

STATE OF TEXAS
BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF IRRIGATION AND WATER CONSERVATION

SIXTEENTH ANNUAL REPORT
of
THE SILT LOAD OF TEXAS STREAMS
for
WATER YEAR, 1953-54

(The silt data contained in this report were obtained under a cooperative agreement between the Board of Water Engineers and U. S. Department of Agriculture, Soil Conservation Service, Division of Irrigation and Water Conservation.)

Austin, Texas
October, 1955

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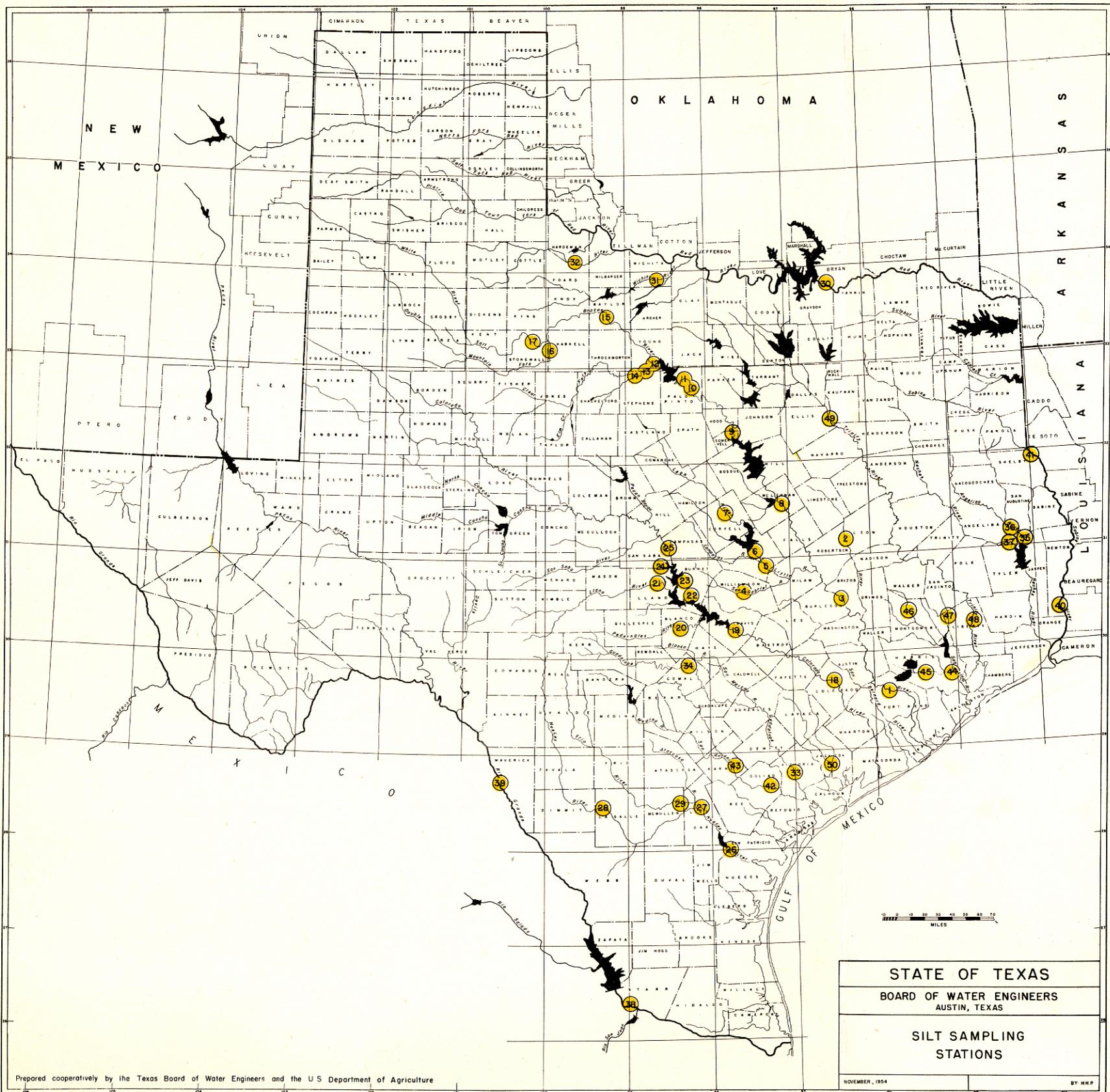
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SILT SAMPLING STATIONS

All Stations in Texas Unless Otherwise Indicated

No.	MAJOR WATERSHED	STREAM	COUNTY (IES)	LOCATION (Station)	ACTIVE or NON- ACTIVE
1	Brazos	Brazos	Fort Bend	At Richmond	A
2	Brazos	Navasota	Robertson-Leon	Marquez-Easterly	A
3	Brazos	Brazos	Burleson-Brazos	SW College Station (Bryan)	N
4	Brazos	San Gabriel	Williamson	N Circleville	N
5	Brazos	Little	Bell	S Little River	N
6	Brazos	Leon	Bell	N Belton	N
7	Brazos	Leon	Coryell	At Gatesville	A
8	Brazos	Brazos	McLennan	At Waco	N
9	Brazos	Brazos	Somervell	At Rainbow (Glen Rose)	N
10	Brazos	Brazos	Palo Pinto	W Mineral Wells	N
11	Brazos	Brazos	Palo Pinto	At Possum Kingdom Dam	A
12	Brazos	Brazos	Young	N South Bend	A
13	Brazos	Clear Fork	Young	W Eliasville	N
14	Brazos	Clear Fork	Stephens	N Crystal Falls	N
15	Brazos	Brazos	Baylor	S Seymour	N
16	Brazos	Double Mtn. Fork	Haskell	E Aspermont	N
17	Brazos	Salt Fork	Stonewall	N Aspermont	N
18	Colorado	Colorado	Colorado	At Columbus & S Eagle Lake	N
19	Colorado	Colorado	Travis	Austin-Montopolis	A
20	Colorado	Pedernales	Blanco	N Johnson City	A
21	Colorado	Llano	Llano	At Llano	A
22	Colorado	Colorado	Burnet-Llano	At Inks Dam	N
23	Colorado	Colorado	Llano-Burnet	At Buchanan Dam	A
24	Colorado	Colorado	Llano-Burnet	E Tow	N
25	Colorado	Colorado	San Saba-Lampasas	Lometa-San Saba	A
26	Nueces	Nueces	San Patricio-Jim Wells	At Corpus Christi Dam	A
27	Nueces	Nueces	Live Oak	S Three Rivers	N
28	Nueces	Nueces	LaSalle	At Cotulla	A
29	Nueces	Frio	McMullen	W Calliham	A
30	Red	Red	Denison-Bryan (Ok.)	N Denison	N



No.	MAJOR WATERSHED	STREAM	COUNTY (IES)	LOCATION (Station)	ACTIVE or NON-ACTIVE
31	Red	Wichita	Wichita	At Wichita Falls	N
32	Red	Pease	Foard-Hardeman	Quanah-Crowell	N
33	Guadalupe	Guadalupe	Victoria	Victoria	A
34	Guadalupe	Guadalupe	Comal	S Spring Branch	A
35	Neches	Angelina	Jasper	SE Horger	N
36	Neches	Angelina	Angelina-San Augustine	NE Zavalla	A
37	Neches	Neches	Jasper-Tyler	N Rockland	A
38	Rio Grande	Rio Grande	Starr-Tamaulipas (Mx.)	S Roma	N
39	Rio Grande	Rio Grande	Maverick-Coahuila (Mx.)	At Eagle Pass	N
40	Sabine	Sabine	Newton-Calcasieu (La.)	Deweyville-Starks (La.)	N
41	Sabine	Sabine	Shelby-DeSota (La.)	At Logansport (La.)	A
42	San Antonio	San Antonio	Goliad	S Goliad	A
43	San Antonio	San Antonio	Karnes	SE Falls City	N
44	San Jacinto	San Jacinto	Harris	NW Huffman	N
45	San Jacinto	West Fork	Harris	N Humble	N
46	San Jacinto	West Fork	Montgomery	S Conroe	A
47	San Jacinto	East Fork	Liberty	At Cleveland	A
48	Trinity	Trinity	Liberty	W Romayor	A
49	Trinity	Trinity	Ellis-Kaufman	SW Rosser	A
50	Lavaca	Lavaca	Jackson	SW Edna	A

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SIXTEENTH ANNUAL REPORT
OF
SILT LOAD OF TEXAS STREAMS
FOR WATER YEAR 1953-54 1/

by
Dean W. Bloodgood,
Irrigation Engineer 2/

This publication is one of a series of sixteen annual reports that have been prepared and multilithed since 1939. The previous reports contain tabulated silt data for each water year. Progress Reports Nos. 1, 6, 7, 8, and 15 contain a description of the sampling equipment, method of sampling and laboratory methods used for silt determinations.

During the past several years the silt load of some Texas streams has not been a serious problem, due, mostly, to the existing drought situation and the below-normal discharge of many tributaries of the ten watersheds contributing silt data. There are, however, several exceptions where large flash floods occurring on small areas have caused the largest silt load and river discharge ever recorded in Texas. One of these floods occurred for several days on the Pedernales River in September, 1952, and the other one on the Rio Grande during July, 1954. When the above-normal precipitation occurs again it is anticipated the silt load will be greater for many of the other watersheds due to changed conditions and other factors. Numerous ponds and retard basins have been constructed on the smaller tributaries during the past few years of drought, but their total impoundage will have negligible influence on the silt load of the larger streams or storage effect of the larger structures due to excessive erosion and silt load.

1/ Water year, October 1, 1953 to September 30, 1954, established by Surface Water Division, United States Department of Interior.

2/ Formerly Irrigation Engineer, Agricultural Research Service, Soil and Water Conservation Research Branch, United States Department of Agriculture, and appointed as Irrigation Engineer, August 1954, by the State Board of Water Engineers.

The value of silt data is emphasized by the picture appearing on the title page of this report. It is a small reservoir completely filled with sediment from one flash flood on one of the tributaries of the Pecos River watershed. The retard dam was constructed by a Federal Agency at a cost of \$60,000. The height of the dam is 32 feet and the reservoir has a capacity of 350 acre-feet. Probably, this structure would not have been constructed if silt data were available.

During the water year ending September 30, 1954, there were not any unusual flood conditions recorded in the state and many of the tributaries and streams west of the Trinity River watershed remained dry or of little flow during most of the year. This situation influenced the silt load in the greater portion of Texas.

SUMMARY OF SILT STUDIES FROM 1952 to 1954

The following table contains a brief summary of suspended silt data obtained during the past three years of drought as compared to normal years. There was a general decline in the soil load for 16 stations; 19,199 acre-feet for 1952; 11,598 acre-feet for 1953; and 10,304 acre-feet for 1954. The total average silt for 10 to 30 years is 32,730 acre-feet. The amount for 1952 includes the highest recorded river discharge for the Pedernales and Llano Rivers.

STATUS OF SILT STATIONS

The number of silt stations operated during 1953-54 remains the same as for the previous year. Silt data were obtained from 24 stations that have been in continuous operation from 2 to 30 years. Data have also been obtained from 24 additional stations that were discontinued for various

reasons - mostly financial. The accompanying map shows the location of all active and discontinued stations that have been established in Texas and from which data have been obtained.

COOPERATION

The following agencies continued their cooperation in making some of the silt data possible for public use:

Lower Colorado River Authority, Austin

Brazos River Authority, Mineral Wells

Chambers-Liberty Counties Navigation District, Anahuac

City of Corpus Christi, Water Department, Corpus Christi

Surface Water Division, United States Geological Survey, Department of the Interior, Austin

PUBLICATIONS

The Fifteenth Annual Report of the Silt Load of Texas Streams published in 1954 contains a list of all previous reports. Many of the older publications have been out of print and were not available for distribution. These reports have been reprinted and are now available, free of charge, upon request to the State Board of Water Engineers, 1410 Lavaca, Austin, Texas.

Comparison of River Discharge and Suspended Silt Load of Some Texas Streams for
Water Years of 1951-52, 1952-53, and 1953-54 to Mean Yearly Records

Stream	Station	Stream Discharge in Acre-feet				Suspended Silt Load				1951-52 Ac. -Ft.	1952-53 Ac. -Ft.	1953-54 Ac. -Ft.	Mean Yearly Record <u>1/</u> Ac. -Ft.
		1951-52	1952-53	1953-54	Mean Yearly Record <u>1/</u>	1951-52 Tons	1952-53 Tons	1953-54 Tons	Mean Yearly Record <u>1/</u> Tons				
Brazos	South Bend	43,500	417,300	759,600	467,179	1,004,480	1,854,990	6,827,690	3,760,220	659	1,217	4,478	2,467
Brazos	Possum Kingdom Dam	192,170	159,000	761,400	478,308	12,530	10,440	58,220	88,065	7	7	37	57
Brazos	Richmond	1,321,120	2,971,630	1,974,500	5,186,640	4,126,930	9,542,880	3,534,870	30,756,580	2,708	6,260	2,319	20,148
Llano	Llano	285,230 ^{2/}	107,500	36,170	168,553	5,551,820 ^{2/}	85,340	7,750	685,998 ^{2/}	3,641 ^{2/}	55	5	450 ^{2/}
Pedernales	Johnson City	414,420 ^{2/}	58,190	14,490	104,543	12,645,550 ^{2/}	42,420	9,310	1,170,449 ^{2/}	8,295 ^{2/}	28	6	768 ^{2/}
Colorado	San Saba	472,430	379,700	655,760	1,043,568	1,934,690	1,378,140	3,107,790	4,163,760	1,268	904	2,036	2,731
Colorado	Buchanan Dam	405,390	285,960	540,280	472,750	14,790	8,080	34,800	26,834	10	8	24	18
Colorado	Austin	547,510	667,000	684,360	1,413,274	48,830	40,170	64,300	791,679	32	26	43	520
Guadalupe	Spring Branch	174,860	68,520	30,820	152,313	720,550	29,030	23,770	160,493	472	18	15	105
Guadalupe	Victoria	594,190	777,400	396,970	799,662	415,970	430,850	173,920	461,214	272	283	115	303
Lavaca	Edna	117,740	118,300	16,770	122,837	98,940	93,930	25,770	133,945	65	62	16	88
Neches	Rockland	895,990	2,035,000	538,150	1,878,696	142,550	264,400	106,310	415,450	94	175	70	272
Nueces	Cotulla	34,640	84,420	118,100	148,036	20,910	11,880	44,290	84,865	14	7	30	56
Nueces	Corpus Christi Dam	177,310	536,500	336,330	555,636	25,670	159,200	67,020	177,690	18	102	43	116
Sabine	Logansport, La.	1,814,460	2,891,000	1,012,760	2,762,345	278,200	595,230	518,090	970,766	182	393	340	636
San Antonio	Goliad	330,950	255,900	103,770	395,231	379,470	345,950	76,530	568,218	249	226	50	373
Trinity	Romayor	2,017,640	3,990,000	1,226,680	5,689,331	1,848,630	2,784,550	1,033,050	5,520,960	1,213	1,827	677	3,622
Total		9,839,950 ^{3/}	15,803,320	9,206,910	21,838,902	29,270,510 ^{3/}	17,677,480	15,713,480	49,937,186 ^{3/}	19,199 ^{3/}	11,598	10,304	32,730 ^{3/}

^{1/} Record ranged from 10 to 30 years.

^{2/} Highest recorded flood, September, 1952.

^{3/} Includes highest recorded flood on Pedernales and Llano Rivers in September, 1952.

SILT DATA

Brazos River Watershed
at
GATESVILLE STATION ON LEON RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge of Stream	Silt Load of Stream		Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
<u>1953</u>				
October	13,890	49,190	32	.260
November	1,860	760)	1	.030
December	1,200	430)		.026
<u>1954</u>				
January	470	30	0	.005
February	340	20	0	.004
March	250	20	0	.006
April	11,840	17,730	12	.110
May	4,620	6,020	4	.096
June	100	10	0	.007
July	0	0	0	0
August	0	0	0	0
September	0	0	0	0
Totals	34,570	74,210	49	

U. S. G. S. yearly discharge in acre-feet -----	34,570
Total silt for year in acre-feet -----	49
Acre-feet of silt per year per square mile of contributing watershed -----	.021
Average percent of silt by weight for year -----	.158
Drainage area in square miles (net) -----	2,313

SUMMARY OF SILT DATA

for

Brazos River Watershed

Stream: LEON	(Belton water samples taken from Highway Bridge on State Highway 317 ^{1/} . Gatesville water samples taken from bridge on State Highway 36)
Station: BELTON-GATESVILLE	
Sampler: Claude Turner (Gatesville)	

Water Year	Discharge of Stream	Silt Load of Stream		Average Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
Sept. 1945 ^{2/}	10,380	26,320	17	.186
1945-46	663,960	1,187,070	779	.131
1946-47	362,480	280,030	216	.057
1947-48	122,110	118,520	77	.071
1948-49	298,580	654,820	429	.161
1949-50 ^{3/}	13,630	18,540	12	.100
1952-53 ^{4/}	73,100	253,670	168	.255
1953-54	34,570	74,210	49	.158
TOTALS	1,578,810	2,613,180	1,747	

For period of 5.916 years

Average discharge in acre-feet per year -----	266,871
Average acre-feet of silt per year -----	295
Average acre-feet of silt per year per square mile of contributing watershed-----	.128
Average tons of silt per year -----	441,714
Average percent of silt by dry weight -----	.122
Drainage area in square miles (net) -----	2,313

^{1/} Prior to October 1, 1945, samples were taken from inlet to pumping plant north of Belton which is located about $\frac{1}{4}$ mile upstream from bridge on U. S. Highway 81.

^{2/} One month's record - station was established September 1, 1945.

^{3/} Station discontinued December 31, 1949. Three months record.

^{4/} Station on Leon River above Belton Dam at Gatesville was re-established March 1, 1953.

SILT DATA

Brazos River Watershed
at
EASTERLY STATION ON NAVASOTA RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight
	Acre-feet			Pct.
<u>1953</u>				
October	3,730	4,880	3	.096
November	6,390	2,540	2	.029
December	80,270	<u>106,140</u>	70	.006
<u>1954</u>				
January	12,720	3,030	2	.017
February	<u>1/</u>			
<hr/>				
Totals	103,110	116,590	77	

U. S. G. S. yearly discharge in acre-feet -----
 Total silt for year in acre-feet -----
 Acre-feet of silt per year per square mile
 of contributing watershed -----
 Average percent of silt by weight for year -----
 Drainage area in square miles (net) ----- 949

1/ From February, 1954 to September, inclusive, records were not available.

SUMMARY OF SILT DATA

for

Brazos River Watershed

Stream: NAVASOTA
 Station: EASTERLY
 Sampler: Goree King

(Samples were taken from bridge
 on U. S. Highway No. 79)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Acre-feet	Percentage of Dry Silt by Weight
	Acre-feet			Pct.
1941-42 ^{1/}	199,750	142,600	94	.052
1942-43	84,820	59,600	39	.052
1943-44	592,670	889,340	584	.110
1944-45	556,120	607,980	400	.080
1945-46	617,980	513,050	337	.061
1946-47	441,190	193,110	127	.032
1947-48	99,160	79,980	53	.059
1948-49	105,970	89,010	58	.062
1949-50	256,050	137,000	88	.039
1950-51	16,910	7,770	5	.034
1951-52	87,600	47,640	30	.040
1952-53	337,700	437,870	288	.095
1953-54 ^{2/}	103,110	116,590	11	.068
TOTALS	3,499,030	3,221,540	2,114 2,180	

For period of 12.081 years

Average discharge in acre-feet per year -----	289,631
Average acre-feet of silt per year -----	175
Average acre-feet of silt per year per square mile of contributing watershed-----	.184
Average tons of silt per year -----	266,662
Average percent of silt by weight -----	.068
Drainage area in square miles (net) -----	949

^{1/} Station was established January 1, 1942.

^{2/} Records were not complete. Last record obtained for month of January, 1954 - only 4 months of water year.

SILT DATA

Brazos River Watershed
at
SOUTH BEND STATION ON BRAZOS RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge of Stream		Silt Load of Stream		Percentage of Dry Silt by Weight Pct.
	Acre-feet	Tons	Acre-feet	Tons	
<u>1953</u>					
October	213,900	2,190,640	1437		.752
November	20,520	78,040	51		.279
December	6,310	4,620	3		.054
<u>1954</u>					
January	3,420	1,540	1		.033
February	1,350	40	0		.002
March	660	140	0		.016
April	101,700	1,429,500	938		1.033
May	367,500	2,906,160	1906		.581
June	38,730	210,390	138		.399
July	2,810	540	0		.014
August	2,700	6,080	4		.165
September	0	0	0		0
Totals	759,600	6,827,690	4,478		

U. S. G. S. yearly discharge in acre-feet -----	759,600
Total silt for year in acre-feet -----	4,478
Acre-feet of silt per year per square mile -----	
of contributing watershed -----	.362
Average percent of silt by weight for year -----	.660
Drainage area in square miles (net) -----	12,360

SUMMARY OF SILT DATA

for

Brazos River Watershed

Stream: BRAZOS

Station: SOUTH BEND

Sampler: O. W. Hill

(Samples taken from bridge on
State Highway No. 67)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Acre-feet	Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
1941-42 ^{1/}	672,230	4,581,930	3,005	.501
1942-43	491,060	3,846,100	2,523	.575
1943-44	171,360	1,071,620	703	.459
1944-45	394,460	2,258,250	1,482	.421
1945-46	363,890	3,116,920	2,044	.629
1946-47	747,030	4,414,900	2,897	.434
1947-48	391,140	2,718,220	1,783	.510
1948-49	514,710	6,193,420	4,062	.884
1949-50	688,230	7,234,440	4,746	.772
1950-51	283,340	2,669,440	1,754	.692
1951-52	43,500	1,004,480	659	1.696
1952-53	417,300	1,854,990	1,217	.327
1953-54	<u>759,600</u>	<u>6,827,690</u>	<u>4,478</u>	.660
TOTALS	5,937,850	47,792,400	31,353	

For period of 12.710 years

Average discharge in acre-feet per year-----	467,179
Average acre-feet of silt per year -----	2,467
Average acre-feet of silt per year per square mile of contributing watershed -----	.200
Average tons of silt per year-----	3,760,220
Average percent of silt by weight -----	.591
Drainage area in square miles (net) -----	12,360

^{1/} Station was established January 15, 1942.

SILT DATA

Brazos River Watershed
at
POSSUM KINGDOM DAM STATION ON BRAZOS RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream Acre-feet	Tons	Acre-feet	Dry Silt by Weight Pct.
<u>1953</u>				
October	52,250	2,310	2	.003
November	53,520	7,920)	5	.011
December	22,600	630)		.002
<u>1954</u>				
January	14,320	550)	1	.003
February	10,130	500)		.004
March	14,410	390)		.002
April	39,470	2,170	1	.004
May	333,900	15,820	10	.003
June	99,290	6,200	4	.005
July	60,550	4,670	3	.006
August	50,800	15,790	10	.023
September	10,160	1,270	1	.009
Totals	761,400	58,220	37	

U. S. G. S. yearly discharge in acre-feet ----- 761,400
 Total silt for year in acre-feet ----- 37
 Acre-feet of silt per year per square mile
 of contributing watershed -----
 Average percent of silt by weight for year ----- .006
Drainage area in square miles (net) -----

Note: Used U. S. G. S discharge measurements at Palo Pinto Station a short distance below the dam.

SUMMARY OF SILT DATA

for

Brazos River Watershed

Stream: BRAZOS
 Station: POSSUM KINGDOM DAM (Samples taken in tailrace and
 Sampler: J. P. Cochran over spillway)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Acre-feet	Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
1941-42 ^{1/}	588,030	55,070	36	.007
1942-43	851,290	625,770	410	.054
1943-44	92,040	15,590	10	.012
1944-45	307,410	51,350	32	.012
1945-46	293,110	41,250	27	.010
1946-47	946,860	75,280	49	.006
1947-48	323,380	31,060	22	.007
1948-49	531,620	61,470	40	.008
1949-50	632,520	60,030	39	.007
1950-51	400,470	21,250	14	.004
1951-52	192,170	12,530	7	.005
1952-53	159,000	10,440	7	.005
1953-54	<u>761,400</u>	<u>58,220</u>	<u>37</u>	<u>.006</u>
TOTALS	6,079,300	1,119,310	730	

For period of 12.710 years

Average discharge in acre-feet per year -----	478,308
Average acre-feet of silt per year -----	57
Average acre-feet of silt per year per square mile of contributing watershed -----	--
Average tons of silt per year -----	88,065
Average percent of silt by weight -----	.014
Drainage area in square miles (net) -----	--

^{1/} Station was established January 15, 1942.

SILT DATA

Brazos River Watershed
at
RICHMOND STATION ON BRAZOS RIVER
for
Water Year 1953-54
(October 1, 1953 to September, 30 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight
	Acre-feet			Pct.
<u>1953</u>				
October	212,000	646,410	424	.224
November	199,500	306,180	201	.113
December	553,100	1,380,450	905	.183
<u>1954</u>				
January	138,500	16,920	11	.009
February	53,020	4,920	3	.007
March	27,390	4,840	3	.013
April	49,330	18,060	12	.027
May	435,000	1,016,290	667	.172
June	171,800	93,160	61	.040
July	53,270	9,990	7	.014
August	56,940	34,640	23	.045
September	24,650	3,010	2	.009
Totals	1,974,000	3,534,870	2,319	

U. S. G. S. yearly discharge in acre-feet -----	1,974,000
Total silt for year in acre-feet -----	2,319
Acre-feet of silt per year per square mile of contributing watershed -----	.067
Average percent of silt by weight for year -----	.132
Drainage area in square miles (net) -----	34,810

SUMMARY OF SILT DATA

for

Brazos River Watershed

Stream: BRAZOS

Station: RICHMOND

(Samples taken from bridge on

Sampler: Earl Wright

U. S. Highway No. 90)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Acre-feet	Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
1923-24 <u>1/</u>	494,900	714,220	468	.106
1924-25	1,237,300	12,676,710	8,314	.753
1925-26	8,762,800	44,939,350	29,476	.377
1926-27	5,562,600	34,377,320	21,739	.454
1927-28	3,318,400	28,163,890	18,472	.623
1928-29	6,000,000	32,284,200	21,174	.395
1929-30	5,218,900	38,686,330	25,373	.545
1930-31	5,639,000	27,766,660	18,212	.362
1931-32 <u>2-3/</u>	8,041,000	63,649,510	41,749	.582
1932-33	2,563,100	15,175,520	9,954	.435
1933-34	3,372,670	23,318,780	15,294	.508
1934-35	7,334,480	63,472,990	41,633	.636
1935-36	6,031,540	40,330,500	26,453	.491
1936-37	5,405,790	25,531,710	16,747	.347
1937-38	7,203,600	55,656,280	36,544	.568
1938-39	1,966,110	14,742,470	9,668	.551
1939-40	3,161,120	23,679,220	15,531	.550
1940-41	16,124,370	97,306,510	63,824	.443
1941-42	8,522,910	71,490,110	46,891	.616
1942-43	3,255,310	11,426,360	7,496	.258
1943-44	7,626,500	46,735,630	30,654	.450
1944-45	9,804,730	57,254,020	37,555	.429
1945-46	7,399,590	35,484,230	23,275	.352
1946-47	6,345,770	21,011,530	13,783	.243
1947-48	1,950,620	3,950,720	2,591	.149
1948-49	3,362,850	14,456,500	9,482	.316
1949-50	4,186,500	9,543,800	6,259	.167
1950-51	1,026,600	1,079,170	708	.077
1951-52	1,321,120	4,126,930	2,708	.229
1952-53	2,971,630	9,542,880	6,260	.236
1953-54	1,974,500	3,534,870	2,319	.132
TOTALS	157,186,310	932,108,920	610,606	

For period of 30.306 years

Average discharge in acre-feet per year -----	5,186,640
Average acre-feet of silt per year -----	20,148
Average acre-feet of silt per year per square mile	
of contributing watershed -----	.579
Average tons of silt per year -----	30,756,580
Average percent of silt by weight -----	.436
Drainage area in square miles (net) -----	34,810

1/ Station was established at Rosenberg June 11, 1924.

2/ Station was discontinued at Rosenberg April 12, 1932.

3/ Station was established at Richmond April 13, 1932.

SILT DATA

Colorado River Watershed
at
LLANO STATION ON LLANO RIVER
for
Water Year 1953-54,
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight
	Acre-feet			Pct.
<u>1953</u>				
October	5,930	1,610	1	.020
November	2,010	110	0	.004
December	2,190	210	0	.007
<u>1954</u>				
January	2,830	230	0	.006
February	2,090	80	0	.003
March	1,450	130	0	.007
April	2,310	980	1	.031
May	9,260	3,020	2	.024
June	2,120	460	0	.016
July	5,920	920	1	.011
August	30	0	0	0
September	30	0	0	0
Totals	36,170	7,750	5	

U. S. G. S. yearly discharge in acre-foot -----	36,170
Total silt for year in acre-foot -----	5
Acre-feet of silt per year per square mile of contributing watershed -----	.001
Average percent of silt by weight for year -----	.016
Drainage area in square miles (net) -----	4,000

SUMMARY OF SILT DATA

for

Colorado River Watershed

Stream:	LLANO	(Samples were taken at U. S. Gaging
Station:	LLANO	Station $\frac{1}{2}$ mile downstream from
Sampler:	Mrs. Tracy Ward	bridge on State Highway No. 16)

Water Year	Discharge of Stream	Silt Load of Stream		Average Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
1941-42 ^{1/}	65,990	252,700	166	.281
1942-43	235,470	381,560	250	.119
1943-44	196,070	120,450	79	.045
1944-45	156,920	90,120	60	.042
1945-46	142,740	249,740	164	.129
1946-47	141,550	28,750	18	.015
1947-48	327,420	1,471,400	965	.330
1948-49	187,600	82,260	53	.032
1949-50	113,980	14,300	8	.009
1950-51	54,150	10,350	7	.014
1951-52	285,230	5,551,820	3,641	1.430
1952-53	107,500	85,340	55	.058
1953-54	36,170	7,750	5	.016
TOTALS	2,050,790	8,346,540	5,471	

For period of 12.167 years

Average discharge in acre-feet per year -----	168,553
Average acre-feet of silt per year -----	450
Average acre-feet of silt per year per square mile of contributing watershed -----	.112
Average tons of silt per year -----	685,998
Average percent of silt by weight -----	.299
Drainage area in square miles (net) -----	4,000

1/ - Station was established August 1, 1942.

SILT DATA

Colorado River Watershed
at
JOHNSON CITY STATION ON PEDERNALES RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream Acre-feet	Tons	Acre-feet	Dry Silt by Weight Pct.
<u>1953</u>				
October	4,000	1,640	1	.030
November	1,150	60	0	.004
December	1,200	120	0	.007
<u>1954</u>				
January	1,040	50	0	.004
February	560	30	0	.004
March	470	40	0	.006
April	3,400	6,040	4	.131
May	1,810	1,200	1	.049
June	220	10	0	.003
July	20	0	0	0
August	0	0	0	0
September	620	120	0	.014
Totals	14,500	9,310	6	

U. S. G. S. yearly discharge in acre-feet -----	14,500
Total silt for year in acre-feet -----	6
Acre-feet of silt per year per square mile of contributing watershed -----	.006
Average percent of silt by weight for year -----	.047
Drainage area in square miles (net) -----	947

SUMMARY OF SILT DATA

for

Colorado River Watershed

Stream: PEDERNALES (Samples were taken from highway
 Station: JOHNSON CITY bridge on U. S. Hwy. 281, about
 Sampler: John W. Grisham 1½ miles north of Johnson City)

Water Year	Discharge of Stream		Silt Load of Stream		Average Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.	
1941-42 ^{1/}	22,630	107,030	70	.347	
1942-43	79,850	150,740	99	.139	
1943-44	167,700	724,550	476	.317	
1944-45	187,000	191,740	126	.075	
1945-46	94,140	132,430	88	.103	
1946-47	128,460	107,670	71	.062	
1947-48	31,690	42,340	27	.098	
1948-49	37,660	54,560	35	.106	
1949-50	18,290	9,100	5	.037	
1950-51	17,460	23,410	16	.098	
1951-52	414,420	12,645,550	8,295	2.242	
1952-53	58,190	42,420	28	.054	
1953-54	<u>14,490</u>	<u>9,310</u>	<u>6</u>	.047	
TOTALS	1,271,980	14,240,850	9,342		

For period of 12.167 years

Average discharge in acre-feet per year -----	104,543
Average acre-feet of silt per year -----	768
Average acre-feet of silt per year per square mile of contributing watershed -----	.811
Average tons of silt per year -----	1,170,449
Average percent of silt by weight -----	.822
Drainage area in square miles (net) -----	947

1/ Station was established August 1, 1942.

SILT DATA

Colorado River Watershed
at
SAN SABA STATION ON COLORADO RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight Pct.
<u>1953</u>				
October	149,200	509,940	334	.251
November	11,590	6,520	4	.041
December	4,450	160	0	.003
<u>1954</u>				
January	4,370	370	0	.006
February	2,690	210	0	.006
March	3,990	480	0	.009
April	155,500	851,460	558	.402
May	273,400	1,612,460	1058	.433
June	35,880	117,960	77	.242
July	12,630	7,530	5	.044
August	1,350	680	0	.037
September	710	20	0	.002
Totals	655,800	3,107,790	2,036	

U. S. G. S. yearly discharge in acre-feet -----	655,800
Total silt for year in acre-feet -----	2,036
Acre-feet of silt per year per square mile of contributing watershed -----	.109
Average percent of silt by weight for year -----	.348
Drainage area in square miles (net) -----	18,700

SUMMARY OF SILT DATA

for

Colorado River Watershed

Stream: COLORADO (Samples were taken from Red
 Station: NEAR SAN SABA Bluff bridge about midway be-
 Sampler: Robert A. Broyles tween San Saba and Lometa) ^{2/}

Water Year	Discharge	Silt Load of Stream		Average
	of Stream Acre-feet	Tons	Acre-feet	Percentage of Dry Silt by Weight Pct.
1929-30 ^{1/}	24,000	143,140	94	.439
1930-31	1,373,750	5,136,520	3,369	.275
1931-32	2,223,900	9,934,850	6,516	.328
1932-33	475,300	1,303,620	855	.201
1933-34	504,380	2,121,550	1,391	.309
1934-35	2,564,290	14,423,520	9,459	.413
1935-36	2,276,400	7,520,550	4,933	.243
1936-37	1,197,100	2,688,230	1,764	.165
1937-38	2,809,340	8,923,940	5,853	.233
1938-39	819,430	3,709,100	2,432	.333
1939-40	773,690	3,191,810	2,094	.303
1940-41	2,052,980	8,613,430	5,650	.308
1941-42	1,285,920	4,571,140	2,998	.261
1942-43	475,090	703,520	461	.109
1943-44	592,790	2,129,300	1,397	.264
1944-45	870,370	2,655,490	1,743	.224
1945-46	416,390	1,511,040	992	.267
1946-47	517,540	2,588,150	1,696	.367
1947-48	604,200	3,389,580	2,222	.412
1948-49	947,390	4,641,420	3,043	.360
1949-50	367,430	1,709,240	1,120	.342
1950-51	423,460	2,129,490	1,397	.369
1951-52	472,430	1,934,690	1,268	.301
1952-53	379,700	1,378,140	904	.267
1953-54	655,760	3,107,790	2,036	.348

TOTALS 25,103,030 100,159,250 65,687

For period of 24,055 years

Average discharge in acre-feet per year -----	1,043,568
Average acre-feet of silt per year -----	2,731
Average acre-feet of silt per year per square mile - of contributing watershed -----	.146
Average tons of silt per year -----	4,163,760
Average percent of silt by weight -----	.293
Drainage area in square miles (net) -----	18,700

^{1/} Station was established September 11, 1930.

^{2/} Water Samples were discontinued at old Red Bluff bridge and started one-half mile upstream at the new Red Bluff bridge on May 24, 1940.

SILT DATA

Colorado River Watershed
at
BUCHANAN DAM STATION ON COLORADO RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge of Stream	Silt Load of Stream		Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
<u>1953</u>				
October	39,580	1,080	1	.002
November	17,520	480)		.002
December	20,450	560)	1	.002
<u>1954</u>				
January	27,630	750)	1	.002
February	10,840	300)		.002
March	13,760	370)	1	.002
April	17,980	570)		.002
May	182,560	10,710	7	.004
June	91,310	6,480	4	.005
July	70,370	7,590	5	.008
August	27,620	5,130	3	.014
September	20,660	780	1	.003
Totals	540,280	34,800	24	

U. S. G. S. yearly discharge in acre-feet -----	540,280
Total silt for year in acre-feet -----	24
Acre-feet of silt per year per square mile of contributing watershed -----	
Average percent of silt by weight for year -----	.005
Drainage area in square miles (net) -----	

SUMMARY OF SILT DATA

for

Colorado River Watershed

Stream: COLORADO
 Station: BUCHANAN DAM (Samples taken at power house)
 Sampler: Lloyd Myers

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Acre-feet	Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
1947-48 ^{1/}	576,440	46,530	30	.006
1948-49	563,730	35,300	24	.005
1949-50	319,340	16,910	13	.004
1950-51	618,110	31,430	20	.004
1951-52	405,390	14,790	10	.003
1952-53	285,960	8,080	8	.002
1953-54	<u>540,280</u>	<u>34,800</u>	<u>24</u>	.005
TOTALS	3,309,250	187,840	129	

For period of 7.00 years

Average discharge in acre-feet per year -----	472,750
Average acre-feet of silt per year -----	18
Average acre-feet of silt per year per square mile of contributing watershed -----	-----
Average tons of silt per year -----	26,834
Average percent of silt by weight -----	.004
Drainage area in square miles (net) -----	-----

^{1/} Station was established October 1, 1947.

SILT DATA

Colorado River Watershed
at
AUSTIN (MONTOPOLIS BRIDGE) STATION ON COLORADO RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge of Stream	Silt Load of Stream		Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
<u>1953</u>				
October	20,570	1,390	1	.005
November	16,110	440	0	.002
December	31,050	2,880	2	.007
<u>1954</u>				
January	29,930	910	1	.002
February	12,380	340)		.002
March	24,890	750)	1	.002
April	56,770	3,360	2	.004
May	120,000	14,450	9	.009
June	116,800	13,720	9	.009
July	131,500	19,550	13	.011
August	93,880	5,680	4	.004
September	30,480	830	1	.002
Totals	684,400	64,300	43	

U. S. G. S. yearly discharge in acre-feet -----	684,400
Total silt for year in acre-feet -----	43
Acre-feet of silt per year per square mile of contributing watershed -----	.002
Average percent of silt by weight for year -----	.007
Drainage area in square miles (net) -----	26,260

SUMMARY OF SILT DATA

for

Colorado River Watershed

Stream: COLORADO
 Station: AUSTIN (Samples taken from Montopolis
 Sampler: Mrs. Antona Frensley Bridge)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Acre-feet	Percentage of Dry Silt by Weight
	Acre-feet			Pct.
1936-37 <u>1/</u>	48,040	1,830	1	.003
1937-38*	3,609,570	8,881,220	5,826	.181
1938-39 <u>2/</u>	986,630	735,150	481	.055
1939-40*	1,334,120	906,750	596	.050
1940-41	3,869,250	979,240	642	.019
1941-42	986,440	121,570	80	.009
1942-43	1,787,770	328,050	215	.013
1943-44	1,392,380	186,590	122	.010
1944-45	1,750,770	444,540	292	.019
1945-46	1,554,930	256,770	170	.012
1946-47	1,523,070	234,770	155	.011
1947-48	957,750	122,060	82	.009
1948-49	878,750	104,440	67	.009
1949-50	914,530	71,700	49	.006
1950-51	764,560	60,400	40	.006
1951-52	547,510	48,830	32	.007
1952-53	667,000	40,170	26	.004
1953-54	<u>684,360</u>	<u>64,300</u>	<u>43</u>	.007
TOTALS	24,257,430	13,588,380	8,919	

For period of 17.164 years

Average discharge in acre-feet per year -----	1,413,274
Average acre-feet of silt per year -----	520
Average acre-feet of silt per year per square mile of contributing watershed -----	.020
Average tons of silt per year -----	791,679
Average percent of silt by weight -----	.041
Drainage area in square miles (net) -----	26,260

1/ Station was established August 2, 1937, and samples taken from Congress Avenue bridge.

2/ Samples taken from Montopolis Bridge.

* Rehabilitation of the old Austin Dam (now termed Tom Miller Dam) was started August 1, 1938. This construction at times doubtless distorted the silt load of samples which were taken from 1½ to 4 miles downstream therefrom. Rehabilitation was completed and the impounding of water was begun on January 7, 1940.

SILT DATA

Guadalupe River Watershed
at
SPRING BRANCH STATION ON GUADALUPE RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight
	Acre-feet			Pct.
<u>1953</u>				
October	5,270	230	0	.003
November	3,660	190	0	.004
December	3,750	120	0	.002
<u>1954</u>				
January	3,700	210	0	.004
February	2,590	170	0	.005
March	2,250	190	0	.006
April	1,530	70	0	.003
May	7,270	22,500	15	.227
June	730	90		.009
July	30	0	0	.0
August	20	0	0	0
September	20	0	0	0
Totals	30,820	23,770	15	

U. S. G. S. yearly discharge in acre-feet -----	30,820
Total silt for year in acre-feet -----	15
Acre-feet of silt per year per square mile of contributing watershed -----	.010
Average percent of silt by weight for year -----	.057
Drainage area in square miles (net) -----	1,432

SUMMARY OF SILT DATA

for

Guadalupe River Watershed

Stream:	GUADALUPE	(Samples taken 4 miles south-
Station:	SPRING BRANCH	east of Spring Branch from
Sampler:	Alfred Bierle	bridge on old Highway No. 46)

Water Year	Discharge of Stream	Silt Load of Stream		Average Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
1941-42 ^{1/}	167,150	164,150	108	.072
1942-43	145,610	79,630	52	.040
1943-44	272,850	401,650	262	.108
1944-45	304,860	190,830	126	.046
1945-46	185,080	148,700	96	.059
1946-47	307,960	128,040	84	.031
1947-48	59,460	60,110	38	.074
1948-49	119,610	50,240	33	.031
1949-50	63,680	34,430	20	.040
1950-51	41,230	14,830	9	.026
1951-52	174,860	720,550	472	.303
1952-53	68,520	29,030	18	.031
1953-54	<u>30,820</u>	<u>23,770</u>	<u>15</u>	.057
TOTALS	1,941,690	2,045,960	1,333	

For period of 12.748 years

Average discharge in acre-feet per year -----	152,313
Average acre-feet of silt per year -----	105
Average acre-feet of silt per year per square mile of contributing watershed -----	.073
Average tons of silt per year -----	160,493
Average percent of silt by weight -----	.077
Drainage area in square miles (net) -- -----	1,432

^{1/} Station was established January 1, 1942.

SILT DATA

Guadalupe River Watershed
at
VICTORIA STATION ON GUADALUPE RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight
	Acre-feet			Pct.
<u>1953</u>				
October	103,500	98,200	64	.070
November	41,210	11,230	7	.020
December	54,460	16,130	11	.022
<u>1954</u>				
January	35,770	2,830	2	.006
February	28,050	1,380	1	.004
March	25,370	3,070	2	.009
April	28,770	4,210	3	.011
May	43,170	32,810	22	.056
June	14,650	1,560	1	.008
July	9,010	850	1	.007
August	6,630	1,200	1	.013
September	6,380	450	0	.005
Totals	397,000	173,920	115	

U. S. G. S. yearly discharge in acre-feet -----	397,000
Total silt for year in acre-feet -----	115
Acre-feet of silt per year per square mile of contributing watershed -----	.022
Average percent of silt by weight for year -----	.032
Drainage area in square miles (net) -----	5,311

SUMMARY OF SILT DATA

for

Guadalupe River Watershed

Stream: GUADALUPE
 Station: VICTORIA (Samples taken from bridge on
 Sampler: A. E. Anders U. S. Highway No. 59)

Water Year	Discharge of Stream		Silt Load of Stream		Average Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.	
1944-45 ^{1/}	38,430	19,480	13	.037	
1945-46	1,319,520	949,130	624	.053	
1946-47	1,595,300	777,690	511	.036	
1947-48	509,960	169,560	111	.024	
1948-49	871,660	607,450	398	.051	
1949-50	767,750	430,030	282	.041	
1950-51	392,150	215,130	141	.040	
1951-52	594,190	415,970	272	.051	
1952-53	777,400	430,850	283	.041	
1953-54	<u>396,970</u>	<u>173,920</u>	<u>115</u>	.032	
TOTALS	7,263,330	4,189,210	2,750		

For period of 9.083 years

Average discharge in acre-feet per year -----	799,662
Average acre-feet of silt per year -----	303
Average acre-feet of silt per year per square mile of contributing watershed -----	.057
Average tons of silt per year -----	461,214
Average percent of silt by weight -----	.042
Drainage area in square miles (net) -----	5,311

^{1/} Station was established September 1, 1945. Record for one month.

SILT DATA

Lavaca River Watershed
at
EDNA STATION ON LAVACA RIVER
for
Water Year 1953-54
(October 1, 1953 to September, 30, 1954)

Month	Discharge of Stream		Silt Load of Stream		Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.	
<u>1953</u>					
October	1,590	550	0	.025	
November	1,080	130	0	.009	
December	1,020	40	0	.003	
<u>1954</u>					
January	990	40	0	.003	
February	750	70	0	.007	
March	750	60	0	.006	
April	5,070	12,550	8	.217	
May	4,250	12,050	8	.208	
June	370	30	0	.006	
July	130	10	0	.006	
August	320	70	0	.002	
September	450	170	0	.003	
Totals	16,770	25,770	16		

U. S. G. S. yearly discharge in acre-feet -----	16,770
Total silt for year in acre-feet -----	16
Acre-feet of silt per year per square mile of contributing watershed -----	.018
Average percent of silt by weight for year -----	.113
Drainage area in square miles (net) -----	887

SUMMARY OF SILT DATA

for

Lavaca River Watershed

Stream:	LAVACA	(Samples were taken from
Station:	EDNA	bridge on U. S. Highway No. 59
Sampler:	Mrs. Ida Berryhill	between Victoria and Edna)

Water Year	Discharge of Stream	Silt Load of Stream		Average Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
1944-45 ^{1/}	980	570	0	
1945-46	266,330	327,240	215	.090
1946-47	250,340	192,850	126	.057
1947-48	114,240	98,200	66	.063
1948-49	105,870	205,400	134	.143
1949-50	90,950	119,490	78	.096
1950-51	34,210	54,230	35	.116
1951-52	117,740	98,940	65	.062
1952-53	118,300	93,930	62	.058
1953-54	<u>16,770</u>	<u>25,770</u>	<u>16</u>	.113
TOTALS	1,115,730	1,216,620	797	

For period of 9.083 years

Average discharge in acre-feet per year -----	122,837
Average acre-feet of silt per year -----	88
Average acre-feet of silt per year per square mile of contributing watershed -----	.099
Average tons of silt per year -----	133,945
Average percent of silt by weight -----	.080
Drainage area in square miles (net) -----	887

^{1/} Station established September 1, 1945.

SILT DATA

Neches River Watershed
at
HORGER-BROADDUS STATION ON ANGELINA RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream Acre-feet	Tons	Acre-feet	Dry Silt by Weight Pct.
<u>1953</u>				
October	6,090	310)		.004
November	14,100	700)	1	.004
December	65,240	8,160	5	.009
<u>1954</u>				
January	85,150	9,960	7	.009
February	74,840	6,700	4	.007
March	50,440	5,300	3	.008
April	50,870	6,320	4	.009
May	158,100	36,380	24	.017
June	33,370	6,120	4	.013
July	5,350	870	1	.012
August	2,100	360	0	.013
September	1,590	170	0	.008
Totals	547,200	81,350	53	

U. S. G. S. yearly discharge in acre-feet -----	547,200
Total silt for year in acre-feet -----	53
Acre-feet of silt per year per square mile of contributing watershed -----	.019
Average percent of silt by weight for year -----	.011
Drainage area in square miles (net) -----	2,803

SUMMARY OF SILT DATA

for

Neches River Watershed

Stream: ANGELINA (Samples taken from bridge on
 Station: HORGER - BROADDUS (ZAVALLA) State Highway No. 63 between
 Sampler: D. W. Moye Zavalla and Jasper-Horger
 Station. Broaddus Station 3/

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Acre-feet	Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
1944-45 <u>1/</u>	19,470	11,020	7	.042
1945-46	3,869,300	1,826,050	1,198	.035
1946-47	3,200,750	393,530	259	.009
1947-48	1,619,040	227,070	149	.010
1948-49	1,544,530	276,680	180	.013
1949-50	3,690,020	481,440	317	.010
1950-51	700,960	119,460	78	.017
1951-52 <u>2/</u>	846,510	136,370	90	.012
1952-53 <u>3/</u>	2,176,260	281,640	186	.009
1953-54	<u>547,240</u>	<u>81,350</u>	<u>53</u>	.011
TOTALS	18,214,080	3,834,610	2,517	

For period of 8.417 years

Average discharge in acre-feet per year -----	2,163,963
Average acre-feet of silt per year -----	299
Average acre-feet of silt per year per square mile of contributing watershed -----	.107
Average tons of silt per year -----	455,579
Average percent of silt by weight -----	.015
Drainage area in square miles (net) -----	3,435 <u>4/</u>
Drainage area in square miles (net) -----	2,803 <u>5/</u>

1/ Station was established September 1, 1945.

2/ Discontinued May 31, 1952.

3/ Station re-established at bridge on State Highway 103 between Broaddus and Zavalla on December 11, 1952. The Broaddus station is located approximately 30 miles upstream from the Horger Station.

4/ Horger Station

5/ Broaddus Station

SILT DATA

Neches River Watershed
at
ROCKLAND STATION ON NECHES RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight
	Acre-feet			Pct.
<u>1953</u>				
October	3,080	110	0	.003
November	8,690	440	0	.004
December	65,670	7,070	5	.008
<u>1954</u>				
January	77,940	14,340	9	.014
February	52,090	7,300	5	.010
March	39,870	4,030	3	.007
April	55,800	21,150	14	.028
May	169,600	38,210	25	.017
June	59,810	13,170	9	.016
July	3,600	590	0	.012
August	1,520	320	0	.015
September	480	20	0	.003
Totals	538,200	106,310	70	

U. S. G. S. yearly discharge in acre-feet -----	538,200
Total silt for year in acre-feet -----	70
Acre-feet of silt per year per square mile of contributing watershed -----	.020
Average percent of silt by weight for year -----	.014
Drainage area in square miles (net) -----	3,539

SUMMARY OF SILT DATA

for

Neches River Watershed

Stream:	NECHES	(Samples were taken from
Station:	ROCKLAND	bridge on U. S. Highway 69 be-
Sampler:	George W. Jones	tween Woodville and Lufkin)

Water Year	Discharge of Stream		Average Percentage of Dry Silt by Weight	
	Acre-feet	Tons	Acre-feet	Pct.
1929-30 ^{1/}	10,620	290	0	.002
1930-31	1,490,250	229,220	151	.011
1931-32	2,560,930	193,940	128	.006
1932-33	1,395,940	144,700	95	.008
1933-34	1,552,630	174,070	112	.008
1934-35	2,601,910	297,100	194	.008
1935-36	1,040,600	140,280	91	.010
1936-37	928,420	110,180	71	.009
1937-38	1,400,070	225,940	147	.012
1938-39	854,380	140,590	91	.012
1939-40	1,097,590	227,590	149	.015
1940-41	3,578,370	586,140	384	.012
1941-42	2,522,390	550,920	361	.016
1942-43	748,520	316,090	207	.031
1943-44	3,230,410	1,865,580	1,223	.042
1944-45	3,396,060	1,967,220	1,290	.043
1945-46	3,534,920	1,285,240	845	.027
1946-47	3,255,520	379,210	249	.009
1947-48	1,250,360	118,760	77	.007
1948-49	1,172,870	183,820	119	.012
1949-50	3,824,440	330,240	216	.009
1950-51	394,040	39,450	26	.007
1951-52	895,990	142,550	94	.012
1952-53	2,035,000	264,400	175	.010
1953-54	538,150	106,310	70	.014
TOTALS	45,310,380	10,019,830	6,565	

For period of 24.118 years	
Average discharge in acre-feet per year -----	1,878,696
Average acre-feet of silt per year -----	272
Average acre-feet of silt per year per square mile of contributing watershed -----	.077
Average tons of silt per year -----	415,450
Average percent of silt by weight -----	.016
Drainage area in square miles (net) -----	3,539

^{1/} Station was established August 8, 1930.

SILT DATA

Nueces River Watershed
at
CORPUS CHRISTI DAM (MATHIS) STATION ON NUECES RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge of Stream	Silt Load of Stream		Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
<u>1953</u>				
October	65,690	3,870	3	.004
November	40,890	6,560	4	.012
December	2,710	150	0	.004
<u>1954</u>				
January	2,730	80	0	.002
February	3,260	190	0	.004
March	3,710	440	0	.009
April	3,120	360	0	.008
May	3,710	500	0	.010
June	55,260	10,800	7	.014
July	145,300	42,890	28	.022
August	5,320	680)	1	.009
September	4,630	500)		.008
Totals	336,330	67,020	43	

U. S. G. S. yearly discharge in acre-feet -----	336,330
Total silt for year in acre-feet -----	43
Acre-feet of silt per year per square mile of contributing watershed -----	
Average percent of silt by weight for year -----	.015
Drainage area in square miles (net) -----	

SUMMARY OF SILT DATA

for

Nueces River Watershed

Stream: NUECES
 Station: CORPUS CHRISTI DAM (Samples taken below and
 Sampler: Eddie Wright adjacent to outlet gates)

Water Year	Discharge of Stream		Silt Load of Stream		Average Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.	
1941-42 ^{1/}	1, 202, 820	546, 500	358	.033	
1942-43	249, 640	44, 790	29	.013	
1943-44	740, 310	323, 550	212	.032	
1944-45	273, 820	125, 070	81	.034	
1945-46	936, 910	350, 430	231	.027	
1946-47	921, 510	244, 730	160	.020	
1947-48	107, 320	15, 170	8	.010	
1948-49	887, 240	212, 770	137	.018	
1949-50	246, 370	29, 160	18	.009	
1950-51	422, 160	106, 740	70	.019	
1951-52	177, 310	25, 670	18	.011	
1952-53	536, 500	159, 200	102	.022	
1953-54	<u>336, 330</u>	<u>67, 020</u>	<u>43</u>	.015	
TOTALS	7, 038, 240	2, 250, 800	1, 467		

For period of 12.667 years

Average discharge in acre-feet per year -----	555, 636
Average acre-feet of silt per year -----	116
Average acre-feet of silt per year per square mile of contributing watershed -----	---
Average tons of silt per year -----	177, 690
Average percent of silt by weight -----	.023
Drainage area in square miles (net)-----	---

^{1/} Station was established February 2, 1942.

SILT DATA

Nueces River Watershed
at
COTULLA STATION ON NUECES RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight
	Acre-feet			Pct.
<u>1953</u>				
October	21,950	990	1	.003
November	410	40	0	.007
December	0	0	0	0
<u>1954</u>				
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	2,250	350	0	.011
May	20,070	4,230	3	.015
June	35,660	17,570	12	.036
July	37,730	21,110	14	.041
August	0	0	0	0
September	0	0	0	0
Totals	118,100	44,290	30	

U. S. G. S. yearly discharge in acre-feet -----	118,100
Total silt for year in acre-feet -----	30
Acre-feet of silt per year per square mile of contributing watershed -----	.006
Average percent of silt by weight for year -----	.028
Drainage area in square miles (net) -----	5,260

SUMMARY OF SILT DATA

for

Nueces River Watershed

Stream: NUECES
 Station: COTULLA (Samples taken from Highway
 Sampler: C. G. Jennings Bridge in Cotulla)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Acre-feet	Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
1941-42 ^{1/}	141,380	64,130	42	.033
1942-43	64,240	33,270	22	.038
1943-44	482,520	367,860	241	.056
1944-45	82,440	65,460	43	.058
1945-46	347,610	284,210	186	.060
1946-47	92,610	16,550	11	.013
1947-48	72,900	29,100	19	.029
1948-49	277,520	115,640	75	.031
1949-50	57,760	18,550	12	.024
1950-51	31,050	10,010	7	.024
1951-52	34,640	20,910	14	.044
1952-53	84,420	11,880	7	.010
1953-54	<u>118,070</u>	<u>44,290</u>	<u>30</u>	.028
TOTALS	1,887,160	1,081,860	709	

For period of 12,748 years

Average discharge in acre-feet per year -----	148,036
Average acre-feet of silt per year -----	56
Average acre-feet of silt per year per square mile of contributing watershed -----	.011
Average tons of silt per year -----	84,865
Average percent of silt by weight -----	.042
Drainage area in square miles (net) -----	5,260

^{1/} Station was established January 1, 1942.

SILT DATA

Nueces River Watershed
at
CALLIHAM STATION ON FRIO RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight
	Acre-feet			Pct.
<u>1953</u>				
October	31,060	47,050	31	.111
November	1,430	620	0	.031
December	190	0	0	--
<u>1954</u>				
January	140	0	0	--
February	70	0	0	--
March	30	0	0	--
April	6,360	6,470	4	.075
May	7,470	11,380	7	.112
June	19,910	13,560	9	.050
July	1,140	180	0	.012
August	0	0	0	--
September	0	0	0	--
Totals	67,870	79,260	51	

U. S. G. S. yearly discharge in acre-feet -----	67,870
Total silt for year in acre-feet -----	51
Acre-feet of silt per year per square mile	
of contributing watershed -----	.009
Average percent of silt by weight for year -----	.086
Drainage area in square miles (net) -----	5,491

SUMMARY OF SILT DATA

for

Nueces River Watershed

Stream:	FRIO	(Samples taken from bridge on
Station:	NEAR CALLIHAM	Calliham-Whitsett Highway one
Sampler :	Donald Stephenson	mile north of Calliham)

Water Year	Discharge of Stream	Silt Load of Stream		Average Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
1952-53 ^{1/}	225,820	244,030	160	.079
1953-54	<u>67,800</u>	<u>79,260</u>	<u>51</u>	.086
TOTALS	293,620	323,290	211	

For period of 1.750 years

Average discharge in acre-feet per year -----	167,783
Average acre-feet of silt per year -----	121
Average acre-feet of silt per year per square mile of contributing watershed. -----	.022
Average tons of silt per year -----	184,737
Average percent of silt by weight -----	.080
Drainage area in square miles (net) -----	5,491

^{1/} Station established January 1, 1953. The Calliham Station is the first to be established on Frio River (Nueces River Watershed). Data were obtained for nine months (January 1, 1953 to October 1, 1953.)

SILT DATA

Sabine River Watershed
at
LOGANSPORT, LA. STATION ON SABINE RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight
	Acre-feet			Pct.
<u>1953</u>				
October	5,960	320)		.004
November	22,030	680)	1	.002
December	127,400	24,830	16	.014
<u>1954</u>				
January	170,400	56,060	37	.024
February	165,100	309,530	203	.138
March	72,690	34,480	23	.035
April	87,840	13,970	9	.012
May	302,100	63,100	41	.015
June	50,690	13,920	9	.020
July	5,110	740)	1	.011
August	2,120	380)		.013
September	1,320	80	0	.004
Totals	1,013,000	518,090	340	

U. S. G. S. yearly discharge in acre-feet -----	1,013,000
Total silt for year in acre-feet -----	340
Acre-feet of silt per year per square mile of contributing watershed -----	.070
Average percent of silt by weight for year -----	.038
Drainage area in square miles (net) -----	4,858

SUMMARY OF SILT DATA

for

Sabine River Watershed

Stream: SABINE (Samples were taken from U. S.
 Station: LOGANSPORT, LA. Highway 84 bridge in downtown
 Sampler: R. E. Davenport Logansport, La.)

Water Year	Discharge of Stream		Silt Load of Stream		Average Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.	
1932-33 ^{1/}	2,545,700	503,740	330	.015	
1933-34 ^{2/}	69,200	5,780	4	.006	
1934-35 ^{3/}	13,910	400	0	.002	
1935-36	841,410	137,020	89	.012	
1936-37	1,689,660	270,430	176	.012	
1937-38	3,155,000	537,990	353	.013	
1938-39	1,325,580	291,500	190	.016	
1939-40	1,302,990	458,990	301	.026	
1940-41	4,876,180	825,330	541	.012	
1941-42	3,817,160	1,439,880	944	.028	
1942-43	1,716,620	999,370	655	.043	
1943-44	4,193,070	3,002,050	1,969	.053	
1944-45	5,996,730	4,502,820	2,953	.055	
1945-46	5,137,000	2,650,320	1,738	.038	
1946-47	3,318,320	553,900	363	.012	
1947-48	2,820,560	452,390	298	.012	
1948-49	1,882,220	391,520	255	.015	
1949-50	4,225,130	934,380	610	.016	
1950-51	1,033,160	217,420	142	.015	
1951-52	1,814,460	278,200	182	.011	
1952-53	2,891,000	595,230	393	.015	
1953-54	1,012,760	518,090	340	.038	
TOTALS	55,677,820	19,566,750	12,826		

For period of 20.156 years

Average discharge in acre-feet per year -----	2,762,345
Average acre-feet of silt per year -----	636
Average acre-feet of silt per year per square mile of contributing watershed -----	.131
Average tons of silt per year -----	970,766
Average percent of silt by weight -----	.026
Drainage area in square miles (net) -----	4,858

^{1/} Station was established December 1, 1932.

^{2/} Station was discontinued December 27, 1933.

^{3/} Station was re-established September 1, 1935.

SILT DATA

San Antonio River Watershed
at
GOLIAD STATION ON SAN ANTONIO RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight
	Acre-feet			Pct.
<u>1953</u>				
October	14,370	13,610	9	.070
November	9,270	1,790	1	.014
December	12,050	11,760	8	.072
<u>1954</u>				
January	9,200	530	0	.004
February	6,860	910	1	.010
March	6,910	1,340	1	.014
April	9,470	7,230	5	.056
May	16,060	28,860	19	.132
June	7,470	7,730	5	.076
July	5,070	2,080	1	.030
August	3,070	440	0	.011
September	3,970	250	0	.005
Totals	103,800	76,530	50	

U. S. G. S. yearly discharge in acre-feet -----	103,800
Total silt for year in acre-feet -----	50
Acre-feet of silt per year per square mile of contributing watershed -----	.013
Average percent of silt by weight for year -----	.054
Drainage area in square miles (net) -----	3,918

SUMMARY OF SILT DATA

for

San Antonio River Watershed

Stream: SAN ANTONIO (Samples were taken near Goliad
 Station: GOLIAD from bridge on State Hwy. No. 29)
 Sampler: Polo Perez

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Acre-feet	Percentage of Dry Silt by Weight
	Acre-feet			Pct.
1941-42 ^{1/}	699,580	848,340	556	.089
1942-43	453,180	581,740	382	.094
1943-44	365,060	725,630	475	.146
1944-45	352,460	567,440	371	.118
1945-46	663,080	1,387,180	910	.154
1946-47	699,560	719,770	472	.076
1947-48	226,510	237,020	155	.077
1948-49	403,390	669,460	440	.122
1949-50	263,690	310,560	203	.087
1950-51	221,270	394,550	260	.131
1951-52	330,950	379,470	249	.084
1952-53	255,900	345,950	226	.099
1953-54	<u>103,770</u>	<u>76,530</u>	<u>50</u>	.054
TOTALS	5,038,400	7,243,640	4,749	

For period of 12.748 years

Average discharge in acre-feet per year -----	395,231
Average acre-feet of silt per year -----	373
Average acre-feet of silt per year per square mile of contributing watershed -----	.095
Average tons of silt per year -----	568,218
Average percent of silt by weight -----	.106
Drainage area in square miles (net) -----	3,918

^{1/} Station was established January 1, 1942.

SILT DATA

San Jacinto River Watershed
at
CONROE STATION ON WEST FORK OF SAN JACINTO RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight
	Acre-feet			Pct.
<u>1953</u>				
October	1,830	240	0	.010
November	8,280	1,080	1	.010
December	55,870	7,700	5	.010
<u>1954</u>				
January	18,030	3,850	3	.016
February	7,610	2,070	1	.020
March	3,870	200	0	.004
April	4,100	300	0	.005
May	11,280	2,810	2	.018
June	1,090	140	0	.009
July	2,460	710)	1	.021
August	2,570	540)		.015
September	520	60	0	.008
Totals	117,500	19,700	13	

U. S. G. S. yearly discharge in acre-feet -----	117,500
Total silt for year in acre-feet -----	13
Acre-feet of silt per year per square mile	
of contributing watershed -----	.007
Average percent of silt by weight for year -----	.012
Drainage area in square miles (net) -----	1,811

SUMMARY OF SILT DATA

for

San Jacinto River Watershed

Moved 25 miles upstream from the Humble Station. Samples obtained from bridge on U. S. Highway 75 south of Conroe. Station established at Conroe December 1, 1952.

Stream: WEST FORK OF SAN JACINTO
 Station: NEAR CONROE (Old Humble Station)
 Sampler: L. C. Clark

(Samples were taken from highway bridge about 2 miles north of Humble)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Acre-feet	Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
1932-33 <u>1/</u>	253, 210	144, 800	93	.042
1933-34 <u>2/</u>	7, 450	520	0	.005
1936-37 <u>3/</u>	12, 450	1, 370	1	.008
1937-38	491, 940	150, 650	97	.022
1938-39	319, 500	120, 660	77	.028
1939-40	282, 680	162, 070	105	.042
1940-41	2, 566, 090	896, 050	588	.026
1941-42	909, 180	373, 670	245	.030
1942-43	545, 760	290, 820	191	.039
1943-44	881, 200	660, 570	434	.055
1944-45	1, 577, 380	1, 241, 490	815	.058
1945-46	1, 320, 330	774, 810	509	.043
1946-47	1, 325, 000	345, 140	228	.019
1947-48	284, 340	41, 140	25	.011
1948-49	502, 390	201, 420	131	.029
1949-50	502, 370	152, 470	100	.022
1950-51	93, 720	28, 050	18	.022
1951-52 <u>4/</u>	227, 100	92, 460	61	.030
1952-53 <u>5/</u>	270, 140	76, 840	51	.021
1953-54	<u>117, 510</u>	<u>19, 700</u>	<u>13</u>	.012
TOTALS	12, 489, 740	5, 774, 700	3, 782	

For period of 17.753 years

Average discharge in acre-feet per year -----	703, 528
Average acre-feet of silt per year -----	213
Average acre-feet of silt per year per square mile of contributing watershed -----	.118
Average tons of silt per year -----	325, 280
Average percent of silt by weight -----	.034
Drainage area in square miles (net) -----	1, 811

1/ Station was established December 1, 1932.

2/ Station was discontinued December 31, 1933.

3/ Station was re-established July 1, 1937.

4/ Station was discontinued April 30, 1952.

5/ Station was re-established near Conroe December 1, 1952.

SILT DATA

San Jacinto River Watershed
at
CLEVELAND STATION ON EAST FORK OF SAN JACINTO RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight
	Acre-feet			Pct.
<u>1953</u>				
October	840	60	0	.005
November	1,320	90	0	.005
December	6,200	550	0	.007
<u>1954</u>				
January	7,370	1,080	1	.011
February	3,750	1,290	1	.025
March	1,850	120	0	.005
April	3,530	1,390	1	.029
May	4,460	1,630	1	.027
June	710	200	0	.021
July	2,310	830	1	.026
August	3,600	1,320	1	.027
September	480	120	0	.018
Totals	36,430	8,680	6	

U. S. G. S yearly discharge in acre-feet -----	36,430
Total silt for year in acre-feet -----	6
Acre-feet of silt per year per square mile	
of contributing watershed -----	.018
Average percent of silt by weight for year -----	.018
Drainage area in square miles (net) -----	330

SUMMARY OF SILT DATA

for

San Jacinto Watershed

Stream: EAST FORK OF SAN JACINTO (Samples taken from bridge on
 Station: NEAR CLEVELAND State Highway 105 and 1¼ miles
 Sampler: E. M. Wheeler west of Cleveland)

Water Year	Discharge of Stream		Silt Load of Stream		Average Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.	
1952-53 ^{1/}	144,180	30,680	20	.016	
1953-54	<u>36,420</u>	<u>8,680</u>	<u>6</u>	.018	
TOTALS	180,600	39,360	26		

For period of 1.833 year

Average discharge in acre-feet per year -----	98,527
Average acre-feet of silt per year -----	14
Average acre-feet of silt per year per square mile of contributing watershed -----	.042
Average tons of silt per year -----	21,473
Average percent of silt by weight -----	.016
Drainage area in square miles (net) -----	330

^{1/} Station established December 1, 1952. The Cleveland Station is the first to be established on the East Fork of the San Jacinto River. Data were obtained for 10 months (December 1952 to October 1953).

SILT DATA

Trinity River Watershed
at
ROMAYOR STATION ON TRINITY RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight
	Acre-feet			Pct.
<u>1953</u>				
October	36,710	19,600	13	.039
November	71,800	26,620	17	.027
December	269,100	252,220	165	.069
<u>1954</u>				
January	160,900	132,620	87	.061
February	66,720	12,820	8	.014
March	44,530	4,520	3	.007
April	71,510	32,140	21	.033
May	383,500	523,740	344	.100
June	44,540	7,970	5	.013
July	30,790	12,270	8	.029
August	33,840	7,070	5	.015
September	12,740	1,460	1	.008
Totals	1,227,000	1,033,050	677	

U. S. G. S. yearly discharge in acre-feet -----	1,227,000
Total silt for year in acre-feet -----	677
Acre-feet of silt per year per square mile of contributing watershed -----	.039
Average percent of silt by weight for year -----	.062
Drainage area in square miles (net) -----	17,192

SUMMARY OF SILT DATA

for

Trinity River Watershed

Stream: TRINITY
 Station: ROMAYOR (Samples taken from the
 Sampler: Claud Allen railroad bridge)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Acre-feet	Percentage of Dry Silt by Weight
	Acre-feet			Pct.
1935-36 ^{1/}	42,130	5,220	4	.009
1936-37	3,900,920	3,481,600	2,285	.066
1937-38	6,753,160	6,741,220	4,423	.073
1938-39	2,165,150	3,199,280	2,099	.109
1939-40	3,218,170	4,999,040	3,280	.114
1940-41	12,258,630	9,657,990	6,335	.058
1941-42	9,901,100	9,447,990	6,197	.070
1942-43	4,298,370	4,914,950	3,224	.084
1943-44	7,588,430	11,433,850	7,501	.111
1944-45	12,202,840	13,559,310	8,893	.082
1945-46	8,391,500	8,643,330	5,670	.076
1946-47	7,009,180	5,290,980	3,468	.055
1947-48	4,476,720	3,284,720	2,154	.054
1948-49	4,029,430	3,411,700	2,238	.062
1949-50	8,017,800	5,538,990	3,634	.051
1950-51	1,727,990	884,850	580	.038
1951-52	2,017,640	1,848,630	1,213	.067
1952-53	3,990,000	2,784,550	1,827	.051
1953-54	<u>1,226,680</u>	<u>1,033,050</u>	<u>677</u>	.062
TOTALS	103,215,840	100,161,250	65,702	

For period of 18.142 years

Average discharge in acre-feet per year -----	5,689,331
Average acre-feet of silt per year -----	3,622
Average acre-feet of silt per year per square mile of contributing watershed -----	, ,211
Average tons of silt per year -----	5,520,960
Average percent of silt by weight -----	.071
Drainage area in square miles (net) -----	17,192

^{1/} Station was established August 10, 1936.

SILT DATA

Trinity River Watershed
at
ROSSER STATION ON TRINITY RIVER
for
Water Year 1953-54
(October 1, 1953 to September 30, 1954)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	Tons	Acre-feet	Dry Silt by Weight
	Acre-feet			Pct.
<u>1953</u>				
October	17,480	5,480	4	.023
November	13,330	1,910	1	.011
December	13,030	880	1	.005
<u>1954</u>				
January	29,700	17,580	12	.043
February	12,470	540	0	.003
March	10,620	880	1	.006
April	30,570	55,170	36	.133
May	81,500	118,180	78	.107
June	14,120	2,760	1	.014
July	14,840	2,410	1	.012
August	11,920	750)		.005
September	8,050	860)	1	.008
Totals	257,600	207,400	136	

U. S. G. S. yearly discharge in acre-feet -----	257,600
Total silt for year in acre-feet -----	136
Acre-feet of silt per year per square mile of contributing watershed -----	.017
Average percent of silt by weight for year -----	.059
Drainage area in square miles (net) -----	8,057

SUMMARY OF SILT DATA

for

Trinity River Watershed

Stream:	TRINITY	(Samples are taken from Highway
Station:	ROSSER	Bridge on State Highway No. 34
Sampler:	A. J. Dodson	between Ennis and Rosser)

Water Year	Discharge of Stream	Silt Load of Stream		Average Percentage of Dry Silt by Weight
	Acre-feet	Tons	Acre-feet	Pct.
1938-39 ^{1/}	436,040	853,710	560	.144
1939-40 ^{2/}	779,560	1,551,160	1,016	.146
1952-53 ^{3/}	588,700	230,090	150	.029
1953-54	<u>257,630</u>	<u>207,400</u>	<u>136</u>	.059
TOTALS	2,061,930	2,842,360	1,862	

For period of 3.181 years

Average discharge in acre-feet per year -----	648,202
Average acre-feet of silt per year -----	585
Average acre-feet of silt per year per square mile of contributing watershed -----	.073
Average tons of silt per year -----	893,543
Average percent of silt by weight -----	.101
Drainage area in square miles (net) -----	8,057

- ^{1/} Station was established on November 15, 1938 but first water samples were taken November 22, 1938.
- ^{2/} Station was discontinued June 27, 1940.
- ^{3/} Station was re-established March 1, 1953 (water year ends September 30 of each year)

SUMMARY OF SILT DATA FOR SOME OF THE MAJOR TEXAS STREAMS
(For Water Year Ending September 30, 1954)

Watershed	Stream	Location	Period	Total	Average	Average Amount of Silt		Amount of	Dry	Net
				Length of Record Years	Runoff of Stream Acre-feet	Acre-feet	Tons	Silt per Watershed Acre-feet	Silt by Weight Percent	Drainage Area Sq. Miles
Brazos	Salt Fork	Aspermont	1/ 1924-25	1.238	111,100	2,818	4,297,420	1.272	2.842	2,216
Brazos	Salt Fork	Seymour	1/ 1924-30	6.107	398,864	6,501	9,912,150	1.238	1.826	5,250
Brazos	Dbl. Mt. Fork	Aspermont	1/ 1924-33	9.244	135,280	2,665	4,062,400	1.765	2.206	1,510
Brazos	Clear Fork	Crystal Falls	1/ 1925-29	3.307	214,440	568	866,020	.131	.297	4,320
Brazos	Clear Fork	Eliasville	1/ 1924-25	1.244	177,240	529	808,630	.092	.335	5,740
Brazos	Little River	Little River	1/ 1924-29	4.962	419,870	752	1,147,190	.143	.201	5,253
Brazos	San Gabriel	Circleville	1/ 1924-29	5.403	110,744	222	339,590	.369	.225	602
Brazos	Leon	Belton-Gatesville	1945-49;53-54	5.916	266,871	295	441,714	.128	.122	2,313
Brazos	Navasota	Easterly	1942-54 15/	12.081	289,631	175	266,662	.184	.068	949
Brazos	Brazos	South Bend	1942-54	12.710	467,179	2,467	3,760,220	.200	.591	12,360
Brazos	Brazos	Possum King. Dam	1942-54	12.710	478,308	57	88,065	----	.014	-----
Brazos	Brazos	Mineral Wells	1/ 1924-34	10.332	953,550	6,506	9,920,060	.468	.764	13,910
Brazos	Brazos	Glen Rose	1/ 1924-29	4.588	1,181,370	8,378	12,773,810	.537	.794	15,600
Brazos	Brazos	Waco	1/ 1924-33	9.254	1,717,130	10,325	15,742,010	.536	.673	19,260
Brazos	Brazos	Bryan	1/ 1899-1902	3.419	4,156,736	39,117	-----	1.340	.941 ^{4/}	29,190
Brazos	Brazos	Richmond	1924-54	30.306	5,186,640	20,148	30,756,580	.579	.436	34,810
Colorado	Llano	Llano	1942-54	12.167	168,553	450	685,998	.112	.299	4,000
Colorado	Pedernales	Johnson City	1942-54	12.167	104,543	768	1,170,449	.811	.822	947
Colorado	Colorado	San Saba	1930-54	24.055	1,043,568	2,731	4,163,760	.146	.293	18,700
Colorado	Colorado	Tow	1/ 1927-32	5.162	1,245,440	3,360	5,122,520	.174	.302	19,300
Colorado	Colorado	Inks Dam	3/ 1942-52	9.333	619,191	48	73,327	----	.009	-----
Colorado	Colorado	Buchanan Dam	13/ 1947-54	7.000	472,750	18	26,834	----	.004	-----
Colorado	Colorado	Austin	1937-54	17.164	1,413,274	520	791,679	.020	.041	26,260
Colorado	Colorado	Columbus-Eagle L	5/ 1937-42	6.997	3,167,710	5,898	8,991,960	.202	.209	29,140
Guadalupe	Guadalupe	Spring Branch	1942-54	12.748	152,313	105	160,493	.073	.077	1,432
Guadalupe	Guadalupe	Victoria	1945-54	9.083	799,662	303	461,214	.057	.042	5,311
Lavaca	Lavaca	Edna	1945-54	9.083	122,837	88	133,945	.099	.080	887
Neches	Angelina	Horger-Broadus	6/ 1945-54	8.417	2,163,963	299	455,579	.107	.015	2,803
Neches	Neches	Rockland	1930-54	24.118	1,878,696	272	415,450	.077	.016	3,539
Nueces	Nueces	Three Rivers	13/ 1927-53	25.583	629,035	475	724,867	.030	.085	15,600

SUMMARY OF SILT DATA (continued)

Watershed	Stream	Location	Period	Total	Average	Average Amount of Silt		Amount of Silt per Watershed Acre-feet	Dry Silt by Weight Percent	Net Drainage Area Sq. Miles
				Length of Record Years	Runoff of Stream Acre-feet	Acre-feet	Tons			
Nueces	Nueces	Corpus Christi Dam	1942-54	12.667	555,636	116	177,690	-----	.023	-----
Nueces	Nueces	Cotulla	1941-54	12.748	148,036	56	84,865	.011	.042	5,260
Nueces	Frio	Calliham	<u>14/</u> 1953-54	1.750	167,783	121	184,737	.022	.080	5,491
Rio Grande	Rio Grande	Eagle Pass	<u>7/</u> 1934-43	9.068	3,180,057	9,776	14,904,545	.078	.334	125,260
Rio Grande	Rio Grande	Roma	<u>7/</u> 1929-43	14.184	4,166,619	12,588	19,192,311	.080	.338	157,204
Red	Pease	Crowell	<u>8/</u> 1942-47	5.002	113,411	992	1,512,834	.412	.980	2,410
Red	Red	Denison	<u>1/</u> 1930-33; 36-39	6.260	3,326,780	13,640	20,793,380	.415	.459	32,840
Red	Wichita	Wichita Falls	<u>1/</u> 1900-02	2.014	566,420	5,516	-----	1.776	.974 ^{4/}	3,105
Sabine	Sabine	Logansport, La.	1932-33; 35-54	20.156	2,762,345	636	970,766	.131	.026	4,858
Sabine	Sabine	Ruliff	<u>9/</u> 1945-46	1.083	11,408,864	3,124	5,771,404	.331	.037	9,440
San Antonio	San Antonio	Falls City	<u>1/</u> 1927-33	5.967	127,120	142	216,730	.069	.125	2,070
San Antonio	San Antonio	Goliad	1942-54	12.748	395,231	373	568,218	.095	.106	3,918
San Jacinto	West Fork	Humble-Conroe	<u>10/</u> 1932-33; 37-54	17.753	703,528	213	325,280	.118	.034	1,811
San Jacinto	East Fork	Cleveland	<u>15/</u> 1952-54	1.833	98,527	14	21,473	.042	.016	330
San Jacinto	San Jacinto	Huffman	<u>11/</u> 1945-52	6.597	1,420,188	507	772,982	.182	.040	2,791
Trinity	Trinity	Rosser	<u>12/</u> 1938-49; 52-54	3.181	648,202	585	893,543	.073	.101	8,057
Trinity	Trinity	Romayor	1936-54	18.142	5,689,331	3,622	5,520,960	.211	.071	17,192

1/ Silt by months and summary data prior to 1940 contained in Progress Report No. 1.

2/ Belton station discontinued December 31, 1949 and re-established at Gatesville which is approximately 40 miles upstream, on March 1, 1953.

3/ Station discontinued November 30, 1951.

4/ Percent of silt by volume.

5/ Station discontinued October 31, 1941.

6/ Horger Station discontinued May 31, 1952 and re-established near Broadus which is approximately 30 miles upstream, on December 11, 1952.

7/ Station discontinued May 31, 1943.

8/ Station discontinued June 30, 1947.

9/ Station discontinued September 30, 1946.

10/ Humble station discontinued April 30, 1952 and re-established near Conroe which is approximately 25 miles upstream, on December 1, 1952.

11/ Station discontinued March 31, 1952.

12/ Station discontinued June 27, 1940 and re-established March 1, 1953.

13/ Station discontinued March 1, 1953.

14/ Station established January 1, 1953