Water-Data Report 2011

08064100 Chambers Creek near Rice, TX

Upper Trinity Basin
Chambers Subbasin

LOCATION.--Lat 32°11′54″, long 96°31′12″ referenced to North American Datum of 1927, Navarro County, TX, Hydrologic Unit 12030109, on downstream side of highway embankment 20 ft left of left end of bridge on Farm Road 1126, 3.6 mi downstream from Oak Branch, 3.9 mi upstream from Cummins Creek, 4.2 mi upstream from Interstate Highway 45, 5.0 miles downstream from Waxahachie Creek, and 3.4 mi southwest of Rice.

DRAINAGE AREA.--807 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Oct. 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 340.00 ft above NGVD of 1929. Satellite telemeter at station.

REMARKS.--Records fair. Some records listed in the Period of Record for surface water and water quality may not be available electronically. Since installation of gage, at least 10% of contributing drainage area has been regulated. At times flow is affected by discharge from floodwater-retarding structures in the drainage basin above this station. No known diversions. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood information for the next downstream station, Chambers Creek near Corsicana, station (08064500) indicates that the maximum stage since at least 1870 occurred in Aug. 1887, and that other significant floods occurred in Dec. 1913, May 1944, and May 1958. Stages for these floods are unknown, but over the years a levee system has been developed along the main channel to limit cropland flooding.

08064100 Chambers Creek near Rice, TX—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	28	2.7	4.0	15	28	232	16	40	2.3	0.44	0.02	0.00
2	22	3.4	4.0	15	37	166	16	32	1.9	0.37	0.02	0.00
3	18	66	3.5	10	31	142	15	160	1.6	0.24	0.01	0.00
4	15	114	3.1	8.2	e25	56	16	253	1.6	0.20	0.01	0.00
5	13	51	3.4	6.9	e29	46	16	114	1.4	0.18	0.00	0.00
6	11	24	4.2	5.7	54	40	14	68	1.2	0.15	0.00	0.00
7	9.5	17	3.8	5.1	65	36	13	48	1.2	0.13	0.00	0.00
8	8.4	12	3.4	4.8	50	35	12	36	1.2	0.11	0.00	0.00
9	7.6	8.9	3.5	87	43	36	12	29	1.1	0.10	0.00	0.00
10	7.2	7.7	3.6	568	39	34	11	22	1.0	0.09	0.00	0.00
11	6.7	6.9	3.7	367	34	32	13	19	0.89	0.09	0.00	0.00
12	6.1	6.2	3.6	171	32	30	13	71	0.82	0.09	0.00	0.00
13	5.6	6.6	3.5	95	31	29	16	78	0.81	0.09	0.00	0.00
14	5.0	6.3	3.4	67	30	29	14	37	0.77	0.09	0.00	0.00
15	4.6	5.3	4.0	54	34	28	17	29	0.66	0.09	0.00	0.00
16	4.2	4.9	3.8	524	114	28	15	22	0.66	0.09	0.00	0.00
17	3.8	4.7	3.6	1,380	113	27	12	16	0.40	0.08	0.00	0.00
18	3.8	4.0	3.5	405	114	27	8.5	14	0.36	0.08	0.00	0.00
19	3.6	3.6	3.7	335	112	27	7.5	12	0.28	0.08	0.00	0.00
20	3.3	3.6	3.7	260	110	25	8.6	11	0.26	0.08	0.00	0.00
21	3.3	3.6	3.6	205	110	24	7.7	16	0.24	0.05	0.00	0.00
22	3.2	3.2	3.6	132	106	23	6.6	14	19	0.05	0.00	0.00
23	5.3	4.5	3.7	127	105	23	5.6	11	13	0.05	0.00	0.00
24	10	4.0	4.1	120	111	22	6.5	9.3	2.4	0.04	0.00	0.00
25	9.4	4.1	5.2	115	136	21	6.7	8.3	1.1	0.04	0.00	0.00
26	9.3	4.9	8.7	112	128	19	212	7.0	1.1	0.03	0.00	0.00
27	10	5.1	11	108	119	18	477	6.0	1.0	0.03	0.00	0.00
28	8.6	4.4	15	92	226	17	201	5.1	0.74	0.02	0.00	0.00
29	5.9	4.1	15	27	---	16	102	4.2	0.56	0.02	0.00	0.00
30	4.4	3.9	16	24	---	17	60	3.5	0.50	0.02	0.00	0.00
31	3.2	---	15	23	---	16	---	2.8	---	0.02	0.00	---
Total	259.0	400.6	173.9	5,468.7	2,166	1,321	1,350.7	1,198.2	60.05	3.24	0.06	0.00
Mean	8.35	13.4	5.61	176	77.4	42.6	45.0	38.7	2.00	0.10	0.00	0.00
Max	28	114	16	1,380	226	232	477	253	19	0.44	0.02	0.00
Min	3.2	2.7	3.1	4.8	25	16	5.6	2.8	0.24	0.02	0.00	0.00
Ac-ft	514	795	345	10,850	4,300	2,620	2,680	2,380	119	6.4	0.1	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	340	357	670	507	698	808	589	563	569	103	63.5	116
Max	3,452	2,172	3,579	2,393	2,450	2,497	2,692	2,932	2,885	1,061	600	1,411
(WY)	(2010)	(2005)	(1992)	(1998)	(1997)	(2001)	(2007)	(1989)	(2007)	(2007)	(2004)	(2009)
Min	0.00	0.00	0.65	1.82	1.92	6.35	12.2	1.34	0.05	0.04	0.00	0.00
(WY)	(1989)	(2000)	(2006)	(2009)	(2009)	(1996)	(1996)	(1996)	(1996)	(2009)	(1988)	(1985)

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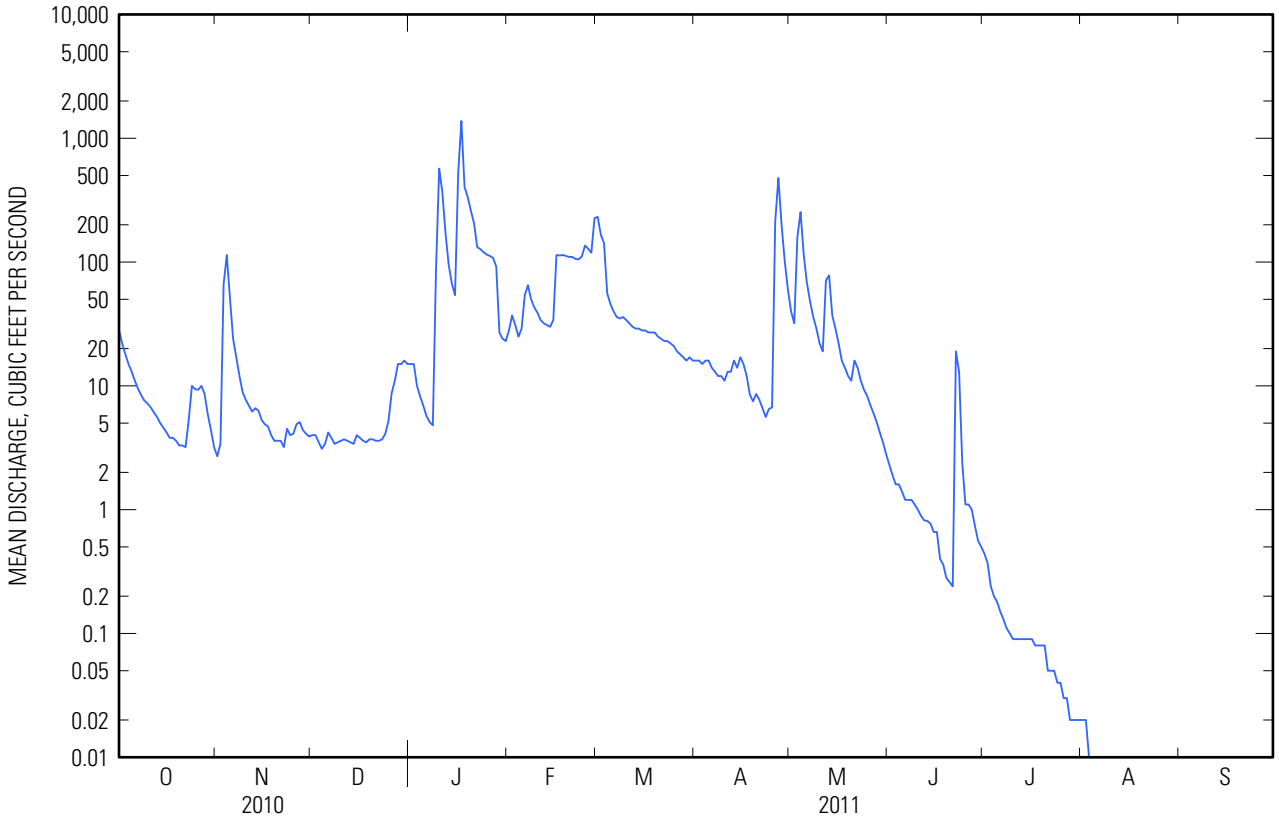
SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1984 - 2011	
Annual total	206,337.59		12,401.45			
Annual mean	565		34.0		447	
Highest annual mean					1,263	1992
Lowest annual mean					12.9	1996
Highest daily mean	15,400	Jan 30	1,380	Jan 17	22,700	Dec 21, 1991
Lowest daily mean	0.45	Aug 29	0.00	Aug 5	0.00	Aug 6, 1985
Annual seven-day minimum	0.70	Aug 16	0.00	Aug 5	0.00	Aug 6, 1985
Maximum peak flow			2,030	Jan 17	[c]43,400	Jun 6, 1986
Maximum peak stage			18.76	Jan 17	32.57	Dec 21, 1991
Annual runoff (ac-ft)	409,300		24,600		324,000	
10 percent exceeds	1,600		107		1,140	
50 percent exceeds	37		5.6		32	
90 percent exceeds	2.9		0.00		0.11	

[c] From rating curve extended above discharge measurement of 22,500 ft³/s.



08064100 Chambers Creek near Rice, TX—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Nov. 1983 to current year.
BIOCHEMICAL DATA: Nov. 1983 to Nov. 1993, Jan. 1997 to current year.
BIOLOGICAL DATA: Aug. 1993 to July 1994, Aug. 2002 to current year.
RADIOCHEMICAL DATA: Oct. 1992, Aug. 1995, Apr. 1999 to current year.
PESTICIDE DATA: Oct. 1992 to Aug. 1995, Feb. 2001 to May 2006.
SEDIMENT DATA: Oct. 1992 to Sept. 1995, Feb. 2001 to May 2006.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Oct. 1983 to Dec. 1993 (local observer), Jan. 1994 to Sept. 2003.
WATER TEMPERATURE: Oct. 1983 to Dec. 1993 (local observer), Jan. 1994 to Sept. 2003.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 1 of 8

[%, percent; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	Discharge, instantaneous, ft^3/s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)
11-22-2010	**1420**	Surface water	Regular	750	27.0	3.2	7.0	71	7.5
02-17-2011	**1035**	Surface water	Regular	751	21.0	114	10.9	98	8.1
04-27-2011	**1515**	Surface water	Regular	756	27.0	376	6.8	78	7.5
06-14-2011	**1515**	Surface water	Regular	751	40.0	.86	5.6	75	7.5

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

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[%, percent; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	pH, water, unfiltered, laboratory, standard units (00403)	Specific conductance, water, unfiltered, laboratory, µS/cm at 25 °C (90095)	Specific conductance, water, unfiltered, µS/cm at 25 °C (00095)	Temperature, water, °C (00010)	Biochemical oxygen demand, water, unfiltered, 5 days at 20 °C, mg/L (00310)	Dissolved solids dried at 180 °C, water, filtered, mg/L (70300)	Dissolved solids, water, filtered, sum of constituents, mg/L (70301)	Dissolved solids, water, filtered, tons per acre-foot (70303)	Dissolved solids, water, tons per day (70302)
11-22-2010	**1420**	7.8	976	973	15.8	< 2.0	606	577	.82	5.24
02-17-2011	**1035**	8.2	456	460	10.3	2.4	276	257	.38	84.9
04-27-2011	**1515**	7.8	368	369	21.5	5.6	228	213	.31	232
06-14-2011	**1515**	8.0	1,080	1,140	30.6	< 2.0	694	675	.94	1.61

08064100 Chambers Creek near Rice, TX—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
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[%, percent; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Hardness, water, mg/L as $CaCO_3$ (00900)	Non-carbonate hardness, water, filtered, field, mg/L as $CaCO_3$ (00904)	Suspended solids, water, unfiltered, mg/L (00530)	Calcium, water, filtered, mg/L (00915)	Magne-sium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium adsorption ratio, water, number (00931)	Sodium fraction of cations, water, percent in equiva-lents of major cations (00932)	Sodium, water, filtered, mg/L (00930)
11-22-2010	**1420**	280	102	27	99.6	7.50	4.87	2.47	42	94.8
02-17-2011	**1035**	138	13	50	50.2	3.18	4.18	1.23	33	33.2
04-27-2011	**1515**	129	33	1,420	46.6	3.10	4.10	.96	29	25.0
06-14-2011	**1515**	291	88	19	102	8.69	5.25	3.13	47	123

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
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[%, percent; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Alkalinity, water, filtered, inflection-point, incremental titration method, field, mg/L as $CaCO_3$ (39086)	Bicarbonate, water, filtered, inflection-point, incremental titration method, field, mg/L (00453)	Carbon dioxide, water, unfiltered, mg/L (00405)	Carbonate, water, filtered, inflection-point incremental titration method, field, mg/L (00452)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Silica, water, filtered, mg/L as SiO_2 (00955)	Sulfate, water, filtered, mg/L (00945)
11-22-2010	**1420**	178	217	12	< 1.0	92.1	.41	5.27	166
02-17-2011	**1035**	126	153	1.8	< 1.0	24.0	.41	2.90	60.7
04-27-2011	**1515**	96.6	117	5.6	< 1.0	16.5	.38	8.83	43.2
06-14-2011	**1515**	204	247	14	< 1.0	125	.52	8.09	181

08064100 Chambers Creek near Rice, TX—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
Part 5 of 8
[%, percent; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Ammonia plus organic nitrogen, water, filtered, mg/L as N (00623)	Ammonia, water, filtered, mg/L as NH4 (71846)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrate, water, filtered, mg/L (71851)	Nitrate, water, filtered, mg/L as N (00618)	Nitrite, water, filtered, mg/L (71856)	Nitrite, water, filtered, mg/L as N (00613)	Organic nitrogen, water, filtered, mg/L (00607)
11-22-2010	**1420**	.34	< .013	< .010	< .02	< .089	< .020	< .003	< .001	< .34
02-17-2011	**1035**	.38	.024	.018	.49	2.11	.477	.057	.017	.36
04-27-2011	**1515**	.69	.198	.154	1.64	6.72	1.52	.383	.117	.54
06-14-2011	**1515**	.41	.044	.034	< .02	< .081	< .018	.005	.002	.37

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
Part 6 of 8
[%, percent; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Orthophos-phate, water, filtered, mg/L (00660)	Orthophos-phate, water, filtered, mg/L as P (00671)	Phos-phorus, water, filtered, mg/L as P (00666)	Total nitrogen, water, filtered, mg/L (00602)	Aluminum, water, filtered, µg/L (01106)	Barium, water, filtered, µg/L (01005)	Beryllium, water, filtered, µg/L (01010)	Cadmium, water, filtered, µg/L (01025)	Chromium, water, filtered, µg/L (01030)
11-22-2010	**1420**	< .061	< .020	.02	< .36	2.4	103	.01	.02	.25
02-17-2011	**1035**	.014	.004	< .02	.88	14.3	56	< .01	< .02	< .06
04-27-2011	**1515**	.171	.056	.07	2.3	58.7	47	.01	< .02	.16
06-14-2011	**1515**	.023	.007	< .02	< .43	2.2	119	.01	.02	< .06

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
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[%, percent; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Cobalt, water, filtered, µg/L (01035)	Copper, water, filtered, µg/L (01040)	Iron, water, filtered, µg/L (01046)	Lead, water, filtered, µg/L (01049)	Manga-nese, water, filtered, µg/L (01056)	Mercury, water, filtered, µg/L (71890)	Molyb-denum, water, filtered, µg/L (01060)	Nickel, water, filtered, µg/L (01065)	Silver, water, filtered, µg/L (01075)
11-22-2010	**1420**	2.6	1.4	15	.02	64.5	< .005	3.08	2.8	< .01
02-17-2011	**1035**	1.9	.79	12	.03	10.8	< .005	3.33	2.2	< .01
04-27-2011	**1515**	2.7	1.5	83	.13	5.1	< .005	1.79	2.6	< .01
06-14-2011	**1515**	1.8	.75	4	.02	128	< .005	5.17	3.2	< .01

08064100 Chambers Creek near Rice, TX—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 8 of 8

[%, percent; $CaCO_3$, calcium carbonate; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Zinc, water, filtered, µg/L (01090)	Antimony, water, filtered, µg/L (01095)	Arsenic, water, filtered, µg/L (01000)	Selenium, water, filtered, µg/L (01145)	Organic carbon, water, unfiltered, mg/L (00680)	Uranium (natural), water, filtered, µg/L (22703)
11-22-2010	**1420**	2.7	.33	1.9	.35	8.2	2.02
02-17-2011	**1035**	2.2	.43	1.7	.24	5.8	1.04
04-27-2011	**1515**	< 1.4	.36	8.0	.47	22.0	.88
06-14-2011	**1515**	< 1.4	.33	3.2	.27	7.1	1.74