATION.--Lat 31°00'06", long 97°29'32", Bell County, Hydrologic Unit 12070203, on left bank 22 ft upstream from upstream bridge of two bridges on Interstate Highway 35 and U.S. Highway 81, 3.5 mi downstream from Stillhouse Hollow Dam, 4.1 mi southwest of Belton, and 12.7 mi upstream from mouth.

DRAINAGE AREA.--1,321 mi².

PERIOD OF RECORD.--Feb 1963 to Sep 1989, Apr 1999 to Sep 1999.
Water-quality records.--Chemical data: Oct 1980 to Sep 1982.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 476.58 ft above sea level. (from Texas Department of Highways and Public Transportation levels, from A Santa Fe Railroad bench mark).

REMARKS.--No estimated daily discharges. Records fair. Many small diversions above station for irrigation and for municipal supply. Since Sept. 2, 1966, at least 10% of contributing drainage area has been regulated by Stillhouse Hollow Lake (station 08104050, normal storage 235,700 acre-ft). Satellite telemeter at station.

AVERAGE DISCHARGE.--3 years (water years 1964-66), 368 ft³/s (266,600 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,600 ft³/s May 17, 1965 (gage height, 43.58 ft); no flow Aug. 9, 10, 12-15, and Sept. 5, 6, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1877, 45 ft September 1921, from information by local residents. Flood of May 1957 reached a stage of 44.4 ft (discharge, 83,500 ft³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 793 ft³/s, May 13-14 (gage height, 8.40 ft); minimum discharge, 6.6 ft³/s, Sep 24 (gage height, 4.88 ft).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	---	---	---	---	---	---	---	191	402	44	54	9.5	
2	---	---	---	---	---	---	---	191	583	30	53	20	
3	---	---	---	---	---	---	---	190	582	12	54	9.6	
4	---	---	---	---	---	---	---	189	461	12	53	10	
5	---	---	---	---	---	---	---	188	371	12	53	8.9	
6	---	---	---	---	---	---	---	96	369	12	39	9.2	
7	---	---	---	---	---	---	---	14	176	12	11	9.2	
8	---	---	---	---	---	---	---	14	11	12	11	8.8	
9	---	---	---	---	---	---	---	14	9.5	12	11	8.6	
10	---	---	---	---	---	---	---	14	12	43	10	8.6	
11	---	---	---	---	---	---	---	221	13	16	10	8.6	
12	---	---	---	---	---	---	---	550	13	13	10	8.6	
13	---	---	---	---	---	---	---	788	13	113	10	8.9	
14	---	---	---	---	---	---	---	673	13	201	11	8.6	
15	---	---	---	---	---	---	---	585	225	110	10	8.3	
16	---	---	---	---	---	---	---	587	418	14	10	8.1	
17	---	---	---	---	---	---	---	482	423	13	10	8.0	
18	---	---	---	---	---	---	---	392	347	13	9.7	8.0	
19	---	---	---	---	---	---	---	505	202	13	9.7	8.3	
20	---	---	---	---	---	---	---	591	202	12	9.8	8.2	
21	---	---	---	---	---	---	---	362	369	203	12	9.6	8.2
22	---	---	---	---	---	---	---	195	188	203	12	9.4	7.7
23	---	---	---	---	---	---	---	195	187	116	12	9.6	7.6
24	---	---	---	---	---	---	---	192	184	43	12	9.6	7.4
25	---	---	---	---	---	---	---	193	185	43	12	9.5	7.7
26	---	---	---	---	---	---	---	202	187	43	12	9.8	7.5
27	---	---	---	---	---	---	---	322	181	44	12	9.7	7.5
28	---	---	---	---	---	---	---	437	182	44	30	9.9	7.5
29	---	---	---	---	---	---	---	435	176	44	54	10	7.6
30	---	---	---	---	---	---	---	299	175	44	54	9.6	7.7
31	---	---	---	---	---	---	---	177	---	54	10	---	---
TOTAL	---	---	---	---	---	---	---	8666	5672.5	995	555.9	262.4	---
MEAN	---	---	---	---	---	---	---	280	189	32.1	17.9	8.75	---
MAX	---	---	---	---	---	---	---	788	583	201	54	20	---
MIN	---	---	---	---	---	---	---	14	9.5	12	9.4	7.4	---
AC-FT	---	---	---	---	---	---	---	17190	11250	1970	1100	520	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1999hz, BY WATER YEAR (WY)

MEAN	114	120	128	276	194	229	275	427	359	293	63.7	86.1
MAX	797	756	828	1565	1258	854	1630	1672	1102	2023	268	741
(WY)	1975	1987	1975	1975	1975	1970	1970	1977	1977	1987	1984	1974
MIN	2.58	2.46	3.32	3.72	4.41	5.26	4.62	7.11	7.32	2.10	2.82	3.31
(WY)	1985	1989	1989	1989	1984	1984	1989	1981	1989	1967	1971	1988

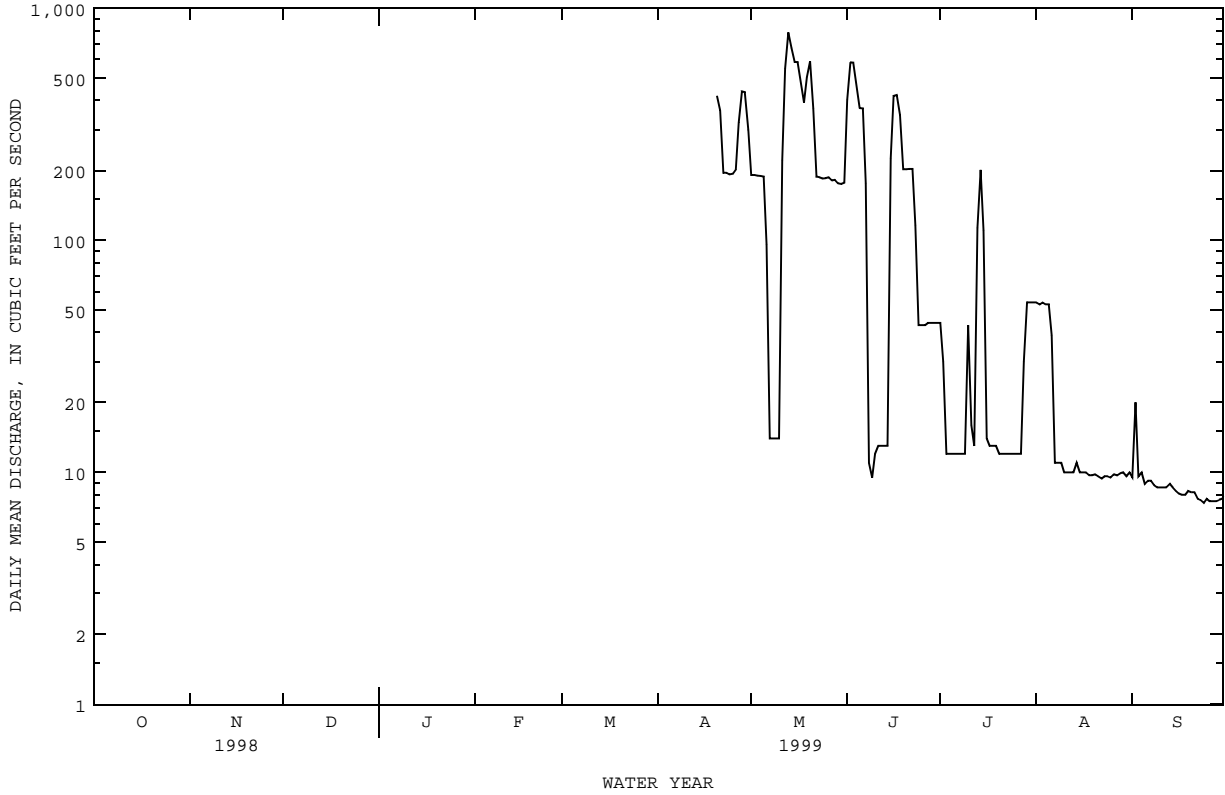
08104100 LAMPASAS RIVER NEAR BELTON, TX--Continued

SUMMARY STATISTICS

WATER YEARS 1967 - 1999hz

ANNUAL MEAN	217	
HIGHEST ANNUAL MEAN	713	1975
LOWEST ANNUAL MEAN	5.23	1989
HIGHEST DAILY MEAN	5370	Jul 1 1987
LOWEST DAILY MEAN	.00	Aug 9 1967
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 9 1967
INSTANTANEOUS PEAK FLOW	6240	Jul 1 1987
INSTANTANEOUS PEAK STAGE	19.23	Jul 1 1987
ANNUAL RUNOFF (AC-FT)	156900	
10 PERCENT EXCEEDS	780	
50 PERCENT EXCEEDS	13	
90 PERCENT EXCEEDS	4.4	

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



BRAZOS RIVER BASIN

08104500 LITTLE RIVER NEAR LITTLE RIVER, TX

LOCATION.--Lat 30°57'59", long 97°20'45", Bell County, Hydrologic Unit 12070204, on right bank 25 ft downstream from State Highway 95, 2.4 mi southeast of Little River, 5 mi downstream from confluence of Leon and Lampasas Rivers, and 95.8 mi upstream from mouth.

DRAINAGE AREA.--5,228 mi².

PERIOD OF RECORD.--Oct 1923 to May 1929, Aug 1962 to current year.
Water-quality records.--Chemical data: Oct 1964 to Sep 1982.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 400.11 ft above sea level. From Oct 5, 1923 to May 27, 1929, nonrecording gage at railroad bridge 0.5 mi upstream at same datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records fair. Many small diversions upstream for irrigation and municipal supply affect very low flows. Since Mar 1954, at least 10% of contributing drainage area has been regulated by Belton Lake (station 08102000, normal storage 457,600 acre-ft). Wastewater effluent is returned upstream of station from Fort Hood military installation and by the cities of Killeen, Nolanville, and Harker Heights. Flow is affected at times by discharge from the flood-detention pools of 13 floodwater-retarding structures with a combined detention capacity of 15,430 acre-ft. These structures control runoff from 47.4 mi². Several observations of water temperature were made during the year.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--5 years (water years 1924-28), 709 ft³/s (513,700 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1924-28).--Maximum discharge, 28,400 ft³/s Oct 2, 1927, (gage height 43.3 ft); minimum, 8.9 ft³/s Aug 12, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 46.8 ft in Sep 1921, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	927	988	1080	1320	176	1610	343	522	168	146	111
2	92	904	973	1070	2090	173	1140	345	1160	169	144	114
3	104	710	931	1060	1760	175	895	342	1110	138	138	225
4	113	836	829	1150	1370	173	877	342	836	128	140	125
5	107	792	775	1440	913	177	1180	335	511	135	141	113
6	1640	771	754	1450	294	344	2140	295	509	135	132	117
7	347	780	771	1450	262	348	2140	141	455	192	108	115
8	207	771	966	1330	256	422	2170	124	158	122	94	112
9	181	772	962	952	253	469	1920	117	156	134	89	107
10	134	784	2360	929	276	361	1030	647	144	214	89	107
11	117	760	2190	899	636	350	1010	628	218	1040	88	104
12	117	754	1760	880	660	424	874	773	231	310	90	107
13	106	1360	3490	890	491	718	593	1160	229	281	86	109
14	98	743	4390	875	464	406	633	1070	497	374	93	114
15	100	1480	4960	821	472	372	647	925	199	332	110	114
16	103	733	4910	499	458	401	597	923	552	176	114	106
17	1400	1080	4730	481	606	775	773	883	523	143	103	102
18	15000	2910	3020	461	610	791	808	1310	508	140	113	105
19	2620	2890	2980	461	568	1060	796	829	360	143	107	108
20	1340	2770	2930	466	235	942	617	931	329	135	100	108
21	1070	1660	2920	441	204	1320	602	821	328	193	103	101
22	817	1620	2920	427	205	1660	434	517	630	238	108	107
23	1050	1570	2390	583	198	2500	385	503	397	148	102	104
24	1330	1440	792	578	193	2520	386	494	220	130	109	109
25	1290	1290	761	565	189	2640	390	466	210	126	115	106
26	1360	846	757	586	184	2420	707	417	200	118	103	116
27	1770	819	747	593	177	1900	570	443	193	110	100	106
28	1760	813	775	582	180	2030	564	378	183	103	108	101
29	1750	807	920	727	---	2010	538	574	172	153	137	108
30	1550	896	943	1050	---	2160	514	370	168	142	105	113
31	632	---	1080	1030	---	1730	---	379	---	140	105	---
TOTAL	38403	35288	60674	25806	15524	31947	27540	17825	11908	6210	3420	3394
MEAN	1239	1176	1957	832	554	1031	918	575	397	200	110	113
MAX	15000	2910	4960	1450	2090	2640	2170	1310	1160	1040	146	225
MIN	92	710	747	427	177	173	385	117	144	103	86	101
AC-FT	76170	69990	120300	51190	30790	63370	54630	35360	23620	12320	6780	6730

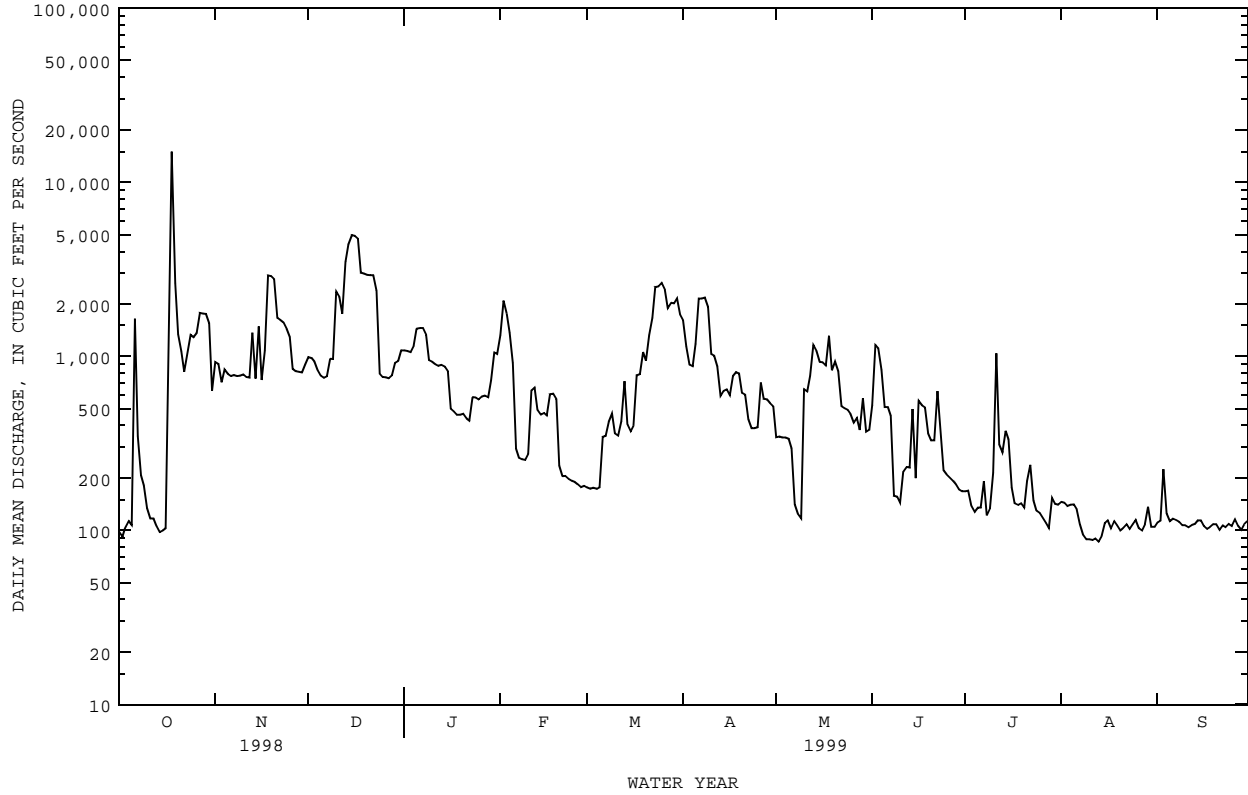
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1999z, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)
	449	2760	1975	43.0	1979	463	2136	1975	57.8	1990	609	2697	1992	47.7	1964	958	7252	1992	59.3	1971
	1035	6123	1992	60.7	1984	1437	10200	1992	63.2	1996	1585	9237	1992	59.4	1984	2036	6833	1998	150	1978
	1872	7264	1992	162	1998	1223	6205	1992	85.2	1972	509	3818	1992	12.1	1963	396	2009	1992	12.1	1972
	396	2009	1986	41.3	1972	509	3818	1992	12.1	1963	396	2009	1986	41.3	1972	509	3818	1992	12.1	1963

08104500 LITTLE RIVER NEAR LITTLE RIVER, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1962 - 1999z	
ANNUAL TOTAL	635207		277939		1047	
ANNUAL MEAN	1740		761		5054	
HIGHEST ANNUAL MEAN					179	
LOWEST ANNUAL MEAN					192	
HIGHEST DAILY MEAN	15000	Oct 18	15000	Oct 18	62000	May 17 1965
LOWEST DAILY MEAN	92	Oct 2	86	Aug 13	8.2	Aug 6 1963
ANNUAL SEVEN-DAY MINIMUM	103	Sep 29	90	Aug 8	9.5	Aug 3 1963
INSTANTANEOUS PEAK FLOW			19100	Oct 18	79600	May 17 1965
INSTANTANEOUS PEAK STAGE			38.74	Oct 18	42.85	May 17 1965
ANNUAL RUNOFF (AC-FT)	1260000		551300		758600	
10 PERCENT EXCEEDS	5370		1740		3290	
50 PERCENT EXCEEDS	807		491		272	
90 PERCENT EXCEEDS	132		107		65	

z Period of regulated streamflow.



BRAZOS RIVER BASIN

08104650 LAKE GEORGETOWN NEAR GEORGETOWN, TX

LOCATION.--Lat 30°40'03", long 97°43'38", Williamson County, Hydrologic Unit 12070205, at North San Gabriel Dam, on North Fork San Gabriel River, 2.5 mi upstream from Middle Fork San Gabriel River, 3.7 mi northwest of Georgetown, and 4.4 mi upstream from confluence with South Fork San Gabriel River.

DRAINAGE AREA.--247 mi².

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

Water-quality records.--Chemical data: Oct 1980 to Aug 1989. Biochemical data: Oct 1980 to Aug 1989.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Army Corps of Engineers). Prior to May 13, 1980, nonrecording gage at present site and datum. Satellite telemeter at station.

REMARKS.--The lake is formed by a rolled earthfill dam, 6,700 ft long, including the spillway. The lake was built for water conservation and flood control. Deliberate impoundment began on Mar 3, 1980. The spillway is an ungated broad-crested weir 1,000 ft long, located near right end of dam. The spillway for normal flood releases is a gated, 11-foot-diameter conduit, controlled by two 5- by 11 foot slide gates, located near the center of dam. The invert for the floodgate is 720.0 ft. A low-flow outlet, consisting of four 3- by 4-foot gates is located near the center of dam. The inverts of these gates are 735.0, 749.0, 763.0, and 777.0 ft. Figures given herein represent total content. Data regarding dam are given in the following table:

	Elevation (feet)
Top of dam.....	861.0
Design flood.....	856.2
Crest of spillway.....	834.0
Top of conservation pool.....	791.0
Lowest gated outlet (invert of 11-foot conduit).....	720.0

COOPERATION.--Record of contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey. A new capacity table, provided by the Texas Water Development Board, was put into use Oct 1, 1995.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 136,900 acre-ft, Mar 4, 1992 (elevation, 835.86 ft); minimum contents after initial filling, 15,300 acre-ft, Aug 23, 1996 (elevation, 769.54 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 40,590 acre-ft, Dec 12 (elevation, 793.59 ft); minimum contents, 27,520 acre-ft, Oct 16-17 (elevation, 783.01 ft).

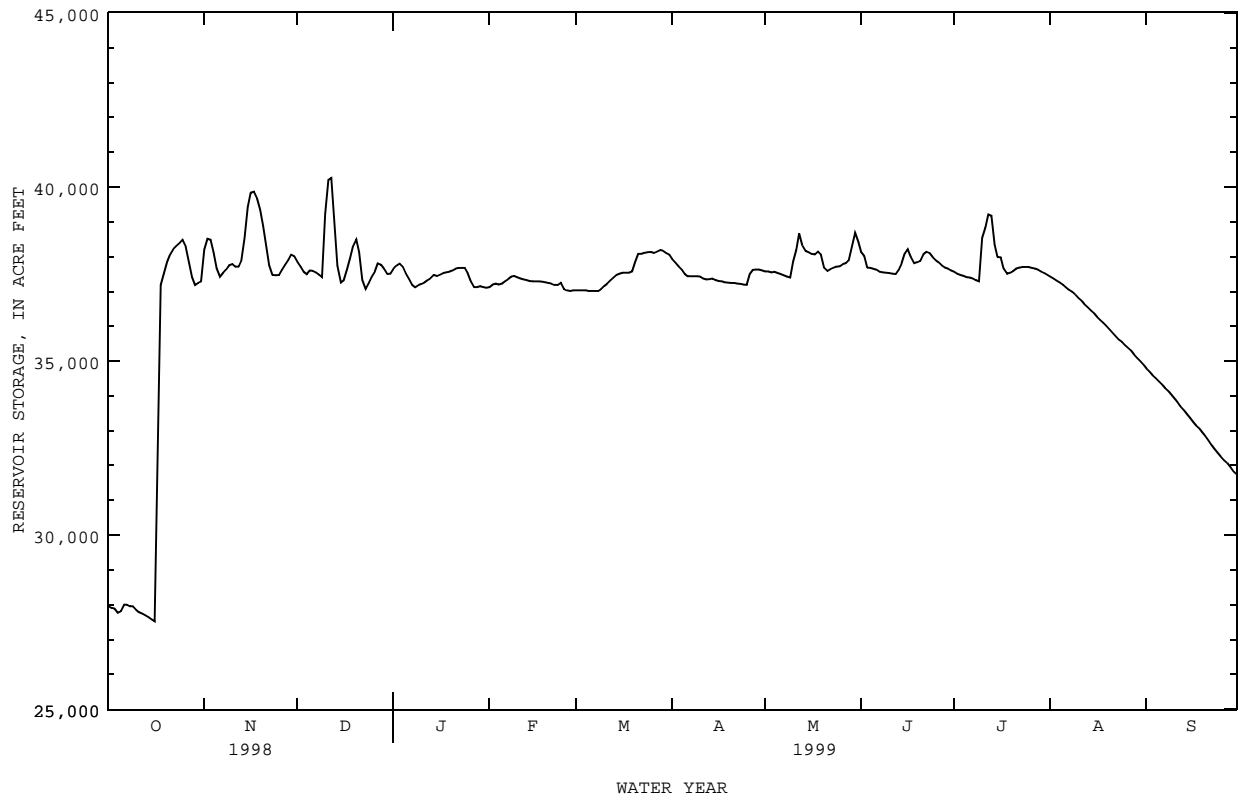
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27970	38200	37860	37660	37120	37030	37940	37580	38120	37570	37420	34790
2	27910	38510	37710	37750	37200	37030	37830	37580	38000	37510	37370	34700
3	27890	38490	37580	37800	37230	37030	37730	37550	37690	37480	37320	34600
4	27770	38140	37500	37710	37200	37030	37630	37570	37670	37450	37270	34510
5	27820	37660	37610	37530	37230	37020	37510	37530	37650	37410	37200	34430
6	28000	37420	37590	37360	37310	37020	37440	37500	37620	37400	37120	34330
7	28000	37530	37550	37200	37360	37020	37440	37460	37570	37370	37060	34230
8	27960	37630	37490	37120	37420	37020	37440	37420	37550	37330	36990	34140
9	27960	37750	37410	37170	37450	37070	37440	37400	37540	37290	36920	34030
10	27850	37790	39240	37210	37410	37150	37420	37860	37530	38540	36820	33930
11	27790	37710	40220	37270	37370	37230	37370	38190	37510	38840	36730	33820
12	27740	37710	40270	37330	37340	37320	37340	38670	37500	39210	36640	33700
13	27700	37900	39070	37380	37330	37400	37360	38320	37630	39170	36550	33590
14	27640	38540	37750	37480	37310	37480	37370	38160	37800	38350	36460	33480
15	27580	39430	37270	37450	37290	37510	37330	38120	38100	37990	36370	33370
16	27520	39840	37330	37490	37290	37540	37310	38080	38220	37980	36290	33260
17	33140	39870	37630	37530	37290	37540	37290	38060	37990	37660	36180	33150
18	37190	39680	37940	37550	37280	37540	37270	38150	37820	37510	36110	33070
19	37550	39340	38310	37570	37270	37580	37250	38060	37840	37540	36020	32960
20	37860	38890	38500	37610	37240	37830	37240	37690	37880	37590	35920	32850
21	38080	38320	38140	37660	37230	38080	37240	37590	38070	37660	35830	32720
22	38220	37750	37330	37670	37190	38080	37230	37650	38150	37690	35710	32590
23	38310	37480	37080	37670	37190	38110	37210	37690	38110	37700	35630	32480
24	38390	37460	37250	37670	37250	38120	37200	37710	37990	37700	35560	32360
25	38490	37480	37420	37530	37070	38140	37190	37730	37910	37700	35470	32260
26	38300	37620	37580	37290	37030	38110	37510	37790	37830	37670	35390	32160
27	37860	37770	37800	37120	37020	38150	37620	37820	37750	37660	35300	32070
28	37410	37910	37770	37120	37030	38190	37630	37900	37690	37630	35200	31970
29	37190	38060	37650	37150	---	38180	37630	38280	37660	37580	35100	31850
30	37250	38020	37500	37120	---	38110	37610	38690	37610	37540	35000	31750
31	37290	---	37510	37110	---	38060	---	38430	---	37490	34900	---
MAX	38490	39870	40270	37800	37450	38190	37940	38690	38220	39210	37420	34790
MIN	27520	37420	37080	37110	37020	37020	37190	37400	37500	37290	34900	31750
(+)	791.18	791.73	791.35	791.05	790.99	791.75	791.42	792.03	791.42	791.33	789.34	786.75
(@)	+9250	+730	-510	-400	-80	+1030	-450	+820	-820	-120	-2590	-3150

CAL YR 1998 MAX 45160 MIN 27520 (@) -6250
WTR YR 1999 MAX 40270 MIN 27520 (@) +3710

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

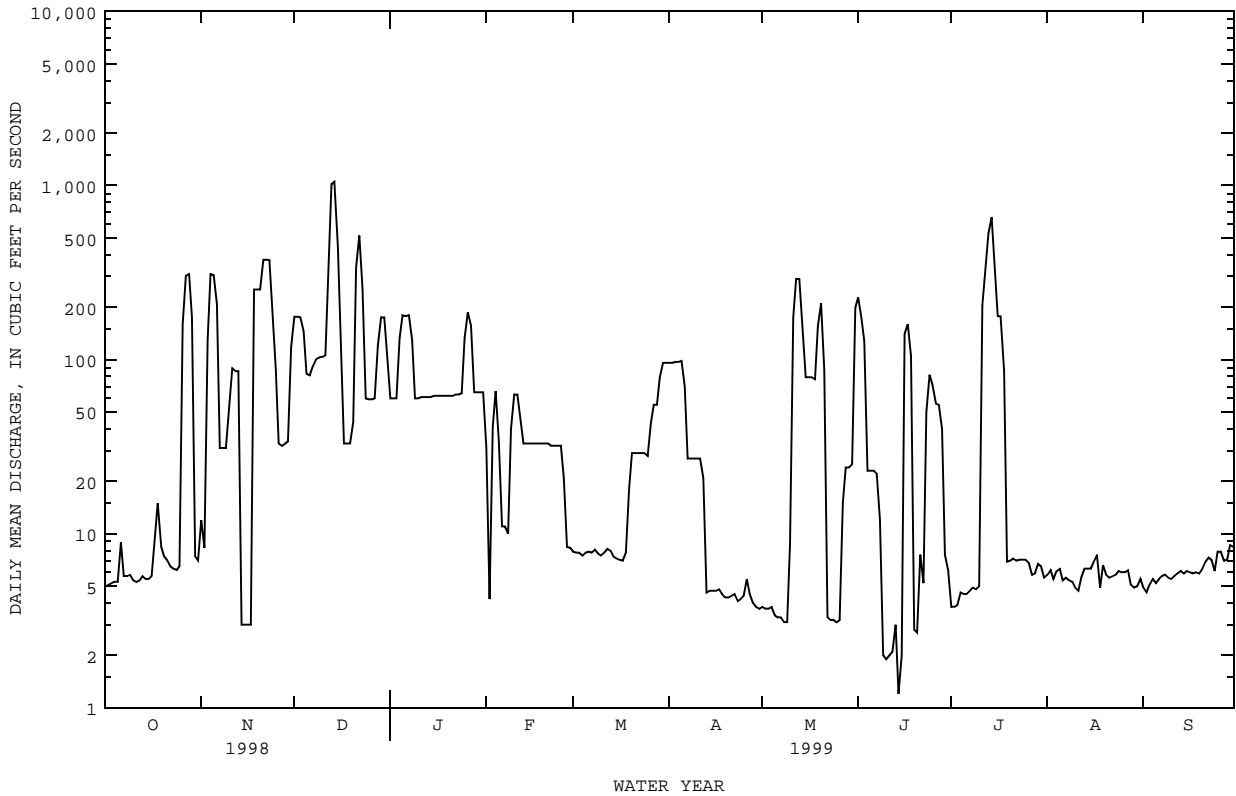
08104650 LAKE GEORGETOWN NEAR GEORGETOWN, TX--Continued



08104700 NORTH FORK SAN GABRIEL RIVER NEAR GEORGETOWN, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1980 - 1999z	
ANNUAL TOTAL	48531.4		22996.5		76.2	
ANNUAL MEAN	133		63.0		4.00	
HIGHEST ANNUAL MEAN					358	1992
LOWEST ANNUAL MEAN					4.00	1980
HIGHEST DAILY MEAN	1810	Mar 18	1050	Dec 14	4500	Jun 9 1981
LOWEST DAILY MEAN	1.9	Jul 21	1.2	Jun 14	.00	Sep 27 1981
ANNUAL SEVEN-DAY MINIMUM	2.9	Jul 10	2.0	Jun 9	.01	Oct 2 1981
INSTANTANEOUS PEAK FLOW			1370	Dec 13	6070	Mar 4 1992
INSTANTANEOUS PEAK STAGE			8.67	Dec 13	13.05	Mar 4 1992
INSTANTANEOUS LOW FLOW					.00	Sep 27 1981
ANNUAL RUNOFF (AC-FT)	96260		45610		55210	
10 PERCENT EXCEEDS	389		175		182	
50 PERCENT EXCEEDS	15		10		6.8	
90 PERCENT EXCEEDS	4.3		4.3		2.2	

e Estimated
z Period of regulated streamflow.



08104900 SOUTH FORK SAN GABRIEL RIVER AT GEORGETOWN, TX

LOCATION.--Lat 30°37'32", long 97°41'27", Williamson County, Hydrologic Unit 12070205, on right bank at downstream side of downstream bridge of two bridges on Interstate Highway 35, 1.1 mi southwest of the courthouse at Georgetown, and 2.4 mi upstream from mouth.

DRAINAGE AREA.--133 mi².

PERIOD OF RECORD.--Oct 1947 to Sep 1948 (daily mean discharge), Sep 1962 to Oct 1967 (occasional low-flow measurements), Dec 1967 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 687.72 ft above sea level. Satellite telemeter at station.

REMARKS.--Records fair. No known regulation or diversions. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1887, about 41 ft Apr 24, 1957, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 17	1645	15,200	16.64	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	397	65	55	29	18	22	9.3	61	7.6	14	.36
2	.09	166	64	54	27	17	20	10	53	6.3	11	.36
3	.10	96	63	49	26	14	21	9.7	48	5.0	7.0	.28
4	.12	83	63	47	26	16	20	8.4	45	6.5	6.9	.23
5	.16	77	60	46	25	15	19	7.9	40	8.1	6.7	.21
6	.31	73	59	48	26	17	19	5.8	39	6.8	5.7	.36
7	27	74	58	45	25	17	18	5.2	36	5.9	4.9	.45
8	4.5	76	54	46	26	21	16	4.6	33	6.0	4.3	.31
9	1.0	73	51	42	25	19	16	5.5	34	5.0	3.4	.21
10	.45	70	174	41	24	18	15	120	31	4.7	3.2	.17
11	.65	63	218	41	24	18	15	238	30	211	2.7	.17
12	.67	62	118	41	21	24	14	86	33	208	2.2	.16
13	.29	85	89	41	20	46	14	49	36	223	2.1	.15
14	.45	151	78	38	22	34	15	30	29	114	2.0	.15
15	.36	340	74	37	23	23	12	22	33	51	1.6	.15
16	.42	154	72	38	22	19	11	21	88	40	1.6	.15
17	2570	125	69	38	21	19	11	22	40	37	1.2	.14
18	1900	113	69	35	19	31	12	424	34	35	1.3	.13
19	225	106	71	34	19	37	12	93	27	34	1.3	.14
20	159	101	69	34	18	35	10	64	26	32	1.1	.13
21	123	97	68	34	19	25	10	56	35	31	.83	.13
22	99	97	64	35	17	21	10	49	56	31	.90	.13
23	84	90	62	31	17	19	10	46	33	30	.99	.12
24	72	82	62	31	19	16	9.6	43	25	26	.69	.12
25	69	81	61	31	20	17	8.2	39	23	26	.61	.11
26	64	78	61	29	19	16	44	40	20	24	.49	.11
27	61	75	61	28	20	19	66	52	17	20	.38	.10
28	59	74	59	28	19	29	24	84	15	20	.33	.10
29	58	73	55	29	---	35	13	115	12	18	.38	.13
30	53	70	53	e29	---	23	9.4	155	8.8	16	.51	.13
31	53	---	54	e29	---	21	---	72	---	13	.40	---
TOTAL	5716.35	3302	2298	1184	618	699	516.2	1986.4	1040.8	1301.9	90.71	5.59
MEAN	184	110	74.1	38.2	22.1	22.5	17.2	64.1	34.7	42.0	2.93	.19
MAX	2570	397	218	55	29	46	66	424	88	223	14	.45
MIN	.09	62	51	28	17	14	8.2	4.6	8.8	4.7	.33	.10
AC-FT	11340	6550	4560	2350	1230	1390	1020	3940	2060	2580	180	11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1999, BY WATER YEAR (WY)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
MEAN	40.0	22.9	48.3	51.4	78.2	66.6	74.0	99.8	121	25.7	13.3	22.0																					
MAX	221	124	489	441	711	367	445	329	851	85.8	131	306																					
(WY)	1974	1975	1992	1968	1992	1997	1997	1997	1981	1976	1974	1981																					
MIN	.069	.16	.22	.31	.81	1.10	.89	.24	.37	.13	.036	.022																					
(WY)	1979	1989	1989	1996	1990	1996	1996	1984	1971	1978	1980	1984																					

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

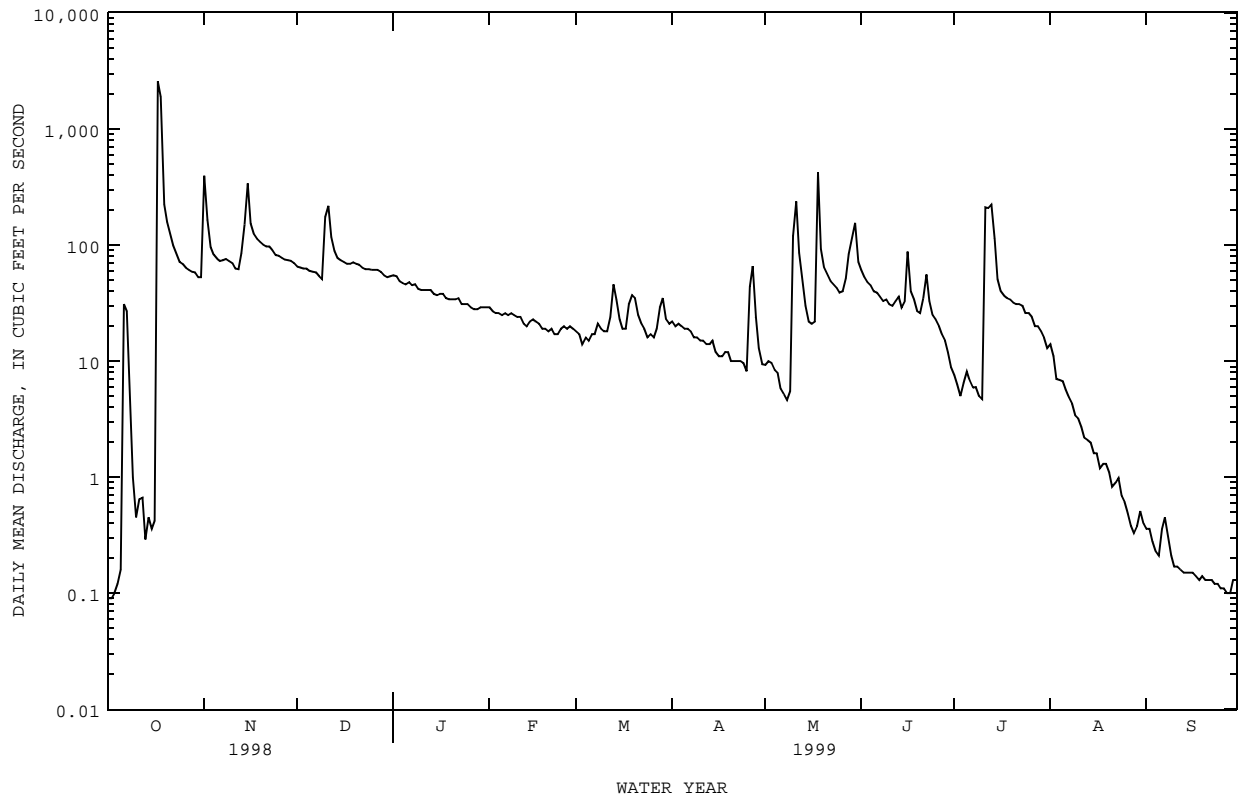
FOR 1999 WATER YEAR

WATER YEARS 1968 - 1999

ANNUAL TOTAL	26656.56		18758.95		52.8	
ANNUAL MEAN	73.0		51.4		203	
HIGHEST ANNUAL MEAN					2.15	
LOWEST ANNUAL MEAN					7830	
HIGHEST DAILY MEAN	2570	Oct 17	2570	Oct 17	7830	Sep 3 1981
LOWEST DAILY MEAN	.05	Aug 1	.09	Oct 1	.00	Jul 3 1971
ANNUAL SEVEN-DAY MINIMUM	.05	Jul 31	.11	Sep 22	.00	Jul 3 1971
INSTANTANEOUS PEAK FLOW			15200		33400	
INSTANTANEOUS PEAK STAGE			16.64		24.60	
ANNUAL RUNOFF (AC-FT)	52870		37210		38250	
10 PERCENT EXCEEDS	130		84		102	
50 PERCENT EXCEEDS	51		25		13	
90 PERCENT EXCEEDS	.11		.36		.33	

e Estimated

08104900 SOUTH FORK SAN GABRIEL RIVER AT GEORGETOWN, TX--Continued



BRAZOS RIVER BASIN

08105100 BERRY CREEK NEAR GEORGETOWN, TX

LOCATION.--Lat 30°41'28", long 97°39'21", Williamson County, Hydrologic Unit 12070205, on right bank at upstream side of upstream service road on Interstate Highway 35, 2.9 mi north of the county courthouse at Georgetown, and 3.6 mi upstream from mouth.

DRAINAGE AREA.--83.1 mi².

PERIOD OF RECORD.--Jul 1967 to current year.
Water-quality records.--Sediment data: Oct 1976 to Sep 1981.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 659.97 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good. No known regulation or diversions. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1921 occurred Sep 1921, 25.0 ft, from information by Texas Department of Transportation and local residents (discharge not determined).

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 18	1030	4,250	12.33	May 30	0315	1,960	8.25
Dec 10	1515	1,030	6.17	Jul 10	2330	2,370	9.07
May 12	0445	1,110	6.38				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	219	36	34	17	9.0	11	5.1	21	5.5	6.8	.23
2	1.6	82	36	34	16	8.1	11	4.8	16	4.9	6.2	.15
3	1.4	40	36	31	16	7.5	11	4.5	13	4.6	5.7	.07
4	1.3	31	37	30	15	7.2	10	3.8	11	4.8	5.4	.09
5	1.6	28	37	30	15	7.2	10	3.2	11	4.6	4.9	.03
6	32	27	36	30	14	6.6	9.5	2.9	10	4.3	4.7	.00
7	4.6	27	35	30	14	6.6	8.8	2.8	9.6	4.1	4.9	.00
8	3.3	29	33	30	13	6.7	7.9	2.7	9.0	4.2	4.5	.00
9	3.6	29	33	28	13	6.3	7.5	2.5	8.4	4.1	4.1	.00
10	3.9	28	272	26	13	6.4	7.1	44	7.9	121	3.9	.00
11	4.0	25	254	26	12	6.8	6.6	53	7.4	220	3.7	.00
12	4.0	23	109	27	11	7.5	6.2	285	6.6	55	3.4	.00
13	4.3	83	73	27	11	7.9	5.6	37	9.6	114	3.1	.00
14	4.3	184	61	25	11	8.0	5.6	17	6.8	40	3.0	.00
15	4.3	282	54	24	10	8.1	5.2	13	6.1	18	2.7	.00
16	4.2	92	50	24	10	8.2	4.9	11	52	16	2.4	.00
17	755	71	46	24	9.9	8.2	4.2	11	9.4	15	2.2	.00
18	2050	62	45	23	9.8	8.9	4.0	133	7.9	14	2.0	.00
19	92	56	e45	23	9.8	9.1	4.0	39	7.1	13	1.8	.00
20	77	50	e44	23	9.8	7.5	4.0	18	6.6	13	1.7	.00
21	56	44	44	23	9.4	7.9	3.9	14	33	13	1.6	.00
22	34	49	41	23	9.2	8.1	3.8	11	29	13	1.6	.00
23	23	46	37	21	9.3	8.1	3.3	11	11	12	1.5	.00
24	19	43	37	20	9.3	8.1	3.1	10	9.7	11	1.2	.00
25	17	41	38	19	9.3	7.7	3.1	9.8	9.7	10	1.1	.00
26	17	40	38	19	9.2	7.0	4.7	10	8.7	9.5	.88	.00
27	18	39	38	19	9.3	7.5	27	9.5	7.9	8.7	.80	.00
28	18	39	36	19	9.1	9.8	8.2	11	7.4	8.4	.66	.00
29	17	40	36	18	---	14	6.6	34	6.8	8.1	.53	.00
30	17	38	34	17	---	12	6.1	377	6.2	7.8	.40	.00
31	17	---	33	17	---	11	---	40	---	7.2	.29	---
TOTAL	3307.1	1887	1784	764	324.4	253.0	213.9	1230.6	365.8	788.8	87.66	0.57
MEAN	107	62.9	57.5	24.6	11.6	8.16	7.13	39.7	12.2	25.4	2.83	.019
MAX	2050	282	272	34	17	14	27	377	52	220	6.8	.23
MIN	1.3	23	33	17	9.1	6.3	3.1	2.5	6.1	4.1	.29	.00
AC-FT	6560	3740	3540	1520	643	502	424	2440	726	1560	174	1.1

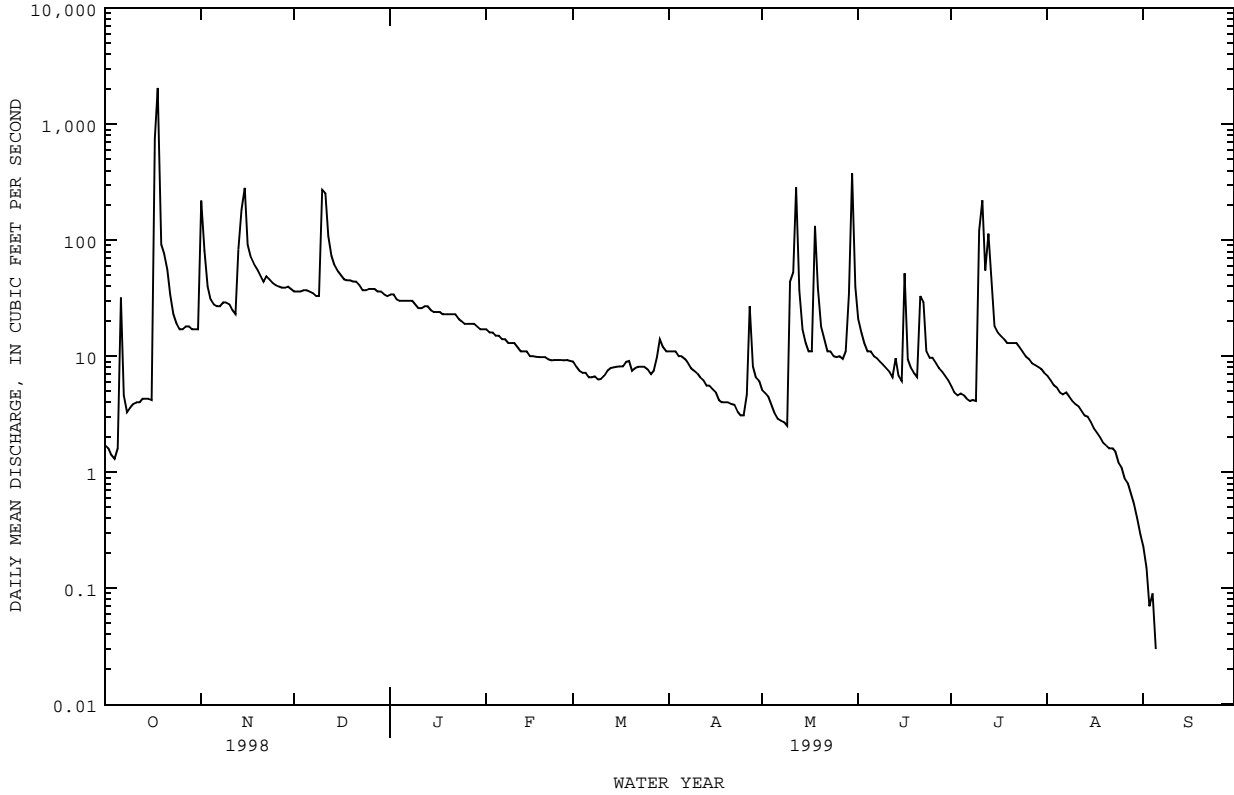
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1999, BY WATER YEAR (WY)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
MEAN	17.4	9.87	26.1	29.2	50.0	35.9	38.5	47.6	52.4	13.8	5.06	9.85
MAX	158	74.2	238	264	409	172	225	148	322	45.9	18.3	85.5
(WY)	1975	1975	1992	1968	1992	1992	1997	1979	1981	1973	1975	1996
MIN	.000	.000	.000	.000	.009	.000	.000	.000	.000	.000	.000	.000
(WY)	1979	1989	1989	1990	1996	1996	1996	1996	1996	1978	1978	1978

08105100 BERRY CREEK NEAR GEORGETOWN, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1968 - 1999	
ANNUAL TOTAL	19337.24		11006.83		27.8	
ANNUAL MEAN	53.0		30.2		106	
HIGHEST ANNUAL MEAN					.047	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	2050	Oct 18	2050	Oct 18	4670	Oct 31 1974
LOWEST DAILY MEAN	.00	Sep 5	.00	Sep 6	.00	May 4 1971
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 5	.00	Sep 6	.00	May 4 1971
INSTANTANEOUS PEAK FLOW			4250	Oct 18	15500	Oct 31 1974
INSTANTANEOUS PEAK STAGE			12.33	Oct 18	19.33	Oct 31 1974
ANNUAL RUNOFF (AC-FT)	38360		21830		20150	
10 PERCENT EXCEEDS	92		44		51	
50 PERCENT EXCEEDS	31		9.8		4.8	
90 PERCENT EXCEEDS	1.2		1.0		.00	

e Estimated



BRAZOS RIVER BASIN

08105600 GRANGER LAKE NEAR GRANGER, TX

LOCATION.--30°41'34", long 97°19'34", Williamson County, Hydrologic Unit 12070205, at Granger Dam on San Gabriel River, 1.5 mi south of Friendship, 2.2 mi upstream from Willis Creek, 7.1 mi east of Granger, and at mile 31.9.

DRAINAGE AREA.--730 mi².

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

Water-quality records.--Chemical data: Oct 1980 to Aug 1989. Biochemical data: Oct 1980 to Aug 1989.

GAGE--Water-stage recorder. Datum of gage is sea level (levels by U.S. Army Corps of Engineers). Prior to Mar 27, 1980, nonrecording gage at present site and datum. Satellite telemeter at station.

REMARKS.--The lake is formed by a rolled earthfill dam, 16,320 ft long, including the spillway. The lake was built for water conservation and flood control. Deliberate impoundment began on Jan 21, 1980. The spillway is an ungated 950-foot long ogee weir, located near right end of dam. The spillway for normal flood releases is a gated 18-foot-diameter conduit, controlled by two 8- by 18-foot slide gates, located near the center of dam. The invert for the floodgate is 457.0 ft. A low-flow outlet consists of three 3- by 4-foot gated openings, with invert elevations of 486.0, 494.0, and 502.0 ft. Figures given herein represent total contents. Data regarding dam are given in the following table:

	Elevation (feet)
Top of dam.....	555.0
Designed flood.....	550.3
Crest of spillway.....	528.0
Top of conservation pool.....	504.0
Lowest gated outlet (invert of 18-foot conduit).....	457.0

COOPERATION.--Record of contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey. A new capacity table, provided by the Texas Water Development Board, was put into use beginning Oct 1, 1995.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 268,200 acre-ft, Mar 5, 1992 (elevation, 530.11 ft); minimum contents after initial filling, 45,120 acre-ft, Oct 6, 1985 (elevation, 501.50 ft).

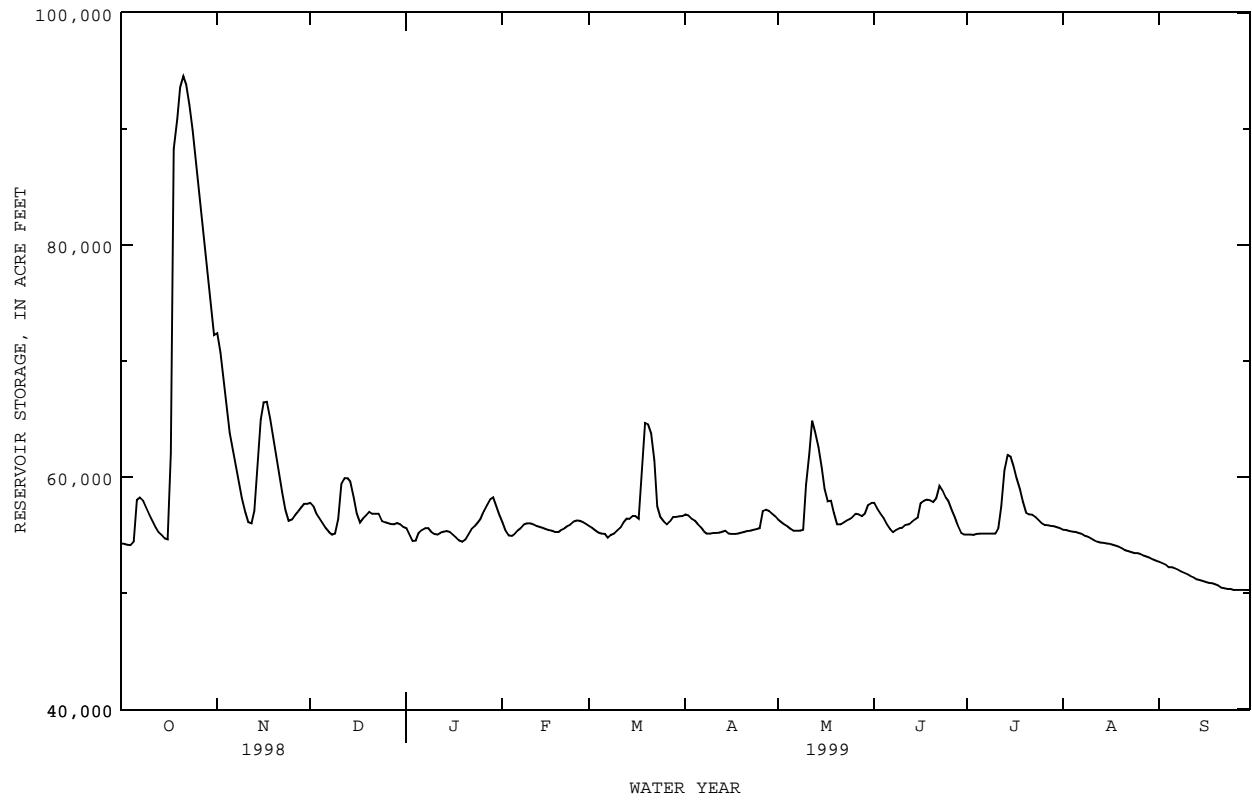
EXTREMES FOR CURRENT YEAR.--Maximum contents, 94,560 acre-ft, Oct 21 (elevation, 511.74 ft); minimum contents, 50,280 acre-ft, Sep 25-30 (elevation, 502.85 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54290	72440	57790	55600	56150	55810	56790	56360	57790	55060	55470	52710
2	54250	70780	57480	55020	55390	55640	56700	56150	57260	55060	55430	52590
3	54170	68240	56830	54490	54980	55430	56440	55930	56870	55020	55350	52470
4	54130	66100	56400	54530	54940	55230	56270	55770	56490	55100	55310	52240
5	54450	63820	56020	55190	55140	55140	55980	55560	55980	55140	55270	52240
6	58060	62430	55600	55470	55430	55100	55680	55390	55560	55140	55190	52160
7	58240	61120	55270	55600	55640	54780	55350	55390	55270	55140	55100	52040
8	57970	59600	55060	55600	55930	55020	55140	55390	55470	55140	54940	51890
9	57390	58190	55140	55310	56020	55140	55140	55470	55600	55140	54860	51770
10	56790	56960	56400	55100	56020	55390	55190	59370	55640	55140	54740	51660
11	56230	56150	59460	55060	55930	55640	55190	61960	55890	55640	54570	51500
12	55680	56020	59920	55230	55810	56100	55230	64880	55930	57480	54450	51390
13	55270	57130	59920	55310	55720	56440	55310	63820	56150	60610	54370	51200
14	55020	60610	59600	55350	55640	56400	55390	62580	56360	61920	54330	51120
15	54740	64970	58190	55270	55520	56660	55140	60840	56530	61770	54290	51040
16	54650	66440	56870	55060	55430	56660	55100	59000	57790	60890	54250	50970
17	62060	66490	56100	54820	55390	56440	55100	57920	57970	59920	54170	50890
18	88280	65120	56440	54570	55270	60700	55140	57970	58060	58910	54090	50850
19	90840	63380	56700	54450	55270	64680	55230	56920	58010	57880	54010	50780
20	93570	61820	57000	54650	55470	64590	55270	55930	57880	56920	53850	50660
21	94560	60240	56830	55100	55600	63770	55350	55930	58190	56790	53690	50470
22	93820	58690	56830	55520	55810	61450	55390	56100	59230	56740	53610	50430
23	92110	57180	56830	55770	55930	57480	55470	56270	58870	56570	53530	50360
24	89950	56230	56230	56100	56190	56530	55520	56400	58240	56320	53460	50360
25	87630	56360	56150	56440	56270	56190	55600	56570	57920	56060	53460	50280
26	84880	56700	56060	57090	56230	55930	57090	56830	57130	55890	53380	50280
27	82350	57050	55980	57610	56150	56190	57220	56790	56530	55850	53220	50280
28	79980	57390	55930	58100	55980	56570	57090	56660	55770	55810	53140	50280
29	77720	57700	56060	58280	---	56570	56870	56870	55230	55770	53020	50280
30	75080	57700	55930	57480	---	56610	56610	57610	55060	55680	52900	50280
31	72280	---	55720	56790	---	56660	---	57790	---	55600	52790	---
MAX	94560	72440	59920	58280	56270	64680	57220	64880	59230	61920	55470	52710
MIN	54130	56020	55060	54450	54940	54780	55100	55390	55060	55020	52790	50280
(+)	507.74	504.64	504.18	504.43	504.24	504.40	504.39	504.66	504.02	504.15	503.48	502.85
(@)	+17950	-14580	-1980	+1070	-810	+680	-50	+1180	-2730	+540	-2810	-2510
CAL YR 1998	MAX 94560	MIN 50090	(@) -11420									
WTR YR 1999	MAX 94560	MIN 50280	(@) -4050									

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

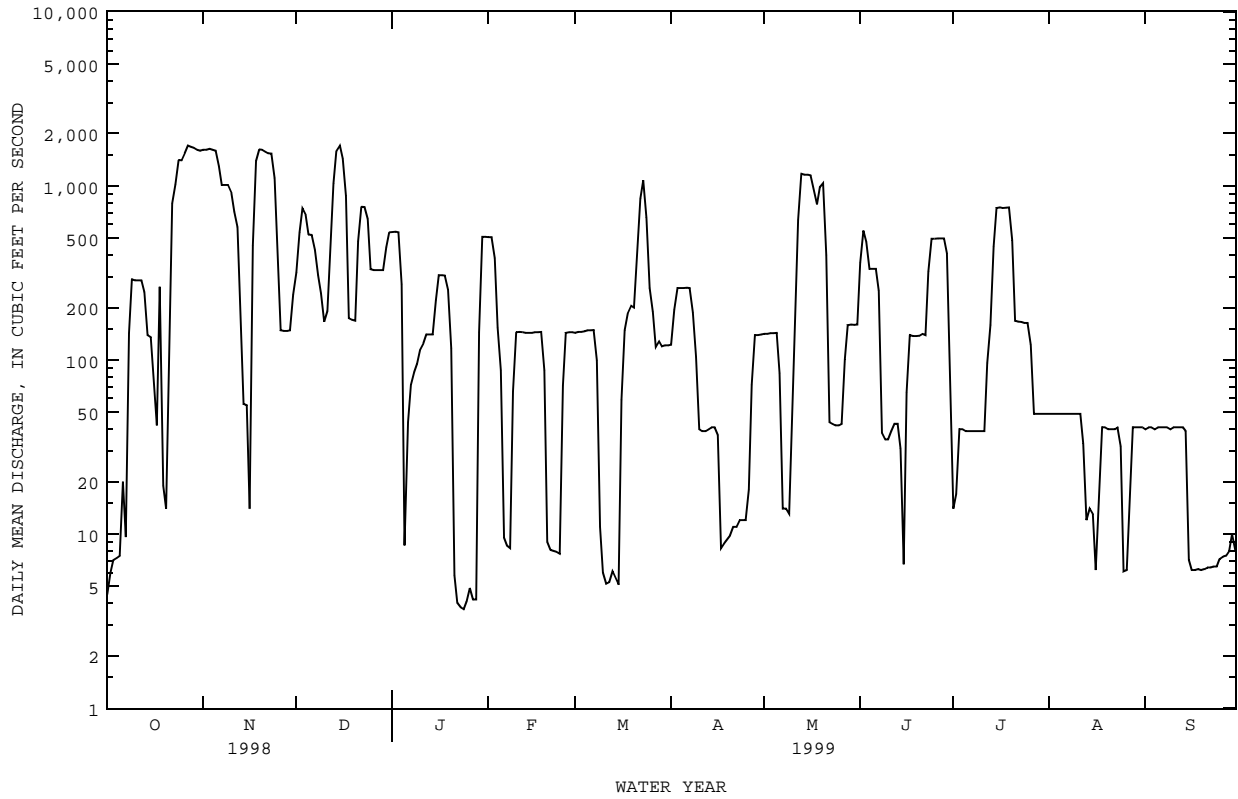
08105600 GRANGER LAKE NEAR GRANGER, TX--Continued



08105700 SAN GABRIEL RIVER AT LANEPORT, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1980 - 1999z	
ANNUAL TOTAL	160576.7		106273.4		265	
ANNUAL MEAN	440		291		1015	
HIGHEST ANNUAL MEAN					21.4 1992	
LOWEST ANNUAL MEAN					1980	
HIGHEST DAILY MEAN	2180	Jan 12	1710	Dec 15	6870	Mar 5 1992
LOWEST DAILY MEAN	4.5	Oct 1	3.7	Jan 24	.00	Aug 21 1984
ANNUAL SEVEN-DAY MINIMUM	5.7	Jun 26	4.1	Jan 22	.00	Aug 21 1984
INSTANTANEOUS PEAK FLOW			1820	Nov 1	7540	Mar 5 1992
INSTANTANEOUS PEAK STAGE			11.21	Nov 1	21.86	Mar 5 1992
ANNUAL RUNOFF (AC-FT)	318500		210800		191700	
10 PERCENT EXCEEDS	1450		967		890	
50 PERCENT EXCEEDS	166		139		36	
90 PERCENT EXCEEDS	7.6		7.6		3.7	

e Estimated
z Period of regulated streamflow.



BRAZOS RIVER BASIN

08106350 LITTLE RIVER NEAR ROCKDALE, TX

LOCATION.--Lat 30°45'38", long 97°00'49", Milam County, Hydrologic Unit 12070204, on right bank downstream from Alcoa pumping station, 200 ft downstream from mouth of San Gabriel River, and 6.8 mi north of Rockdale.

DRAINAGE AREA.--6,959 mi².

PERIOD OF RECORD.--Feb 1981 to current year (daily mean discharges less than 1,000 ft³/s).

GAGE.--Water-stage recorder. Datum of gage is 299.12 ft above sea level. Satellite telemeter at station.

REMARKS.--Records fair. Since installation of gage in 1981, at least 10% of contributing drainage area has been regulated by Belton Lake (station 08102000), Stillhouse Hollow Lake (station 08104050), and Granger Lake (station 08105600), combined normal storage 758,800 acre-ft. There are numerous diversions for irrigation and municipal supply above station. Flow in the San Gabriel may be affected at times by discharge from the flood-detention pools of 46 flood water-retarding structures with a combined detention capacity of 46,140 acre-ft. These structures control runoff from 144 mi², in the Brushy Creek drainage basin. The Aluminum Company of America diverts water from Little River to their plant reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 38.34 ft Dec 21, 1991 (maximum discharge not determined); minimum daily discharge 13.0 ft³/s May 9, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,780 ft³/s, Nov 12, 25, Dec 21, Jan 2, Feb 2, Mar 28-31, Apr 7, May 15, 19-20 (gage height, 11.00 ft); minimum discharge, 86 ft³/s, Sep 23 (gage height, 4.17 ft).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	143	---	---	---	---	471	---	791	796	307	202	120	
2	142	---	---	---	---	464	---	622	---	219	200	125	
3	137	---	---	---	---	449	---	612	---	217	206	126	
4	136	---	---	---	---	441	---	597	---	220	197	196	
5	141	---	---	---	---	442	---	591	---	196	198	149	
6	---	---	---	---	---	437	---	570	941	211	205	130	
7	---	---	---	---	605	547	---	438	905	225	190	124	
8	---	---	---	---	487	620	---	288	667	251	182	126	
9	760	---	---	---	450	599	---	225	340	240	154	116	
10	625	---	---	---	536	650	---	493	263	204	147	116	
11	538	---	---	---	579	528	---	---	274	298	139	117	
12	501	---	---	---	888	505	---	---	298	---	137	113	
13	473	---	---	---	945	676	---	---	423	628	123	117	
14	360	---	---	---	819	---	775	---	747	984	104	118	
15	296	---	---	---	769	688	752	---	906	---	103	116	
16	293	---	---	---	766	555	749	---	383	---	111	105	
17	---	---	---	---	758	619	713	---	710	---	117	95	
18	---	---	---	---	860	---	823	---	807	984	113	91	
19	---	---	---	---	883	---	862	---	745	---	125	92	
20	---	---	---	882	750	---	848	---	590	968	129	92	
21	---	---	---	765	433	---	691	---	531	429	122	98	
22	---	---	---	691	342	---	656	---	559	400	120	93	
23	---	---	---	651	332	---	561	778	---	648	127	89	
24	---	---	---	784	324	---	509	700	---	436	135	93	
25	---	---	---	790	314	---	498	645	900	373	151	96	
26	---	---	---	774	429	---	585	623	808	346	143	96	
27	---	---	---	782	482	---	---	601	830	253	118	98	
28	---	---	---	791	473	---	---	767	787	205	103	100	
29	---	---	---	803	---	---	---	930	790	765	193	103	
30	---	---	---	---	---	---	---	834	---	502	213	139	94
31	---	---	---	---	---	---	---	904	---	226	134	---	
TOTAL	---	---	---	---	---	---	---	---	---	---	4493	3344	
MEAN	---	---	---	---	---	---	---	---	---	---	145	111	
MAX	---	---	---	---	---	---	---	---	---	---	206	196	
MIN	---	---	---	---	---	---	---	---	---	---	103	89	
AC-FT	---	---	---	---	---	---	---	---	---	---	8910	6630	

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08106500 LITTLE RIVER AT CAMERON, TX

LOCATION (REVISED).--Lat 30°50'06", long 96°56'47", Milam County, Hydrologic Unit 12070204, on right bank at bridge on U.S. Highway 77, 2,020 ft downstream from old McCowan bridge, 0.7 mi upstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 2 mi southeast of Cameron, and 33.2 mi upstream from mouth.

DRAINAGE AREA.--7,065 mi².

PERIOD OF RECORD.--Nov 1916 to current year.

Water-quality records.--Chemical data: Jan 1968 to Aug 1997. Biochemical data: Jan 1968 to Aug 1997. Sediment data: Feb 1978 to July 1993.

REVISED RECORDS.--WSP 718: 1918-20, 1922. WSP 1512: 1918-20(M), 1921, 1922(M), 1924(M), 1926, 1929-30, 1934, 1935(M), 1936, 1940(M), 1941, 1944-45(M). WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 281.89 ft above sea level (levels by U.S. Army Corps of Engineers). Nov 2, 1916 to Sep 30, 1922, nonrecording gage at site 2.2 mi upstream at different datum. Oct 1, 1922, to Apr 8, 1926, nonrecording gage at McCowan bridge 1,990 ft upstream at same datum. Apr 9, 1926 to Oct 9, 1933, non-recording gage at same location but at 1.58 ft lower datum. Oct 10, 1933 to Aug 13, 1992, recording gage at site 2,020 ft upstream at same datum. Aug 14 to Oct 21, 1992, non-recording gage at site. Satellite telemeter at station.

REMARKS.--Records fair. Many small diversions for irrigation and municipal supply affect low flows. Since Mar 1954, at least 10% of the drainage area has been regulated by Belton Lake (station 08102000, normal storage 457,600 acre-ft). The Aluminum Co. of America diverts water 10.9 mi upstream from the gage for use at their Rockdale plant. The city of Cameron diverts water for municipal use 2.1 mi upstream from gage. Wastewater effluent is returned to the river upstream from gage. Flow is slightly affected at times by discharge from the flood-detention pools of 65 floodwater-retarding structures with a combined detention capacity of 68,500 acre-ft. These structures control runoff from 209 mi² in the Nolan, Donahoe, and Brushy Creeks drainage basins.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--36 years (water years 1918-53), prior to regulation by Belton Lake, 1,807 ft³/s (1,309,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1918-53).--Maximum discharge since 1852, 647,000 ft³/s Sep 10, 1921 (gage height, 53.2 ft, present datum, from floodmark), from rating curve extended above 110,000 ft³/s on basis of slope-area measurement of 647,000 ft³/s.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1852 reached about the same stage as that of Sep 10, 1921. Flood in Dec 1913, reached a stage of 49.0 ft. Stages based on information furnished by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	3780	1450	e1580	1640	432	2020	805	802	407	190	129
2	109	7140	1560	e1550	1820	425	1890	674	974	280	190	128
3	118	4820	1890	e1500	2680	414	1610	632	1510	236	210	132
4	116	3180	1950	e1540	2240	406	1390	620	1420	227	201	171
5	124	2930	1740	e1500	1620	403	1340	607	1200	199	190	162
6	1330	2800	1620	1560	1260	399	1470	587	917	213	208	139
7	4940	2220	1560	1800	675	464	2450	492	851	236	184	130
8	1850	2070	1370	1890	485	574	2510	345	720	250	191	132
9	839	2070	1390	1810	420	555	2360	236	401	275	162	131
10	707	2060	1600	1440	468	640	2070	341	277	215	155	131
11	561	1820	5980	1370	535	502	1240	4120	281	218	148	138
12	561	1800	8450	1210	784	472	1130	5680	301	988	147	132
13	527	6070	4620	1160	901	515	1070	3130	498	702	141	124
14	433	6020	5930	1150	820	1160	841	2580	727	939	116	134
15	283	14400	7120	1130	736	705	794	2280	939	1190	111	128
16	262	10300	7580	1220	724	537	790	2000	447	1160	110	120
17	1430	3070	7190	1050	725	544	779	1930	677	1110	123	110
18	21300	3110	6270	975	772	899	837	1930	813	1020	123	104
19	37800	5640	4070	958	826	5710	878	2510	748	1040	124	101
20	20400	5710	3820	861	758	6180	871	2170	649	1020	123	99
21	7580	5560	3760	748	481	2060	759	1820	550	616	e110	103
22	5130	4340	4230	665	348	2130	694	1180	543	475	e90	101
23	3450	3970	4250	617	319	2980	646	787	1020	709	e92	87
24	3590	3770	3670	712	314	3800	586	724	1140	592	143	90
25	3790	2740	1790	738	326	3190	575	664	911	515	169	100
26	3610	1960	1470	731	378	3140	729	638	797	436	163	105
27	3800	1450	1430	728	453	2810	1150	585	801	274	151	107
28	4160	1340	1390	738	438	2330	1310	753	779	201	126	113
29	4070	1310	1380	753	---	2660	988	703	764	182	131	107
30	3950	1300	1360	1090	---	2410	871	2670	624	184	138	106
31	3670	---	e1620	1630	---	2480	---	1010	---	217	146	---
TOTAL	140589	118750	103510	36404	23946	51926	36648	45203	23081	16326	4606	3594
MEAN	4535	3958	3339	1174	855	1675	1222	1458	769	527	149	120
MAX	37800	14400	8450	1890	2680	6180	2510	5680	1510	1190	210	171
MIN	99	1300	1360	617	314	399	575	236	277	182	90	87
AC-FT	278900	235500	205300	72210	47500	103000	72690	89660	45780	32380	9140	7130

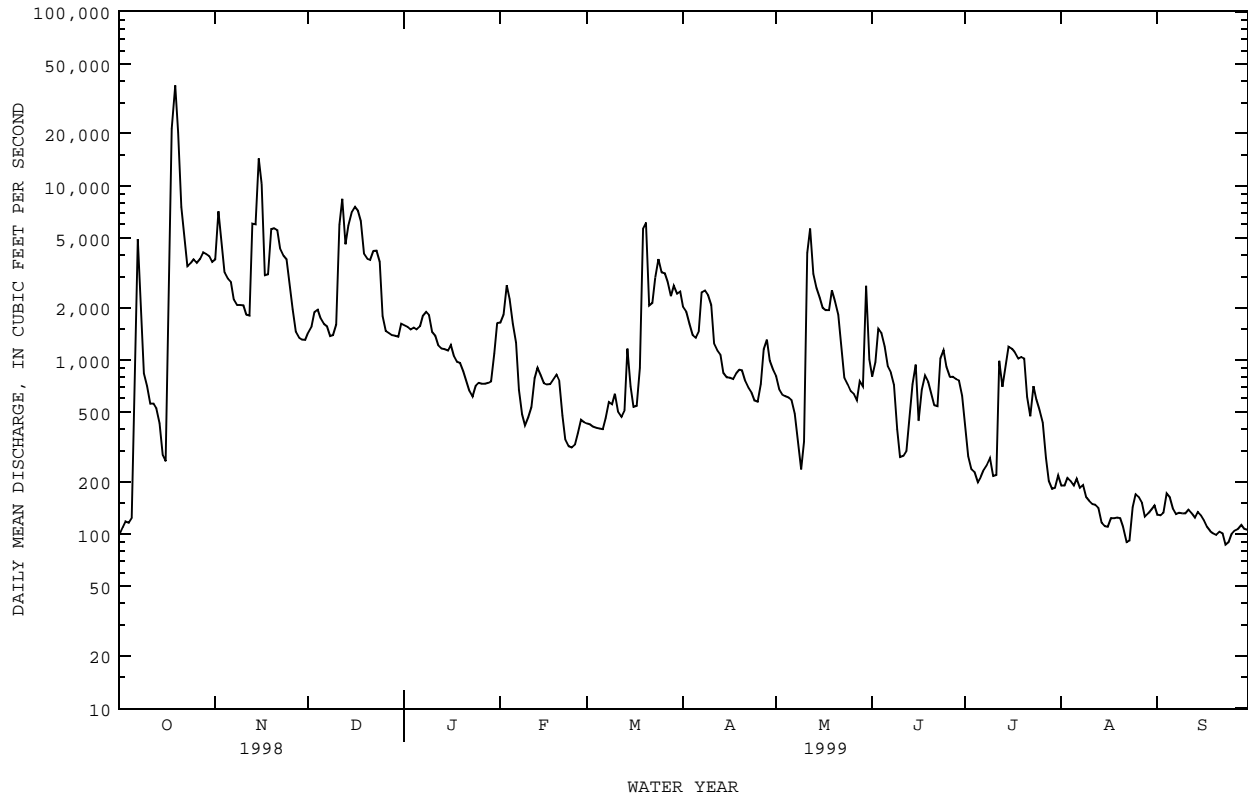
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1999z, BY WATER YEAR (WY)

MEAN	1290	1025	1387	1689	2072	2137	2372	3251	2715	1657	617	594
MAX	10140	5063	8579	9662	13030	14420	10750	12970	11330	9426	5106	3141
(WY)	1960	1975	1992	1992	1992	1997	1997	1965	1957	1992	1992	1974
MIN	17.2	18.4	23.0	34.5	50.3	22.8	16.5	132	15.1	1.58	6.24	4.40
(WY)	1955	1956	1955	1956	1957	1956	1956	1984	1954	1956	1954	1956

08106500 LITTLE RIVER AT CAMERON, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1954 - 1999z	
ANNUAL TOTAL	1091402		604583		1732	
ANNUAL MEAN	2990		1656		7759	
HIGHEST ANNUAL MEAN					174	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	37800	Oct 19	37800	Oct 19	84200	May 18 1965
LOWEST DAILY MEAN	99	Oct 1	87	Sep 23	.00	Jul 12 1956
ANNUAL SEVEN-DAY MINIMUM	123	Sep 29	97	Sep 19	.00	Jul 12 1956
INSTANTANEOUS PEAK FLOW			47000		116000	Apr 5 1957
INSTANTANEOUS PEAK STAGE			35.48		39.56	Apr 5 1957
ANNUAL RUNOFF (AC-FT)	2165000		1199000		1255000	
10 PERCENT EXCEEDS	7160		3810		5030	
50 PERCENT EXCEEDS	1670		801		498	
90 PERCENT EXCEEDS	179		131		68	

e Estimated
z Period of regulated streamflow.



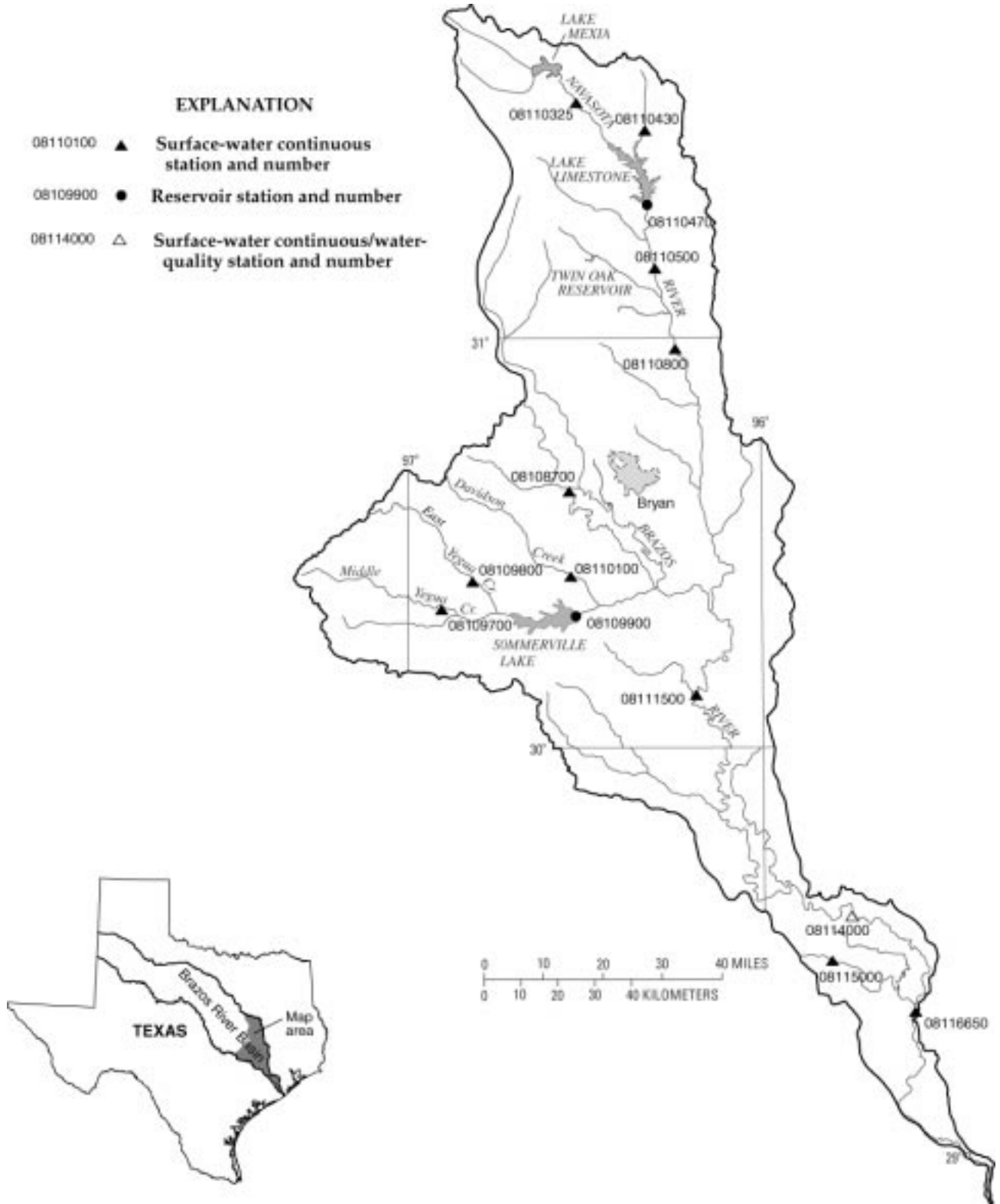


Figure 9.--Map showing location of gaging stations in the fourth section of the Brazos River Basin

08108700	Brazos River at State Highway 21 near Bryan, TX	396
08109700	Middle Yegua River near Dime Box, TX	398
08109800	East Yegua Creek near Dime Box, TX	400
08109900	Somerville Lake near Somerville, TX	402
08110100	Davidson Creek near Lyons, TX	404
08110325	Navasota River above Groesbeck, TX	406
08110430	Big Creek near Freestone, TX	408
08110470	Lake Limestone near Marque, TX	410
08110500	Navasota River near Easterly, TX	412
08110800	Navasota River at OSR near Bryan, TX	414
08111500	Brazos River near Hempstead, TX	416
08114000	Brazos River at Richmond, TX	418
08115000	Big Creek near Needville, TX	422
08116650	Brazos River near Rosharon, TX	424

08108700 BRAZOS RIVER AT STATE HIGHWAY 21 NR BRYAN, TX

LOCATION.--Lat 30°37'36", long 96°32'38", Brazos-Burleson County line, Hydrologic Unit 12070101, on right bank, 8 ft downstream from bridge on State Highway 21, 2.1 mi upstream from Little Brazos River, 10.5 mi west of Bryan.

DRAINAGE AREA.--39,049 mi², approximately, of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--Jul 1993 to current year.

GAGE.--Water-stage recorder. Datum of gage is 188.65 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good. Since installation of gage in 1993, at least 10% of contributing drainage area has been regulated by six upstream reservoirs with a combined capacity of 4,828,600 acre-ft, of which 3,482,690 acre-ft is for flood control. Many small diversions above station for irrigation, municipal, industrial, and oil field operation. Flow is affected at times by discharge from the flood-detention pools of 145 floodwater-retarding structures with a combined detention capacity of 152,800 acre-ft. These structures control runoff from 450 mi². Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec 5, 1913, reached a stage of 61 ft, present site and datum, from information by Texas and New Orleans Railroad Co. at their bridge 200 ft upstream. Flood in 1854 reached about the same stage as flood of Dec 5, 1913.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	671	6580	2520	3240	14600	1030	2880	1290	1430	964	1310	500
2	921	9620	2860	5670	9620	1040	2530	1190	1180	785	1360	379
3	939	10800	3180	7620	6190	972	2380	1110	1230	738	1250	292
4	869	7980	3200	5280	5900	965	2090	1040	1620	632	1070	398
5	538	5540	2940	5450	4950	1060	3230	1030	1770	580	841	400
6	1620	4560	4230	4230	4030	1210	5040	1010	1450	534	887	384
7	6570	4020	4600	3450	3360	1400	4360	982	1200	501	846	295
8	7680	3490	4140	3670	2440	1310	4250	943	1110	526	1010	e253
9	3630	3240	3850	3570	1910	1140	3760	860	1050	690	1030	e239
10	1920	3780	4720	3370	1840	1310	3500	1040	862	747	1070	e225
11	1270	4450	18800	2900	1960	1580	3240	1300	735	911	861	e212
12	1010	3260	35800	3190	1860	1250	2210	5190	702	1040	1080	e200
13	896	14500	28200	2680	1830	1830	1770	6040	716	1620	1310	e187
14	826	22300	19900	2250	1870	1790	1750	4020	949	1520	1240	e176
15	979	29200	17300	2080	1610	3310	1610	3270	1140	1540	1120	e162
16	1170	34100	15100	2000	2210	2400	1520	2690	1230	1540	1060	151
17	1570	18500	14100	2150	2640	1540	1410	2300	939	1430	792	142
18	28100	8810	12700	2070	1700	1250	1370	2290	1360	1260	657	143
19	68500	7760	10400	1990	1380	3080	1250	2540	1170	1160	594	138
20	76600	9030	8620	1970	1790	8760	1350	3070	1110	1130	821	134
21	57200	8840	9240	1770	1770	6250	1300	2820	1040	1220	967	132
22	26800	8080	7550	2110	1510	3150	1320	2280	913	1240	1060	125
23	16300	6430	7530	2150	1460	2680	1460	1570	865	1200	1030	126
24	10100	5940	8190	1860	1180	3110	1240	1190	1090	1160	762	132
25	6910	5620	6240	1720	1450	3690	1070	1060	1290	944	557	129
26	5800	4680	3760	1870	1190	3230	1370	1010	1120	892	391	134
27	5110	3720	3350	2020	943	3350	2490	1010	1030	1200	333	144
28	4970	2940	3580	2030	975	3190	2710	981	1030	1100	287	149
29	5620	2710	3140	2660	---	2840	2200	1090	1060	842	464	152
30	5760	2590	2790	8480	---	3070	1560	1130	1010	690	942	148
31	5260	---	3070	18900	---	2900	---	2470	---	1000	737	---
TOTAL	356109	263070	275600	114400	84168	75687	68220	59816	33401	31336	27739	6381
MEAN	11490	8769	8890	3690	3006	2442	2274	1930	1113	1011	895	213
MAX	76600	34100	35800	18900	14600	8760	5040	6040	1770	1620	1360	500
MIN	538	2590	2520	1720	943	965	1070	860	702	501	287	125
AC-FT	706300	521800	546700	226900	166900	150100	135300	118600	66250	62150	55020	12660

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1999, BY WATER YEAR (WY)

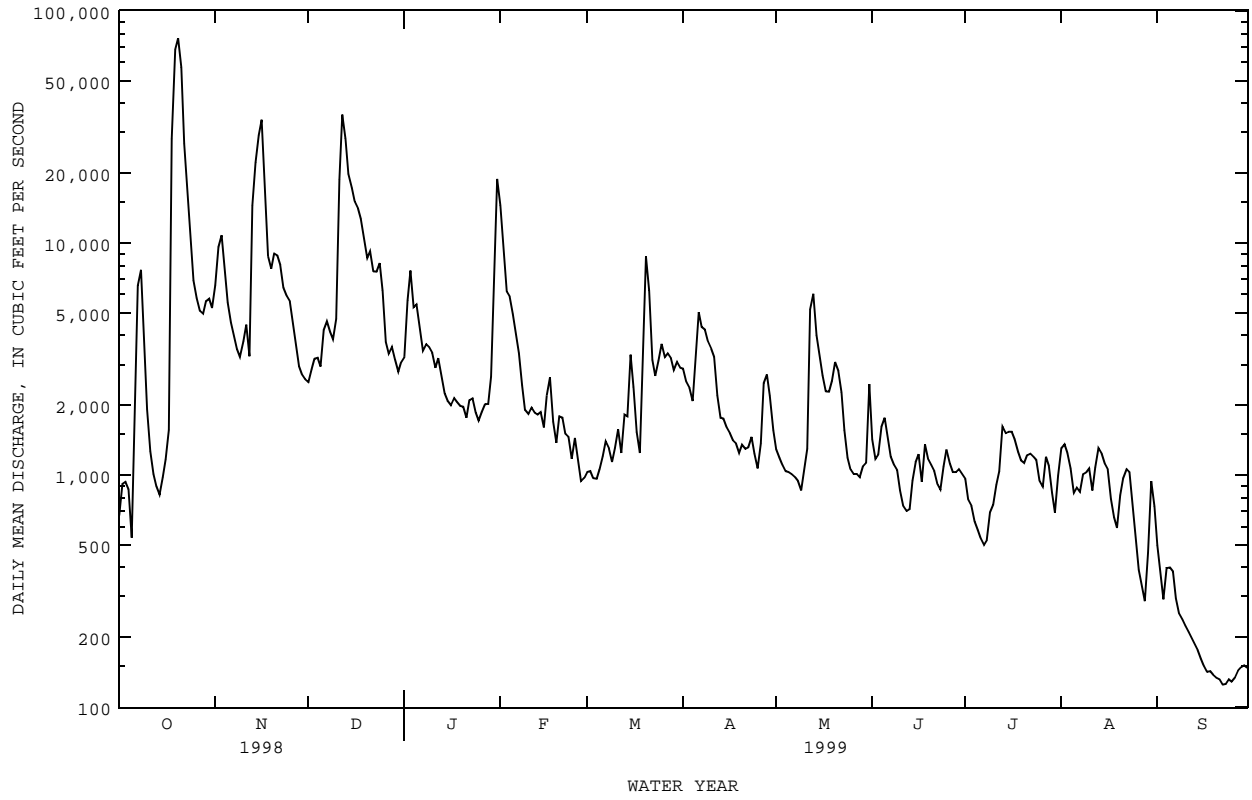
MEAN	3278	2923	5833	5429	6302	10680	8390	7847	5722	2559	2520	1668
MAX	11490	8769	8890	16460	21210	31650	26320	20120	16320	9389	11420	4577
(WY)	1999	1999	1999	1998	1997	1997	1997	1997	1997	1997	1995	1996
MIN	1015	1074	1003	1053	807	772	673	448	1113	872	548	213
(WY)	1998	1998	1996	1996	1996	1996	1996	1996	1999	1996	1996	1999

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1993 - 1999

ANNUAL TOTAL	2623484	1395927	
ANNUAL MEAN	7188	3824	5290
HIGHEST ANNUAL MEAN			11920
LOWEST ANNUAL MEAN			1212
HIGHEST DAILY MEAN	76600	Oct 20	76600
LOWEST DAILY MEAN	299	Aug 27	125
ANNUAL SEVEN-DAY MINIMUM	593	Aug 22	130
INSTANTANEOUS PEAK FLOW			78600
INSTANTANEOUS PEAK STAGE			42.55
ANNUAL RUNOFF (AC-FT)	5204000	2769000	3833000
10 PERCENT EXCEEDS	17400	7850	14800
50 PERCENT EXCEEDS	3260	1570	1540
90 PERCENT EXCEEDS	795	531	690

e Estimated

08108700 BRAZOS RIVER AT STATE HIGHWAY 21 NR BRYAN, TX--Continued



BRAZOS RIVER BASIN

08109700 MIDDLE YEGUA CREEK NEAR DIME BOX, TX

LOCATION.--Lat 30°20'21", long 96°54'16", Lee County, Hydrologic Unit 12070102, on right bank 25 ft upstream from centerline of State Highway 21, 4.5 mi upstream from West Yegua Creek, 5.0 mi southwest of Dime Box, and 17.5 mi upstream from mouth.

DRAINAGE AREA.--236 mi².

PERIOD OF RECORD.--Aug 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 295.40 ft above sea level (furnished by Texas Department of Transportation). Jun 30 to Jul 21, 1970, nonrecording gage at same site and datum. Satellite telemeter at station.

REMARKS.--Records fair. No known regulation or diversions. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1851, 16 ft in Dec 1913, from information by local residents.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 20	0715	2,190	11.54	Mar 16	0445	741	9.66
Nov 15	2330	6,300	13.65	Mar 21	2000	987	10.12
Dec 12	1800	737	9.65				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	119	46	32	30	15	36	3.0	55	13	12	7.5
2	1.3	274	44	32	27	13	35	3.0	29	12	8.6	5.2
3	.13	215	42	80	26	8.5	35	3.1	21	11	5.9	5.7
4	.23	197	41	133	25	5.3	33	5.9	15	9.2	7.3	6.5
5	17	93	41	74	24	6.1	33	6.4	12	8.3	8.5	6.3
6	42	61	40	47	24	6.4	30	3.2	8.5	8.4	11	8.2
7	97	51	40	41	24	15	26	2.8	5.9	13	11	11
8	97	46	37	39	24	15	24	1.7	4.3	19	9.5	11
9	42	42	36	37	24	13	22	1.2	2.2	17	9.7	10
10	25	41	56	36	24	12	21	28	2.0	23	11	7.7
11	17	38	402	33	23	11	18	101	2.3	71	9.6	6.8
12	9.7	61	670	32	21	25	16	136	3.4	44	9.8	6.4
13	2.9	723	599	32	20	161	13	97	7.7	25	11	5.6
14	2.8	2700	452	32	12	286	14	51	16	30	11	3.8
15	1.9	3380	426	31	15	474	15	39	34	22	7.3	5.1
16	1.6	3670	151	30	15	687	14	30	27	20	7.7	8.6
17	49	1540	79	30	15	311	12	24	20	e19	9.7	9.0
18	325	1030	62	28	16	62	9.5	22	16	e17	9.5	6.9
19	560	707	55	28	15	266	6.4	21	13	e16	9.5	4.2
20	1820	265	51	29	15	347	6.2	21	11	18	7.2	3.3
21	1470	100	49	29	13	684	8.0	24	7.8	26	8.3	5.0
22	1490	78	44	34	13	824	7.8	21	6.5	24	4.6	5.1
23	1080	67	42	40	9.1	496	7.3	18	9.8	20	5.1	5.4
24	779	60	40	38	6.6	93	7.0	15	18	18	5.4	7.7
25	378	54	39	32	9.0	57	5.1	14	19	17	7.4	6.1
26	85	50	37	28	10	46	5.2	13	16	15	9.2	9.3
27	64	49	37	26	12	39	5.1	10	17	14	8.3	10
28	54	48	36	27	11	39	5.6	22	15	13	6.6	6.2
29	48	47	36	30	---	39	2.4	32	13	14	8.1	3.5
30	45	46	34	30	---	38	3.0	42	13	12	9.8	3.1
31	40	---	34	31	---	36	---	84	---	12	6.7	---
TOTAL	8645.56	15852	3798	1201	502.7	5130.3	475.6	895.3	440.4	600.9	266.3	200.2
MEAN	279	528	123	38.7	18.0	165	15.9	28.9	14.7	19.4	8.59	6.67
MAX	1820	3670	670	133	30	824	36	136	55	71	12	11
MIN	.13	38	34	26	6.0	5.3	2.4	1.2	2.0	8.3	4.6	3.1
AC-FT	17150	31440	7530	2380	997	10180	943	1780	874	1190	528	397

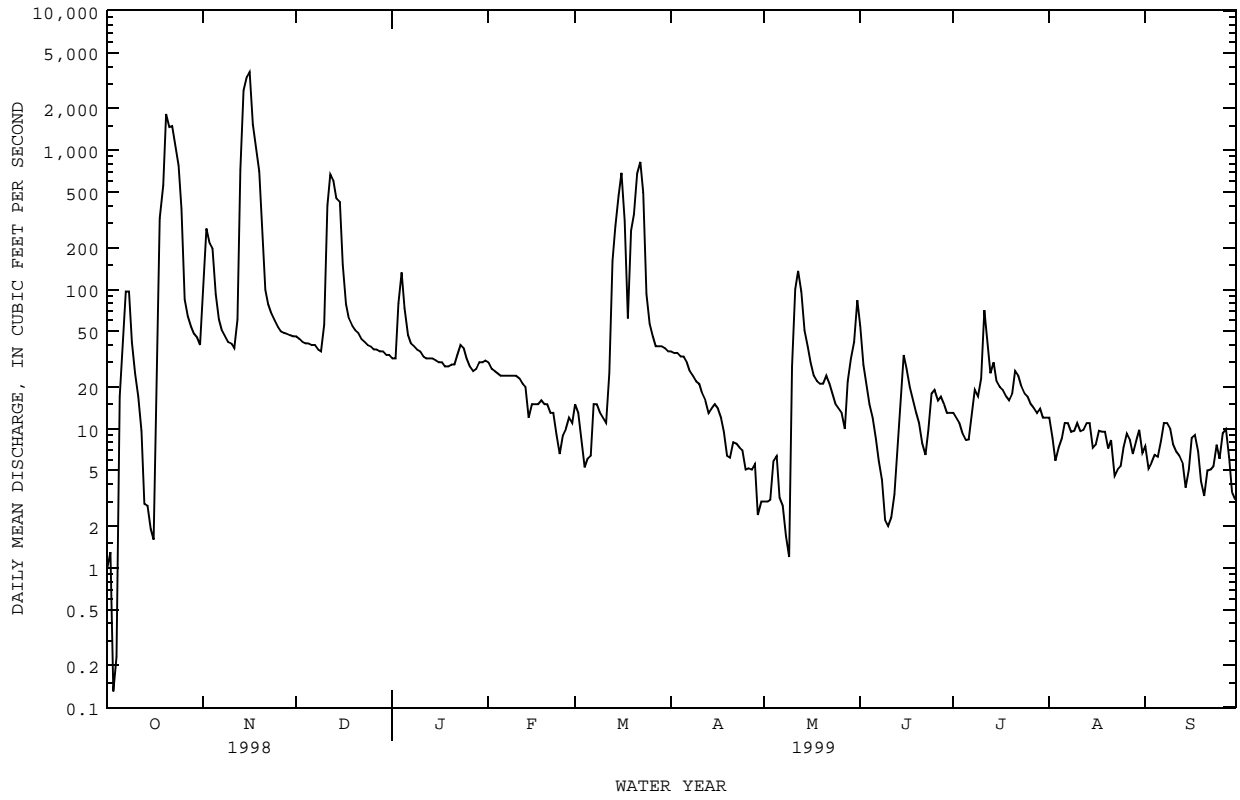
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1999, BY WATER YEAR (WY)

MEAN	34.6	53.0	82.1	66.1	87.9	64.2	56.8	115	99.5	6.99	2.32	16.7
MAX (WY)	1995	1999	1992	1991	1992	1970	1969	1975	1987	1975	1974	1974
MIN (WY)	1964	1964	1964	1964	1964	1971	1971	1984	1984	1963	1962	1963

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1962 - 1999	
ANNUAL TOTAL	34832.77		38008.26			
ANNUAL MEAN	95.4		104		56.9	
HIGHEST ANNUAL MEAN					256	
LOWEST ANNUAL MEAN					.55	
HIGHEST DAILY MEAN	3670	Nov 16	3670	Nov 16	9470	Dec 22 1991
LOWEST DAILY MEAN	.06	Sep 10	.13	Oct 3	.00	Aug 1 1962
ANNUAL SEVEN-DAY MINIMUM	.38	Jul 25	3.5	May 3	.00	Aug 1 1962
INSTANTANEOUS PEAK FLOW			6300	Nov 15	12500	Dec 22 1991
INSTANTANEOUS PEAK STAGE			13.65	Nov 15	15.39	Dec 22 1991
ANNUAL RUNOFF (AC-FT)	69090		75390		41210	
10 PERCENT EXCEEDS	150		134		83	
50 PERCENT EXCEEDS	15		21		6.1	
90 PERCENT EXCEEDS	1.1		5.3		.00	

e Estimated

08109700 MIDDLE YEGUA CREEK NEAR DIME BOX, TX--Continued



BRAZOS RIVER BASIN

08109800 EAST YEGUA CREEK NEAR DIME BOX, TX

LOCATION.--Lat 30°24'26", long 96°49'02", Burleson County, Hydrologic Unit 12070102, on left bank 49 ft upstream from centerline of State Highway 21, 0.8 mi downstream from Buffalo Creek, 3.5 mi north of Dime Box, and 12.2 mi upstream from mouth.

DRAINAGE AREA.--244 mi².

PERIOD OF RECORD.--Aug 1962 to current year.

Water-quality records.--Chemical data: Nov 1980 to Aug 1987. Biochemical data: Nov 1980 to Aug 1987. Sediment data: Jun 1966 to Sep 1975.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 284.00 ft (State Department of Highways and Public Transportation datum). Nov 6 to Dec 10, 1970, nonrecording gage at present site and datum. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation. Diversions above station for irrigation. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1886, 17 ft in 1899 and 1957, from information by local residents.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 19	1514	3,070	10.96	Dec 13	0644	1,650	9.99
Nov 15	2059	5,040	11.82	Mar 20	1215	1,260	9.67

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

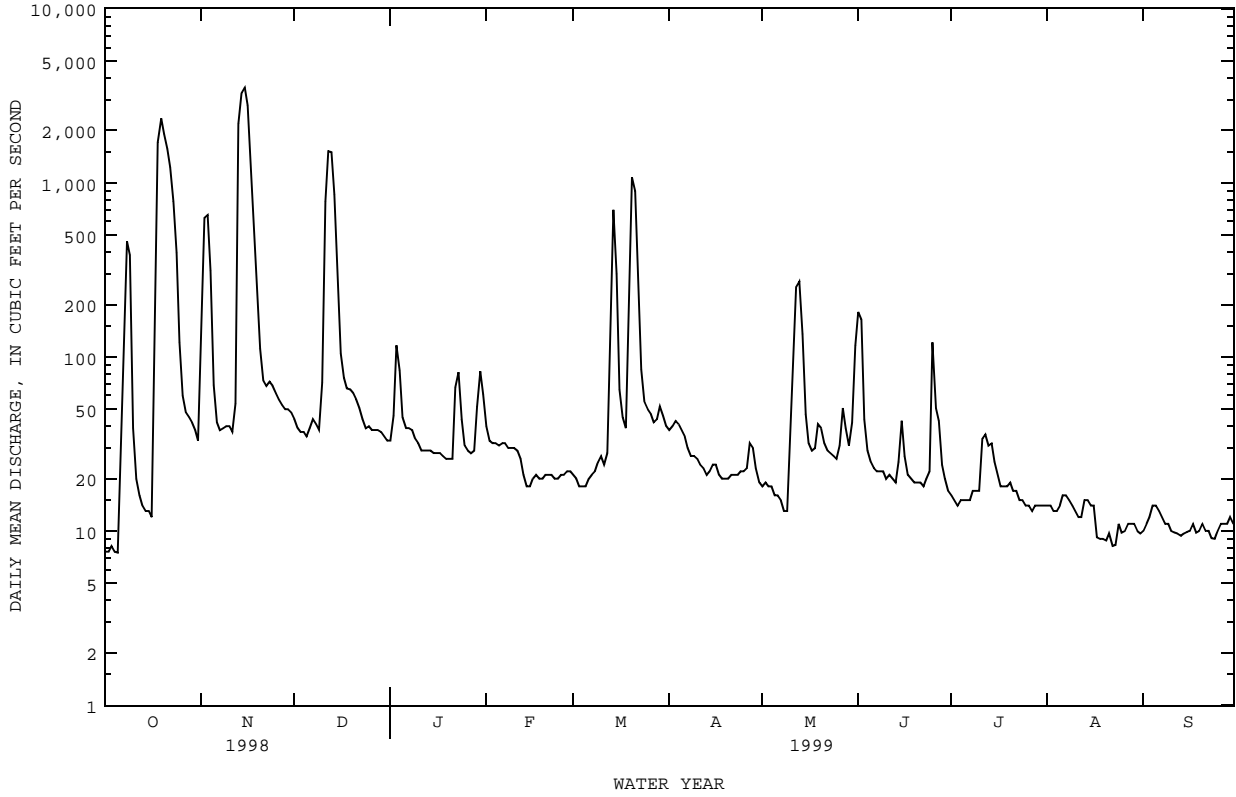
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	149	44	33	40	21	38	18	181	16	14	10
2	7.6	629	39	46	33	20	40	19	164	15	14	11
3	8.2	653	37	117	32	18	43	18	44	14	13	12
4	7.6	313	37	84	32	18	41	18	29	15	13	14
5	7.5	69	35	45	31	18	38	16	25	15	14	14
6	44	42	39	39	32	20	35	16	23	15	16	13
7	172	38	44	39	32	21	30	15	22	15	16	12
8	462	39	41	38	30	22	27	13	22	17	15	11
9	385	40	38	34	30	25	27	13	22	17	14	11
10	39	40	71	32	30	27	26	48	20	17	13	10
11	20	37	782	29	29	24	24	132	21	34	12	9.8
12	16	54	1520	29	26	28	23	254	20	36	12	9.7
13	14	2190	1500	29	21	203	21	272	19	31	15	9.4
14	13	3300	857	29	18	702	22	135	25	32	15	9.7
15	13	3550	316	28	18	300	24	47	43	25	14	9.9
16	12	2790	105	28	20	65	24	32	27	21	14	10
17	109	1250	76	28	21	45	21	29	21	18	9.2	11
18	1710	619	66	27	20	39	20	30	20	18	9.0	9.8
19	2350	274	65	26	20	242	20	41	19	18	9.0	10
20	1910	112	62	26	21	1080	20	39	19	19	8.8	11
21	1570	73	57	26	21	900	21	32	19	17	9.7	10
22	1230	68	51	67	21	346	21	29	18	17	8.2	10
23	787	72	44	82	20	85	21	28	20	15	8.3	9.1
24	397	68	39	44	20	55	22	27	22	15	11	9.0
25	121	62	40	31	21	50	22	26	121	14	9.8	10
26	60	57	38	29	21	47	23	31	51	14	10	11
27	48	53	38	28	22	42	32	51	43	13	11	11
28	45	50	38	29	22	44	30	39	24	14	11	11
29	42	50	37	52	---	52	23	31	20	14	11	12
30	38	48	35	83	---	46	19	42	17	14	10	11
31	33	---	33	61	---	40	---	116	---	14	9.7	---
TOTAL	11678.5	16789	6224	1318	704	4645	798	1657	1141	569	369.7	322.4
MEAN	377	560	201	42.5	25.1	150	26.6	53.5	38.0	18.4	11.9	10.7
MAX	2350	3550	1520	117	40	1080	43	272	181	36	16	14
MIN	7.5	37	33	26	18	18	19	13	17	13	8.2	9.0
AC-FT	23160	33300	12350	2610	1400	9210	1580	3290	2260	1130	733	639

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1999, BY WATER YEAR (WY)

	43.4	52.8	79.6	71.5	101	77.8	74.2	118	109	17.7	8.51	23.3
MEAN	43.4	52.8	79.6	71.5	101	77.8	74.2	118	109	17.7	8.51	23.3
MAX	503	560	651	418	934	276	364	656	813	221	67.1	506
(WY)	1995	1999	1992	1991	1992	1992	1976	1975	1987	1968	1974	1974
MIN	.000	.023	.77	2.55	3.65	3.89	1.00	2.98	.91	.001	.000	.000
(WY)	1964	1964	1964	1990	1990	1972	1972	1984	1971	1967	1962	1963

08109800 EAST YEGUA CREEK NEAR DIME BOX, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1962 - 1999	
ANNUAL TOTAL	42794.1		46215.6		64.5	
ANNUAL MEAN	117		127		3.93	
HIGHEST ANNUAL MEAN					245	1992
LOWEST ANNUAL MEAN					3.93	1971
HIGHEST DAILY MEAN	3550	Nov 15	3550	Nov 15	9490	May 24 1975
LOWEST DAILY MEAN	2.8	Sep 6	7.5	Oct 5	.00	Aug 1 1962
ANNUAL SEVEN-DAY MINIMUM	3.3	Sep 3	8.9	Aug 17	.00	Aug 1 1962
INSTANTANEOUS PEAK FLOW			5040	Nov 15	14000	May 24 1975
INSTANTANEOUS PEAK STAGE			11.82	Nov 15	13.91	May 24 1975
ANNUAL RUNOFF (AC-FT)	84880		91670		46710	
10 PERCENT EXCEEDS	151		155		74	
50 PERCENT EXCEEDS	20		27		11	
90 PERCENT EXCEEDS	7.5		11		.30	



BRAZOS RIVER BASIN

08109900 SOMERVILLE LAKE NEAR SOMERVILLE, TX

LOCATION.--Lat 30°19'20", long 96°31'32", Burleson County, Hydrologic Unit 12070102, in intake structure of Somerville Dam on Yegua Creek, at the southwest edge of the city limits of Somerville, and 20.0 mi upstream from mouth.

DRAINAGE AREA.--1,007 mi².

PERIOD OF RECORD.--Feb 1966 to current year. Prior to Oct 1970, published as "Somerville Reservoir".

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

REMARKS.--The lake is formed by a rolled earthfill dam 20,210 ft long, with a 4,715-foot-long dike and a 1,250-foot long uncontrolled spillway. Deliberate impoundment began Jan 3, 1967, and the dam was completed Oct 27, 1967. The spillway is an uncontrolled ogee weir 1,250 ft wide located near right end of dam. The low-flow outlet consists of one 10.0-foot-diameter conduit that is controlled by two 5.0- by 10.0-foot tractor-type gates. The lake was designed for flood control and water conservation. Figures given herein represent total contents. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	280.0
Design flood.....	274.5
Crest of spillway.....	258.0
Top of conservation pool.....	238.0
Lowest gated outlet (invert of 10-foot conduit).....	206.0

COOPERATION.--Record of contents furnished by the U.S. Army Corps of Engineers and reviewed by the U.S. Geological Survey. A new capacity table, provided by Texas Water Development Board, was put into use Oct 1, 1995.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 547,600 acre-ft, Mar 6, 1992 (elevation, 259.60 ft); minimum, 88,800 acre-ft Oct 5, 1984 (elevation, 230.70 ft).

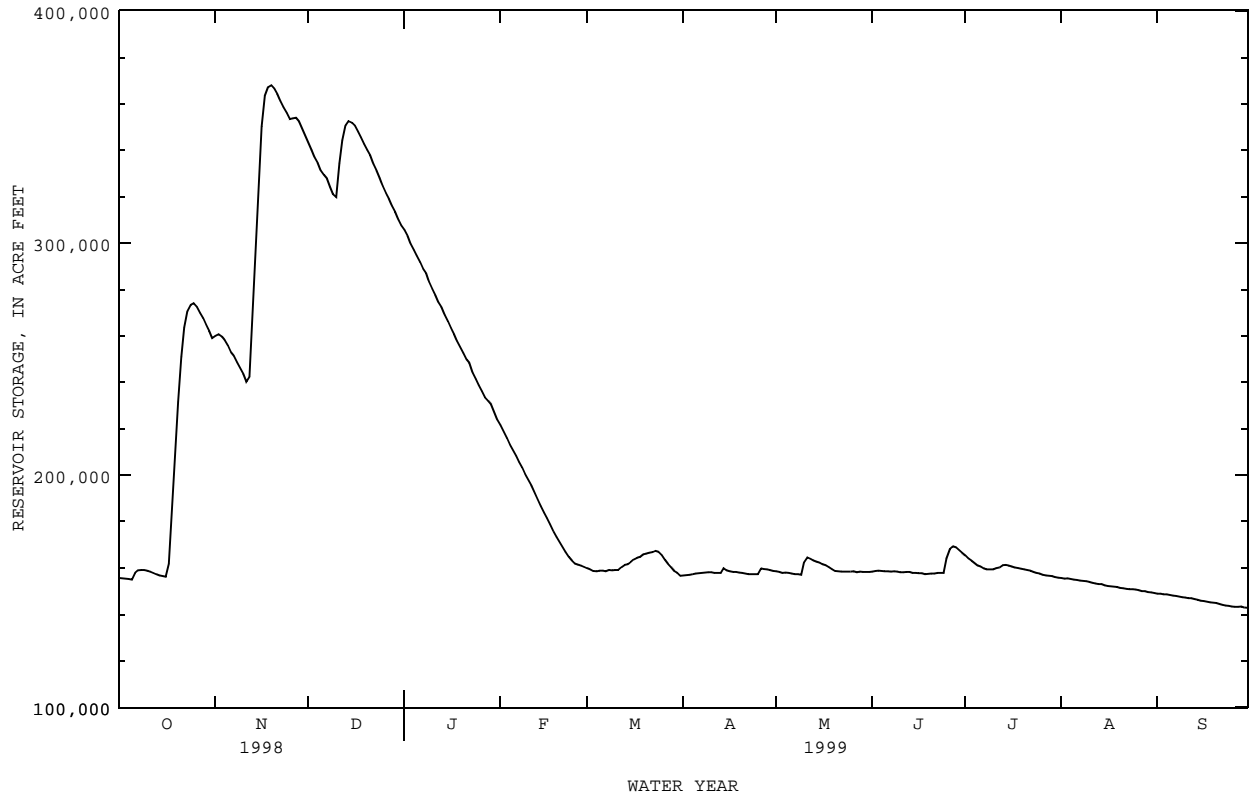
EXTREMES FOR CURRENT YEAR.--Maximum contents, 368,500 acre-ft, Nov 20 (elevation, 251.92 ft); minimum contents, 142,800 acre-ft, Sep 27, 30 (elevation, 236.88 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	155600	260100	343300	305800	221500	160000	156800	158500	158400	165400	155600	148900
2	155500	260700	340100	303200	218900	159300	156900	158300	158700	164300	155400	148900
3	155400	259800	337100	299900	216000	158700	157100	157900	158900	163200	155500	148700
4	155200	258200	334500	297200	213400	158600	157400	158100	158700	162100	155200	148500
5	155100	255900	331400	294600	210900	158900	157600	157800	158600	161100	154900	148300
6	157900	252900	329400	291800	208400	158900	157700	157600	158500	160600	154800	148100
7	159000	251400	327800	289100	205700	158500	157800	157400	158400	159800	154600	148000
8	159200	248700	324100	287100	203300	159100	158100	157200	158500	159300	154400	147700
9	159100	246200	321100	283300	200600	159000	158200	157100	158400	159400	154300	147500
10	158900	243500	319800	280100	198100	159100	158200	162600	158200	159400	154000	147200
11	158400	240400	334400	277500	195500	159100	157900	164600	158200	159900	153600	147000
12	157900	242600	344400	274600	192400	160400	157900	164100	158300	160100	153300	146900
13	157400	265400	350800	272300	189500	161300	157800	163200	158300	161200	153000	146500
14	156800	292800	352600	269100	186700	161500	160000	162700	157900	161300	153000	146300
15	156400	326100	352000	266200	184000	162600	159000	162300	157900	161000	152600	145900
16	156200	350300	350700	263500	181600	163700	158600	161500	157700	160600	152200	145700
17	161800	363600	348000	260700	178900	164400	158300	161200	157700	160300	152100	145500
18	182800	367300	345500	257900	176000	164700	158300	160400	157400	160000	151900	145200
19	206400	368100	342700	255300	173400	165900	158100	159600	157500	159700	151800	145100
20	231500	366700	340100	252600	171500	166200	157800	158700	157600	159400	151400	144900
21	250900	364200	337900	249900	169000	166500	157600	158500	157600	159100	151200	144400
22	263700	361200	334200	248300	167000	166900	157400	158400	157800	158900	151000	144100
23	270900	358500	331200	244300	164800	167300	157200	158400	157900	158300	150900	143900
24	273400	356200	327900	241500	163200	167000	157200	158400	157900	157900	150900	143700
25	274100	353500	324700	238900	161900	165600	157200	158400	164000	157600	150700	143500
26	272600	353700	321600	236200	161400	163500	159800	158500	168200	157100	150400	143200
27	270100	354100	319300	233400	161000	161900	159600	158200	169400	156800	150000	143200
28	267700	352400	316100	231900	160500	160400	159400	158400	168900	156700	150000	143400
29	265000	349500	313400	230500	---	158900	159200	158300	167800	156400	149700	143000
30	262100	346300	310100	227000	---	158100	158700	158300	166600	156100	149400	142800
31	259100	---	307700	224000	---	156700	---	158300	---	155900	149200	---
MAX	274100	368100	352600	305800	221500	167300	160000	164600	169400	165400	155600	148900
MIN	155100	240400	307700	224000	160500	156700	156800	157100	157400	155900	149200	142800
(+)	245.70	250.77	248.64	243.35	238.46	238.13	238.31	238.27	238.98	238.06	237.47	236.88
(@)	+103200	+87200	-38600	-83700	-63500	-3800	+2100	-400	+8300	-10700	-6700	-6400
CAL YR 1998	MAX 368100	MIN 125400	(@) +148400									
WTR YR 1999	MAX 368100	MIN 142800	(@) -13100									

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

08109900 SOMERVILLE LAKE NEAR SOMERVILLE, TX--Continued



BRAZOS RIVER BASIN

08110100 DAVIDSON CREEK NEAR LYONS, TX

LOCATION.--Lat 30°25'10", long 96°32'24", Burleson County, Hydrologic Unit 12070102, on left bank 83 ft downstream from Farm Road 60, 1.2 mi downstream from Berry Creek, 2.8 mi northeast of Lyons, and 10.7 mi upstream from mouth.

DRAINAGE AREA.--195 mi².

PERIOD OF RECORD.--Oct 1962 to current year.

Water-quality records.--Sediment data: Jun 1966 to Sep 1975.

GAGE.--Water-stage recorder. Datum of gage is 220.26 ft above sea level. Satellite telemeter at station.

REMARKS.--Records poor. No known regulation or diversions. The city of Caldwell discharges wastewater effluent into creek above station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1947 reached a stage of 17 ft, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 20	1130	2,780	15.36	Dec 12	1230	2,720	15.33
Nov 13	1500	5,760	16.49				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	269	15	12	39	2.3	18	3.4	16	2.2	.48	.00
2	3.8	742	14	23	22	2.2	18	2.4	11	1.8	.47	.00
3	3.8	384	15	24	16	1.9	16	2.1	5.4	1.8	1.6	.03
4	3.7	145	14	56	13	1.6	16	1.9	3.5	1.3	1.1	.02
5	3.4	48	14	23	10	1.5	16	1.7	2.5	1.6	1.1	.00
6	242	30	16	14	8.9	1.4	14	e1.7	1.9	1.7	1.1	.00
7	829	32	20	10	8.8	1.2	13	e1.4	1.4	11	.63	.00
8	189	30	17	9.7	8.4	1.3	12	1.4	1.2	21	.64	.00
9	43	19	8.8	9.2	7.9	2.2	10	1.6	1.0	5.2	.67	.00
10	18	20	69	8.7	7.2	5.3	9.0	62	2.6	5.8	.45	.00
11	11	16	1100	7.5	6.7	3.0	7.9	276	2.3	2.8	.49	.00
12	7.6	113	2380	7.9	5.6	2.7	6.9	110	1.5	7.7	.46	.00
13	5.9	3900	1500	6.7	4.7	372	6.4	111	1.2	406	.65	.00
14	4.7	2930	684	5.7	4.1	384	58	75	31	62	.48	.00
15	3.6	2840	145	6.0	3.5	195	20	28	13	19	.35	.00
16	3.7	1730	78	5.4	3.4	58	9.4	14	3.2	9.4	.22	.00
17	165	1240	53	5.0	3.4	34	7.5	8.9	1.8	8.1	.23	.00
18	e1820	412	42	4.7	3.2	24	5.7	7.3	1.1	13	.22	.00
19	2400	115	36	4.5	3.3	440	4.5	5.6	.77	5.6	.18	.00
20	2400	75	33	4.5	3.1	506	3.8	5.0	.69	7.0	.09	.00
21	1730	59	31	4.4	2.8	259	3.4	4.5	.68	5.3	.08	.00
22	1780	50	27	17	2.4	93	3.0	5.1	.86	1.7	.07	.00
23	697	38	23	93	2.1	49	2.9	4.7	1.0	2.5	.05	.00
24	136	31	20	49	2.0	33	2.8	4.0	1.4	2.8	.07	.00
25	62	28	18	19	2.0	25	2.6	3.2	199	2.5	.07	.00
26	40	26	16	10	2.1	20	3.9	7.5	588	2.7	.05	.00
27	30	23	16	6.6	2.2	18	3.1	133	79	2.8	.08	.00
28	24	19	15	8.3	2.3	19	2.8	41	26	1.6	.04	.00
29	21	18	14	e37	---	19	4.5	12	11	.72	.00	.00
30	18	16	13	e65	---	20	4.6	16	4.8	.81	.00	.00
31	16	---	12	e57	---	19	---	6.8	---	.48	.00	---
TOTAL	12716.0	15398	6458.8	613.8	200.1	2613.6	305.7	958.2	1014.80	617.91	12.12	0.05
MEAN	410	513	208	19.8	7.15	84.3	10.2	30.9	33.8	19.9	.39	.002
MAX	2400	3900	2380	93	39	506	58	276	588	406	1.6	.03
MIN	3.4	16	8.8	4.4	2.0	1.2	2.6	1.4	.68	.48	.00	.00
AC-FT	25220	30540	12810	1220	397	5180	606	1900	2010	1230	24	.1

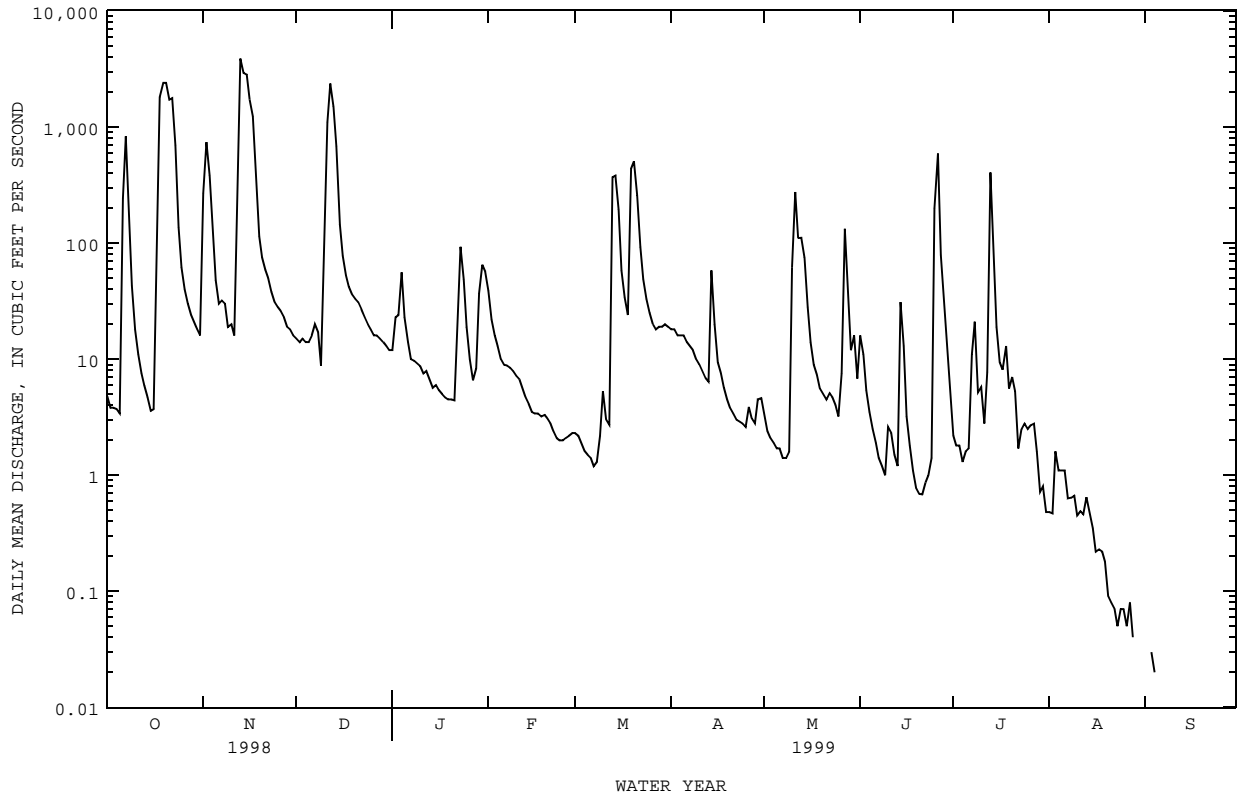
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1999, BY WATER YEAR (WY)

MEAN	60.8	48.9	85.0	93.2	124	78.7	102	121	115	7.77	4.52	24.7
MAX	886	513	646	687	948	357	692	451	841	61.5	42.5	428
(WY)	1995	1999	1992	1991	1992	1979	1977	1992	1968	1968	1995	1974
MIN	.000	.000	.000	.19	1.21	.44	.23	.62	.060	.000	.000	.000
(WY)	1964	1968	1968	1971	1967	1971	1972	1996	1971	1964	1964	1963

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1963 - 1999
ANNUAL TOTAL	60988.80	40909.08	
ANNUAL MEAN	167	112	71.8
HIGHEST ANNUAL MEAN			237
LOWEST ANNUAL MEAN			1.42
HIGHEST DAILY MEAN	3920	Jan 7	18000
LOWEST DAILY MEAN	.00	Jun 20	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 20	.00
INSTANTANEOUS PEAK FLOW		5760	Nov 13
INSTANTANEOUS PEAK STAGE		16.49	Nov 13
ANNUAL RUNOFF (AC-FT)	121000	81140	52020
10 PERCENT EXCEEDS	402	134	75
50 PERCENT EXCEEDS	7.4	6.8	2.6
90 PERCENT EXCEEDS	.00	.06	.00

e Estimated

08110100 DAVIDSON CREEK NEAR LYONS, TX--Continued



08110325 NAVASOTA RIVER ABOVE GROESBECK, TX

LOCATION.--Lat 31°34'27", long 96°31'14", Limestone County, Hydrologic Unit 12070103, in city of Groesbeck at water supply pumping plant, 1.2 mi downstream from Springfield Lake, 3.7 mi north of Groesbeck, and 161.4 mi upstream from mouth.

DRAINAGE AREA.--239 mi².

PERIOD OF RECORD.--Jul 1975 to May 1978 (periodic gage-height and low-flow measurements only), Jun 1978 to current year.
Water-quality records.--Chemical data: Nov 1967 to Jun 1989.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 396.65 ft above sea level. Satellite telemeter at station.

REMARKS.--Records fair. Since installation of gage in 1975, at least 10% of contributing drainage area has been regulated by Lake Mexia (station 08110300) 7.4 mi upstream (normal storage 9,400 acre-ft) and by Springfield Lake 1.2 mi upstream (approximate capacity, 3,100 acre-ft). There are several diversions above station for irrigation, municipal supply, and oil field operation (total amount is unknown). The city of Groesbeck diverts water from pool at gage for municipal use, and returns wastewater effluent into river downstream from gage.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1910, 26 ft in 1910 and 1944, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	50	29	20	326	3.4	6.3	1.2	.74	3.7	.00	.00
2	.00	1280	29	113	110	5.2	6.2	1.4	.59	2.0	.00	.00
3	.00	682	25	56	60	3.3	7.8	1.4	.54	1.9	.00	.00
4	.00	160	24	35	44	2.0	22	1.6	.52	1.4	.00	.00
5	.00	60	24	26	33	2.3	30	2.7	.43	1.2	.00	.00
6	.00	34	25	22	29	3.0	23	1.7	.30	1.3	.00	.00
7	.00	25	25	19	29	2.4	16	.98	.20	1.4	.00	.00
8	.00	21	20	18	25	4.0	12	.82	.19	.83	.00	.00
9	.00	16	13	15	22	6.2	10	.81	.41	.34	.00	.00
10	.00	18	e3050	11	18	5.1	8.7	1.7	.76	.36	.00	.00
11	.00	12	e4550	9.5	19	4.9	6.1	1.6	.72	1.1	.00	.00
12	.00	9.9	e2740	7.5	15	5.9	4.2	2.7	.92	1.9	.00	.00
13	.00	2420	e867	8.4	12	24	3.1	1.4	1.0	1.5	.00	.00
14	.00	5930	e199	7.1	9.4	55	4.8	1.1	.94	.72	.00	.00
15	.00	1690	97	5.6	7.6	44	7.7	.99	.74	.54	.00	.00
16	.00	438	58	5.5	8.5	33	2.3	.87	.68	.40	.00	.00
17	103	158	43	6.2	7.1	26	1.7	1.2	1.0	.25	.00	.00
18	1780	73	39	5.0	7.4	18	1.2	1.6	.73	.25	.00	.00
19	1780	50	665	4.0	5.2	23	1.1	1.1	.76	.15	.00	.00
20	893	40	877	3.8	4.4	20	1.0	.95	.98	.08	.00	.00
21	2220	28	284	4.3	4.5	15	1.0	.94	1.3	.00	.00	.00
22	1520	21	96	244	2.9	11	1.1	.90	1.0	.00	.00	.00
23	306	17	52	260	3.6	9.6	1.1	.82	.89	.00	.00	.00
24	87	15	41	80	3.2	8.7	.92	.73	.81	.00	.00	.00
25	47	13	33	47	3.3	8.8	.95	.61	3.4	.00	.00	.00
26	33	12	27	34	3.4	6.9	2.3	.85	15	.00	.00	.00
27	25	9.8	23	27	4.8	5.7	2.1	.73	19	.00	.00	.00
28	18	8.3	21	30	4.0	6.9	1.6	.74	15	.00	.00	.00
29	14	6.6	18	5210	---	8.2	1.2	.69	11	.00	.00	.00
30	11	20	14	6060	---	7.7	1.0	.79	6.8	.00	.00	.00
31	8.7	---	13	1670	---	7.1	---	.73	---	.00	.00	---
TOTAL	8845.70	13317.6	14021	14063.9	821.3	386.3	188.47	36.35	87.35	21.32	0.00	0.00
MEAN	285	444	452	454	29.3	12.5	6.28	1.17	2.91	.69	.000	.000
MAX	2220	5930	4550	6060	326	55	30	2.7	19	3.7	.00	.00
MIN	.00	6.6	13	3.8	2.9	2.0	.92	.61	.19	.00	.00	.00
AC-FT	17550	26420	27810	27900	1630	766	374	72	173	42	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1999, BY WATER YEAR (WY)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
MEAN	45.4	55.4	192	134	246	168	103	273	101	3.83	32.0	.63											
MAX	347	450	1154	806	909	1109	857	1384	554	51.4	570	5.24											
(WY)	1982	1986	1992	1998	1986	1990	1997	1979	1981	1981	1995	1979											
MIN	.000	.000	.075	.008	.000	.000	.000	.000	.000	.000	.000	.000											
(WY)	1993	1996	1990	1996	1996	1996	1996	1996	1996	1998	1994	1993											

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

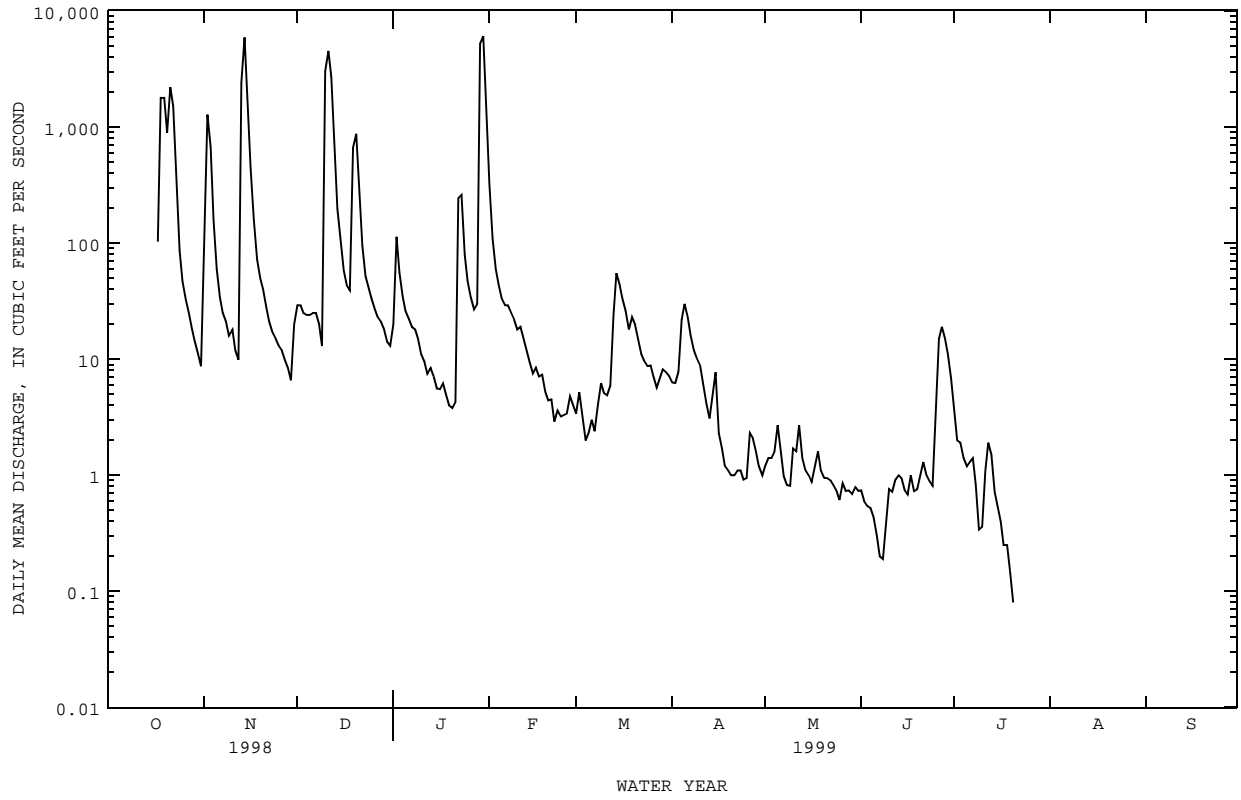
FOR 1999 WATER YEAR

WATER YEARS 1978 - 1999

ANNUAL TOTAL	71343.53	51789.29		
ANNUAL MEAN	195	142	113	1992
HIGHEST ANNUAL MEAN			270	1996
LOWEST ANNUAL MEAN			.011	1978
HIGHEST DAILY MEAN	11600	Jan 7	6060	Jan 30
LOWEST DAILY MEAN	.00	May 31	.00	Oct 1
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 14	.00	Oct 1
INSTANTANEOUS PEAK FLOW			8440	Jan 29
INSTANTANEOUS PEAK STAGE			10.04	Jan 29
ANNUAL RUNOFF (AC-FT)	141500	102700	81730	May 11 1979
10 PERCENT EXCEEDS	267	65	100	
50 PERCENT EXCEEDS	2.2	3.1	1.1	
90 PERCENT EXCEEDS	.00	.00	.00	

e Estimated

08110325 NAVASOTA RIVER ABOVE GROESBECK, TX--Continued



BRAZOS RIVER BASIN

08110430 BIG CREEK NEAR FREESTONE, TX

LOCATION.--Lat 31°30'24", long 96°19'28", Limestone County, Hydrologic Unit 12070103, 12 ft to left and 25 ft downstream from left end of bridge on State Highway 164, 5.1 mi southwest of Freestone, and 8.2 mi upstream from mouth.

DRAINAGE AREA.--97.2 mi².

PERIOD OF RECORD.--Jul 1975 to Jun 1978 (periodic gage-height and low-flow measurements only), Jul 1978 to current year.

REVISED RECORDS.--WDR TX-92-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 362.94 ft above sea level. Apr 25, 1985 to Aug 17, 1987, at site 62 ft downstream at same datum. Satellite telemeter at station.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1950, 19 ft in Apr 1957, from information by local residents.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 6	1445	3,000	14.00	Dec 11	0715	1,810	13.37
Oct 18	1045	2,000	13.49	Jan 29	1500	8,260	15.29
Oct 21	1130	1,100	12.90	May 12	2330	659	12.28
Nov 14	0315	1,710	13.31	Jun 17	1630	557	11.76

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	41	49	29	273	11	14	3.4	3.3	4.3	.02	.00
2	.32	118	35	106	93	10	12	3.0	2.8	3.1	.01	20
3	.75	72	21	90	56	9.1	82	2.9	2.0	2.3	.00	18
4	.14	23	17	30	42	8.3	177	3.1	1.4	1.8	.01	5.1
5	.06	13	15	21	33	8.3	142	3.5	1.3	1.3	.00	1.1
6	1980	9.9	15	19	34	8.8	283	3.4	.69	11	.00	.17
7	1390	8.6	14	18	37	8.4	72	2.7	.30	7.9	.00	.06
8	473	8.7	12	18	30	36	27	1.9	.75	4.8	.00	.03
9	109	8.8	11	17	26	78	17	1.7	3.7	2.6	.00	.02
10	40	9.4	666	15	25	29	12	2.4	1.9	1.5	.00	.01
11	24	11	1660	13	22	16	9.2	16	1.3	2.1	.00	.00
12	18	9.5	1020	13	19	13	7.0	487	1.3	1.0	.00	.00
13	12	683	540	14	15	17	6.1	374	6.5	.64	.00	.00
14	6.8	1280	237	13	13	16	6.2	31	4.0	.45	.00	.00
15	5.8	562	72	12	13	11	7.1	14	6.3	.28	.00	.00
16	5.2	331	44	12	13	9.4	6.1	9.0	5.4	.15	.00	.00
17	141	114	33	13	13	8.9	6.0	19	374	.10	.00	.00
18	1690	52	37	13	13	8.5	4.5	252	452	.07	.00	.00
19	1010	37	190	11	12	21	3.9	155	69	.06	.00	.00
20	603	53	209	11	11	52	4.8	32	15	.05	.00	.00
21	892	35	79	12	11	23	4.9	16	8.0	.07	.00	.00
22	575	22	48	17	10	14	4.4	9.6	5.1	.06	.00	.00
23	201	17	33	23	9.9	11	4.0	6.8	4.3	.05	.00	.00
24	47	16	27	18	9.7	9.5	4.0	5.2	3.5	.04	.00	.00
25	26	15	25	14	9.3	11	3.7	4.2	29	.05	.00	.00
26	18	14	23	11	10	12	18	5.3	189	.05	.00	.00
27	14	13	22	11	12	9.5	31	7.1	113	.04	.00	.00
28	12	12	21	668	12	8.1	13	5.7	20	.03	.00	.00
29	10	12	20	5710	---	9.1	6.7	4.7	9.4	.03	.00	.00
30	9.4	20	18	1970	---	11	4.4	4.3	5.7	.03	.00	.00
31	8.6	---	17	611	---	13	---	3.9	---	.02	.00	---
TOTAL	9322.67	3620.9	5230	9553	876.9	510.9	993.0	1489.8	1339.94	45.97	0.04	44.49
MEAN	301	121	169	308	31.3	16.5	33.1	48.1	44.7	1.48	.001	1.48
MAX	1980	1280	1660	5710	273	78	283	487	452	.11	.02	.20
MIN	.06	8.6	11	11	9.3	8.1	3.7	1.7	.30	.02	.00	.00
AC-FT	18490	7180	10370	18950	1740	1010	1970	2960	2660	91	.08	88

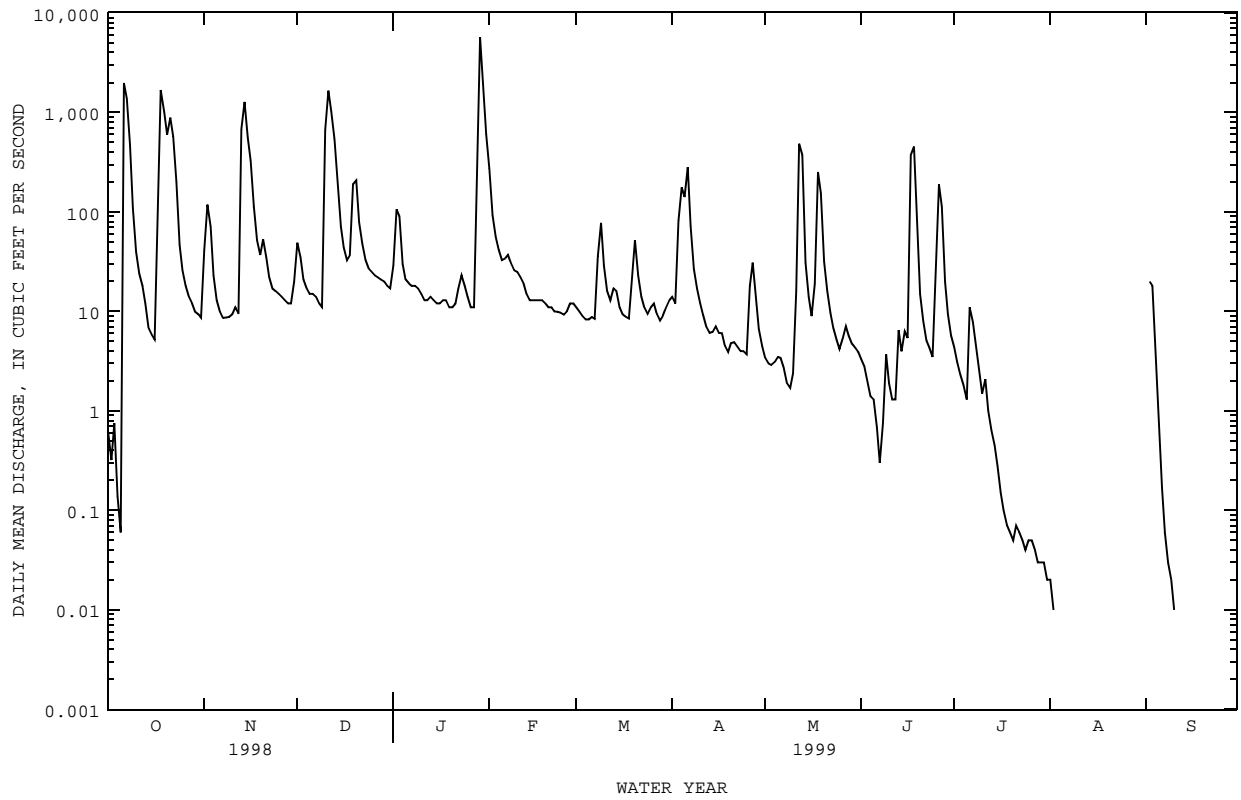
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1999, BY WATER YEAR (WY)

	MEAN	35.6	30.7	90.6	78.6	102	73.9	52.3	90.2	43.6	5.06	2.52	5.44
MAX (WY)	301	150	609	329	307	209	348	335	159	62.0	18.5	44.0	
MIN (WY)	1999	1986	1992	1998	1997	1990	1997	1990	1989	1981	1995	1998	
MIN (WY)	.000	.000	.056	.20	3.36	4.50	3.31	.26	.000	.000	.000	.000	
MIN (WY)	1990	1996	1981	1981	1981	1986	1984	1984	1996	1996	1984	1984	

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1978 - 1999	
ANNUAL TOTAL	37532.97		33027.61			
ANNUAL MEAN	103		90.5		50.8	
HIGHEST ANNUAL MEAN					138	
LOWEST ANNUAL MEAN					3.46	
HIGHEST DAILY MEAN	3050		5710		8390	
LOWEST DAILY MEAN	.00		.00		.00	
ANNUAL SEVEN-DAY MINIMUM	.00		.00		.00	
INSTANTANEOUS PEAK FLOW			8260		17500	
INSTANTANEOUS PEAK STAGE			15.29		16.33	
ANNUAL RUNOFF (AC-FT)	74450		65510		36770	
10 PERCENT EXCEEDS	237		127		82	
50 PERCENT EXCEEDS	8.8		10		3.3	
90 PERCENT EXCEEDS	.00		.00		.00	

08110430 BIG CREEK NEAR FREESTONE, TX--Continued



BRAZOS RIVER BASIN

08110470 LAKE LIMESTONE NEAR MARQUEZ, TX

LOCATION.--Lat 31°19'30", long 96°19'08", Leon County, Hydrologic Unit 12070103, in left end bypass pier of Sterling C. Robertson Dam on the Navasota River, 7.5 mi northwest of Marquez, and 124 mi upstream from mouth.

DRAINAGE AREA.--675 mi².

PERIOD OF RECORD.--Nov 1978 to current year.

Water-quality records.--Chemical data: Jan 1980 to Sep 1997. Biochemical data: Jan 1980 to Sep 1997.

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

REMARKS.--The lake is formed by a rolled earthfill dam 11,395 ft long, including the spillway. The lake was built for water conservation. Deliberate impoundment began on Oct 16, 1978. The spillway is an uncontrolled broad-crested weir 3,000 ft long located near left end of dam. The spillway for normal flood releases is a gated concrete gravity structure with an ogee weir section and stilling basin located near center of dam. It is controlled by five 40- by 28-foot tainter gates. There are two 4- by 8-foot slide gates located in each of the two center piers of the spillway that discharge into the stilling basin. These gates can also be opened during extreme floods. A low-flow outlet, consisting of a 10-inch-diameter cast iron pipe, is located in the left end of pier. In addition, there are two 36-inch (outside diameter) steel cylinder pipes located in the right end pier for water supply releases. The lowest invert for low flow and water supply releases is at elevation 325.50 ft. The city of Mexia releases various amounts of wastewater effluent into stream above lake. Figures given herein represent total contents. Data regarding dam are given in the following table:

	Elevation (feet)
Top of dam.....	380.0
Design flood.....	370.0
Crest of spillway.....	369.6
Top of gates.....	365.0
Top of conservation pool.....	363.0
Concrete gated spillway.....	337.0
Lowest gated outlet (invert).....	322.0

COOPERATION.--Records of daily lake elevations are obtained in cooperation with the Brazos River Authority. A new capacity table, provided by the Texas Water Development Board, was put into use beginning Oct 1, 1995.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 245,000 acre-ft, Dec 21, 1991 (elevation, 364.39 ft); minimum contents after initial filling, 138,400 acre-ft, Nov 23, 1996, (elevation, 356.30 ft).

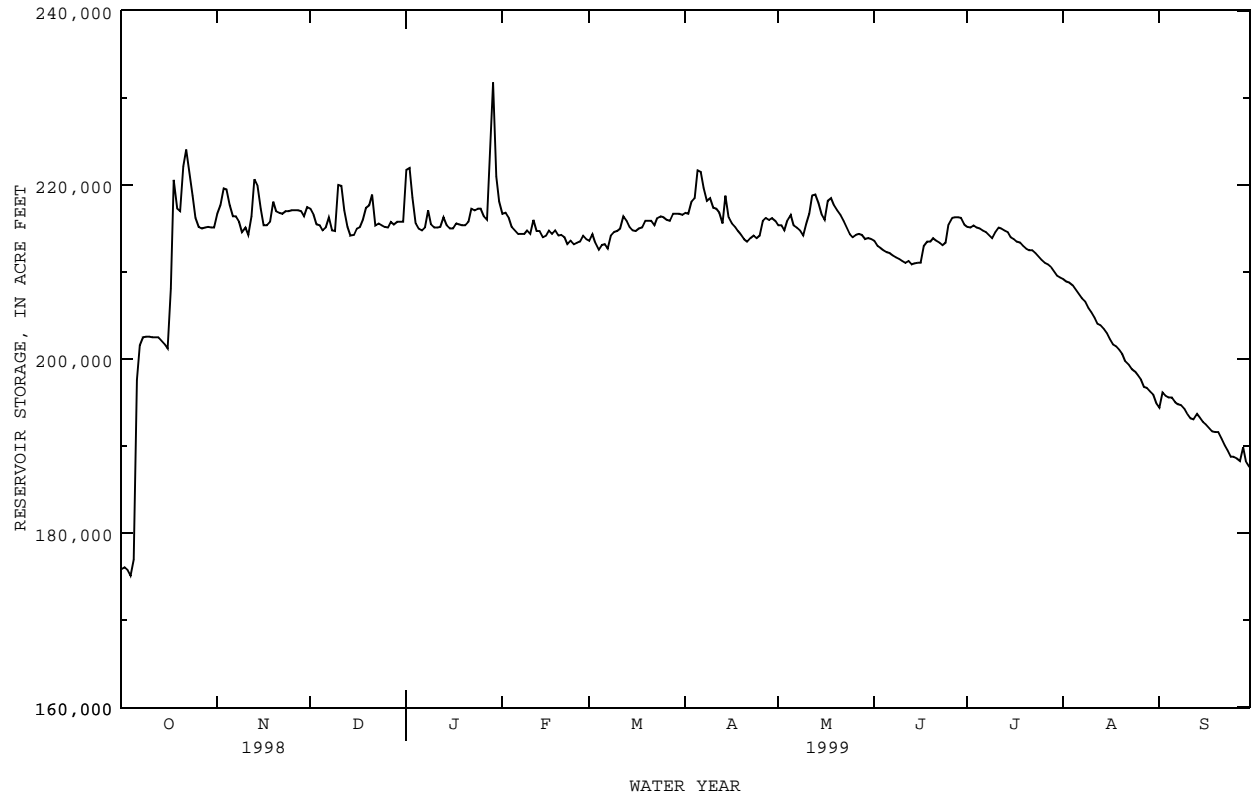
EXTREMES FOR CURRENT YEAR.--Maximum contents, 232,100 acre-ft, Jan 29 (elevation, 364.17 ft); minimum contents, 174,400 acre-ft, Oct 5 (elevation, 359.67 ft).

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	175900	216700	217300	221800	216700	213600	216800	215400	213600	215200	209200	194400
2	176100	217700	216600	222000	216800	214400	216700	215400	213000	215100	208900	196200
3	175800	219600	215500	218600	216200	213400	218100	214800	212800	215400	208800	195800
4	175100	219500	215400	215600	215200	212600	218500	216000	212500	215100	208500	195600
5	177000	217700	214800	215000	214800	213100	221700	216600	212300	215000	208000	195600
6	197600	216400	215100	214800	214400	213200	221500	215400	212200	214800	207500	195100
7	201600	216400	216300	215100	214400	212700	219700	215100	211900	214600	207000	194800
8	202500	215800	214800	217100	214400	214200	218200	214800	211700	214300	206600	194700
9	202600	214600	214700	215500	214800	214600	218500	214200	211500	213900	205900	194300
10	202600	215100	220000	215100	214400	214700	217400	215500	211300	214600	205400	193700
11	202500	214300	219900	215100	216000	215000	217300	216700	211100	215100	204800	193200
12	202500	216400	217100	215200	214700	216400	216800	218800	211300	215000	204100	193100
13	202500	220700	215200	216300	214700	215900	215600	218900	210900	214800	203900	193700
14	202100	219900	214200	215400	214000	215200	218800	217900	211000	214600	203500	193300
15	201700	217300	214300	215000	214200	214800	216300	216600	211100	214000	203000	192800
16	201200	215400	215000	215000	214800	214700	215600	216000	211100	213800	202300	192500
17	208100	215400	215200	215600	214400	215000	215200	218200	213000	213500	201700	192100
18	220600	215800	216000	215500	214800	215100	214700	218500	213500	213400	201500	191700
19	217300	218100	217400	215400	214200	215900	214300	217700	213500	213000	201100	191600
20	217000	217000	217700	215400	214300	215900	213800	217100	213900	212700	200600	191600
21	222200	216800	218900	215800	214000	215900	213500	216600	213600	212500	199800	190900
22	224100	216700	215400	217300	213200	215400	213900	215900	213400	212500	199400	190100
23	221300	217000	215600	217100	213600	216200	214200	215200	213100	212200	198900	189500
24	218800	217000	215400	217300	213200	216400	213900	214400	213400	211800	198600	188800
25	216200	217100	215200	217300	213400	216300	214200	214000	215500	211400	198200	188800
26	215200	217100	215100	216400	213500	216000	215900	214300	216200	211100	197700	188600
27	215000	217100	215800	216000	214200	215900	216200	214400	216300	210900	196800	188300
28	215100	217000	215500	225000	213800	216700	216000	214300	216300	210600	196700	189900
29	215200	216400	215800	231800	---	216700	216200	213800	216200	210100	196300	188200
30	215100	217500	215800	221000	---	216700	215900	213900	215500	209600	195900	187600
31	215100	---	215800	218100	---	216600	---	213800	---	209400	194900	---
MAX	224100	220700	220000	231800	216800	216700	221700	218900	216300	215400	209200	196200
MIN	175100	214300	214200	214800	213200	212600	213500	213800	210900	209400	194900	187600
(+)	362.95	363.13	363.00	363.17	362.85	363.06	363.01	362.85	362.98	362.52	361.38	360.78
(@)	+38,600	+2,400	-1,700	+2,300	-4,300	+2,800	-700	-2,100	+1,700	-6,100	-14,500	-7,300
CAL YR 1998	MAX 235200	MIN 165100	(@) +3700									
WTR YR 1999	MAX 231800	MIN 175100	(@) +11100									

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

08110470 LAKE LIMESTONE NEAR MARQUEZ, TX--Continued



BRAZOS RIVER BASIN

08110500 NAVASOTA RIVER NEAR EASTERLY, TX

LOCATION.--Lat 31°10'12", long 96°17'51", Leon-Robertson County line, Hydrologic Unit 12070103, at left downstream end of bridge on U.S. Highway 79, 1.0 mi upstream from Missouri Pacific Railroad Co. bridge, 7 mi northeast of Easterly, and 105.7 mi upstream from mouth.

DRAINAGE AREA.--968 mi².

PERIOD OF RECORD.--Mar 1924 to current year.

Water-quality records.--Chemical data: Dec 1941 to Sep 1947, Feb 1966 to Aug 1985. Sediment data: Oct 1968 to Sep 1973.

REVISED RECORDS.--WSP 898: 1924, 1926-27, 1928(M), 1929-30, 1931(M). WSP 1512: 1932(M), 1936. WDR TX-76-2: Drainage area. WDR TX- 78-2: 1974(M), 1977.

GAGE.--Water-stage recorder. Datum of gage is 271.46 ft above sea level. Prior to Jun 11, 1932, nonrecording gage at railroad bridge 1.0 mi downstream at 19.86-foot higher datum. Jun 11, 1932 to Sep 30, 1978, water-stage recorder 46 ft upstream at 5.00-foot higher datum. Satellite telemeter at station.

REMARKS.--Records good. Since water year 1961, at least 10% of contributing drainage area has been regulated by Lake Mexia (station 08110300) and Lake Limestone (station 08110470), combined normal storage 234,800 acre-ft. There are numerous diversions above station for irrigation, municipal supply, and oil field operation. Several observations of water temperature was made during the year.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--36 years (water years 1925-60), 406 ft³/s (5.70 in/yr), 294,100 acre-ft/yr.

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1925-60).--Maximum discharge, 60,300 ft³/s May 2, 1944 (gage height, 27.13 ft); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1845, 29 ft in Jun 1899, from information by local residents (discharge, 90,000 ft³/s), from rating curve extended above 60,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	247	47	55	e27300	40	49	32	28	20	13	57
2	13	950	297	725	e2820	37	45	29	24	18	13	59
3	14	863	376	3030	1250	37	55	33	22	17	13	61
4	13	634	372	2990	806	36	276	32	21	16	13	30
5	12	567	366	1870	603	33	503	30	20	16	13	10
6	1630	548	348	682	432	33	1160	27	19	17	40	8.9
7	2160	401	120	288	418	32	1970	26	19	17	92	8.5
8	917	294	64	104	213	48	1390	24	19	17	79	8.3
9	151	288	51	88	92	134	811	23	20	16	60	8.2
10	42	298	590	79	82	118	463	36	22	15	60	8.2
11	28	305	4340	62	75	67	180	50	20	15	61	8.0
12	23	199	17400	61	71	54	114	296	35	157	56	8.0
13	20	1680	9040	59	61	59	106	661	372	338	55	7.9
14	17	7330	4860	56	53	61	182	454	90	185	59	8.2
15	15	10800	2700	55	50	54	213	354	33	36	60	8.1
16	14	6750	670	53	50	41	140	336	25	24	60	7.7
17	41	3660	138	53	52	38	108	317	42	21	62	7.7
18	4850	1480	102	51	e50	39	101	235	172	19	63	7.6
19	23300	299	168	47	e48	47	96	640	157	17	62	7.6
20	8690	112	789	46	e45	54	57	462	28	16	61	7.7
21	4350	85	1330	46	e43	51	34	298	28	16	58	7.5
22	3400	68	1360	57	40	44	31	286	25	15	57	7.4
23	3260	59	947	68	38	39	30	280	27	59	57	7.5
24	2890	55	176	63	37	37	29	275	27	38	58	7.6
25	1990	52	87	49	37	44	28	147	50	20	59	7.7
26	1470	49	73	302	37	50	71	36	201	17	58	7.7
27	705	47	68	359	39	40	225	30	155	15	58	7.6
28	141	45	65	599	41	43	147	30	59	14	58	7.5
29	49	45	62	e4730	---	43	63	29	30	13	58	7.4
30	37	46	58	e34100	---	43	40	32	23	13	58	7.3
31	33	---	54	e36900	---	50	---	35	---	13	58	---
TOTAL	60288	38256	47118	87727	34883	1546	8717	5575	1813	1230	1632	412.8
MEAN	1945	1275	1520	2830	1246	49.9	291	180	60.4	39.7	52.6	13.8
MAX	23300	10800	17400	36900	27300	134	1970	661	372	338	92	61
MIN	12	45	47	46	37	32	28	23	19	13	13	7.3
AC-FT	119600	75880	93460	174000	69190	3070	17290	11060	3600	2440	3240	819

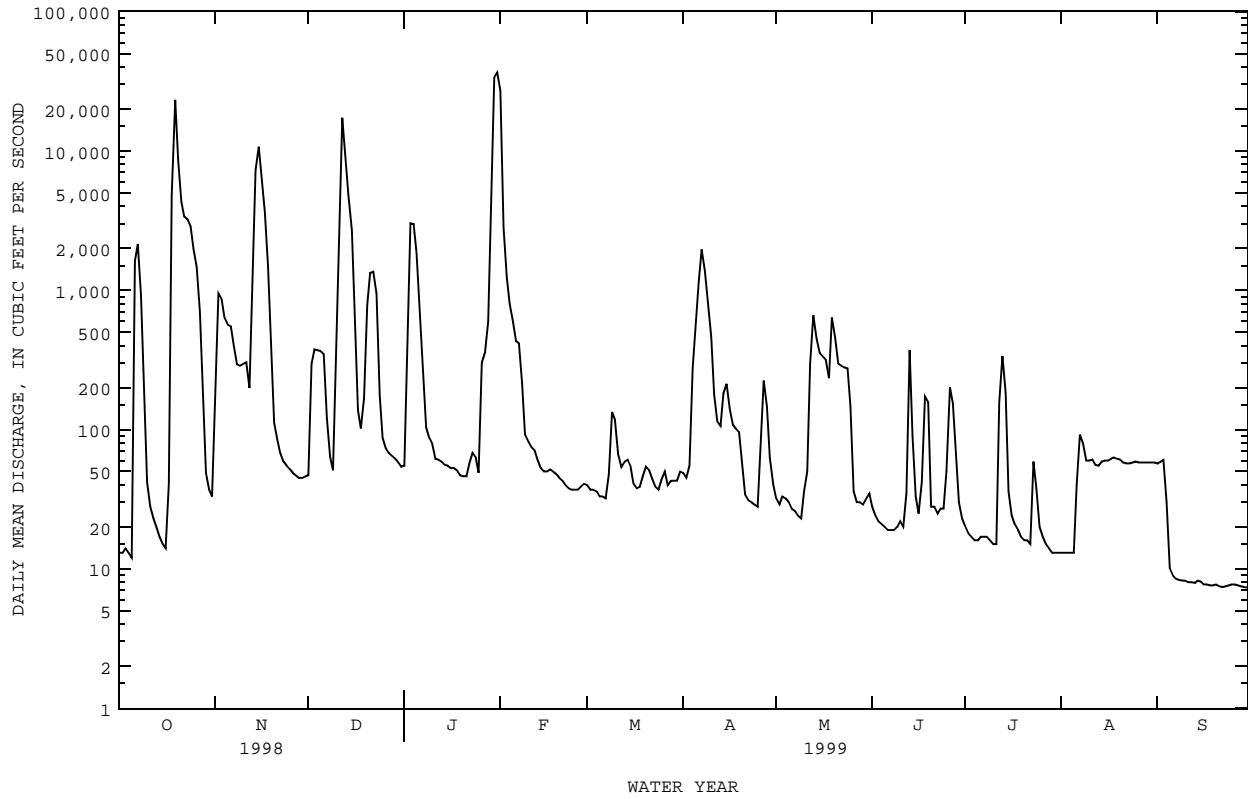
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1999z, BY WATER YEAR (WY)

MEAN	236	301	650	619	730	605	634	888	483	67.5	70.0	112
MAX	2427	4059	5244	2974	3322	2386	3761	5195	2794	474	1032	1614
(WY)	1974	1975	1992	1961	1992	1993	1966	1965	1973	1961	1995	1974
MIN	1.20	1.73	4.63	9.52	13.9	11.3	8.36	6.88	1.88	.37	.81	1.20
(WY)	1964	1964	1964	1964	1996	1996	1972	1972	1971	1964	1963	1972

08110500 NAVASOTA RIVER NEAR EASTERLY, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1961 - 1999z	
ANNUAL TOTAL	290293		289197.8		448	
ANNUAL MEAN	795		792		1172	
HIGHEST ANNUAL MEAN					15.4	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	26900	Jan 8	36900	Jan 31	57400	Dec 22 1991
LOWEST DAILY MEAN	12	Oct 5	7.3	Sep 30	.19	Aug 11 1980
ANNUAL SEVEN-DAY MINIMUM	13	Sep 29	7.5	Sep 24	.26	Jul 12 1964
INSTANTANEOUS PEAK FLOW			37700	Jan 30	61800	Dec 22 1991
INSTANTANEOUS PEAK STAGE			25.17	Jan 30	27.22	Dec 22 1991
ANNUAL RUNOFF (AC-FT)	575800		573600		324800	
10 PERCENT EXCEEDS	1420		1030		918	
50 PERCENT EXCEEDS	62		55		29	
90 PERCENT EXCEEDS	18		13		3.1	

e Estimated
z Period of regulated streamflow.



BRAZOS RIVER BASIN

08110800 NAVASOTA RIVER AT OSR NEAR BRYAN, TX

LOCATION.--Lat 30°58'25", long 96°14'29", Robertson-Leon-Brazos-Madison county intersection, Hydrologic Unit 12070103, on right upstream end of bridge on OSR (Old San Antonio Road) 9.3 miles southwest of Normangee, 13 miles northeast of Wheelock, and 22 miles northeast of Bryan.

DRAINAGE AREA.--1,287 mi².

PERIOD OF RECORD.--Apr 1997 to current year.

REVISED RECORDS.--WDR TX-76-2: Drainage area. TX-96-2: 1996 (M).

GAGE.--Water-stage recorder. Datum of gage is 245 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 Apr 1997, at least 10% of contributing drainage area has been regulated by Lake Mexia (station 08110300) and Lake Limestone (station 08110470), combined capacity 234,800 acre-ft. There are numerous diversions above station for irrigation, municipal supply and oil field operations.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30,100 ft³/s, Jan 31 (gage height, 20.53 ft); minimum discharge, 8.1 ft³/s, Sep 21 (gage height, 1.52 ft).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	283	134	168	17700	108	142	119	78	57	20	60
2	14	737	136	377	9360	106	140	94	69	48	20	61
3	13	1360	304	765	6290	102	135	85	59	43	19	63
4	14	1530	455	1800	3580	95	148	89	52	38	19	65
5	14	1270	477	3250	2190	93	405	91	47	36	18	56
6	32	832	471	3520	1420	90	713	85	44	39	18	31
7	662	770	446	2310	1020	89	1130	75	41	53	21	18
8	2440	621	290	1070	777	91	1640	67	40	53	73	13
9	2670	467	175	512	496	134	1860	60	39	44	84	12
10	1370	421	328	311	296	287	1530	62	43	45	71	11
11	e609	418	1070	229	242	264	970	109	44	53	67	11
12	e273	434	e8100	189	212	172	430	191	47	66	66	10
13	115	1190	15400	175	184	292	201	501	79	166	64	10
14	74	2310	11100	165	164	330	229	882	367	359	60	9.6
15	58	7110	e8230	154	146	235	452	769	200	268	62	9.4
16	47	11300	5880	147	137	167	473	533	89	101	63	9.7
17	55	9540	3270	145	136	131	309	450	68	63	62	9.6
18	1230	7240	1360	142	132	116	198	403	144	51	62	9.1
19	6560	4620	662	136	129	155	159	364	328	46	64	8.9
20	18400	2350	559	130	122	213	141	713	319	40	64	8.7
21	12000	962	900	127	116	224	115	669	126	37	63	8.4
22	8030	508	1370	377	112	187	89	439	80	35	62	8.4
23	6280	335	1590	848	109	146	78	363	79	32	60	9.5
24	5210	240	1510	520	106	124	72	339	81	46	60	8.8
25	4480	197	786	309	104	118	68	320	80	65	61	8.8
26	3620	175	360	228	105	135	74	211	102	44	61	9.1
27	2870	159	241	368	107	161	229	100	272	33	61	9.4
28	1920	147	208	501	109	141	499	78	225	28	61	9.8
29	832	141	194	1560	---	147	380	80	116	25	60	9.7
30	369	138	182	18100	---	141	190	87	75	23	60	9.5
31	216	---	170	28800	---	137	---	81	---	21	60	---
TOTAL	80491	57805	66358	67433	45601	4931	13199	8509	3433	2058	1666	577.4
MEAN	2596	1927	2141	2175	1629	159	440	274	114	66.4	53.7	19.2
MAX	18400	11300	15400	28800	17700	330	1860	882	367	359	84	65
MIN	13	138	134	127	104	89	68	60	39	21	18	8.4
AC-FT	159700	114700	131600	133800	90450	9780	26180	16880	6810	4080	3300	1150

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999z, BY WATER YEAR (WY)

	1997	1998	1999	1999z	1997	1998	1999	1999z	1997	1998	1999	1999z
MEAN	1310	980	1227	2562	1566	522	889	439	557	61.0	64.2	55.4
MAX	2596	1927	2141	2950	1629	885	2063	981	1492	66.4	73.1	88.1
(WY)	1999	1999	1999	1998	1999	1998	1997	1997	1997	1999	1997	1998
MIN	24.3	33.1	314	2175	1504	159	164	62.3	63.3	58.0	53.7	19.2
(WY)	1998	1998	1998	1999	1998	1999	1998	1998	1998	1998	1999	1999

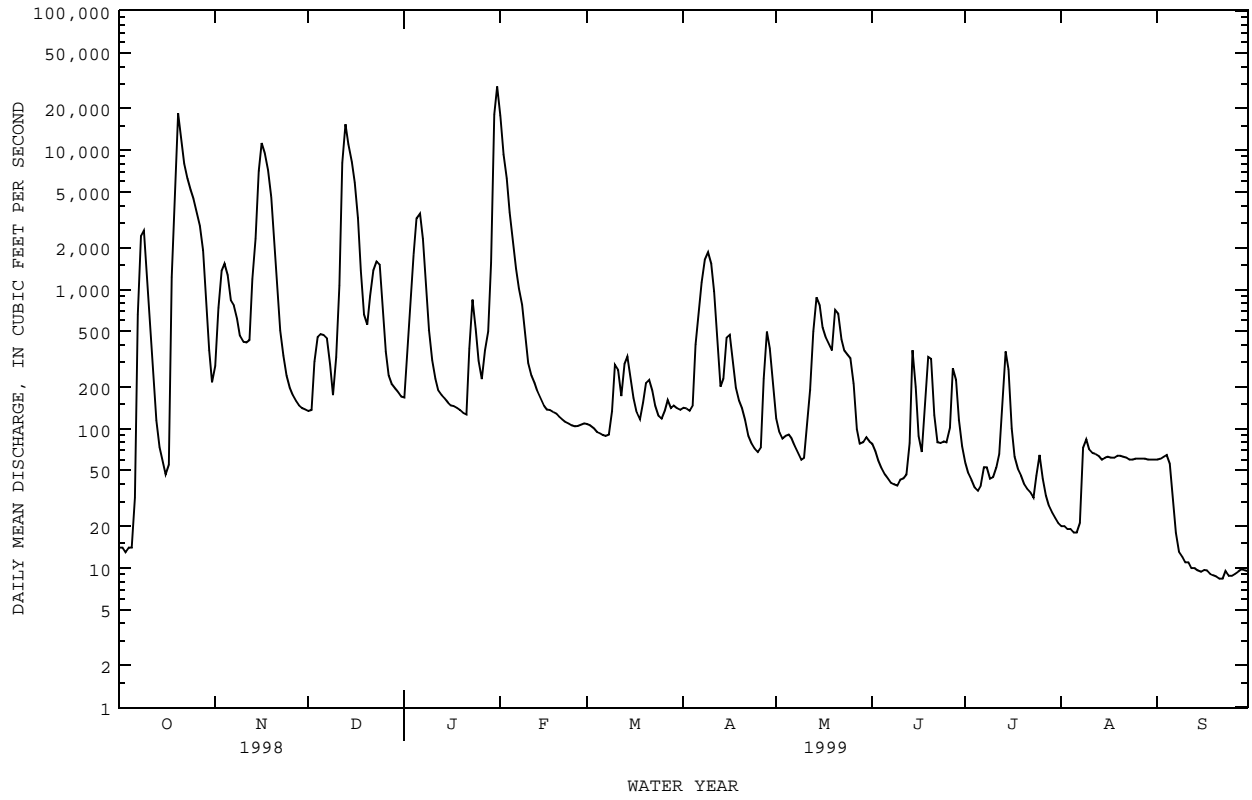
SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1997 - 1999z

ANNUAL TOTAL	380874	352061.4	
ANNUAL MEAN	1043	965	739
HIGHEST ANNUAL MEAN			965
LOWEST ANNUAL MEAN			514
HIGHEST DAILY MEAN	22700	28800	28800
LOWEST DAILY MEAN	13	8.4	8.4
ANNUAL SEVEN-DAY MINIMUM	14	8.8	8.8
INSTANTANEOUS PEAK FLOW		30100	30100
INSTANTANEOUS PEAK STAGE		20.53	20.53
ANNUAL RUNOFF (AC-FT)	755500	698300	535700
10 PERCENT EXCEEDS	2450	1820	1580
50 PERCENT EXCEEDS	98	141	84
90 PERCENT EXCEEDS	52	21	25

e Estimated

z Period of regulated streamflow.

08110800 NAVASOTA RIVER AT OSR NEAR BRYAN, TX--Continued



08111500 BRAZOS RIVER NEAR HEMPSTEAD, TX

LOCATION.--Lat 30°07'44", long 96°11'15", Washington-Waller County line, Hydrologic Unit 12070101, at downstream side of bridge on U.S. Highway 290, 6,000 ft upstream from Texas and New Orleans Railroad Co. bridge, 6.5 mi northwest of Hempstead, 10.5 mi upstream from Caney Creek, and at mile 193.8.

DRAINAGE AREA.--43,880 mi², approximately, of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--Oct 1938 to current year. Gage-height records collected in this vicinity at intermittent periods since 1903 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1512: 1941. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 107.90 ft above sea level. Prior to Nov 1, 1940, nonrecording gage at railroad bridge 6,000 ft downstream at datum 4.20 ft higher. Nov 1, 1940, to Sep 30, 1963, nonrecording gage at site 1,500 ft downstream at datum 10.00 ft higher. Oct 1, 1964, to Jul 31, 1974, water-stage recorder 1,500 ft downstream at datum 10.00 ft higher. Aug 1, 1974 to Dec 31, 1988, water-stage recorder at present site at datum 10.00 ft higher. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since water year 1939, at least 10% of contributing drainage area has been regulated by five upstream reservoirs with a combined capacity of 4,955,000 acre-ft. Flow is also affected by discharge from the flood-detention pools of 147 floodwater-retarding structures with a combined detention capacity of 153,200 acre-ft. There are many diversions above station for irrigation, municipal and industrial uses, and for oil field operations.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1899, 66.1 ft Dec 8, 1913, at site 1,500 ft downstream at present datum, from information by Texas and New Orleans Railroad Co., obtained at bridge 6,000 ft downstream. Flood of Jul 4, 1899, reached a stage of 63.6 ft, at site 1,500 ft downstream at present datum, from information by Texas and New Orleans Railroad Co.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1060	12000	5830	6700	20300	2170	4060	3220	2340	1980	919	1020
2	885	12600	5600	11300	22400	2150	3850	2590	2910	1910	1170	947
3	954	14600	5540	10800	25800	2170	3920	2230	2200	1760	1530	803
4	1140	15400	5840	10400	25800	2140	6310	1990	1800	1540	1630	733
5	1150	13500	5940	9240	24300	1920	3830	1790	1790	1460	1530	677
6	1130	10800	5790	8500	22200	1830	3080	1640	2100	1370	1320	645
7	1010	9260	7280	8380	19400	1910	4830	1570	2120	1360	1100	687
8	3350	8390	10300	7290	16800	1980	4980	1490	1870	1530	1060	667
9	7460	7820	9260	7120	13900	2230	4970	1430	1630	1320	1050	640
10	6110	7180	8640	7320	11100	2190	4750	1610	1550	1100	1170	585
11	3950	6940	12700	7530	8550	2040	4540	4380	1440	1090	1250	544
12	2870	14400	29000	7530	6760	2210	4390	5050	1270	1150	1260	513
13	2410	51600	41000	7510	5780	2760	4060	6250	1370	1380	1110	487
14	2230	54200	39100	6870	5090	3140	3550	8670	1450	1980	1300	465
15	2170	58400	32300	5860	4730	3530	3570	7290	1370	2610	1600	453
16	1990	57900	29200	5140	4430	3980	3510	5500	1510	2340	1560	441
17	1880	56300	28200	4730	4230	4260	3170	4530	1670	2210	1420	428
18	18600	43200	27000	4570	4800	3630	2920	4060	1770	2220	1330	418
19	46200	29000	e25000	4560	4590	3740	2770	3850	1620	2110	1090	410
20	68000	24200	e22500	4410	3920	4390	2540	3820	1830	1910	940	398
21	76900	23300	20000	4350	3600	8790	2330	4110	1700	1850	861	382
22	77200	22000	17400	4250	3830	10100	2190	4160	1710	1730	977	368
23	62800	20000	14900	4180	3620	7190	2040	3580	1810	1740	1170	362
24	42100	17200	12700	4500	3450	5560	2100	3040	1810	1680	1300	359
25	29600	14800	12100	e4200	3280	4990	2050	2510	1900	1640	1280	349
26	23600	12700	11100	e4000	2980	5260	1800	2110	4020	1560	1040	344
27	20000	9800	8930	e3800	2880	5170	2750	1910	3280	1330	856	340
28	17600	7210	7830	e4500	2420	4950	3800	1770	2570	1260	751	332
29	15500	5830	7610	e5000	---	4990	4510	1760	2070	1450	706	336
30	14200	5950	7350	e9000	---	4600	4080	1750	1980	1340	656	361
31	13200	---	6550	e17000	---	4290	---	2060	---	1100	679	---
TOTAL	567249	646480	482490	210540	280940	120260	107250	101720	58460	51010	35615	15494
MEAN	18300	21550	15560	6792	10030	3879	3575	3281	1949	1645	1149	516
MAX	77200	58400	41000	17000	25800	10100	6310	8670	4020	2610	1630	1020
MIN	885	5830	5540	3800	2420	1830	1800	1430	1270	1090	656	332
AC-FT	1125000	1282000	957000	417600	557200	238500	212700	201800	116000	101200	70640	30730

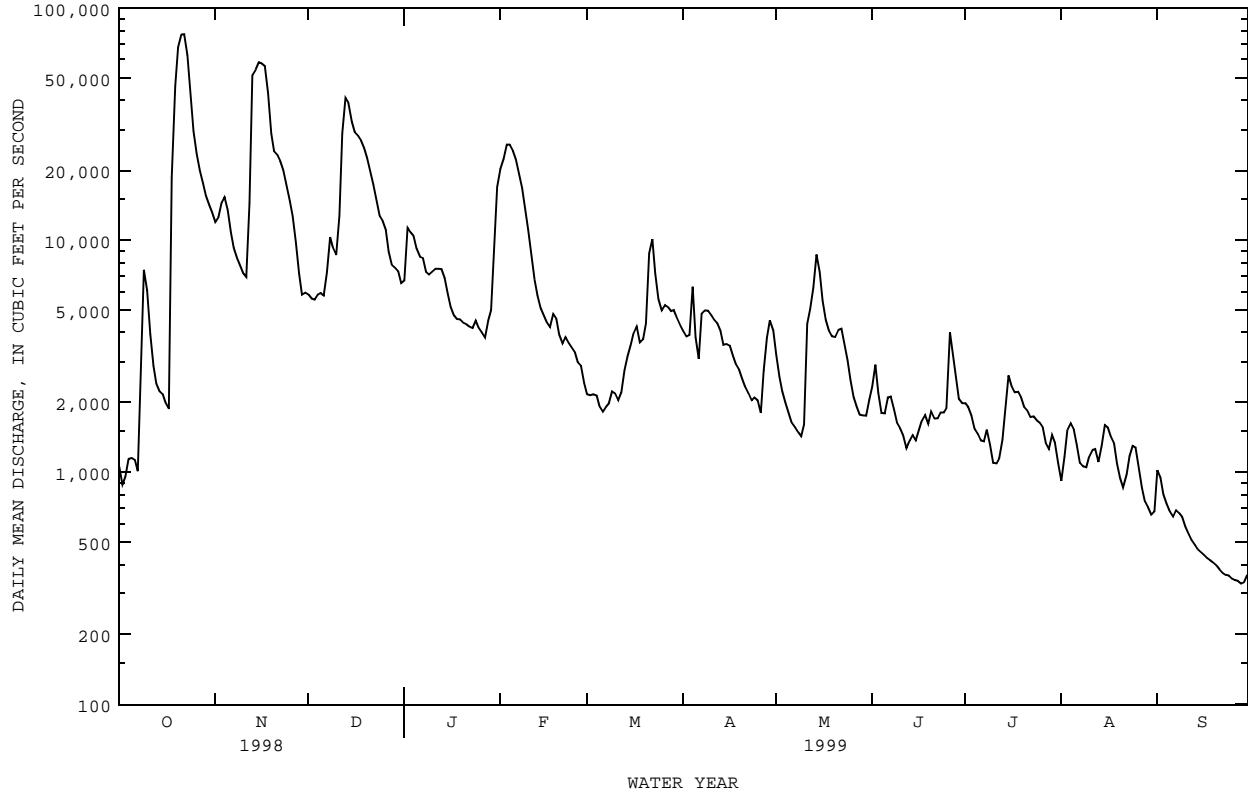
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1999, BY WATER YEAR (WY)

MEAN	4736	4875	6286	7121	8228	8153	8861	14130	10870	4785	2413	2880
MAX	24830	29490	41590	55990	54750	50450	42860	69860	51960	19000	11510	18030
(WY)	1960	1975	1941	1992	1992	1992	1945	1957	1957	1940	1995	1974
MIN	181	318	299	386	572	426	922	954	1027	1086	726	454
(WY)	1953	1989	1955	1940	1971	1954	1954	1996	1956	1996	1963	1954

08111500 BRAZOS RIVER NEAR HEMPSTEAD, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1939 - 1999	
ANNUAL TOTAL	3924065		2677508		6936	
ANNUAL MEAN	10750		7336		1216	
HIGHEST ANNUAL MEAN					26170	1992
LOWEST ANNUAL MEAN					1216	1984
HIGHEST DAILY MEAN	77200	Oct 22	77200	Oct 22	138000	May 1 1957
LOWEST DAILY MEAN	661	Aug 29	332	Sep 28	137	Nov 6 1952
ANNUAL SEVEN-DAY MINIMUM	933	Aug 24	346	Sep 24	140	Nov 3 1952
INSTANTANEOUS PEAK FLOW			79100	Oct 22	143000	May 2 1957
INSTANTANEOUS PEAK STAGE			43.66	Oct 22	54.21	May 2 1957
ANNUAL RUNOFF (AC-FT)	7783000		5311000		5025000	
10 PERCENT EXCEEDS	28500		19600		18000	
50 PERCENT EXCEEDS	5950		3350		2530	
90 PERCENT EXCEEDS	1080		932		700	

e Estimated



BRAZOS RIVER BASIN

08114000 BRAZOS RIVER AT RICHMOND, TX

LOCATION.--Lat 29°34'56", long 95°45'27", Fort Bend County, Hydrologic Unit 12070104, on right bank at upstream side of downstream bridge on U.S. Highway 90 in Richmond, 850 ft downstream from Texas and New Orleans Railroad Co. bridge, and at mile 92.0.

DRAINAGE AREA.--45,007 mi², approximately, of which 9,566 mi² probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Jan 1903 to Jun 1906, Oct 1922 to current year. Published as "at Rosenberg" Oct 1922 to Sep 1931. Jun to Nov 1901 and Jun to Sep 1902 in U.S. Department of Agriculture, Office of Experiment Stations, Bulletin Nos. 119 and 133. Gage-height records collected in this vicinity since 1914 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1392: 1933. WSP 1632: 1958. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 27.94 ft above sea level. Prior to Oct 1, 1922, various types of nonrecording gages at railroad bridge 925 ft upstream at different datums. Oct 1, 1922 to Sep 30, 1931, nonrecording chain gage at Rosenberg 7.6 mi upstream at datum about 17 ft higher; Oct 1, 1931, to Sep 30, 1975, water-stage recorder present site at datum 13.00 ft higher; Oct 1, 1975, to Dec 31, 1988, water-stage recorder at present site and at datum 10.00 ft higher. Satellite telemeter at station.

REMARKS.--Records fair. Since water year 1941, at least 10% of contributing drainage area has been regulated by five upstream reservoirs with a combined capacity of 4,955,000 acre-ft. Flow is also affected by discharge from the flood-detention pools of 147 floodwater-retarding structures with a combined detention capacity of 153,200 acre-ft. These structures control runoff from 451 mi² above station. Considerable water is diverted above station for irrigation and for municipal supply.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--20 years (water years 1904-05, 1923-40) 7,209 ft³/s (5,223,000 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS, 1904-05, 1923-40).--Maximum discharge, 123,000 ft³/s Jun 6, 1929 (gage height, 53.6 ft, from floodmark), present site and datum; minimum daily, 35 ft³/s Aug 23, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1852, 61.2 ft Dec 10, 1913, present datum, from floodmarks on right bank 1,000 ft upstream from gage. From information by Texas and New Orleans Railroad Co., stages of other floods at railroad bridge, present datum, are as follows: May 1884, 56.7 ft; Jun 13, 1885, 57.7 ft; Jul 1899, 58.6 ft; May 2, 1915, 56.3 ft; and May 9, 1922, 53.9 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2030	12000	6930	7500	8740	3250	4940	4540	2850	2610	1620	973
2	1850	11400	6950	7950	16300	2860	4670	4190	2690	2330	1420	898
3	1660	11400	6720	10100	20000	2540	4580	3550	2820	2330	1190	889
4	1510	12100	6500	11900	23000	2580	4430	3070	3050	2220	1230	1120
5	1390	12700	6640	10700	23500	2540	6370	2780	2450	2240	1650	1020
6	1640	12100	6860	9990	22200	2600	6360	2430	2130	2040	1810	991
7	2010	10500	6830	8990	20300	2580	4250	2260	2260	1930	1770	802
8	1710	9230	7850	8800	18200	2250	3940	2090	2330	1830	1560	719
9	1570	8390	11000	8190	16300	2090	5290	1960	2420	1680	1320	698
10	4050	7790	11300	7390	14100	2150	5340	1910	2310	1850	1160	750
11	7180	7210	10900	7460	12100	2400	5310	e2110	2120	1780	1130	653
12	6720	7470	14000	7930	9980	2620	5050	e2610	2010	1520	1130	634
13	3860	27200	30200	8130	8030	2790	4820	5460	2060	1360	1260	515
14	3100	64800	40400	8240	6750	3040	4630	5120	2060	1360	1360	587
15	2670	77200	39300	7590	5920	3520	4180	6910	2120	1600	1220	624
16	2470	78500	32800	6600	5400	3570	3840	7660	2370	2020	1310	551
17	2410	75200	28400	5760	5250	3700	3900	6430	2190	e2500	1600	575
18	9250	68700	26600	5250	4870	4160	3810	5520	1850	2600	1750	560
19	52500	56600	25300	5000	4920	4870	3540	4640	1990	2680	1640	690
20	72000	37800	23600	4900	5380	6990	3300	4220	2250	2690	1540	619
21	77600	26400	21100	4840	4960	6550	3130	4030	2150	2660	1280	580
22	79600	21200	18400	4740	4440	6980	2890	4180	2310	2480	1040	507
23	77900	20000	16700	4690	4240	9110	2740	4390	2610	2290	932	574
24	69600	19400	14800	4540	4320	8110	2590	4250	2550	2180	899	476
25	59000	16400	13100	4600	4140	6440	2340	3790	2920	2140	1150	507
26	40500	14400	12200	4860	3890	5250	2390	3260	2850	2060	1380	467
27	26400	12900	11700	4720	3610	5120	2510	2890	5020	2050	1430	466
28	20100	11200	10200	4680	3120	5680	2250	2620	7780	1970	1300	353
29	17400	9080	8730	4930	---	5940	3260	2370	4830	1720	1090	429
30	14600	7520	8130	6180	---	5750	4190	2450	3230	1510	943	419
31	12700	---	7990	6630	---	5640	---	2620	---	1630	959	---
TOTAL	676980	766790	492130	213780	283960	133670	120840	116310	82580	63860	41073	19646
MEAN	21840	25560	15880	6896	10140	4312	4028	3752	2753	2060	1325	655
MAX	79600	78500	40400	11900	23500	9110	6370	7660	7780	2690	1810	1120
MIN	1390	7210	6500	4540	3120	2090	2250	1910	1850	1360	899	353
AC-FT	1343000	1521000	976100	424000	563200	265100	239700	230700	163800	126700	81470	38970

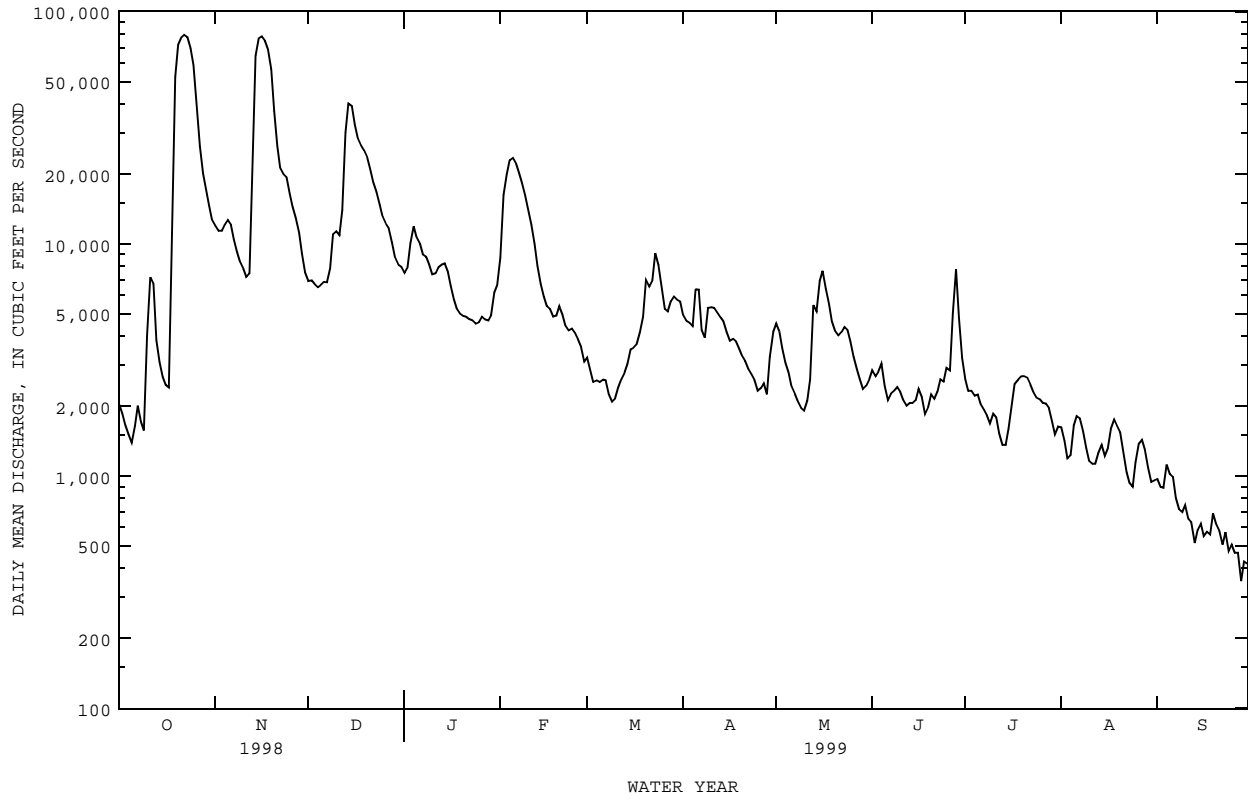
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999z, BY WATER YEAR (WY)

	MEAN	5293	5698	7145	8114	9024	9101	9384	15140	11920	4916	2579	3249
MAX	28760	32360	52860	60500	54410	54050	41900	77200	58350	17100	11800	19850	
(WY)	1958	1975	1941	1992	1992	1992	1945	1957	1957	1968	1995	1974	
MIN	203	366	480	543	702	445	800	819	786	717	550	414	
(WY)	1953	1989	1955	1952	1971	1954	1996	1996	1956	1956	1963	1954	

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1941 - 1999z	
ANNUAL TOTAL	4274392		3011619		7621	
ANNUAL MEAN	11710		8251		26620	
HIGHEST ANNUAL MEAN					1403	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	79600	Oct 22	79600	Oct 22	118000	May 5 1957
LOWEST DAILY MEAN	631	Aug 4	353	Sep 28	55	Jul 5 1956
ANNUAL SEVEN-DAY MINIMUM	753	Jul 31	445	Sep 24	93	Jul 4 1956
INSTANTANEOUS PEAK FLOW			80300	Oct 22	119000	May 5 1957
INSTANTANEOUS PEAK STAGE			47.08	Oct 22	50.30	Oct 21 1994
ANNUAL RUNOFF (AC-FT)	8478000		5974000		5521000	
10 PERCENT EXCEEDS	30200		18800		19200	
50 PERCENT EXCEEDS	6950		3890		2950	
90 PERCENT EXCEEDS	1080		1130		786	

e Estimated
z Period of regulated streamflow.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Oct 1941 to current year.
 BIOCHEMICAL DATA: Jan 1968 to Oct 1995.
 PESTICIDE DATA: Oct 1967 to May 1982
 SEDIMENT DATA: Apr 1957 to Sep 1996.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Oct 1941 to Sep 1995.
 WATER TEMPERATURE: Nov 1950 to Sep 1995.
 SUSPENDED-SEDIMENT DISCHARGE: Jan 1966 to Sep 1986.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,600 microsiemens, Sep 4, 1978; minimum daily, 152 microsiemens, Oct 19, 1994.
 WATER TEMPERATURE: Maximum daily, 33.0°C, Aug 5, 1951; minimum daily, 1.0°C, Jan 8, 1970 and Dec 23-24, 1989.
 SEDIMENT CONCENTRATION: Maximum daily mean, 13,500 mg/L, Apr 4, 1979; minimum daily mean, 8 mg/L, Nov 29, 1967, Sep 20, and Oct 6, 7, 1980.
 SEDIMENT LOAD: Maximum daily, 1,860,000 tons Apr 4, 1979; minimum daily, 9.8 tons Oct 11, 1983.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00300)	OXYGEN, DIS-SOLVED (MG/L) (00301)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	HARD-NESS NONCARB DISSOLV PLD. AS CAC03 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
FEB 11...	0930	12200	310	7.4	20.0	8.0	88	--	--	--
JUN 23...	1130	2640	615	7.5	28.5	6.5	84	190	24	54
JUN 23...	1135	--	615	7.5	28.5	6.5	84	--	--	--
AUG 23...	0925	885	1070	7.7	31.0	6.5	88	230	62	62
DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	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)
FEB 11...	--	--	--	--	75	--	--	--	--	--
JUN 23...	13	49	2	4.5	170	48	59	.29	9.0	335
JUN 23...	--	--	--	--	170	--	--	--	--	--
AUG 23...	18	111	3	8.9	170	90	170	.32	9.4	571
DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS P04) (00660)	ARSENIC, DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)
FEB 11...	<.010	.415	.021	.40	.42	E.037	.031	.10	1	66
JUN 23...	<.010	<.050	<.020	--	.27	E.037	.029	.09	--	--
JUN 23...	--	--	--	--	--	--	--	--	--	--
AUG 23...	<.010	<.050	<.020	--	.42	<.050	<.010	--	5	151

BRAZOS RIVER BASIN

08114000 BRAZOS RIVER AT RICHMOND, TX--Continued

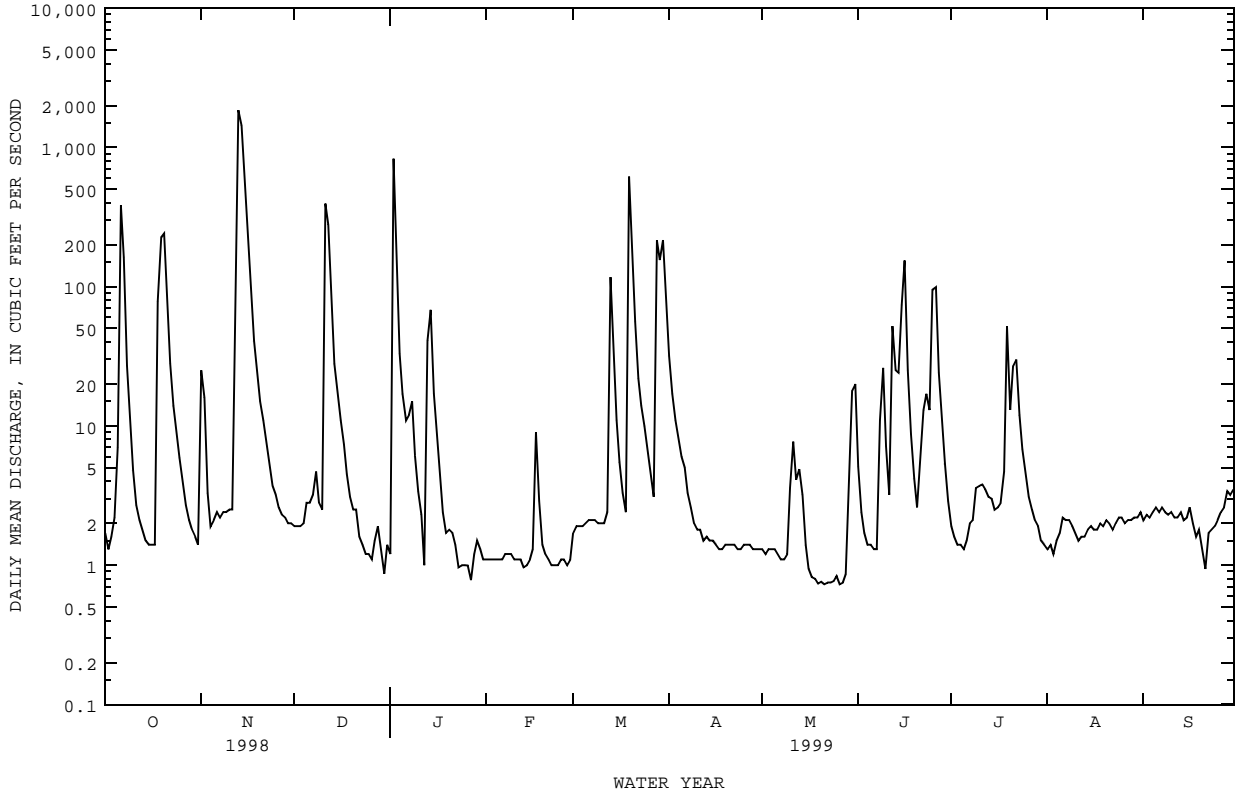
WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
FEB 11...	<1.0	<1.0	1.9	17	<1.0	<3.0	<.1	<1	<1.0	<20
JUN 23...	--	--	--	--	--	--	--	--	--	--
AUG 23...	<1.0	<1.0	7.0	<10	<1.0	8.8	<.1	1	<1.0	E18

08115000 BIG CREEK NEAR NEEDVILLE, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1947 - 1999	
ANNUAL TOTAL	14841.34		11082.36		36.0	
ANNUAL MEAN	40.7		30.4		91.1 1973	
HIGHEST ANNUAL MEAN					3.18 1947	
LOWEST ANNUAL MEAN						
HIGHEST DAILY MEAN	1850	Nov 13	1850	Nov 13	7080	Jun 26 1960
LOWEST DAILY MEAN	.77	Jun 23	.73	May 21	.00	Jun 13 1947
ANNUAL SEVEN-DAY MINIMUM	1.0	Jun 20	.76	May 18	.00	Jun 13 1947
INSTANTANEOUS PEAK FLOW			2240	Nov 13	10400	Jun 26 1960
INSTANTANEOUS PEAK STAGE			21.87	Nov 13	24.23	Oct 18 1994
ANNUAL RUNOFF (AC-FT)	29440		21980		26060	
10 PERCENT EXCEEDS	50		32		50	
50 PERCENT EXCEEDS	2.6		2.2		1.7	
90 PERCENT EXCEEDS	1.3		1.1		.10	

e Estimated



BRAZOS RIVER BASIN

08116650 BRAZOS RIVER NEAR ROSHARON, TX

LOCATION.--Lat 29°20'58", long 95°34'56", Fort Bend-Brazoria County line, Hydrologic Unit 12070104, on right bank at downstream side of bridge on Farm Road 1462, 2.0 mi downstream from Big Creek, 2.1 mi upstream from Cow Creek, and 7.3 mi west of Rosharon and at mile 56.7.

DRAINAGE AREA.--45,339 mi², approximately, of which 9,566 mi² probably is noncontributing.

PERIOD OF RECORD.--Apr 1967 to Sep 1980, Apr 1984 to current year.

Water-quality records.--Chemical data: Oct 1967 to Sep 1980. Biochemical data: Oct 1967 to Sep 1980. Sediment data: Oct 1974 to Sep 1980. Specific conductance: Oct 1967 to Sep 1980. Water temperature: Oct 1967 to Sep 1980.

REVISED RECORDS.--WDR TX-76-2: Drainage area.

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

REMARKS.--No estimated daily discharges. Records fair. Since installation of gage in Apr 1967, at least 10% of contributing drainage area has been regulated by six upstream reservoirs with a combined capacity of 4,828,600 acre-ft, of which 3,482,690 acre-ft is for flood control. Flow is affected at times by discharge from the flood-detention pools of 147 floodwater-retarding structures with a combined detention capacity of 153,200 acre-ft. These structures control runoff from 451 mi². Water is diverted above station for irrigation, industrial, and municipal supply which materially affects low flows.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation since at least 1884, 56.4 ft about Dec 11, 1913, from information by the Texas Department of Transportation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1980	14200	7180	7370	6710	3310	5530	3530	2750	2460	1230	865
2	1840	13700	6770	10300	11400	3120	4900	3690	2530	1990	1190	803
3	1630	12700	6570	11700	18100	2790	4610	3290	2210	1780	1040	688
4	1520	12600	6280	12100	22200	2580	4390	2810	2350	1740	913	699
5	1930	13500	6130	11300	24800	2610	4570	2470	2300	1650	941	853
6	1960	13600	6280	10200	24600	2600	6300	2190	1860	1620	1220	776
7	3850	12300	6360	9280	23000	2560	5200	1900	1650	1690	1300	733
8	2870	10600	6370	8780	20600	2440	3810	1750	1700	1510	1260	616
9	2090	9290	8010	8390	18000	2260	4030	1660	1780	1410	1110	504
10	2140	8540	10400	7680	15500	2180	4710	1730	1910	1330	958	456
11	5240	7930	11500	7260	13000	2230	4630	1990	1870	1370	863	483
12	6230	7620	16300	7270	10600	2390	4540	2120	1890	1280	892	420
13	4870	21600	25000	7410	8570	2750	4350	3550	2080	1140	943	385
14	3670	56600	38300	8810	7010	3070	4250	4810	2760	1090	1010	396
15	3130	71600	42700	8540	6060	3120	3930	5020	1980	1130	1050	335
16	2720	75300	39200	7500	5400	3280	3480	6650	3410	1300	970	321
17	2510	76100	33400	6480	5140	3450	3270	6470	3200	1810	1020	278
18	3290	75500	29800	5840	4840	3610	3300	5230	2230	2110	1230	279
19	33100	72600	28200	5380	4550	4840	3140	4280	1790	2120	1280	266
20	60900	62900	26600	5140	4720	9090	2930	3710	1690	2260	1210	344
21	70100	44300	24300	5050	4790	8740	2770	3390	1780	2520	1130	330
22	73500	30000	21100	4870	4380	6470	2650	3250	1910	2560	989	289
23	74600	24500	18400	4710	4010	7990	2480	3370	1990	2080	839	276
24	74800	21900	16500	4600	3950	9020	2350	3470	2170	1820	772	298
25	73000	19400	14400	4570	3950	7260	2180	3260	2180	1700	722	263
26	63600	16800	12600	4730	3760	5750	2040	2880	2960	1670	891	274
27	44400	14500	11700	4830	3580	5090	2110	2480	2690	1610	1040	289
28	28800	12600	10700	4730	3430	5290	2070	2240	5660	1580	1070	310
29	21400	10400	9060	4670	---	6310	2020	2060	5840	1500	973	278
30	17600	8500	7970	5170	---	6960	2920	1980	3480	1300	843	360
31	15300	---	7580	6110	---	6390	---	3190	---	1170	720	---
TOTAL	704570	851680	515660	220770	286650	139550	109460	100420	74600	52300	31619	13467
MEAN	22730	28390	16630	7122	10240	4502	3649	3239	2487	1687	1020	449
MAX	74800	76100	42700	12100	24800	9090	6300	6650	5840	2560	1300	865
MIN	1520	7620	6130	4570	3430	2180	2020	1660	1650	1090	720	263
AC-FT	1398000	1689000	1023000	437900	568600	276800	217100	199200	148000	103700	62720	26710

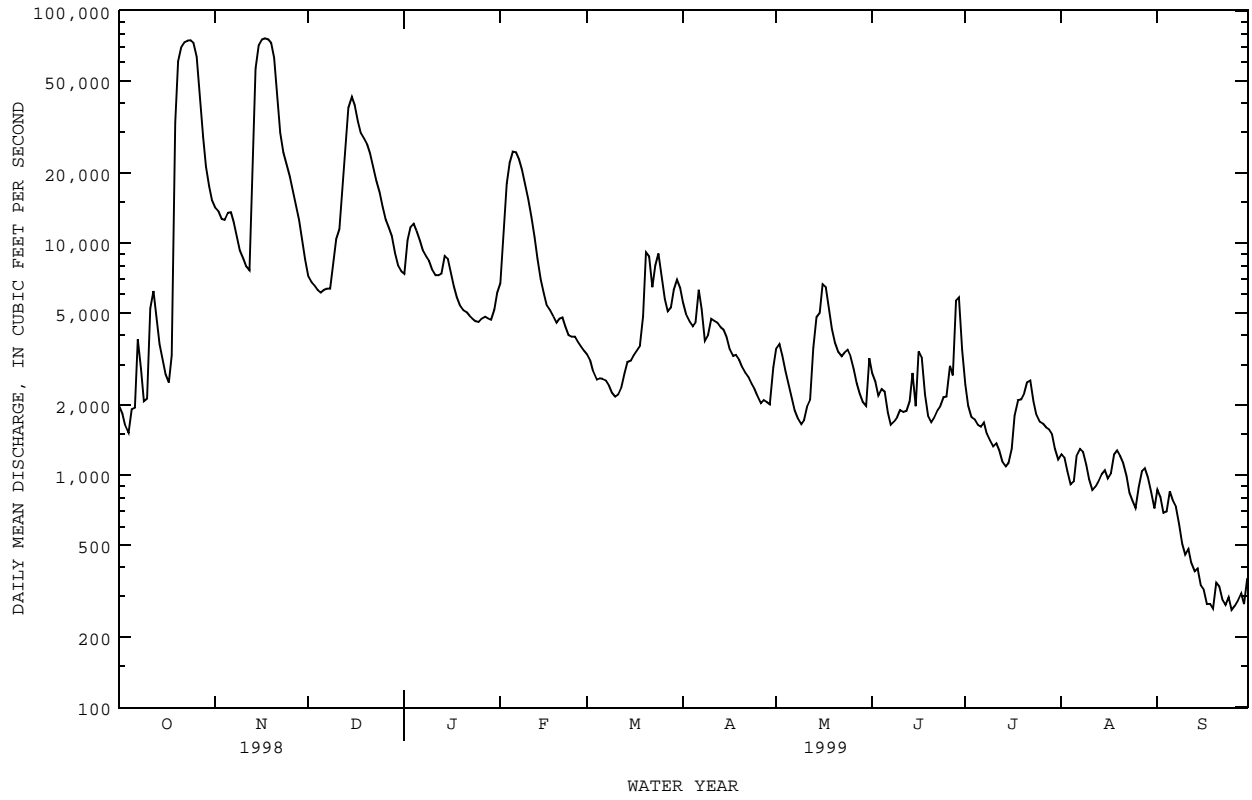
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1999, BY WATER YEAR (WY)

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999				
MEAN	5377	6195	8079	10690	10940	12380	10860	13260	12740	4617	2623	3277																									
MAX	24240	33580	23360	70560	60530	60170	32050	39370	41010	18200	11370	19370																									
(WY)	1974	1975	1992	1992	1992	1992	1977	1990	1987	1968	1995	1974																									
MIN	369	290	866	1119	596	498	511	312	367	246	596	449																									
(WY)	1989	1989	1989	1971	1971	1971	1996	1978	1971	1971	1985	1999																									

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1967 - 1999
ANNUAL TOTAL	4637512	3100746	
ANNUAL MEAN	12710	8495	8612
HIGHEST ANNUAL MEAN			29050
LOWEST ANNUAL MEAN			1634
HIGHEST DAILY MEAN	76100	Nov 17	83900
LOWEST DAILY MEAN	320	Aug 5	36
ANNUAL SEVEN-DAY MINIMUM	451	Aug 1	284
INSTANTANEOUS PEAK FLOW			76400
INSTANTANEOUS PEAK STAGE		49.42	Nov 17
ANNUAL RUNOFF (AC-FT)	9199000	6150000	6239000
10 PERCENT EXCEEDS	33700	21200	21900
50 PERCENT EXCEEDS	6920	3430	3430
90 PERCENT EXCEEDS	813	881	715

08116650 BRAZOS RIVER NEAR ROSHARON, TX--Continued



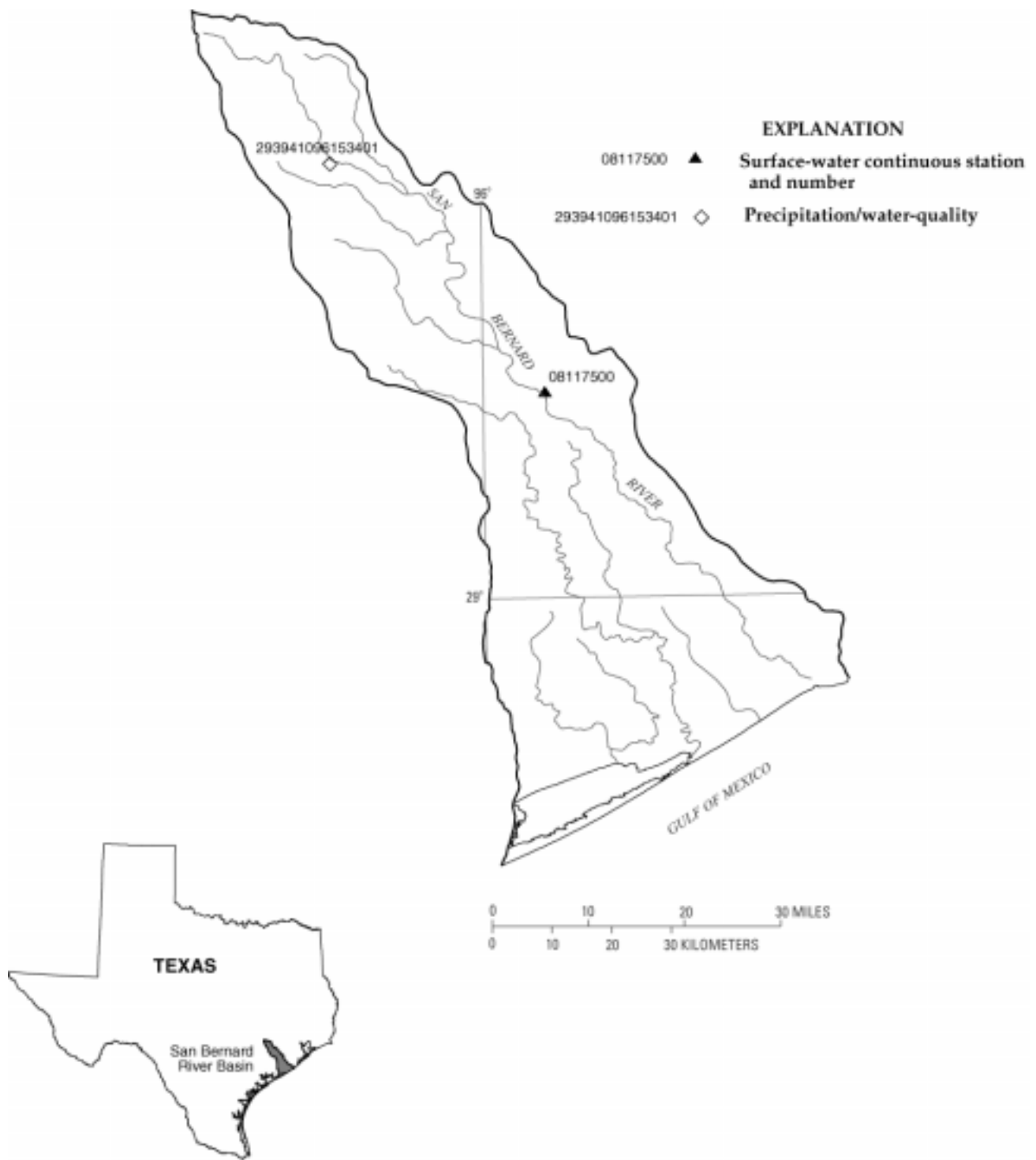


Figure 10.--Map showing location of gaging stations in the San Bernard River Basin

08117500	San Bernard River near Boling, TX	428
293941096153401	Attwater Prarie Chicken National Wildlife Refuge near Eagle Lake, TX	430

SAN BERNARD RIVER BASIN

08117500 SAN BERNARD RIVER NEAR BOLING, TX

LOCATION.--Lat 29°18'48", long 95°53'37", Wharton-Fort Bend County line, Hydrologic Unit 12090401, on left bank at downstream side of bridge on Farm Road 442, 2.5 mi downstream from Snake Creek, and 4.5 mi northeast of Boling.

DRAINAGE AREA.--727 mi².

PERIOD OF RECORDS.--May 1954 to current year.

Water-quality records.--Chemical data: Feb 1978 to Sep 1986. Biochemical data: Feb 1978 to Sep 1986.

REVISED RECORDS.--WSP 1712: 1958. WSP 1922: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 30.81 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good. No known regulation. Part of low flow is drainage from areas irrigated with diversions from the Colorado River. There are numerous diversions above station for irrigation and for other uses.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1900, 43.5 ft in 1913 (probably Dec). Flood in Sep 1938 reached a stage of 43.3 ft, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 21	0500	31,900	42.61	Jan 3	0300	4,280	21.18
Nov 17	0900	20,900	37.80	Mar 20	0600	5,340	23.31

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	220	505	e167	88	80	38	1200	111	341	345	139	99
2	232	565	146	2210	91	38	848	120	339	256	151	131
3	237	621	136	3790	106	39	576	119	306	167	157	108
4	254	557	126	2650	100	39	406	109	274	113	185	107
5	267	490	117	1690	96	41	285	129	235	107	207	254
6	436	486	110	936	86	39	208	161	181	111	211	319
7	979	414	110	688	70	36	177	172	135	128	210	226
8	848	335	126	495	63	34	173	134	100	194	226	165
9	842	266	245	330	58	33	150	103	139	275	224	129
10	806	217	532	232	56	32	120	90	231	314	205	96
11	769	197	1080	175	54	30	98	149	222	324	177	67
12	627	700	2380	139	52	30	81	336	200	398	178	44
13	469	6770	2160	142	49	186	69	469	220	616	199	32
14	351	10700	1820	1410	46	221	60	452	342	470	198	32
15	286	14300	1620	908	44	79	53	481	359	412	155	52
16	289	18900	1460	455	44	64	46	404	446	455	126	67
17	265	20500	1110	291	46	74	42	270	520	396	140	78
18	428	17400	785	198	71	71	39	178	493	351	137	80
19	4330	11600	534	145	84	2040	36	116	438	346	132	72
20	21400	7060	360	119	75	4830	34	78	339	390	122	68
21	31300	4690	255	105	63	2960	33	58	263	468	105	58
22	29200	3050	200	94	54	2110	32	58	259	641	94	48
23	26500	1660	166	86	49	1880	30	53	426	627	98	39
24	21300	990	143	82	43	1450	35	41	565	577	112	33
25	13200	663	127	80	39	1060	47	36	561	455	115	25
26	7250	453	118	73	42	752	48	31	637	337	119	19
27	4370	333	111	67	41	481	47	35	587	266	107	17
28	2540	267	105	64	40	1070	61	34	517	230	88	16
29	1230	222	100	65	---	1750	72	34	441	210	78	26
30	765	193	94	83	---	1930	81	106	397	174	70	50
31	525	---	90	77	---	1600	---	277	---	147	64	---
TOTAL	172515	125104	16633	17967	1742	25037	5187	4944	10513	10300	4529	2557
MEAN	5565	4170	537	580	62.2	808	173	159	350	332	146	85.2
MAX	31300	20500	2380	3790	106	4830	1200	481	637	641	226	319
MIN	220	193	90	64	39	30	30	31	100	107	64	16
AC-FT	342200	248100	32990	35640	3460	49660	10290	9810	20850	20430	8980	5070

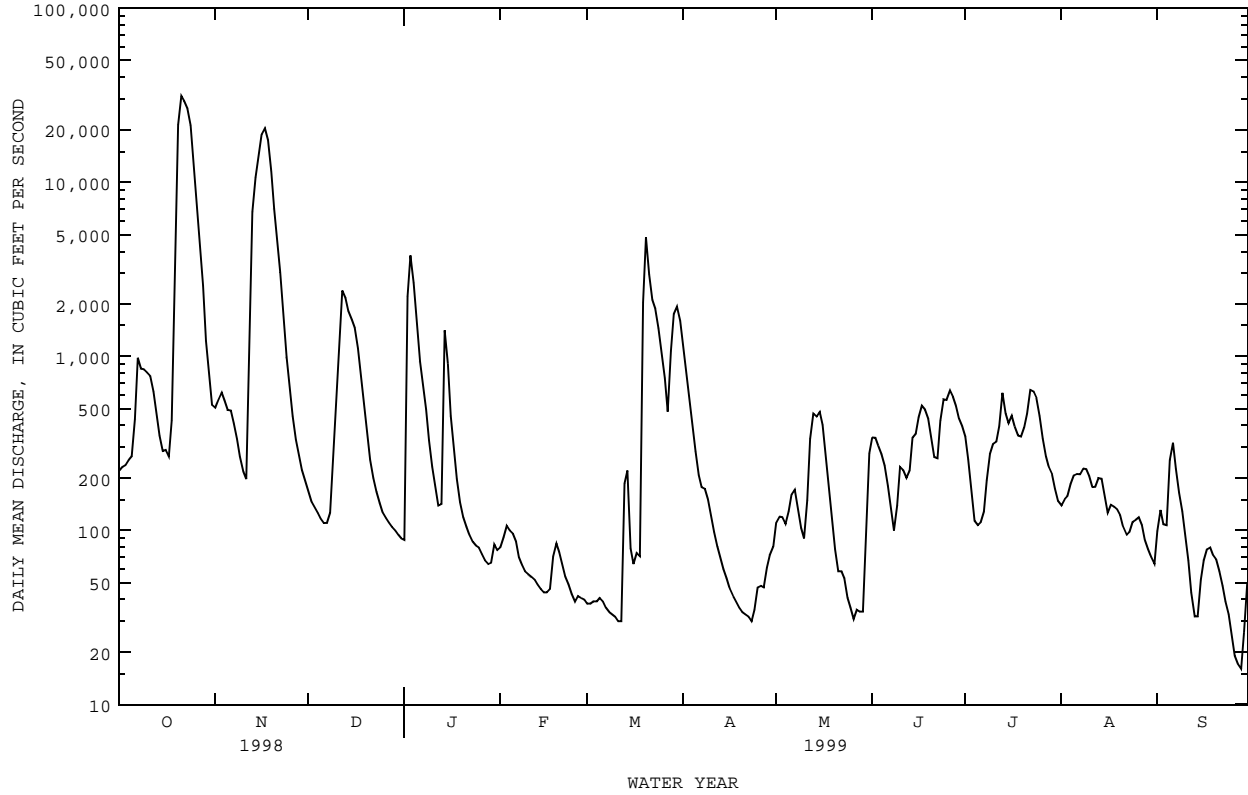
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1999, BY WATER YEAR (WY)

	MEAN	542	462	583	681	428	499	646	849	328	208	629
MEAN	697	542	462	583	681	428	499	646	849	328	208	629
MAX (WY)	5565	4170	2497	2316	4303	2680	3348	2840	5083	1417	710	3794
MIN (WY)	1999	1999	1992	1979	1992	1997	1973	1972	1993	1961	1983	1979
MIN (WY)	3.27	5.23	6.19	6.57	15.2	5.97	15.2	22.8	10.4	10.7	26.8	35.2
(WY)	1957	1956	1990	1957	1967	1956	1963	1956	1956	1956	1956	1956

08117500 SAN BERNARD RIVER NEAR BOLING, TX--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1954 - 1999	
ANNUAL TOTAL	461747		397028		548	
ANNUAL MEAN	1265		1088		37.9	
HIGHEST ANNUAL MEAN					1357	1992
LOWEST ANNUAL MEAN					1.7	1956
HIGHEST DAILY MEAN	31300	Oct 21	31300	Oct 21	31300	Oct 21 1998
LOWEST DAILY MEAN	36	Jun 22	16	Sep 28	1.7	Dec 7 1988
ANNUAL SEVEN-DAY MINIMUM	42	Jun 21	25	Sep 23	2.2	Dec 1 1988
INSTANTANEOUS PEAK FLOW			31900	Oct 21	31900	Oct 21 1998
INSTANTANEOUS PEAK STAGE			42.61	Oct 21	42.61	Oct 21 1998
ANNUAL RUNOFF (AC-FT)	915900		787500		397200	
10 PERCENT EXCEEDS	2400		1610		1340	
50 PERCENT EXCEEDS	169		177		126	
90 PERCENT EXCEEDS	65		41		18	

e Estimated



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Because the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the U.S. Geological Survey collects limited streamflow data at sites other than continuous stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage of those events. The data collected for special reasons are called measurements at miscellaneous sites.

Streamflow data collected at partial-record stations where water-quality data other than observations of water temperature are not obtained are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations; the second is a table of annual maximum stage and (or) discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low and high flows are given in a third table. Discharge measurements and water-quality data collected at partial-record stations are presented in downstream order in the section of this report entitled "Gaging-station records."

Low-flow partial-record stations

Measurements of streamflow at low-flow partial-record stations that are not published in the gaging-station section are given in the following table. Most of the measurements of low flow were made during periods when streamflow was sustained primarily by ground-water discharge. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will indicate the low-flow potential of the stream. The years listed in the column headed "Period of record" identifies the water years in which measurements were made at the same or at practically the same site.

Discharge measurements made at low-flow partial-record station during water year 1999

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
Brazos River Basin						
08084100	Deadman Creek near Nugent, Tex.	Lat 32°40'36", long 99°37'00", Jones County, at low-water crossing on county road, 3.2 mi east of Nugent, and 4.4 mi upstream from Clear Fork Brazos River.	163	1967-99	10-14-98 12-15-98 04-07-99 06-10-99 08-04-99 09-08-99	13.7 15.9 20.9 9.58 6.92 11.8
08104795	North Fork San Gabriel River upstream from State Highway 418 at Georgetown, Tex.	Lat 30°38'44", long 97°40'49", Williamson County, 0.2 mi upstream from State Highway 418 at Georgetown.	271	1984-88, 1990-99	02-24-99 04-09-99 07-02-99 08-13-99 09-22-99	29.0 27.5 10.7 7.60 4.50
08104950	South Fork San Gabriel River upstream from State Hwy 418 at Georgetown, Tex.	Lat 30°38'38", long 97°40'50", Williamson County, 0.2 mi upstream from State Highway 418 at Georgetown.	136	1984-88, 1990-99	02-24-99 04-09-99 07-02-99 08-13-99 09-22-99	19.0 15.2 16.7 5.36 0.14
08105000	San Gabriel River at Georgetown, Tex.	Lat 30°39'14", long 97°39'18", Williamson County, on left bank 100 ft downstream from Missouri-Kansas Railroad bridge, 1.2 mi below confluence of North and South Forks, about 1.5 mi northeast of Williamson County Courthouse in Georgetown.	399	1924-25, 1934-73† 1984-87† 1988, 1990-99	02-24-99 04-09-99 07-06-99 08-13-99 09-22-99	63.9 e7.7 41.1 19.8 14.0
08105095	Berry Creek upstream from IH-35 near Georgetown, Tex.	Lat 30°42'11", long 97°39'58", Williamson County, about 1.4 mi upstream from IH-35 near Georgetown.	71.4	1984-88, 1990-99	02-22-99 04-09-99 07-02-99 08-13-99 09-22-99	2.82 3.62 1.09 0.00 0.00
08105160	Dry Berry Creek near Georgetown, Tex.	Lat 30°41'28", long 97°38'14", Williamson County, at downstream side of county road, 0.4 mi upstream from mouth, and 4.0 mi northeast of Georgetown.	33.1	1986-88, 1990-99	02-22-99 04-09-99 07-02-99 08-13-99 09-22-99	0.45 0.54 0.47 0.39 0.00
08105200	Berry Creek at State Highway 971 near Georgetown, Tex.	Lat 30°40'33", long 97°36'52", Williamson County, at downstream side of State Highway 971 bridge and 4.7 mi northeast of Georgetown.	117	1964-73, 1984-87† 1988, 1990-99	02-24-99 04-09-99 07-06-99 08-13-99 09-22-99	17.9 15.4 12.6 9.36 0.12

See footnote at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record station during water year 1999--Continued

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
Brazos River Basin--Continued						
08105300	San Gabriel River near Weir, Tex.	Lat 30°38'45", long 97°35'06", Williamson County, on left bank at downstream side of State Highway 29 bridge, 0.5 mi upstream from Manske Branch, 4.7 mi east of Georgetown, 2.0 mi south of Weir, and 54.8 mi upstream from mouth.	563	1976-90, 1991-99	02-26-99 04-09-99 07-06-99 08-13-99 09-22-99	25.8 66.5 57.8 40.1 15.4

† Operated as a continuous-record station.

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 or definition of flood-profiles. 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 1999

Station name and number	Location	Period of record	Water Year 1999 maximum			Period of record maximum			
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)	
Cedar Bayou Basin									
Cedar Bayou near Baytown, Tex. 08067510	Lat 29°46'12", long 94°54'59", Chambers-Harris County Line, at bridge on State Highway 146, 0.2 mi downstream from Cary Bayou, 0.2 mi upstream from Saw Pit Gully, and 4.3 mi northeast of Baytown. Drainage area is 169 mi ² .	1984-99	10-18-98	*6.85	--	10-19-94	*10.87	--	
San Jacinto River Basin									
Goose Creek at Baytown, Tex. 08067525	Lat 29°46'14", long 94°59'58", Harris County, at bridge on Baker Road in Baytown, 1.1 mi upstream from West Fork Goose Creek, and 2.0 mi upstream from East Fork Goose Creek. Drainage Area is 15.8 mi ² .	1986-99	11-13-98	*17.92	--	01-22-98	*23.47	--	
Willow Creek near Tomball, Tex. 08068325	Lat 30°06'19", long 95°32'47", Harris County, at bridge on Kuykendahl Road, 0.6 mi upstream from Cannon Gully, and 4.0 mi east of Tomball. Drainage area is 41.0 mi ² .	1984-99	10-18-98	30.87	2,890	10-18-94	31.81	4,070	
Cypress Creek at Sharp Road near Hockley, Tex. 08068700	Lat 29°55'15", long 95°50'24", Harris County, at bridge on Sharp Road and 7.4 mi south of Hockley. Drainage area is 80.7 mi ² .	1976-78 1979-99	10-18-98	*69.68	--	10-18-94	*69.86	--	
Buffalo Bayou near Fulshear, Tex. 08072350	Lat 29°43'22", long 95°46'01", Ft. Bend County, at proposed location of Peek Road bridge, about 200 ft downstream from Little Prong Bayou, 4,300 ft upstream from Mason Road, 8.3 mi east-northeast of Fulshear. Drainage area is 81.7 mi ² .	1986-99	11-13-98	13.78	--	02-21-94	r15.84	--	
South Mayde Creek near Addicks, Tex. 08072700	Lat 29°48'03", long 95°41'33", Harris County, at bridge on Groeschke Road, 3.2 mi west of Addicks, and 4.6 mi upstream from langham Creek. Drainage area is 32.3 mi ² .	1974-99	11-13-98	*107.65	--	08-31-81	108.76	4,080	
Langham Creek near Addicks, Tex. 08072800	Lat 29°50'08", long 95°37'32", Harris County, at bridge on Clay Road, 3.6 mi north of Addicks, and 4.4 mi upstream from mouth. Drainage area is 48.9 mi ² .	1974-99	11-13-98	*100.55	--	08-31-81	102.25	3,360	
Whiteoak Bayou at Alabonson Road at Houston, Tex. 08074020	Lat 29°52'14", long 95°28'49", Harris County, at bridge on Alabonson Road, in northwest Houston, 1.0 mi upstream from Vogel Creek and 2.5 mi upstream from Cole Creek. Drainage area is 34.5 mi ² .	1984-99	11-13-98	43.52	5,620	09-11-98	48.54	13,300	
Little Whiteoak Bayou at Trimble Street at Houston, Tex. 08074540	Lat 29°47'33", long 95°22'06", Harris County, at bridge on Trimble Street in Houston. Drainage area is 18.0 mi ² .	1979-99	05-12-99	*33.68	--	03-04-92	43.17	--	
Brays Bayou at Alief, Tex 08074760	Lat 29°42'39", long 95°35'13", Harris County, at bridge on High Star Street in Alief. Drainage area is 14.1 mi ² .	1977-99	03-19-99	15.67	--	03-04-92	21.16	--	
Keegans Bayou at Keegan Road near Houston, Tex. 08074780	Lat 29°39'55", long 95°35'42", Harris County, at bridge on Keegan Road and about 16 mi southwest of Houston. Drainage area is 8.63 mi ² .	1965-71, 1975-99	05-12-99	*78.77	--	04-14-66	83.55	--	

See footnote at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum stage and (or) discharge during water year 1999--Continued

Station name and number	Location	Period of record	Water Year 1999 maximum			Period of record maximum			
			Date	Gage height (ft)	Dis-charge (ft ³ /s)	Date	Gage height (ft)	Dis-charge (ft ³ /s)	
San Jacinto River Basin--Continued									
Brays Bayou at Gessner Drive, Houston, Tex. 08074810	Lat 29°40'21", long 95°31'41", Harris County, at bridge on Gessner Drive in southwest Houston and 0.10 mi below mouth of Keegans Bayou. Drainage area is 53.2 mi ² .	1977-99	03-19-99	*59.11	9,140	03-04-92	65.42	16,900	
Greens Bayou at Cutten Road near Houston, Tex. 08075780	Lat 29°56'56", long 95°31'10", Harris County, at bridge on Cutten Road and about 16.5 mi northwest of Houston. Drainage area is 8.65 mi ² .	1965-99	10-18-98	*114.28	922	02-21-69 10-25-84	*118.04 *116.85	508 2,110	
Carpenters Bayou at IH-10 near Channelview, Tex 08076902	Lat 29°46'18", long 95°08'56", Harris County, at bridge on eastbound access road to IH-10, at western boundary of Channelview, 4.4 mi upstream from mouth. Drainage area is 25.9 mi ² .	1991-99	05-12-99	*12.32	--	10-17-94	*17.53	--	
Clear Creek Basin									
Beamer Street Ditch at Houston, Tex. 08077505	Lat 29°35'30", long 95°13'19", Harris County, at bridge on Hughes Road in southeast Houston. Drainage area is 5.19 mi ² .	1984-99	10-04-98	*30.50	--	10-18-94	*31.48	--	
Turkey Creek near Friendswood, Tex. 08077520	Lat 29°35'02", long 95°11'13", Harris County, at bridge on Dixie Farm Road in southern Harris County, 2.4 mi upstream from Clear Creek, and 3.9 mi north-northeast of Friendswood. Drainage area is 6.78 mi ² .	1985-99	10-04-98	26.59	--	10-18-94	*27.97	--	
Horsepen Bayou at Bay Area Blvd., Houston, Tex. 08077630	Lat 29°35'00", long 95°06'12", Harris County, at upstream bridge on Bay Area Blvd., in southeast Houston, and 2.0 mi upstream from Armand Bayou. Drainage area is 17.8 mi ² .	1985-99	10-04-98	*9.59	--	08-01-89	*12.35	--	

* Elevation, in feet.

r Revised.

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 1999

Station number	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
Brazos River Basin						
Cat Claw Creek at Abilene, Tex. 08083420	Clear Fork Brazos River	Lat 32°28'31", long 99°44'56", Taylor County, in Sear Park 320 ft downstream from bridge on Ambler Street in Abilene, and 1.8 mi upstream from mouth.	13.0	1971-79† 1993-99	10-14-98	0
					10-26-98	0
					10-27-98	0
					11-12-98	0
					11-24-98	0
					12-10-98	0
					12-16-98	0
					12-21-98	0
					02-11-99	0
					03-03-99	0
					04-07-99	0
					04-15-99	0.46
06-10-99	0					
08-04-99	0					
Cedar Creek at I-20 at Abilene, Tex. 08083480	Clear Fork Brazos River	Lat 32°29'58", long 99°42'57", Taylor County, on Cedar Creek bridge on IH-20 service road in Abilene.	136	1993-99	10-14-98	0
					12-16-98	0.41
					04-07-99	1.21
					06-10-99	0
08-04-99	0					
Bosque River near Waco, Tex. 08095600	Brazos River	Lat 31°36'04", long 97°11'36", McLennan County, at bridge on 19th Street in Waco.	1,655	1959-85† 1998-99	01-20-99	260*
					02-10-99	317
					03-09-99	109
					08-10-99	0.00
Leon River at North Fort Hood, Tex. 08100600	Brazos River	Lat 31°23'01", long 97°42'06", Coryell County, on downstream side of State Highway 36 in North Fort Hood, and 9.8 mi downstream from City of Gatesville Sewage Disposal Plant.	2,416	1990-99	05-06-99	48.2
					08-09-99	6.26

† Operated as a continuous-record station.

* COE release data.

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upstream from State Highway 418 at Georgetown	433	Willow Creek near Tomball	435