



No.	SYMBOL	WATERWAY	STREAM	STATION
1	P	GARLAND	NO. GAR.	AMARILLO
2	P	GARLAND	NO. GAR.	CHANDLER
3	P	RED	FOTY	STELLA
4	O	RED	PEARL	GOODWILL
5	O	RED	NORTH	SHOOTY HILL
6	P	RED	LITTLE	W. ANDERSON CITY
7	D	RED	RED	DEWISON
8	P	RAVINE	ELKING	BLADEMETER
9	A	SABINE	SABINE	LOGANSPORT
10	P	SABINE	SABINE	SON WIER
11	P	MECHES	MECHES	MECHES
12	A	MECHES	MECHES	ROCKLAND
13	A	MECHES	MECHES	MOORE
14	P	MECHES	MECHES	W. J. HUFFMAN
15	P	TRINITY	TRINITY	ROBARDE
16	P	TRINITY	TRINITY	ROBARDE
17	P	TRINITY	TRINITY	ROBARDE
18	A	TRINITY	TRINITY	ROBARDE
19	A	SAN JACINTO	FORK	HUMBLE
20	A	SAN JACINTO	FORK	HUFFMAN
21	D-P	BRAZOS	SALT	THE SPRINGPORT
22	D	BRAZOS	SALT	THE SPRINGPORT
23	D	BRAZOS	SALT	THE SPRINGPORT
24	J	BRAZOS	BRAZOS	SOUTH WIER
25	D-P	BRAZOS	BLAIR	CRISTINA FALLS
26	D	BRAZOS	BRAZOS	CLAYVILLE
27	A	BRAZOS	BRAZOS	FORBES
28	D-P	BRAZOS	BRAZOS	ELLEN ROSS
29	D-P	BRAZOS	BRAZOS	ELLEN ROSS
30	P	BRAZOS	BRAZOS	ELLEN ROSS
31	P	BRAZOS	BRAZOS	ELLEN ROSS
32	P	BRAZOS	LEON	BRANTON
33	A	BRAZOS	LEON	BRANTON
34	D	BRAZOS	LITTLE	LITTLE RIVER
35	P	BRAZOS	LITTLE	LITTLE RIVER
36	P	BRAZOS	LITTLE	LITTLE RIVER
37	D-P	BRAZOS	TRINITY	TRINITY
38	D	BRAZOS	TRINITY	TRINITY
39	A	BRAZOS	TRINITY	TRINITY
40	A	BRAZOS	TRINITY	TRINITY
41	A	BRAZOS	TRINITY	TRINITY
42	P	COLO.	COLO.	LA FORT
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79	A	COLO.	COLO.	LA FORT
80	A	COLO.	COLO.	LA FORT
81	A	COLO.	COLO.	LA FORT

No.	SYMBOL	WATERWAY	STREAM	STATION
48	A	COLO.	LLANO	LLANO
49	A	COLO.	LLANO	LLANO
50	A	COLO.	LLANO	LLANO
51	A	COLO.	LLANO	LLANO
52	A	COLO.	LLANO	LLANO
53	A	COLO.	LLANO	LLANO
54	A	COLO.	LLANO	LLANO
55	A	COLO.	LLANO	LLANO
56	A	COLO.	LLANO	LLANO
57	A	COLO.	LLANO	LLANO
58	A	COLO.	LLANO	LLANO
59	A	COLO.	LLANO	LLANO
60	A	COLO.	LLANO	LLANO
61	A	COLO.	LLANO	LLANO
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64	A	COLO.	LLANO	LLANO
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80	A	COLO.	LLANO	LLANO
81	A	COLO.	LLANO	LLANO

LEGEND  
 ACTIVE ●  
 PROPOSED ⊕  
 DISCONTINUED ⊙

U.S. DEPARTMENT OF AGRICULTURE  
 IN CO-OPERATION WITH  
 BOARD OF WATER ENGINEERS  
 STATE OF TEXAS  
 SILT OBSERVATION STATIONS  
 SHOWING  
 ACTIVE, PROPOSED AND DISCONTINUED

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

PROGRESS REPORT NO. 11  
of  
SILT LOAD OF TEXAS STREAMS  
(1948-1949)

(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  
August, 1950

ORGANIZATION

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UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
DIVISION OF IRRIGATION AND WATER CONSERVATION  
Cooperating in Studies on Silt of Texas Streams

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T A B L E O F C O N T E N T S

	<u>Page</u>
INTRODUCTION . . . . .	1
SUMMARIZED SILT DATA . . . . .	2-7
COOPERATION AND ACKNOWLEDGEMENTS . . . . .	8
SUSPENDED SILT LOAD DETERMINATIONS	
<u>Brazos River Watershed</u>	
Belton Station (Leon River) . . . . .	9-10
Easterly Station (Navasota River) . . . . .	11-12
South Bend Station . . . . .	13-14
Possum Kingdom Dam Station . . . . .	15-16
Richmond Station. . . . .	17-18
<u>Colorado River Watershed</u>	
Llano Station (Llano River) . . . . .	19-20
Johnson City Station (Pedernales River) . . . . .	21-22
San Saba Station. . . . .	23-24
Inks Dam Station. . . . .	25-26
Buchanan Dam Station . . . . .	27-28
Austin Station . . . . .	29-30
<u>Guadalupe River Watershed</u>	
Spring Branch Station . . . . .	31-32
Victoria Station. . . . .	33-34
<u>Lavaca River Watershed</u>	
Edna Station . . . . .	35-36

(continued on next page)

T A B L E O F C O N T E N T S (Cont'd.)

	<u>Page</u>
<u>Neches River Watershed</u>	
Horger Station (Angelina River) . . . . .	37-38
Rockland Station . . . . .	39-40
<u>Nueces River Watershed</u>	
Cotulla Station . . . . .	41-42
Three Rivers Station . . . . .	43-44
Corpus Christi Dam Station . . . . .	45-46
<u>Sabine River Watershed</u>	
Logansport, La. Station . . . . .	47-48
<u>San Antonio River Watershed</u>	
Goliad Station. . . . .	49-50
<u>San Jacinto River Watershed</u>	
Huffman Station . . . . .	51-52
Humble Station (West Fork San Jacinto River). . .	53-54
<u>Trinity River Watershed</u>	
Romayor Station . . . . .	55-56
SUMMARY OF ALL TEXAS SILT STATIONS, ACTIVE AND DISCONTINUED	57-58

Progress Report No. 11  
of  
THE SILT LOAD OF TEXAS STREAMS, 1948-1949

by

Dean W. Bloodgood, Irrigation Engineer  
Division of Irrigation Research  
Soil Conservation Service  
U. S. Department of Agriculture

INTRODUCTION

The purpose of the silt studies is to make a determination of the characteristics of the suspended silt load of Texas streams.

The eleventh annual progress report for Silt Load of Texas Streams is one of a series that has been prepared annually since 1939.

The first report contains cooperative and other available data on the suspended silt load of Texas streams for a period from 1899 to 1939. These data were obtained at 27 stations located on 10 of the watersheds of Texas and consisted of the amount of silt load in tons and acre feet for each month and for the year, as well as a summary for the period the station was in operation. This report also contains a description of the equipment used in obtaining the water samples, the technique used in the laboratory, and computation of data.

The subsequent reports contain a compilation of silt data obtained during the water years ending each September 30 and a summary of the yearly silt load up to the time of the present report. Most of these reports are available for free distribution upon request.

Prior to 1939, 14 silt sampling stations were discontinued, out of a total of 27, on account of insufficient funds for their operation and maintenance.

Since 1939 and to September 30, 1948, 18 new silt sampling stations have been established, and 7 have been discontinued. There are now 24 active silt sampling stations located on 10 of the watersheds of Texas. Since 1899 silt data have been obtained at 45 stations. The complete silt program calls for studies at 74 stations, which include the 45 that have contributed data.

The water samples collected for silt determinations were obtained by a simple, inexpensive, and easily operated device known as the Texas or Department of Agriculture sampler. This type of sampler has been in continuous use during the past 25 years in obtaining water samples for suspended silt load of Texas streams. During this long period to September 30, 1949, a total of 108,336 daily observations have been

made with this type of sampler. Each observation consisted of obtaining one to three water samples for regular river flows and extra samples during flood stage of a stream. During the water year 1948-1949, 7,826 daily observations were made at 24 stations, and 11,132 water samples were received and silt determinations made at our cooperative silt laboratory.

The Texas or Department of Agriculture silt sampler is not designed nor used for collecting water samples containing bed load material. It is used, however, for collecting water samples near the surface of a stream for suspended silt material. This is the type of material that contributes to most of the sediment deposited in the larger artificial lakes. The bed load material contributes mostly to a river channel and upper portion of a lake sedimentation.

All silt data compiled for this report have been computed for a water year October 1 to the following September 30. This is a year adopted by the Surface Water Branch, United States Geological Survey, in all of their stream measurements. It is necessary and essential to use river discharge data in connection with any silt determination of Texas stream, and therefore, that period has also been adopted as a year for the silt calculations.

The silt determinations are made by calculating the percentage of dry silt by weight as obtained from a water sample.

For the main purpose of the sedimentation studies of Texas streams all calculations are based on one cubic foot of silt weighing 70 pounds.

#### SUMMARIZED SILT DATA

##### Belton Station, Leon River

The average discharge of the Leon River at the Belton Station for a 3-year record is 375,910 acre feet, while for the year 1948-1949, it was 298,580 acre feet, or 79% of the average flow. The average silt load for the same period is 353 acre feet, while for 1948-1949, it was 372 acre feet, or 105% of the average load. The total load for a 4-year period is 2,266,760 tons or 1,518 acre feet of silt.

##### South Bend Station, Brazos River

The average discharge of the Brazos River at the South Bend Station (upper portion of watershed) for a 6.7-year period is 481,545 acre feet, while for the year 1948-1949, it was 514,710 acre feet, or 107% of the average flow. The average silt load for the same period is 2,152 acre feet, while for the year 1948-1949, it was 4,062 acre feet, or 189% of the average load. The total load for the 7.7-year period was 28,201,360 tons, or 18,499 acre feet of silt.

### Richmond Station, Brazos River

The average discharge of the Brazos River at the Richmond Station (lower portion of the watershed) for a 24.3-year period is 5,856,295 acre feet, while for the year 1948-1949, it was 3,362,850 acre feet, which is 57% of the average flow. The average load for the same period is 23,980 acre feet, while for the year it was 9,482 acre feet, which is 40% of the average load. The total load for a 25.3-year period is 904,281,270 tons or 592,352 acre feet of silt. This large quantity of silt is sufficient to have jeopardized the economic life of a water storage reservoir similar to Lake Possum Kingdom located on the same watershed and which has a capacity of 750,000 acre feet of water. The data obtained at the Richmond Station are probably the longest continuous daily silt records in existence (26.1 years to August, 1950).

### Easterly Station, Navasota River

The average discharge of the Navasota River (a tributary of the Brazos River) at the Easterly Station for a 6.7-year period is 384,068 acre feet, while for the year 1948-1949, it was 105,970 acre feet, which is 28% of the average flow. The average silt load for the same period is 242 acre feet, while for 1948-1949, it was 58 acre feet, which is 24% of the average load. The total load for a 7.7-year period is 2,574,670 tons or 1,692 acre feet of silt.

### San Saba Station, Colorado River

The average discharge of the Colorado River at the San Saba Station (located a few miles above the upper portion of Lake Buchanan) for an 18-year period is 1,210,570 acre feet, while for the year 1948-1949, it was 947,390 acre feet, which is 78% of the average flow. The average silt load for the same period is 3,097 acre feet, while for the year 1948-1949, it was 3,043 acre feet, which is 98% of the average load. The total load for a 19-year period is 89,899,900 tons or 58,962 acre feet of silt. The silt records obtained at this station are also among the longest daily continuous records (19.8 years to August, 1950).

### Johnson City Station, Pedernales River

The average discharge of the Pedernales River (a tributary of the Colorado River) at the Johnson City Station for a 6.2-year period is 115,367 acre feet, while for the year 1948-1949, it was 37,660 acre feet, which is 33% of the average flow. The average silt load for the same period is 155 acre feet, while for the year 1948-1949, it was 35 acre feet, which is 23% of the average load. The total load for a 7.2-year period is 1,511,060 tons or 992 acre feet of silt.

### Llano Station, Llano River

The average discharge of the Llano River (a tributary of the Colorado River and joining it between Lake Buchanan and Lake Travis)

at the Llano Station for a 6.2-year period is 205,312 acre feet, while for the year 1948-1949, it was 202,841 acre feet, which is 99% of the average flow. The average silt load for the same period is 276 acre feet, while for the year 1948-1949, it was 53 acre feet, which is 19% of the average load. The total load for a 7.2-year period is 2,676,980 tons or 1,755 acre feet of silt.

#### Spring Branch Station, Guadalupe River

The average discharge of the Guadalupe River at the Spring Branch Station (upper portion of the watershed) for a 6.7-year period is 213,837 acre feet, while for the year 1948-1949, it was 119,610 acre feet, which is 56% of the average flow. The average silt load for the same period is 114 acre feet, while for the year 1948-1949, it was 33 acre feet, which is 29% of the average load.

The total load for a 7.7-year period is 1,223,350 tons, or 799 acre feet of silt.

#### Victoria Station, Guadalupe River

The average discharge of the Guadalupe River at the Victoria Station (lower portion of the watershed) for a 3.1-year period is 1,123,325 acre feet, while for the year 1948-1949, it was 871,660 acre feet, which is 78% of the average flow. The average silt load for the same period is 408 acre feet, while for 1948-1949, it was 398 acre feet, which is 98% of the average load. The total load for a 4.1-year period is 2,523,310 tons, or 1,657 acre feet of silt.

#### Edna Station, Lavaca River

The average discharge of the Lavaca River at the Edna Station for a 3.1-year period is 204,959 acre feet, while for the year 1948-1949, it was 205,400 acre feet, or 100% of the average flow. The average silt load for the same period is 132 acre feet, while for the year 1948-1949, it was 134 acre feet, or 102% of the average load. The total load for a 4.1-year period is 824,260 tons, or 541 acre feet of silt.

#### Rockland Station, Neches River

The average discharge of the Neches River at the Rockland Station for an 18.1-year period is 2,008,480 acre feet, while for the year 1948-1949, it was 1,172,870 acre feet, which is 58% of the average flow. The average silt load for the same period is 323 acre feet, while for 1948-1949, it was 119 acre feet, which is 37% of the average load. The total silt load for a 19.1-year period is 9,136,880 tons, or 5,984 acre feet of silt. This is also one of the stations with a long, continuous silt record.

### Horger Station, Angelina River

The average discharge of the Angelina River, a tributary of the Neches River, at the Horger Station for a 3.1-year period is 2,824,702 acre feet, while for the year 1948-1949, it was 1,594,530 acre feet, which is 55% of the average flow. The average silt load is 523 acre feet, while for 1948-1949, it was 180 acre feet, which is 34% of the average load. The total load for a 4.1-year period is 2,734,350 tons, or 1,793 acre feet of silt.

### Cotulla Station, Nueces River

The average discharge of the Nueces River at the Cotulla Station for a 6.7-year period is 190,234 acre feet, while for the year 1948-1949, it was 277,520 acre feet, which is 146% of the average flow. The average silt load is 84 acre feet, while for 1948-1949, it was 75 acre feet, which is 89% of the average load. The total load for a 7.7-year period is 976,220 tons, or 639 acre feet of silt.

### Three Rivers Station, Nueces River

The average discharge of the Nueces River at the Three Rivers Station for a 21-year period is 688,178 acre feet, while for 1948-1949 it was 780,920 acre feet, which is 113% of the average flow. The average silt load for the same period is 510 acre feet, while for the year 1948-1949, it was 500 acre feet, which is 98% of the average load. The total silt load for a 22-year period is 17,085,340 tons, or 11,204 acre feet of silt. This is also one of the long, continuous silt records.

### Logansport, La. Station, Sabine River

The average discharge of the Sabine River at the Logansport, La. Station for a 14.2-year period is 3,024,801 acre feet, while for the year 1948-1949 it was 1,882,220 acre feet, which is 62% of the average flow. The average silt load for the same period is 770 acre feet, while for 1948-1949, it was 255 acre feet, which is 33% of the average load. The total load for a 15.2-year period is 17,023,430 tons, or 11,159 acre feet of silt.

### Goliad Station, San Antonio River

The average discharge of the San Antonio River at the Goliad Station for a 6.7-year period is 512,660 acre feet, while for the year 1948-1949, it was 403,390 acre feet, which is 79% of the average flow. The average silt load for the same period is 492 acre feet, while for 1948-1949, it was 440 acre feet or 89% of the average load. The total silt load for a 7.7-year period is 5,736,580 tons or 3,761 acre feet of silt.

### Huffman Station, San Jacinto River

The average discharge of the San Jacinto River at Huffman (Sheldon Pumping Plant) Station near the lower end of the river for a 3.1-year period is 1,762,867 acre feet, while for the year 1948-1949, it was 374,450 acre feet, which is 21% of the average flow. The average silt load for the same period is 790 acre feet, while for the year 1948-1949, it was 246 acre feet, which is 31% of the average load. The total load for the 4.1-year period is 4,088,230 tons, or 2,681 acre feet of silt.

### Humble Station, San Jacinto River

The average discharge of the West Fork of the San Jacinto River at the Humble Station for a 12.3-year period is 873,519 acre feet, while for the year 1948-1949, it was 201,420 acre feet, which is 23% of the average flow. The average silt load for the same period is 276 acre feet, while for 1948-1949, it was 131 acre feet, which is 47% of the average load. The total silt load for a 13.3-year period is 5,405,180 tons, or 3,539 acre feet of silt.

### Romayor Station, Trinity River

The average discharge of the Trinity River at the Romayor Station for a 12.1-year period is 6,770,408 acre feet, while for the year 1948-1949, it was 4,029,430 acre feet, which is 60% of the average flow. The average silt load for the same period is 4,574 acre feet, while for the year 1948-1949, it was 2,238 acre feet, which is 49% of the average load. The total load for a 13.1-year period is 88,071,180 tons, or 57,771 acre feet of silt.

### Lake Possum Kingdom

The average flow from Lake Possum Kingdom on the upper watershed area of the Brazos River through the outlet gates and turbines and over the spillway for a 6.7-year period is 507,022 acre feet, while for the year 1948-1949, it was 531,620 acre feet, which is 105% of the average flow. The average silt load by-passing the lake for the same period is 87 acre feet, while for the year 1948-1949, it was 40 acre feet, which is 46% of the average load. The total silt load by-passing the dam for a 7.7-year period is 956,840 tons, or 626 acre feet of silt. The Lake Possum Kingdom has a capacity of 750,000 acre feet of water. During the 7.7-year period 18,499 acre feet of suspended silt load entered Lake Possum Kingdom at the South Bend Station. During the same period 626 acre feet of silt, or 3.4%, by-passed the dam.

### Lake Corpus Christi

The average flow from Lake Corpus Christi, located on the Nueces River, during a 6.7-year period is 665,515 acre feet, while for the year 1948-1949, it was 887,240 acre feet, which is 133% of the average

flow. The average silt load for the same period is 162 acre feet, while for 1948-1949 it was only 137 acre feet, which is 85% of the average flow. The total silt load for a 7.7-year period, including 1948-1949, that by-passed the dam is 1,216 acre feet. The capacity of Lake Corpus Christi is about 64,000 acre feet.

The silt load entering Lake Corpus Christi as obtained at the Three Rivers Station for a 7.7-year period is approximately 3,449 acre feet. The station is located about 30 miles from the upper portion of the lake. The watershed area between them is about 1,000 square miles. This area, however, contributes a very small amount of silt to the lake. The amount of silt being by-passed from the lake for the same 7.7-year period amounts to 1,863,010 tons, or 1,216 acre feet, and represents 35% of the amount entering the lake.

#### Lake Buchanan

The average flow from Lake Buchanan, located on the Colorado River, for a two-year period (record started October 1, 1947) is 570,085 acre feet. The capacity of the lake is 992,475 acre feet. The silt load by-passing the lake for the same period was 81,830 tons or 54 acre feet. The average discharge of the Colorado River into the lake at the San Saba Station for the 2-year period was 775,795 acre feet, and the silt load for the same period was 5,265 acre feet.

#### Lake Inks

The average flow from Lake Inks, which is located downstream and adjacent to Lake Buchanan, for a 6.2-year period is 685,194 acre feet, while for the year 1948-1949, it was 582,660 acre feet, which is 85% of the average flow. The average silt load by-passing the lake for the same period is 66 acre feet, while for 1948-1949 it was 18 acre feet, which is 27% of the average load. The capacity of Lake Inks is 16,200 acre feet. During the year 1948-1949 the silt load by-passing Lake Buchanan was 24 acre feet, while at Lake Inks, immediately below it, the silt load was 18 acre feet. The total amount of silt by-passing Lake Inks for a 7.2-year period is 642,650 tons or 423 acre feet.

#### Lake Austin

The average discharge of the Colorado River at the Montopolis Bridge Station, which is located about 4 miles downstream from Lake Austin, for an 8-year period, and since the completion of Tom Miller Dam in 1940, is 1,862,669 acre feet, while for the year 1948-1949, it was 878,750 acre feet, which is 47% of the average discharge. This flow was water released at various intervals from four lakes above the station, namely, Buchanan, Inks, Mansfield or Travis (Marshall Ford) and Austin. The average silt load by-passing the four lakes for the 8-year period is 220 acre feet, while for the year 1948-1949, it was 67 acre feet, which is 30% of the average load.

### Cooperation

Some of the silt determinations were made possible through the splendid financial cooperation of several agencies in Texas who are interested in silt problems. Those cooperating agencies are the Brazos River Conservation and Reclamation District, the Lower Colorado River Authority, and the Water Departments of the Cities of Houston and Corpus Christi. The Water Resources Branch of the United States Geological Survey has also offered helpful and congenial cooperation in furnishing river discharge data and information.

### Acknowledgements

Acknowledgements are due the silt sample collectors, some of whom have many years of continuous service, for their faithful performance of their duties in obtaining water samples every day of the year, to Mr. Ray Case for his good work in the cooperative silt laboratory, and to Mrs. Virginia Adcock for her excellent assistance in the office in computing, checking, compilation, and typing silt data.

SILT DATA

Brazos River Watershed  
at  
BELTON STATION ON LEON RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.		Ac.-ft.	Pct.
<u>1948</u>				
October	10	0	0	0
November	0	0	0	0
December	60	0	0	0
<u>1949</u>				
January	2,040	130	0	.005
February	4,960	260	0	.004
March	63,850	184,130	121	.212
April	84,290	224,050	147	.195
May	74,740	153,150	100	.151
June	54,940	90,900	60	.122
July	11,020	1,980	1	.013
August	1,800	70	0	.003
September	870	150	0	.013
<b>Totals</b>	<b>298,580</b>	<b>654,820</b>	<b>429</b>	

U. S. G. S. yearly discharge in acre-feet -----	298,600
Total silt for year in acre-feet -----	429
Acre-feet of silt per year per square mile of contributing watershed -----	.121
Average percent of silt by weight for year -----	.161
Drainage area in square miles (net) -----	3,547

SUMMARY OF SILT DATA

for

Brazos River Watershed

Stream: LEON  
 Station: BELTON (Samples taken from Highway  
 Sampler: N. H. Hander Bridge on State Hwy. 317) 2/

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Ac.-ft.	percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.
Sept., 1945 <sup>1/</sup>	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	<u>298,580</u>	<u>654,820</u>	<u>429</u>	<u>.161</u>
TOTALS	1,457,510	2,266,760	1,518	

For period of 4.083 years

Average discharge in acre-feet per year -----	366,970
Average acre-feet of silt per year -----	372
Average acre-feet of silt per year per square mile of contributing watershed -----	.105
Average tons of silt per year -----	555,170
Average percent of silt by weight -----	.111
Drainage area in square miles (net) -----	3,547

1/ One month record. Station was established September 1, 1945.

2/ Prior to October 1, 1945 samples were taken from inlet to pumping plant north of Belton -- located about  $\frac{1}{4}$  mile upstream from bridge on U. S. Highway No. 81.

SILT DATA

Brazos River Watershed  
at  
EASTERLY STATION ON NAVASOTA RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.			Pct.
<u>1948</u>				
October	100	0	0	0
November	190	50	0	.018
December	860	290	0	.025
<u>1949</u>				
January	28,430	14,960	10	.039
February	6,600	4,660	3	.052
March	42,030	52,500	34	.092
April	12,800	5,610	4	.032
May	2,510	1,250	1	.037
June	9,580	8,170	5	.063
July	1,880	690	0	.027
August	260	30	0	.008
September	730	800	1	.081
Totals	105,970	89,010	58	

U. S. G. S. yearly discharge in acre-feet -----	105,900
Total silt for year in acre-feet -----	58
Acre-feet of silt per year per square mile of contributing watershed -----	.061
Average percent of silt by weight for year -----	.062
Drainage area in square miles (net) -----	949

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	Ac.-ft.	percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.
1941-42 <sup>1/</sup>	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	<u>105,970</u>	<u>89,010</u>	<u>58</u>	<u>.062</u>
TOTALS	2,697,660	2,574,670	1,692	

For period of 7.748 years

Average discharge in acre-feet per year -----	348,175
Average acre-feet of silt per year -----	218
Average acre-feet of silt per year per square mile of contributing watershed -----	.230
Average tons of silt per year -----	332,301
Average percent of silt by weight -----	.070
Drainage area in square miles (net) -----	949

<sup>1/</sup> Station was established January 1, 1942.

SILT DATA

Brazos River Watershed  
at  
SOUTH BEND STATION ON BRAZOS RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.			Pct.
<u>1948</u>				
October	14,980	150,180	99	.736
November	11,300	277,350	182	1.803
December	820	240	0	.022
<u>1949</u>				
January	7,620	8,510	6	.082
February	10,390	24,420	16	.173
March	5,440	6,250	4	.084
April	9,350	12,920	8	.102
May	212,300	2,644,780	1,735	.915
June	143,090	1,928,260	1,265	.990
July	8,720	9,700	6	.082
August	12,650	20,160	13	.117
September	78,060	1,110,650	728	1.045
Totals	514,710	6,193,420	4,062	

U. S. G. S. yearly discharge in acre-feet -----	514,700
Total silt for year in acre-feet -----	4,062
Acre-feet of silt per year per square mile of contributing watershed -----	.329
Average percent of silt by weight for year -----	.884
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 of Stream		Silt Load of Stream		Average percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
1941-42 <sup>1/</sup>	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	<u>514,710</u>	<u>6,193,420</u>	<u>4,062</u>	<u>.884</u>	
TOTALS	3,745,880	28,201,360	18,499		

For period of 7.710 years

Average discharge in acre-feet per year -----	485,847
Average acre-feet of silt per year -----	2,399
Average acre-feet of silt per year per square mile of contributing watershed -----	.194
Average tons of silt per year -----	3,657,763
Average percent of silt by weight -----	.553
Drainage area in square miles (net) -----	12,360

<sup>1/</sup> Station was established January 15, 1942.

SILT DATA

Brazos River Watershed  
at  
POSSUM KINGDOM DAM STATION ON BRAZOS RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.			Pct.
<u>1948</u>				
October	10,390	380	0	.003
November	11,120	1,150	1	.008
December	11,040	630	0	.004
<u>1949</u>				
January	14,230	1,300	1	.007
February	14,780	1,140	1	.006
March	8,040	1,260	1	.012
April	4,880	520	0	.008
May	85,930	17,260	11	.015
June	191,740	20,760	14	.008
July	46,710	4,460	3	.007
August	67,780	6,830	4	.007
September	64,980	5,780	4	.007
Totals	531,620	61,470	40	

Yearly discharge in acre-feet -----	531,620 <sup>1/</sup>
Total silt for year in acre-feet -----	40
Acre-feet of silt per year per square mile of contributing watershed -----	----
Average percent of silt by weight for year -----	.008
Drainage area in square miles (net) -----	----

<sup>1/</sup> Discharge figures for this station obtained from Brazos River Conservation and Reclamation District

SUMMARY OF SILT DATA

for

Brazos River Watershed

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

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Ac.-ft.	percentage of dry silt by weight
	Ac.-ft.			Pct.
1941-42 <sup>1/</sup>	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	<u>531,620</u>	<u>61,470</u>	<u>40</u>	<u>.008</u>
TOTALS	3,933,740	956,840	626	

For period of 7.710 years

Average discharge in acre-feet per year -----	510,213
Average acre-feet of silt per year -----	81
Average acre-feet of silt per year per square mile of contributing watershed -----	----
Average tons of silt per year -----	124,104
Average percent of silt by weight -----	.018
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 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge of Stream		Silt Load of Stream		Percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.		Pct.
<u>1948</u>					
October	39,400	1,720	1		.003
November	34,420	3,040	2		.006
December	37,140	2,180	1		.004
<u>1949</u>					
January	77,590	52,290	34		.050
February	241,860	654,020	429		.199
March	486,090	2,418,840	1,587		.366
April	767,780	4,915,200	3,224		.470
May	837,740	4,829,640	3,168		.424
June	490,630	1,262,810	828		.189
July	215,270	298,590	196		.102
August	62,090	5,620	4		.007
September	72,840	12,550	8		.013
<b>Totals</b>	<b>3,362,850</b>	<b>14,456,500</b>	<b>9,482</b>		

U. S. G. S. yearly discharge in acre-feet -----	3,363,000
Total silt for year in acre-feet -----	9,482
Acre-feet of silt per year per square mile of contributing watershed -----	.272
Average percent of silt by weight for year -----	.316
Drainage area in square miles (net) -----	34,810

SUMMARY OF SILT DATA

for

Brazos River Watershed

Stream: BRAZOS  
 Station: RICHMOND  
 Sampler: S. J. Butler

(Samples taken from bridge on  
 U. S. Highway No. 90)

Water Year	Discharge of Stream		Silt Load of Stream		Average percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
1923-24 <sup>1/</sup>	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 <sup>2-3/</sup>	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	<u>3,362,850</u>	<u>14,456,500</u>	<u>9,482</u>	<u>.316</u>	
TOTALS	145,705,960	904,281,270	592,352		

For period of 25.306 years

Average discharge in acre-feet per year -----	5,757,763
Average acre-feet of silt per year -----	23,408
Average acre-feet of silt per year per square mile of contributing watershed -----	.672
Average tons of silt per year -----	35,733,868
Average percent of silt by weight -----	.456
Drainage area in square miles (net) -----	34,810

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

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

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

SILT DATA

Colorado River Watershed  
at  
LLANO STATION ON LLANO RIVER  
for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.			Pct.
<u>1948</u>				
October	5,920	310	0	.004
November	5,280	200	0	.003
December	5,610	270	0	.004
<u>1949</u>				
January	7,280	470	0	.005
February	36,280	38,470	25	.078
March	18,530	1,610	1	.006
April	40,000	28,570	19	.052
May	21,550	5,750	4	.020
June	15,740	2,120	1	.010
July	9,940	690	0	.005
August	9,810	990	1	.007
September	11,660	2,810	2	.018
<b>Totals</b>	<b>187,600</b>	<b>82,260</b>	<b>53</b>	

U. S. G. S. yearly discharge in acre-feet -----	187,600
Total silt for year in acre-feet -----	53
Acre-feet of silt per year per square mile of contributing watershed -----	.013
Average percent of silt by weight for year -----	.032
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 M. Ward bridge on State Highway No. 16)

Water Year	Discharge of Stream		Silt Load of Stream		Average percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
1941-42 <sup>1/</sup>	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	
TOTALS	1,453,760	2,676,980	1,755		

For period of 7.167 years

Average discharge in acre-feet per year -----	202,841
Average acre-feet of silt per year -----	245
Average acre-feet of silt per year per square mile of contributing watershed -----	.061
Average tons of silt per year -----	373,515
Average percent of silt by weight -----	.135
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 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge of Stream		Silt Load of Stream		Percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
<u>1948</u>					
October	1,130	890	1	.058	
November	580	30	0	.004	
December	870	70	0	.006	
<u>1949</u>					
January	1,130	90	0	.006	
February	4,280	6,590	4	.113	
March	3,320	1,510	1	.033	
April	12,000	14,060	9	.086	
May	4,090	530	0	.010	
June	6,570	27,550	18	.308	
July	1,140	170	0	.011	
August	860	30	0	.003	
September	1,690	3,040	2	.132	
<b>Totals</b>	<b>37,660</b>	<b>54,560</b>	<b>35</b>		

U. S. G. S. yearly discharge in acre-feet -----	37,660
Total silt for year in acre-feet -----	35
Acre-feet of silt per year per square mile of contributing watershed -----	.037
Average percent of silt by weight for year -----	.106
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  $\frac{1}{2}$  miles north of Johnson City)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Ac.-ft.	percentage of dry silt by weight
	Ac.-ft.			Pct.
1941-42 <sup>1/</sup>	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	<u>37,660</u>	<u>54,560</u>	<u>35</u>	<u>.106</u>
TOTALS	749,130	1,511,060	992	

For period of 7.167 years

Average discharge in acre-feet per year -----	104,525
Average acre-feet of silt per year -----	138
Average acre-feet of silt per year per square mile of contributing watershed -----	.146
Average tons of silt per year -----	210,836
Average percent of silt by weight -----	.148
Drainage area in square miles (net) -----	947

<sup>1/</sup> Station was established August 1, 1942.

SILT DATA

Colorado River Watershed  
at  
SAN SABA STATION ON COLORADO RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.			Pct.
<u>1948</u>				
October	15,530	1,200	1	.006
November	6,230	370	0	.004
December	5,950	210	0	.003
<u>1949</u>				
January	13,220	2,060	1	.011
February	19,790	13,790	9	.051
March	17,980	47,840	31	.195
April	86,590	529,330	347	.449
May	345,010	1,943,220	1,275	.414
June	307,780	1,692,670	1,110	.404
July	89,000	394,140	259	.325
August	17,380	2,230	1	.009
September	22,930	14,360	9	.046
Totals	947,390	4,641,420	3,043	

U. S. G. S. yearly discharge in acre-feet ----- 947,400

Total silt for year in acre-feet ----- 3,043

Acre-feet of silt per year per square mile  
of contributing watershed ----- .163

Average percent of silt by weight for year ----- .360

Drainage area in square miles (net) ----- 18,700 <sup>1/</sup>

<sup>1/</sup> Revised by U.S.G.S.

SUMMARY OF SILT DATA

for

Colorado River Watershed

Stream: COLORADO  
 Station: NEAR SAN SABA  
 Sampler: Robert A. Broyles  
 (Samples were taken from Red Bluff bridge about midway between San Saba and Lometa) <sup>2/</sup>

Water Year	Discharge of Stream	Silt Load of Stream	Average percentage of dry silt by weight
	Ac.-ft.	Tons	Pct.

1929-30	24,000	143,140	94
1930-31	1,373,750	5,136,520	3,369
1931-32	2,223,900	9,934,850	6,516
1932-33	475,300	1,303,620	855
1933-34	504,380	2,121,550	1,391
1934-35	2,564,290	14,423,520	9,459
1935-36	2,276,400	7,520,550	4,933
1936-37	1,197,100	2,688,230	1,764
1937-38	2,809,340	8,923,940	5,853
1938-39	819,430	3,709,100	2,432
1939-40	773,690	3,191,810	2,094
1940-41	2,052,980	8,613,430	5,650
1941-42	1,285,920	4,571,140	2,998
1942-43	475,090	703,520	461
1943-44	592,790	2,129,300	1,397
1944-45	870,370	2,655,490	1,743
1945-46	416,390	1,511,040	992
1946-47	517,540	2,588,150	1,696
1947-48	604,200	3,389,580	2,222
1948-49	947,390	4,641,420	3,043
<b>TOTALS</b>	<b>22,804,250</b>	<b>89,899,900</b>	<b>58,962</b>

For period of 19.055 years

Average discharge in acre-feet per year	1,196,759
Average acre-feet of silt per year	3,094
Average acre-feet of silt per square mile of contributing watershed	.165
Average tons of silt per year	4,717,917
Average percent of silt by weight	.290
Drainage area in square miles (net)	18,700 <sup>3/</sup>

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.  
 3/ Revised by U.S.G.S.

SILT DATA

Colorado River Watershed  
at  
INKS DAM STATION ON COLORADO RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.			Pct.
<u>1948</u>				
October	25,240	680	1	.002
November	18,320	500	0	.002
December	39,880	1,410	1	.003
<u>1949</u>				
January	33,740	2,060	1	.004
February	26,750	2,120	1	.006
March	4,650	330	0	.005
April	14,120	1,730	1	.009
May	134,700	8,160	5	.004
June	87,760	4,300	3	.004
July	73,940	3,670	2	.004
August	54,540	2,180	1	.003
September	69,020	3,030	2	.003
Totals	582,660	30,170	18	

Yearly discharge in acre-feet -----	582,660 <sup>1/</sup>
Total silt for year in acre-feet -----	18
Acre-feet of silt per year per square mile of contributing watershed -----	----
Average percent of silt by weight for year -----	.004
Drainage area in square miles (net) -----	----

<sup>1/</sup> Discharge figures for this station obtained from  
Lower Colorado River Authority

SUMMARY OF SILT DATA

for

Colorado River Watershed

Stream: COLORADO  
Station: INKS DAM  
Sampler: Lloyd Myers

(Samples were taken from tailrace)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Ac.-ft.	Tons	percentage of dry silt by weight
1941-42	285,200	41,270	27	.011
1942-43	662,460	67,090	44	.007
1943-44	768,040	127,980	84	.012
1944-45	751,950	157,540	104	.015
1945-46	678,460	134,030	88	.015
1946-47	498,980	27,870	20	.004
1947-48	580,500	56,700	38	.007
1948-49	582,660	30,170	18	.004
TOTALS	4,808,250	642,650	423	

For period of 7.167 years

Average discharge in acre-feet per year	670,887
Average acre-feet of silt per year	59
Average acre-feet of silt per year per square mile of contributing watershed	----
Average tons of silt per year	89,668
Average percent of silt by weight	.010
Drainage area in square miles (net)	----

1/ Station was established August 1, 1942.

SILT DATA

Colorado River Watershed  
at  
BUCHANAN DAM STATION ON COLORADO RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.			Pct.
<u>1948</u>				
October	24,900	1,000	1	.003
November	18,240	530	0	.002
December	37,000	2,000	1	.004
<u>1949</u>				
January	32,040	2,600	2	.006
February	24,880	1,050	1	.003
March	1,150	120	0	.007
April	19,160	2,680	2	.001
May	129,850	5,700	4	.003
June	84,050	4,530	3	.004
July	71,570	4,720	3	.005
August	54,230	6,190	4	.008
September	66,660	4,180	3	.005
Totals	563,730	35,300	24	

Yearly discharge in acre-feet -----	563,730 <sup>1/</sup>
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) -----	----

<sup>1/</sup> Discharge figures for this station obtained from Lower Colorado River Authority

SUMMARY OF SILT DATA

for

Colorado River Watershed

Stream: COLORADO  
Station: BUCHANAN DAM  
Sampler: Lloyd Myers

(Samples taken at power house)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Ac.-ft.	percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.
1947-48 <sup>1/</sup>	576,440	46,530	30	.006
1948-49	<u>563,730</u>	<u>35,300</u>	<u>24</u>	<u>.005</u>
TOTALS	1,140,170	81,830	54	

For period of 2.000 years

Average discharge in acre-feet per year -----	570,085
Average acre-feet of silt per year -----	27
Average acre-feet of silt per year per square mile of contributing watershed -----	----
Average tons of silt per year -----	40,915
Average percent of silt by weight -----	.005
Drainage area in square miles (net) -----	----

1/ Station established October 1, 1947.

SILT DATA

Colorado River Watershed  
at  
AUSTIN STATION ON COLORADO RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.			Pct.
<u>1948</u>				
October	57,740	2,510	2	.003
November	45,730	2,030	1	.003
December	44,980	4,760	3	.008
<u>1949</u>				
January	43,160	6,820	4	.012
February	40,010	3,170	2	.006
March	69,190	6,690	4	.007
April	63,610	26,120	17	.030
May	72,170	16,050	11	.016
June	121,530	9,650	6	.006
July	117,560	6,040	4	.004
August	111,040	4,690	3	.003
September	92,030	15,910	10	.013
<b>Totals</b>	<b>878,750</b>	<b>104,440</b>	<b>67</b>	

U. S. G. S. yearly discharge in acre-feet -----	878,700
Total silt for year in acre-feet -----	67
Acre-feet of silt per year per square mile of contributing watershed -----	.003
Average percent of silt by weight for year -----	.009
Drainage area in square miles (net) -----	26,260 <sup>1/</sup>

<sup>1/</sup> Revised by U.S.G.S.

SUMMARY OF SILT DATA

for

Colorado River Watershed

Stream: COLORADO

Station: AUSTIN

Sampler: Mrs. G. L. Pliler

(Samples taken from Montopolis  
Bridge)

Water Year	Discharge of Stream		Silt Load of Stream		Average percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
1936-37 <sup>1/</sup>	48,040	1,830	1	.003	
1937-38 *	3,609,570	8,881,220	5,826	.181	
1938-39 <sup>2/</sup>	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	
<b>TOTALS</b>	<b>20,679,470</b>	<b>13,302,980</b>	<b>8,729</b>		

For period of 12.164 years

Average discharge in acre-feet per year -----	1,700,055
Average acre-feet of silt per year -----	718
Average acre-feet of silt per year per square mile of contributing watershed -----	.027
Average tons of silt per year -----	1,093,635
Average percent of silt by weight -----	.047
Drainage area in square miles (net) -----	26,260**

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

<sup>2/</sup> 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.

\*\* Revised by U.S.G.S.

SILT DATA

Guadalupe River Watershed  
at  
SPRING BRANCH STATION ON GUADALUPE RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.			Pct.
<u>1948</u>				
October	3,500	2,210	1	.046
November	2,630	100	0	.003
December	3,210	100	0	.002
<u>1949</u>				
January	4,240	290	0	.005
February	20,960	18,670	12	.065
March	13,200	1,270	1	.007
April	23,920	13,260	9	.041
May	18,420	8,780	6	.035
June	10,140	1,370	1	.010
July	4,840	200	0	.003
August	7,880	1,230	1	.011
September	6,670	2,760	2	.030
Totals	119,610	50,240	33	

U. S. G. S. yearly discharge in acre-feet -----	119,600
Total silt for year in acre-feet -----	33
Acre-feet of silt per year per square mile of contributing watershed -----	.023
Average percent of silt by weight for year -----	.031
Drainage area in square miles (net) -----	1,432

SUMMARY OF SILT DATA

for

Guadalupe River Watershed

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

Water Year	Discharge of Stream		Silt Load of Stream		Average percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
1941-42 <sup>1/</sup>	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	<u>119,610</u>	<u>50,240</u>	<u>33</u>	<u>.031</u>	
<b>TOTALS</b>	1,562,580	1,223,350	799		

For period of 7.748 years

Average discharge in acre-feet per year -----	201,675
Average acre-feet of silt per year -----	103
Average acre-feet of silt per year per square mile of contributing watershed -----	.072
Average tons of silt per year -----	157,892
Average percent of silt by weight -----	.058
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 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.			Pct.
<u>1948</u>				
October	28,640	3,380	2	.009
November	23,600	1,440	1	.004
December	26,240	2,220	1	.006
<u>1949</u>				
January	30,010	1,830	1	.004
February	55,580	61,870	41	.082
March	96,340	79,010	52	.060
April	244,020	306,170	201	.092
May	170,220	113,410	74	.049
June	67,260	15,240	10	.017
July	54,910	13,460	9	.018
August	40,620	5,250	3	.009
September	34,220	4,170	3	.009
<b>Totals</b>	<b>871,660</b>	<b>607,450</b>	<b>398</b>	

U. S. G. S. yearly discharge in acre-feet -----	871,600
Total silt for year in acre-feet -----	398
Acre-feet of silt per year per square mile of contributing watershed -----	.075
Average percent of silt by weight for year -----	.051
Drainage area in square miles (net) -----	5,311 <sup>1/2</sup>

<sup>1/</sup> Revised by U.S.G.S.

SUMMARY OF SILT DATA

for

Guadalupe River Watershed

Stream: GUADALUPE  
 Station: VICTORIA  
 Sampler: A. E. Anders

(Samples taken from bridge  
 on U. S. Highway No. 59)

Water Year	Discharge of Stream		Silt Load of Stream		Average percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
1944-45 <sup>1/</sup>	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	<u>871,660</u>	<u>607,450</u>	<u>398</u>	<u>.051</u>	
TOTALS	4,334,870	2,523,310	1,657		

For period of 4.083 years

Average discharge in acre-feet per year -----	1,061,687
Average acre-feet of silt per year -----	406
Average acre-feet of silt per year per square mile of contributing watershed -----	.076
Average tons of silt per year -----	618,004
Average percent of silt by weight -----	.043
Drainage area in square miles (net) -----	5,311 <sup>2/</sup>

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

2/ Revised by U.S.G.S.

SILT DATA

Lavaca River Watershed  
at  
EDNA STATION ON LAVACA RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.			Pct.
<u>1948</u>				
October	700	50	0	.005
November	820	40	0	.004
December	1,000	40	0	.003
<u>1949</u>				
January	2,280	1,970	1	.063
February	9,920	37,120	24	.275
March	4,400	6,140	4	.103
April	62,150	125,950	83	.149
May	9,460	17,150	11	.133
June	3,670	2,650	2	.053
July	4,080	7,270	5	.131
August	5,300	5,260	3	.073
September	2,090	1,760	1	.062
Totals	105,870	205,400	134	

U. S. G. S. yearly discharge in acre-feet	-----	105,800
Total silt for year in acre-feet	-----	205,400
Acre-feet of silt per year per square mile of contributing watershed	-----	.151
Average percent of silt by weight for year	-----	.143
Drainage area in square miles (net)	-----	887

SUMMARY OF SILT DATA

for

Lavaca River Watershed

Stream: LAVACA  
Station: EDNA  
Sampler: Mrs. Ida Berryhill

(Samples taken from bridge on  
U. S. Highway No. 59 between  
Victoria and Edna)

Water Year	Discharge of Stream		Silt Load of Stream		Average percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
1944-45 <sup>1/</sup>	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	<u>105,870</u>	<u>205,400</u>	<u>134</u>	<u>.143</u>	
TOTALS	737,760	824,260	541		

For period of 4.083 years

Average discharge in acre-feet per year -----	180,691
Average acre-feet of silt per year -----	133
Average acre-feet of silt per year per square mile of contributing watershed -----	.150
Average tons of silt per year -----	201,876
Average percent of silt by weight -----	.082
Drainage area in square miles (net) -----	887

<sup>1/</sup> Station established September 1, 1945.

SILT DATA

Neches River Watershed  
at  
HORGER STATION ON ANGELINA RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream			of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.
<u>1948</u>				
October	5,400	280	0	.004
November	32,850	9,860	6	.022
December	44,520	3,130	2	.005
<u>1949</u>				
January	202,450	45,460	30	.016
February	284,670	25,590	17	.007
March	349,670	90,310	59	.019
April	310,080	44,800	29	.011
May	154,020	20,370	13	.010
June	81,060	30,670	20	.028
July	33,920	2,610	2	.006
August	28,140	1,720	1	.004
September	17,750	1,880	1	.008
<b>Totals</b>	<b>1,544,530</b>	<b>276,680</b>	<b>180</b>	

U. S. G. S. yearly discharge in acre-feet -----	1,545,000
Total silt for year in acre-feet -----	180
Acre-feet of silt per year per square mile of contributing watershed -----	.052
Average percent of silt by weight for year -----	.013
Drainage area in square miles (net) -----	3,435

SUMMARY OF SILT DATA

for

Neches River Watershed

Stream: ANGELINA (Samples taken from bridge on  
 Station: HORGER State Highway No. 63 between  
 Sampler: D. W. Moyer Zavalla and Jasper)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Ac.-ft.	percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.
1944-45 <sup>1/</sup>	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	<u>1,544,530</u>	<u>276,680</u>	<u>180</u>	<u>.013</u>
TOTALS	10,253,090	2,734,350	1,793	

For period of 4.083 years

Average discharge in acre-feet per year -----	2,511,165
Average acre-feet of silt per year -----	439
Average acre-feet of silt per year per square mile of contributing watershed -----	.128
Average tons of silt per year -----	669,691
Average percent of silt by weight -----	.020
Drainage area in square miles (net) -----	3,435

<sup>1/</sup> Station established September 1, 1945.

SILT DATA

Neches River Watershed  
at  
ROCKLAND STATION ON NECHES RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge of Stream		Silt Load of Stream		Percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
<u>1948</u>					
October	2,300	180	0	.006	
November	16,300	4,950	3	.022	
December	23,000	1,270	1	.004	
<u>1949</u>					
January	114,900	24,850	16	.016	
February	198,030	26,240	17	.010	
March	326,980	69,230	45	.016	
April	259,640	29,490	19	.008	
May	140,160	13,570	9	.007	
June	48,730	10,240	7	.015	
July	13,430	1,030	1	.006	
August	16,540	2,020	1	.009	
September	12,860	750	0	.004	
<b>Totals</b>	<b>1,172,870</b>	<b>183,820</b>	<b>119</b>		

U. S. G. S. yearly discharge in acre-feet -----	1,173,000
Total silt for year in acre-feet -----	119
Acre-feet of silt per year per square mile of contributing watershed -----	.034
Average percent of silt by weight for year -----	.012
Drainage area in square miles (net) -----	3,539

SUMMARY OF SILT DATA

for

Neches River Watershed

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

Water Year	Discharge of Stream		Silt Load of Stream		Average percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
1929-30 <sup>1/</sup>	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	<u>1,172,870</u>	<u>183,820</u>	<u>119</u>	<u>.012</u>	
TOTALS	37,622,760	9,136,880	5,984		

For period of 19.148 years

Average discharge in acre-feet per year -----	1,964,840
Average acre-feet of silt per year -----	313
Average acre-feet of silt per year per square mile of contributing watershed -----	.088
Average tons of silt per year -----	477,172
Average percent of silt by weight -----	.018
Drainage area in square miles (net) -----	3,539

<sup>1/</sup> Station was established August 8, 1930.

SILT DATA

Nueces River Watershed  
at  
COTULLA STATION ON NUECES RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge of Stream		Silt Load of Stream		Percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
<u>1948</u>					
October	6,070	2,270	1	.027	
November	350	10	0	.002	
December	0	0	0	0	
<u>1949</u>					
January	0	0	0	0	
February	8,880	7,790	5	.064	
March	144,550	52,930	35	.027	
April	44,060	28,620	19	.048	
May	9,090	1,160	1	.009	
June	44,680	17,420	11	.029	
July	3,180	210	0	.005	
August	16,230	5,210	3	.024	
September	430	20	0	.003	
<b>Totals</b>	<b>277,520</b>	<b>115,640</b>	<b>75</b>		

U. S. G. S. yearly discharge in acre-feet -----	277,600
Total silt for year in acre-feet -----	115,640
Acre-feet of silt per year per square mile of contributing watershed -----	.014
Average percent of silt by weight for year -----	.031
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: Joe G. Jennings bridge in Cotulla)

Water Year	Discharge of Stream		Silt Load of Stream		Average percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
1941-42 <sup>1/</sup>	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	<u>277,520</u>	<u>115,640</u>	<u>75</u>	<u>.031</u>	
TOTALS	1,561,220	976,220	639		

For period of 7.748 years

Average discharge in acre-feet per year -----	201,500
Average acre-feet of silt per year -----	82
Average acre-feet of silt per year per square mile of contributing watershed -----	.016
Average tons of silt per year -----	125,996
Average percent of silt by weight -----	.046
Drainage area in square miles (net) -----	5,260

<sup>1/</sup> Station was established January 1, 1942.

SILT DATA

Nueces River Watershed  
at  
THREE RIVERS STATION ON NUECES RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge of Stream		Silt Load of Stream		Percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
<u>1948</u>					
October	30,480	69,030	45	.166	
November	3,020	570	0	.014	
December	620	40	0	.005	
<u>1949</u>					
January	720	70	0	.007	
February	13,850	44,200	29	.234	
March	140,510	84,460	55	.044	
April	210,310	213,260	140	.074	
May	143,500	70,660	46	.036	
June	114,570	140,450	92	.090	
July	80,910	97,720	64	.089	
August	38,500	43,240	28	.083	
September	3,930	1,890	1	.035	
<b>Totals</b>	<b>780,920</b>	<b>765,590</b>	<b>500</b>		

U. S. G. S. yearly discharge in acre-feet -----	780,900
Total silt for year in acre-feet -----	500
Acre-feet of silt per year per square mile of contributing watershed -----	.032
Average percent of silt by weight for year -----	.072
Drainage area in square miles (net) -----	15,600

SUMMARY OF SILT DATA

for

Nueces River Watershed

Stream: NUECES  
Station: NEAR THREE RIVERS  
Sampler: Carl Franze

(Samples were taken 2 mi. south of  
Three Rivers from railroad bridge,  
except at extreme low stage when  
samples were taken at low dam)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream			percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.
1927-28 <sup>1/</sup>	318,930	617,920	405	.142
1928-29	741,300	1,303,600	855	.129
1929-30	596,510	721,440	473	.089
1930-31	455,880	443,420	291	.071
1931-32	1,006,200	581,880	381	.042
1932-33	287,120	275,050	179	.070
1933-34	253,800	668,320	438	.193
1934-35	2,547,150	2,383,630	1,565	.069
1935-36	768,200	752,320	494	.072
1936-37	318,050	142,270	94	.033
1937-38	479,730	771,540	506	.118
1938-39	306,600	450,960	297	.108
1939-40	840,190	1,035,600	679	.091
1940-41	1,300,860	1,635,320	1,073	.092
1941-42	1,107,790	987,340	648	.065
1942-43	260,470	323,990	213	.091
1943-44	700,090	668,660	439	.070
1944-45	297,070	590,010	387	.146
1945-46	927,400	1,134,770	744	.090
1946-47	810,070	578,310	379	.052
1947-48	128,330	253,400	164	.145
1948-49	780,920	765,590	500	.072
TOTALS	15,232,660	17,085,340	11,204	

For period of 22.000 years

Average discharge in acre-feet per year -----	692,394
Average acre-feet of silt per year -----	509
Average acre-feet of silt per year per square mile of contributing watershed -----	.033
Average tons of silt per year -----	776,606
Average percent of silt by weight -----	.082
Drainage area in square miles (net) -----	15,600

1/ Station was established October 1, 1927.

SILT DATA

Nueces River Watershed  
at  
CORPUS CHRISTI DAM STATION ON NUECES RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge of Stream		Silt Load of Stream		Percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
<u>1948</u>					
October	31,860	3,610	2	.008	
November	7,600	410	0	.004	
December	1,960	170	0	.006	
<u>1949</u>					
January	2,450	290	0	.009	
February	2,700	240	0	.007	
March	145,800	22,780	15	.011	
April	200,200	102,270	67	.038	
May	244,500	50,100	33	.015	
June	108,400	12,930	8	.009	
July	97,800	15,930	10	.012	
August	39,980	3,800	2	.007	
September	3,990	240	0	.004	
<b>Totals</b>	<b>887,240</b>	<b>212,770</b>	<b>137</b>		

U. S. G. S. yearly discharge in acre-feet -----	887,200
Total silt for year in acre-feet -----	137
Acre-feet of silt per year per square mile of contributing watershed -----	----
Average percent of silt by weight for year -----	.018
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
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
1941-42 <sup>1/</sup>	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	<u>887,240</u>	<u>212,770</u>	<u>137</u>	<u>.018</u>	
TOTALS	5,319,570	1,863,010	1,216		

For period of 7.660 years

Average discharge in acre-feet per year	-----	694,461
Average acre-feet of silt per year	-----	159
Average acre-feet of silt per year per square mile of contributing watershed	-----	-----
Average tons of silt per year	-----	243,213
Average percent of silt by weight	-----	.026
Drainage area in square miles (net)	-----	-----

<sup>1/</sup> Station was established February 2, 1942.

SILT DATA

Sabine River Watershed  
at  
LOGANSPORT STATION ON SABINE RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.			Pct.
<u>1948</u>				
October	5,650	240	0	.003
November	21,430	2,630	2	.009
December	33,690	2,880	2	.006
<u>1949</u>				
January	191,680	38,380	25	.015
February	355,150	66,240	43	.014
March	439,230	115,660	76	.019
April	268,310	41,810	27	.011
May	220,160	41,320	26	.014
June	101,980	43,080	28	.031
July	121,780	21,770	14	.013
August	90,090	16,400	11	.013
September	33,070	1,110	1	.002
<b>Totals</b>	<b>1,882,220</b>	<b>391,520</b>	<b>255</b>	

U. S. G. S. yearly discharge in acre-feet -----	1,882,000
Total silt for year in acre-feet -----	255
Acre-feet of silt per year per square mile of contributing watershed -----	.052
Average percent of silt by weight for year -----	.015
Drainage area in square miles (net) -----	4,858

SUMMARY OF SILT DATA

for

Sabine River Watershed

Stream: SABINE  
 Station: LOGANSFORT, LA.  
 Sampler: R. E. Davenport

(Samples were taken from U.S.  
 Highway 84 bridge in downtown  
 Logansport, La.)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Ac.-ft.	percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.
1932-33 <sup>1/</sup>	2,545,700	503,740	330	.015
1933-34 <sup>2/</sup>	69,200	5,780	4	.006
1934-35 <sup>3/</sup>	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	<u>1,882,220</u>	<u>391,520</u>	<u>255</u>	<u>.015</u>
TOTALS	44,701,310	17,023,430	11,159	

For period of 15.156 years

Average discharge in acre-feet per year -----	2,949,413
Average acre-feet of silt per year -----	736
Average acre-feet of silt per year per square mile of contributing watershed -----	.152
Average tons of silt per year -----	1,123,214
Average percent of silt by weight -----	.028
Drainage area in square miles (net) -----	4,858

- <sup>1/</sup> Station was established December 1, 1932.  
<sup>2/</sup> Station was discontinued December 27, 1933.  
<sup>3/</sup> Station was reestablished September 1, 1935.

SILT DATA

San Antonio River Watershed  
at  
GOLIAD STATION ON SAN ANTONIO RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.			Pct.
<u>1948</u>				
October	20,270	50,710	33	.184
November	9,960	1,100	1	.008
December	10,020	560	0	.004
<u>1949</u>				
January	11,490	1,510	1	.010
February	16,580	41,120	27	.182
March	16,240	10,600	7	.048
April	136,150	316,460	208	.171
May	44,070	63,390	42	.106
June	60,090	105,470	69	.129
July	47,870	49,110	32	.075
August	18,190	22,250	15	.090
September	12,460	7,180	5	.042
Totals	403,390	669,460	440	

U. S. G. S. yearly discharge in acre-feet	-----	403,300
Total silt for year in acre-feet	-----	440
Acre-feet of silt per year per square mile of contributing watershed	-----	.112
Average percent of silt by weight for year	-----	.122
Drainage area in square miles (net)	-----	3,918

SUMMARY OF SILT DATA

for

San Antonio River Watershed

Stream: SAN ANTONIO  
Station: GOLIAD  
Sampler: Polo Perez

(Samples were taken near Goliad  
from bridge on State Hwy. No. 29)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Ac.-ft.	percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.
1941-42 <sup>1/</sup>	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	<u>403,390</u>	<u>669,460</u>	<u>440</u>	<u>.122</u>
TOTALS	3,862,820	5,736,580	3,761	

For period of 7.748 years

Average discharge in acre-feet per year -----	498,557
Average acre-feet of silt per year -----	485
Average acre-feet of silt per year per square mile of contributing watershed -----	.124
Average tons of silt per year -----	740,395
Average percent of silt by weight -----	.109
Drainage area in square miles (net) -----	3,918

<sup>1/</sup> Station was established January 1, 1942.

SILT DATA

San Jacinto River Watershed  
at  
HUFFMAN STATION ON SAN JACINTO RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge of Stream		Silt Load of Stream		Percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.	
<u>1948</u>					
October	5,030	1,950	1	.028	
November	7,880	2,070	1	.019	
December	8,000	570	0	.005	
<u>1949</u>					
January	31,250	8,920	6	.021	
February	156,090	88,150	58	.041	
March	329,800	182,290	120	.041	
April	278,850	72,670	48	.019	
May	41,760	4,850	3	.009	
June	19,430	1,820	1	.007	
July	28,730	7,200	5	.018	
August	17,470	2,960	2	.012	
September	12,750	1,000	1	.006	
<b>Totals</b>	<b>937,040</b>	<b>374,450</b>	<b>246</b>		

U. S. G. S. yearly discharge in acre-feet	-----	936,900
Total silt for year in acre-feet	-----	374,450
Acre-feet of silt per year per square mile of contributing watershed	-----	.088
Average percent of silt by weight for year	-----	.029
Drainage area in square miles (net)	-----	2,791

SUMMARY OF SILT DATA

for

San Jacinto River Watershed

Stream: SAN JACINTO  
Station: HUFFMAN (Samples were taken at Sheldon  
Sampler: Phil Baker Scott Pumping Plant, City of Houston)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	Tons	Ac.-ft.	percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.
1944-45 <sup>1/</sup>	221,940	163,730	107	.054
1945-46	2,246,700	1,345,020	881	.044
1946-47	2,466,540	2,096,730	1,377	.062
1947-48	499,740	108,300	70	.016
1948-49	<u>937,040</u>	<u>374,450</u>	<u>246</u>	<u>.029</u>
TOTALS	6,371,960	4,088,230	2,681	

For period of 4.083 years

Average discharge in acre-feet per year -----	1,560,607
Average acre-feet of silt per year -----	657
Average acre-feet of silt per year per square mile of contributing watershed -----	.235
Average tons of silt per year -----	1,001,280
Average percent of silt by weight -----	.047
Drainage area in square miles (net) -----	2,791

1/ Station established September 1, 1945.

SILT DATA

San Jacinto River Watershed  
at  
HUMBLE STATION ON SAN JACINTO RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge	Silt Load of Stream		Percentage
	of Stream	Tons	Ac.-ft.	of dry silt by weight
	Ac.-ft.			Pct.
<u>1948</u>				
October	2,110	200	0	.007
November	3,900	360	0	.007
December	3,750	300	0	.006
<u>1949</u>				
January	18,120	7,350	5	.030
February	90,220	39,050	26	.032
March	161,310	82,540	54	.038
April	157,720	65,420	43	.030
May	25,700	3,220	2	.009
June	7,640	760	0	.007
July	14,230	1,150	1	.006
August	9,770	600	0	.005
September	7,920	470	0	.004
Totals	502,390	201,420	131	

U. S. G. S. yearly discharge in acre-feet -----	502,400
Total silt for year in acre-feet -----	131
Acre-feet of silt per year per square mile of contributing watershed -----	.072
Average percent of silt by weight for year -----	.029
Drainage area in square miles (net) -----	1,811

SUMMARY OF SILT DATA

for

San Jacinto River Watershed

Stream: WEST FORK OF SAN JACINTO  
 Station: NEAR HUMBLE  
 Sampler: L. C. Clark

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

Water Year	Discharge of Stream	Silt Load of Stream	Average percentage of dry silt by weight
1932-33	253,210 Ac.-ft.	144,800 Tons	0.42
1933-34	7,450 Ac.-ft.	520 Tons	0.005
1936-37	12,450 Ac.-ft.	1,370 Tons	0.008
1937-38	491,940 Ac.-ft.	150,650 Tons	0.22
1938-39	319,500 Ac.-ft.	120,660 Tons	0.28
1939-40	282,680 Ac.-ft.	162,070 Tons	0.42
1940-41	2,566,090 Ac.-ft.	896,050 Tons	0.26
1941-42	909,180 Ac.-ft.	373,670 Tons	0.30
1942-43	545,760 Ac.-ft.	290,820 Tons	0.39
1943-44	881,200 Ac.-ft.	660,570 Tons	0.55
1944-45	1,577,380 Ac.-ft.	1,241,490 Tons	0.58
1945-46	1,320,330 Ac.-ft.	774,810 Tons	0.43
1946-47	1,325,000 Ac.-ft.	345,140 Tons	0.19
1947-48	284,340 Ac.-ft.	41,140 Tons	0.11
1948-49	502,390 Ac.-ft.	201,420 Tons	0.29
TOTALS	11,278,900 Ac.-ft.	5,405,180 Tons	3,539

For period of 13.337 years

845,685	Average discharge in acre-feet per year
265	Average acre-feet of silt per year
146	Average acre-feet of silt per year per square mile of contributing watershed
405,277	Average tons of silt per year
0.35	Average percent of silt by weight
1,811	Drainage area in square miles (net)

1/ Station established December 1, 1932.  
 2/ Station discontinued December 31, 1933.  
 3/ Station re-established July 1, 1937.

SILT DATA

Trinity River Watershed  
at  
ROMAYOR STATION ON TRINITY RIVER

for

Water Year 1948-1949  
(October 1, 1948 to September 30, 1949)

Month	Discharge of Stream	Silt Load of Stream		Percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.
<u>1948</u>				
October	36,060	6,200	4	.013
November	34,750	4,080	3	.009
December	42,290	4,430	3	.008
<u>1949</u>				
January	184,030	154,200	101	.062
February	560,350	519,960	341	.068
March	1,049,810	1,062,700	697	.074
April	674,760	576,030	378	.063
May	337,840	236,880	155	.052
June	865,980	743,960	488	.063
July	138,990	66,480	44	.035
August	49,330	6,140	4	.009
September	55,240	30,640	20	.041
<b>Totals</b>	<b>4,029,430</b>	<b>3,411,700</b>	<b>2,238</b>	

U. S. G. S. yearly discharge in acre-feet ----- 4,030,000

Total silt for year in acre-feet ----- 2,238

Acres-feet of silt per year per square mile  
of contributing watershed ----- .130

Average percent of silt by weight for year ----- .062

Drainage area in square miles (net) ----- 17,192 <sup>1/</sup>

<sup>1/</sup> Revised by U.S.G.S.

SUMMARY OF SILT DATA

for

Trinity River Watershed

Stream: TRINITY  
 Station: ROMAYOR  
 Sampler: Claud Allen

(Samples taken from the  
 railroad bridge)

Water Year	Discharge of Stream	Silt Load of Stream		Average percentage of dry silt by weight
	Ac.-ft.	Tons	Ac.-ft.	Pct.
1935-36 <sup>1/</sup>	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	<u>4,029,430</u>	<u>3,411,700</u>	<u>2,238</u>	<u>.062</u>
<b>TOTALS</b>	<b>86,235,730</b>	<b>88,071,180</b>	<b>57,771</b>	

For period of 13.142 years

Average discharge in acre-feet per year -----	6,561,842
Average acre-feet of silt per year -----	4,396
Average acre-feet of silt per year per square mile of contributing watershed -----	.256
Average tons of silt per year -----	6,701,505
Average percent of silt by weight -----	.075
Drainage area in square miles (net) -----	17,192 <sup>2/</sup>

<sup>1/</sup> Station was established August 10, 1936.

<sup>2/</sup> Revised by U.S.G.S.

SUMMARY OF SILT DATA FOR SOME OF THE MAJOR TEXAS STREAMS

(For Water Year Ending September 30, 1949)

Water-shed	Stream	Silt Station	Years Samples Taken	Total Length Record	Average	Average Amount of Silt	Amt. of Silt per Sq. Mi. Watershed	Silt by Weight	Net Drainage Area	
					Runoff of Stream					tons
Brazos	Salt Fork	Aspermont <u>1/</u>	1924-25	1.238	111,100	2,818	4,297,420	1.272	2.842	2,216
Brazos	Salt Fork	Seymour <u>1/</u>	1924-30	6.107	398,864	6,501	9,912,150	1.238	1.826	5,250
Brazos	Dbl.Mt. Fork	Aspermont <u>1/</u>	1924-33	9.244	135,280	2,665	4,062,400	1.765	2.206	1,510
Brazos	Clear Fork	Crystal Falls <u>1/</u>	1925-29	3.307	214,440	568	866,020	.131	.297	4,320
Brazos	Clear Fork	Eliasville <u>1/</u>	1924-25	1.244	177,240	529	808,630	.092	.335	5,740
Brazos	Little River	Little River <u>1/</u>	1924-29	4.962	419,870	752	1,147,190	.143	.201	5,253
Brazos	San Gabriel	Circleville <u>1/</u>	1924-29	5.403	110,744	222	339,590	.369	.225	602
Brazos	Leon	Belton	1945-49	4.083	366,970	372	555,170	.105	.111	3,547
Brazos	Navasota	Easterly	1942-49	7.748	348,175	218	332,301	.230	.070	949
Brazos	Brazos	South Bend	1942-49	7.710	485,847	2,399	3,657,763	.194	.553	12,360
Brazos	Brazos	Possum King.Dam	1942-49	7.710	510,213	81	124,104	----	.018	----
Brazos	Brazos	Mineral Wells <u>1/</u>	1924-34	10.332	953,550	6,506	9,920,060	.468	.764	13,910
Brazos	Brazos	Glen Rose <u>1/</u>	1924-29	4.588	1,181,370	8,378	12,773,810	.537	.794	15,600
Brazos	Brazos	Waco <u>1/</u>	1924-33	9.254	1,717,130	10,325	15,742,010	.536	.673	19,260
Brazos	Brazos	Bryan <u>1/</u>	1899-02	3.419	4,156,736	39,117	----	1.340	.941*	29,190
Brazos	Brazos	Richmond	1924-49	25.306	5,757,763	23,408	35,733,868	.672	.456	34,810
Colorado	Llano	Llano	1942-49	7.167	202,841	245	373,515	.061	.135	4,000
Colorado	Pedernales	Johnson City	1942-49	7.167	104,525	138	210,836	.146	.148	947
Colorado	Colorado	San Saba	1930-49	19.055	1,196,759	3,094	4,717,917	.165	.290	18,700
Colorado	Colorado	Tow <u>1/</u>	1927-32	5.162	1,245,440	3,360	5,122,520	.174	.302	19,300
Colorado	Colorado	Inks Dam	1942-49	7.167	670,887	59	89,668	----	.010	----
Colorado	Colorado	Buchanan Dam	1947-49	2.000	570,085	27	40,915	----	.005	----
Colorado	Colorado	Austin	1937-49	12.164	1,700,055	718	1,093,635	.027	.047	26,260
Colorado	Colorado	Columbus-E.Lake <u>2/</u>	30-33;37-41	6.997	3,167,710	5,898	8,991,960	.202	.209	29,140
Guadalupe	Guadalupe	Spring Branch	1942-49	7.748	201,675	103	157,892	.072	.058	1,432
Guadalupe	Guadalupe	Victoria	1945-49	4.083	1,061,687	406	618,004	.076	.043	5,311

\* Percent of silt by volume.

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

2/ Station discontinued October 31, 1941.

SUMMARY OF SILT DATA (Continued)

Water-shed	Stream	Silt Station	Years Samples Taken	Total Length Record	Average	Average Amount of Silt	Amt. of Silt per Sq. Mi. Watershed	Silt by Weight	Net Drainage Area	
					Runoff of Stream					
				years	ac.-ft	ac.-ft	tons	ac.-ft	per-cent	sq.mi.
Lavaca	Lavaca	Edna	1945-49	4.083	180,691	133	201,876	.150	.082	887
Neches	Angelina	Horger	1945-49	4.083	2,511,165	439	669,691	.128	.020	3,435
Neches	Neches	Rockland	1930-49	19.148	1,964,840	313	477,172	.088	.018	3,539
Nueces	Nueces	Cotulla	1942-49	7.748	201,500	82	125,996	.016	.046	5,260
Nueces	Nueces	Three Rivers	1927-49	22.000	692,394	509	776,606	.033	.082	15,600
Nueces	Nueces	Corpus Chr. Dam	1942-49	7.660	694,461	159	243,213	----	.026	----
Rio Grande	Rio Grande	Eagle Pass <u>3/</u>	1934-43	9.068	3,180,057	9,776	14,904,545	.078	.344	125,260
Rio Grande	Rio Grande	Roma <u>3/</u>	1929-43	14.184	4,166,619	12,588	19,192,311	.080	.338	157,204
Red	Pease	Crowell <u>4/</u>	1942-47	5.002	113,411	992	1,512,834	.412	.980	2,410
Red	Wichita	Wichita Falls <u>1/</u>	1900-02	2.014	566,420	5,516	----	1.776	.974*	3,105
Red	Red	Denison <u>1/</u>	<u>30-33;36-39</u>	6.260	3,326,780	13,640	20,793,380	.415	.459	32,840
Sabine	Sabine	Logansport, La. <u>32-33;35-49</u>	1945-46	15.156	2,949,413	736	1,123,214	.152	.028	4,858
Sabine	Sabine	Ruliff <u>5/</u>	1945-46	1.083	11,408,860	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	1942-49	7.748	498,557	485	740,395	.124	.109	3,918
San Jacinto	West Fork	Humble	<u>32-33;37-49</u>	13.337	845,685	265	405,277	.146	.035	1,811
San Jacinto	San Jacinto	Huffman	1945-49	4.083	1,560,607	657	1,001,280	.235	.047	2,791
Trinity	Trinity	Rosser <u>6/</u>	1938-40	1.598	760,700	986	1,504,920	.122	.145	8,057
Trinity	Trinity	Romayor	1936-49	13.142	6,561,842	4,396	6,701,505	.256	.075	17,192

\* Percent of silt by volume.

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

3/ Station discontinued May 31, 1943.

4/ Station discontinued June 30, 1947.

5/ Station established September 1, 1945 and discontinued September 30, 1946.

6/ Station discontinued June 27, 1940.