

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

FIFTEENTH ANNUAL REPORT  
of  
THE SILT LOAD OF TEXAS STREAMS  
for  
WATER YEAR, 1952-1953

(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, 1954

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DIVISION OF IRRIGATION ENGINEERING AND WATER CONSERVATION

Cooperating in Studies on Silt of Texas Streams

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San Antonio River Watershed

Robinson Station

Red River Watershed

Get. from Station (Rio River)

Corpus Christi Dam Station

Three Rivers Station

Comanche Station

San Antonio River Watershed

ACTIVE

FIFTEENTH ANNUAL REPORT  
OF  
SILT LOAD OF TEXAS STREAMS  
FOR WATER YEAR 1952-1953  
by  
Dean W. Bloodgood  
Irrigation Engineer <sup>1/</sup>

Since 1940 annual reports of tabulated data have been prepared and published each water year (October 1 to September 30) by the Texas Board of Water Engineers and this publication is the fifteenth of a series of such reports on the "Silt Load of Texas Streams".

The purpose of preparing these annual reports is to have available for public use, and within a reasonable time, silt data pertaining to some of the important streams of Texas where storage reservoirs have been constructed, are in the process of construction, or being planned for the future. Silt data are valuable and essential in planning structures on streams and to evaluate the economic life of reservoirs.

The silt load is influenced to a considerable extent by the annual or seasonal condition of the contributing watershed - whether it has a lush natural vegetative cover or whether the soils are bare and easily eroded during a drouth period. The silt load is not influenced so much by the volume of an ordinary steady stream flow but is influenced to a considerable extent by a fluctuating river discharge. During the past few years many areas of Texas have been experiencing a lengthy and prolonged drouth and the silt load of most streams has been 20 to 35 percent of normal. In some streams the silt load has been negligible, but when excessive and torrential rains did occur on the dry and barren watersheds, the silt load has been the greatest of recorded data. The watersheds of some of the streams are in such a dry pulverized soil condition that should normal or abnormal rainfall occur, which it will in the near or distant future, then the silt load will probably be the greatest of any data so far recorded. This happened during the run-off of abnormal rainfall on the watersheds of the Peder-nales and Llano Rivers during the flood of September, 1952. There can be and will be future floods from watershed areas greater than present records. These floods will carry tremendous silt loads in spite of any corrective or preventive measures or treatments on the upper portions of the watershed area. The silt load of Texas streams will always remain one of the problems in the conservation or utilization of the water resources as there will be another bigger flood sometime in the future.

#### SUMMARY OF SILT STUDIES FOR 1952-1953

The following table shows the summary of silt load of Texas streams for 1952 and 1953 and it will be noted that it is approximately 35 percent of the average load. The table also shows the comparison of silt load during two water years of drouth in relation to mean normal years.

During the water year 1952-1953 approximately 6,890 daily samplings of one or more water samples were obtained at the active stations. A total of about 7,780 silt determinations were made at the cooperative laboratory. For the water year, 1951-1952, there were 6,880 daily samplings and 8,285 water samples were received at laboratory for silt determinations.

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<sup>1/</sup> For Water Year 1952-1953, Irrigation Engineer, Irrigation Engineering and Water Conservation, Soil Conservation Service, United States Department of Agriculture.

Comparison of river discharge and suspended silt load  
of Texas streams for drouth water years of 1951-52 and 1952-53  
to mean yearly records

Station	Stream	Stream Discharge			Suspended Silt Load					
		1951-52	1952-53	Mean yearly record <sup>1/</sup>	1951-52	1952-53	Mean yearly record <sup>1/</sup>	1951-52	1952-53	Mean yearly record <sup>1/</sup>
		ac.ft.	ac.ft.	ac.ft.	tons	tons	tons	ac.ft.	ac.ft.	ac.ft.
Easterly	Navasota	87,600	337,700	289,060	47,640	437,870	272,810	30	288	179
South Bend	Brazos	43,500	417,300	442,210	1,004,480	1,854,990	3,498,270	659	1,217	2,295
Possum Kingdom Dam	Brazos	192,170	159,000	454,130	12,530	10,440	90,610	7	7	59
Richmond	Brazos	1,321,120	2,971,630	5,296,250	4,126,930	9,542,880	31,685,460	2,708	6,260	20,756
Llano	Llano	231,500	107,500	180,410	5,522,050	85,340	746,740	3,622	55	489
Johnson City	Pedernales	414,420	58,190	112,610	12,645,550	42,420	1,274,430	8,295	23	836
San Saba	Colorado	472,430	379,700	1,060,390	1,934,690	1,378,140	4,209,560	1,258	904	2,761
Buchanan Dam	Colorado	405,390	285,960	461,500	14,790	8,080	25,510	10	8	18
Austin	Colorado	547,510	667,000	1,458,370	48,830	40,170	836,680	32	26	549
Spring Branch	Guadalupe	174,860	68,520	162,660	720,250	29,030	172,130	472	18	112
Victoria	Guadalupe	594,190	777,400	849,480	415,970	430,850	496,760	272	283	326
Edna	Lavaca	117,740	118,300	135,960	98,940	93,930	147,330	65	62	97
Rockland	Neches	895,990	2,035,000	1,936,680	142,550	264,400	428,820	94	175	281
Cotulla	Nueces	34,640	84,420	150,590	20,910	11,880	88,320	14	7	58
Corpus Christi Dam	Nueces	177,310	536,500	574,430	25,670	159,200	187,180	18	102	122
Logansport, La.	Sabine	1,814,460	2,891,000	2,853,680	278,200	595,230	994,400	182	393	652
Goliad	San Antonio	330,950	255,900	420,040	379,470	345,950	610,070	249	226	400
Romayor	Trinity	2,017,640	3,990,000	5,949,660	1,848,630	2,784,550	5,782,770	1,213	1,827	3,793
Total		9,873,420	16,141,020	22,788,110	29,298,380	18,115,350	51,547,850	19,210	11,886	33,783
Total <sup>2/</sup>		9,227,500	15,975,330	22,495,090	11,130,780	17,987,590	49,526,680	7,293	11,803	32,458

<sup>1/</sup> Record ranged from 9 to 29 years.

<sup>2/</sup> Exclusive of Llano and Johnson City Stations where an unusual flood occurred during a two-day storm in September, 1952.

## STATUS OF SILT STATIONS

Silt data have been obtained at 24 stations that were discontinued prior to the water year ending September 30, 1952. At the present time data are being obtained at 24 stations, six of which are new stations that were established during the water year. One station near Rosser on Trinity River that was discontinued in 1940 was reestablished in 1953. The silt stations are as follows:

### Nonactive Stations

Aspermont (Salt Fork, a tributary of Brazos River) - length of record, 1 year  
Seymour (Salt Fork, a tributary of Brazos River) - length of record, 6 years  
Aspermont (Double Mountain Fork, a tributary of Brazos River) - length of record, 9 years  
Crystall Falls (Clear Fork, a tributary of Brazos River) - length of record, 3 years  
Eliasville (Clear Fork, a tributary of Brazos River) - length of record, 1 year  
Circleville (San Gabriel, a tributary of Brazos River) - length of record, 5 years  
Little River (Little River, a tributary of Brazos River) - length of record, 5 years  
Mineral Wells (Brazos River) - length of record, 10 years  
Glen Rose (Brazos River) - length of record, 5 years  
Waco (Brazos River) - length of record, 9 years  
Bryan (Brazos River) - length of record, 3 years  
Tow (Colorado River) - length of record, 5 years  
Columbus-Eagle Lake (Colorado River) - length of record, 7 years  
Eagle Pass (Rio Grande) - length of record, 9 years  
Roma (Rio Grande) - length of record, 4 years  
Crowell (Pease River, a tributary of Red River) - length of record, 5 years  
Denison (Red River) - length of record, 3 years  
Ruliff (Sabine River) - length of record, 3 years  
Fall City (San Antonio River) - length of record, 6 years  
Inks Dam (Colorado River) - length of record, 9 years  
Horger (Angelina River, a tributary of Neches River) - length of record, 7 years  
Humble (West Fork, a tributary of San Jacinto River) - length of record, 16 years  
Huffman (San Jacinto River) - length of record, 7 years  
Three Rivers (Nueces River) - length of record, 26 years

### Active Stations

Easterly (Navasota River, a tributary of Brazos River) - length of record, 12 years  
South Bend (Brazos River) - length of record, 12 years  
Possum Kingdom Dam (Brazos River) - length of record, 12 years  
Richmond (Brazos River) - length of record, 29 years  
Llano (Llano River, a tributary of Colorado River) - length of record, 11 years  
Johnson City (Pedernales River, a tributary of Colorado River) - length of record, 11 years  
San Saba (Colorado River) - length of record, 23 years  
Buchanan Dam (Colorado River) - length of record, 6 years  
Austin (Colorado River) - length of record, 16 years



Spring Branch (Guadalupe River) - length of record, 12 years  
Victoria (Guadalupe River) - length of record, 8 years  
Edna (Lavaca River) - length of record, 8 years  
Rockland (Neches River) - length of record, 23 years  
Cotulla (Nueces River) - length of record, 12 years  
Corpus Christi Dam (Nueces River) - length of record, 12 years  
Logansport, La. (Sabine River) - length of record, 19 years  
Goliad (San Antonio River) - length of record, 12 years  
Romayor (Trinity River) - length of record, 17 years

#### New Stations

Cleveland (East Fork, a tributary of San Jacinto River) - established, December 1952  
Conroe (West Fork, a tributary of San Jacinto River) - established, December 1952  
Calliham (Frio River, a tributary of Nueces River) - established, January 1953  
Gatesville ( Leon River, a tributary of Brazos River) - established, March 1953  
Zavalla (Angelina River, a tributary of Neches River) - established, December 1953  
Rosser (Trinity River) - reestablished January 1953

#### COOPERATION

Splendid cooperation continued with the following agencies:

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 Interior, Austin

#### PUBLICATIONS

The following cooperative reports have been published by the Texas Board of Water Engineers and are available for free distribution except those marked with an asterisk:

Silt Load of Texas Streams (Progress report as of September 30, 1939\*,) by D. W. Bloodgood, A. A. Meador and C. C. Cook, 99 pages. The report contains all available silt data by months and years from 1899 to 1939 and technique used in silt determinations. This report is out of print but certain portions of the data can be reproduced upon request.

The following reports contain tabulated silt data for each month for the year and a summary of data obtained at each station for each water year as well as a general summary of silt data for all stations that have been established in Texas:

The Silt Load of Texas Streams - Part II (A progress report as of October 1, 1939 to September 30, 1940), by D. W. Bloodgood and A. A. Meador, 23 pages.  
The Silt Load of Texas Streams - Part III (A progress report as of October 1, 1940 to September 30, 1941), by D. W. Bloodgood and A. A. Meador, 24 pages.  
The Silt Load of Texas Streams - Part IV (A progress report as of October 1, 1941 to September 30, 1942), by D. W. Bloodgood and A. A. Meador, 42 pages.

The Silt Load of Texas Streams - Part V (A progress report as of October 1, 1942 to September 30, 1943), by D. W. Bloodgood and A. A. Meador, 49 pages.

The Silt Load of Texas Streams - Part VI (A progress report as of October 1, 1943 to September 30, 1944), by D. W. Bloodgood and A. A. Meador, 49 pages.

The Silt Load of Texas Streams - Part VII (A progress report as of October 1, 1944 to September 30, 1945), by D. W. Bloodgood, A. A. Meador and A. C. Cook, 58 pages.

The Silt Load of Texas Streams - Part VIII (A progress report as of October 1, 1945 to September 30, 1946), by D. W. Bloodgood and Ivan M. Stout, 56 pages.

The Silt Load of Texas Streams - Part IX (A progress report as of October 1, 1946 to September 30, 1947)\*, by D. W. Bloodgood and Ivan M. Stout, 54 pages.

Progress Report No. 10 of Silt Load of Texas Streams (1947-1948), by Dean W. Bloodgood, 58 pages.

Progress Report No. 11 of Silt Load of Texas Streams (1948-1949), by Dean W. Bloodgood, 58 pages.

Progress Report No. 12 of Silt Load of Texas Streams (1949-1950), by Dean W. Bloodgood and James E. Mortenson, 58 pages.

Progress Report No. 13 of Silt Load of Texas Streams (1950-1951), by Dean W. Bloodgood and James E. Mortenson, 50 pages.

Fourteenth Annual Report of the Silt Load of Texas Streams (1951-1952) and a Summary of Silt Studies Made in Texas, by Dean W. Bloodgood and James E. Mortenson, 90 pages. The report contains in addition to the usual tabulated silt data for the water year the technique used in silt determinations, descriptions of all silt stations, charts showing relationship of silt load with river discharge for all stations, pictures of most stations and a relief map of Texas showing location of all silt stations in Texas.

SILT DATA

Brazos River Watershed  
at  
EASTERLY STATION ON NAVASOTA RIVER

for

Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	tons	ac.-ft.	Dry Silt by Weight
	ac.-ft.			pct.
<u>1952</u>				
October	23	0	0	0
November	3,780	3,210	2	.062
December	22,840	10,440	7	.034
<u>1953</u>				
January	23,410	7,380	5	.023
February	2,530	1,800	1	.052
March	71,820	34,410	23	.035
April	4,230	7,140	5	.124
May	206,800	372,800	245	.132
June	612	170	0	.020
July	665	160	0	.018
August	450	270	0	.044
September	572	90	0	.012
Totals	337,700	437,870	288	

U.S.G.S. yearly discharge in acre-feet - - - - -	337,700
Total silt for year in acre-feet - - - - -	288
Acre-feet of silt per year per square mile of contributing watershed - - - - -	.303
Average percent of silt by weight for year - - - - -	.095
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	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	<u>337,700</u>	<u>437,870</u>	<u>288</u>	.095
TOTALS	3,395,920	3,204,950	2,103	

For period 11.748 years

Average discharge in acre-feet per year - - - - -	289,064
Average acre-feet of silt per year - - - - -	179
Average acre-feet of silt per year per square mile of contributing watershed - - - - -	.189
Average tons of silt per year - - - - -	272,808
Average percent of silt by weight - - - - -	.069
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 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	tons	ac.-ft.	Dry Silt by Weight
	ac.-ft.			pct.
<u>1952</u>				
October	0	0	0	0
November	4,470	11,490	8	.189
December	1,620	850	1	.039
<u>1953</u>				
January	151	0	0	0
February	34	- 0	0	0
March	5,980	77,270	51	.949
April	5,580	19,870	13	.262
May	61,140	686,390	450	.825
June	4,920	150	0	.002
July	245,800	730,941	479	.218
August	74,930	269,630	177	.264
September	12,700	58,400	38	.338
Totals	417,300	1,854,991	1,217	

U.S.G.S. yearly discharge in acre-feet - - - - -	417,300
Total silt for year in acre-feet - - - - -	1,217
Acre-feet of silt per year per square mile of contributing watershed - - - - -	.098
Average percent of silt by weight for year - - - - -	.327
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	ac.-ft.	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	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	<u>417,300</u>	<u>1,854,990</u>	<u>1,217</u>	.327
<b>TOTALS</b>	<b>5,178,250</b>	<b>40,964,710</b>	<b>26,875</b>	

For period of 11.710 years

Average discharge in acre-feet per year	442,208
Average acre-feet of silt per year	2,295
Average acre-feet of silt per year per square mile of contributing watershed	.186
Average tons of silt per year	3,498,267
Average percent of silt by weight	.581
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 1952-53  
(October 1, 1952 to September 30, 1953)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream ac.-ft.	tons	ac.-ft.	Dry Silt by Weight pct.
<u>1952</u>				
October	1,390	230		.012
November	2,030	260		.009
December	3,120	190		.004
<u>1953</u>				
January	1,580	40	2	.002
February	770	50		.005
March	1,510	330		.016
April	2,170	540		.018
May	6,980	290		.003
June	19,870	540		.002
July	38,840	3,360	2	.006
August	36,250	2,420	2	.005
September	44,490	2,190	1	.004
<b>Totals</b>	<b>159,000</b>	<b>10,440</b>	<b>7</b>	

U.S.G.S. yearly discharge in acre-feet - - - - - 159,000

Total silt for year in acre-feet - - - - - 7

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

Brazos River Watershed

Stream: BRAZOS

Station: POSSUM KINDGOM DAM

Sampler: J. P. Cochran

(Samples taken in tailrace  
and over spillway)

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>	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	<u>159,000</u>	<u>10,440</u>	<u>7</u>	.005
TOTALS	5,317,900	1,061,090	693	

For period of 11.710 years

Average discharge in acre-feet per year - - - - -	454,133
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 - - - - -	90,614
Average percent of silt by weight - - - - -	.015
Drainage area in square miles (net) - - - - -	--

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



SILT DATA

Brazos River Watershed  
at  
RICHMOND STATION ON BRAZOS RIVER

for

Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge of Stream ac.-ft.	Silt Load of Stream		Percentage of Dry Silt by Weight pct.
		tons	ac.-ft.	
<u>1952</u>				
October	12,470	1,370	1	.008
November	24,780	3,820	3	.011
December	230,000	513,660	337	.164
<u>1953</u>				
January	275,900	663,180	435	.177
February	121,500	116,220	76	.070
March	245,800	403,500	265	.121
April	75,020	160,940	106	.158
May	1,646,000	7,521,640	4,934	.336
June	113,800	38,730	25	.025
July	61,120	5,260	3	.006
August	49,240	4,690	3	.007
September	116,000	109,870	72	.070
<b>Totals</b>	<b>2,971,630</b>	<b>9,542,880</b>	<b>6,260</b>	

U.S.G.S. yearly discharge in acre-feet - - - - -	2,971,630
Total silt for year in acre-feet - - - - -	6,260
Acre-feet of silt per year per square mile of contributing watershed - - - - -	.180
Average percent of silt by weight for year - - - - -	.236
Drainage area in square miles (net) - - - - -	34,810

SUMMARY OF SILT DATA

for

Brazos River Watershed

Stream: BRAZOS  
 Station: RICHMOND  
 Sampler: Earl Wright

(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	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	<u>2,971,630</u>	<u>9,542,880</u>	<u>6,260</u>	.236	
TOTALS	155,211,810	928,574,050	608,287		

For period of 29.306 years

Average discharge in acre-feet per year - - - - -	5,296,247
Average acre-feet of silt per year - - - - -	20,756
Average acre-feet of silt per year per square mile of contributing watershed - - - - -	.596
Average tons of silt per year - - - - -	31,685,458
Average percent of silt by weight - - - - -	.439
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.

Brazos River Watershed  
at  
GATESVILLE STATION ON LEON RIVER <sup>1/</sup>  
for  
Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge of Stream		Silt Load of Stream		Percentage of Dry Silt by Weight pct.
	ac.-ft.		tons	ac.-ft.	
<u>1952</u>					
October					
November					
December					
<u>1953</u>					
January					
February					
March	7,330		18,020	12	.181
April	4,470		10,150	7	.167
May	49,260		205,550	135	.307
June	613		40	0	.005
July	5,770		8,800	6	.112
August	3,450		5,390	4	.115
September	2,180		5,720	4	.193
Totals	73,100 <sup>2/</sup>		253,670 <sup>2/</sup>	168 <sup>2/</sup>	

U.S.G.S. yearly discharge in acre-feet - - - - -	73,100
Total silt for year in acre-feet - - - - -	168
Acre-feet of silt per year per square mile of contributing watershed - - - - -	.073
Average percent of silt by weight for year - - - - -	.255
Drainage area in square miles (net) - - - - -	2,313

<sup>1/</sup> The silt sampling station on Leon River was formerly located near Belton. This station which was located about a mile or so below the new Belton Dam was discontinued December 31, 1949 on account of construction of the dam. A new station located about 48 miles upstream and at bridge on U.S. Highway 84 in Gatesville was established March 1, 1953. The drainage area above the Belton station is 3,547 square miles while the drainage area above the Gatesville station is 2,313 square miles.

<sup>2/</sup> 7 months record - not included in general summary.

SUMMARY OF SILT DATA

for

Brazos River Watershed

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

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>2/</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	298,580	654,820	429	.161
1949-50 <sup>3/</sup>	13,630	18,540	12	.100
1952-53 <sup>4/</sup>	73,100	253,670	168	.255
<b>TOTALS</b>	1,544,240	2,538,970	1,698	

For period of 4.916 years

Average discharge in acre-feet per year - - - - - 314,125  
 Average acre-feet of silt per year - - - - - 345  
 Average acre-feet of silt per year per square mile  
 of contributing watershed - - - - - .149  
 Average tons of silt per year - - - - - 516,471  
 Average percent of silt by dry weight - - - - - .121  
 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

Colorado River Watershed  
at  
LLANO STATION ON LLANO RIVER

for

Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge of Stream ac.-ft.	Silt Load of Stream		Percentage of Dry Silt by Weight pct.
		tons	ac.-ft.	
<u>1952</u>				
October	2,120	190	0	.007
November	3,710	190	0	.004
December	26,550	31,200	20	.086
<u>1953</u>				
January	12,050	7,870	5	.048
February	6,610	440	0	.005
March	5,490	1,230	1	.016
April	3,060	390	0	.009
May	37,360	42,490	28	.084
June	472	120	0	.019
July	1,770	180	0	.007
August	4,000	790	1	.014
September	4,300	250	0	.004
Totals	107,500 <sup>1/</sup>	85,340	55	

U.S.G.S. yearly discharge in acre-feet - - - - -	107,500
Total silt for year in acre-feet - - - - -	55
Acre-feet of silt per year per square mile of contributing watershed - - - - -	.014
Average percent of silt by weight for year - - - - -	.058
Drainage area in square miles (net)- - - - -	4,000

<sup>1/</sup> Nearest U.S.G.S. totals

SUMMARY OF SILT DATA

for

Colorado River Watershed

Stream: LLANO  
 Station: LLANO  
 Sampler: Mrs. Tracy Ward

(Samples were taken at U.S. Gaging  
 Station  $\frac{1}{2}$  mile downstream from  
 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	
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	<u>107,500</u>	<u>85,340</u>	<u>55</u>	.058	
TOTALS	2,014,620	8,338,790	5,466		

For period of 11.167 years

Average discharge in acre-feet per year - - - - -	180,408
Average acre-feet of silt per year - - - - -	489
Average acre-feet of silt per year per square mile of contributing watershed - - - - -	.122
Average tons of silt per year - - - - -	746,735
Average percent of silt by weight - - - - -	.304
Drainage area in square miles (net) - - - - -	4,000

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

SILT DATA

Colorado River Watershed  
at

JOHNSON CITY STATION ON PEDERNALES RIVER  
for

Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	tons	ac.-ft.	Dry Silt by Weight
	ac.-ft.			pct.
<u>1952</u>				
October	2,280	120	0	.004
November	3,080	570	0	.014
December	22,320	30,730	20	.101
<u>1953</u>				
January	5,900	510	0	.006
February	3,480	130	0	.003
March	4,680	1,660	1	.026
April	5,430	2,350	2	.032
May	3,270	930	1	.021
June	492	60	0	.009
July	276	20	0	.005
August	2,970	4,180	3	.103
September	4,010	1,160	1	.021
Totals	58,190 <sup>1/</sup>	42,420	28	

U.S.G.S. yearly discharge in acre-feet	58,190
Total Silt for year in acre-feet	28
Acre-feet of silt per year per square mile of contributing watershed	.030
Average percent of silt by weight for year	.054
Drainage area in square miles (net)	947

<sup>1/</sup> Nearest U.S.G.S. totals

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	Silt Load of Stream		Average
	of Stream	tons	ac.-ft.	Percentage of Dry Silt by Weight
	ac.-ft.	tons	ac.-ft.	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	
TOTALS	1,257,490	14,231,540	9,336	

For period of 11.167 years

Average discharge in acre-feet per year - - - - -	112,608
Average acre-feet of silt per year - - - - -	836
Average acre-feet of silt per year per square mile of contributing watershed - - - - -	.883
Average tons of silt per year - - - - -	1,274,428
Average percent of silt by weight - - - - -	.831
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 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream ac.-ft.	tons	ac.-ft.	Dry Silt by Weight pct.
<u>1952</u>				
October	6,560	660	0	.007
November	23,930	72,880	48	.224
December	20,160	10,000	7	.037
<u>1953</u>				
January	12,010	2,910	2	.018
February	4,560	390	0	.006
March	62,790	270,140	177	.316
April	16,740	42,880	28	.188
May	85,620	402,460	264	.345
June	2,660	380	0	.010
July	21,550	7,190	5	.024
August	108,200	560,710	368	.381
September	14,930	7,540	5	.037
Totals	379,700	1,378,140	904	

U.S.G.S. yearly discharge in acre-feet - - - - - 379,700

Total silt for year in acre-feet - - - - - 904

Acre-feet of silt per year per square mile  
of contributing watershed - - - - - .048

Average percent of silt by weight for year - - - - - .267

Drainage area in square miles (net)- - - - - 18,700

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	ac.-ft.	tons	pct.
1929-30 <sup>1/</sup>	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
TOTALS	24,447,270	97,051,460	63,651		

For period of 23.055 years

Average discharge in acre-feet per year	1,060,389
Average acre-feet of silt per year	2,761
Average acre-feet of silt per year per square mile of contributing watershed	.148
Average tons of silt per year	4,209,562
Average percent of silt by weight	.292
Drainage area in square miles (net)	18,700

<sup>1/</sup> Station was established September 11, 1930.

<sup>2/</sup> 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  
BUCKANAN DAM STATION ON COLORADO RIVER

for

Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge of Stream ac.-ft.	Silt Load of Stream tons	ac.-ft.	Percentage of Dry Silt by Weight pct.
<u>1952</u>				
October	16,800	540		.002
November	22,800	810	1	.003
December	21,420	600	1	.002
<u>1953</u>				
January	28,530	780	1	.002
February	30,780	840	1	.002
March	11,780	329 )		.002
April	15,390	420 )	1	.002
May	12,640	340 )		.002
June	40,750	1,110 )	1	.002
July	12,470	350 )		.002
August	21,340	580 )	1	.002
September	51,260	1,390	1	.002
Totals	285,960	8,080	8	

U.S.G.S. yearly discharge in acre-feet - - - - -	285,960
Total silt for year in acre-feet - - - - -	8
Acres-feet of silt per year per square mile of contributing watershed - - - - -	
Average percent of silt by weight for year - - - - -	.002
Drainage area in square miles (net) - - - - -	

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	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	<u>285,960</u>	<u>8,080</u>	<u>8</u>	.002
<b>TOTALS</b>	2,768,970	153,040	105	

For period of 6.00 years.

Average discharge in acre-feet per year - - - - -	461,495
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 - - - - -	25,507
Average percent of silt by weight - - - - -	.004
Drainage area in square miles (net) - - - - -	---

<sup>1/</sup> Station was established October 1, 1947.

SILT DATA

Colorado River Watershed  
at  
AUSTIN STATION ON COLORADO RIVER

for

Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge of Stream		Silt Load of Stream		Percentage of Dry Silt by Weight pct.
	ac.-ft.	tons	ac.-ft.	tons	
<u>1952</u>					
October	17,470	1,160	1		.005
November	25,480	1,660	1		.005
December	18,520	800	1		.003
<u>1953</u>					
January	48,020	1,300	1		.002
February	54,580	5,670	4		.008
March	16,700	1,350	1		.006
April	57,730	5,820	4		.007
May	84,460	3,770	2		.003
June	118,100	4,440	3		.003
July	116,400	8,330	5		.005
August	80,370	2,270	1		.002
September	29,170	3,600	2		.009
Totals	667,000 <sup>1/</sup>	40,170	26		

U.S.G.S. yearly discharge in acre-feet	667,000
Total silt for year in acre-feet	26
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)	26,260

<sup>1/</sup> Nearest U.S.G.S. totals

SUMMARY OF SILT DATA

for

Colorado River Watershed

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

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.
1936-37 <sup>1/</sup>	48,040	1,830	1	.003
1937-38* <sup>2/</sup>	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
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	
<b>TOTALS</b>	<b>23,573,070</b>	<b>13,524,080</b>	<b>8,876</b>	

For period of 16.164 years

Average discharge in acre-feet per year	1,458,368
Average acre-feet of silt per year	549
Average acre-feet of silt per year per square mile of contributing watershed	.021
Average tons of silt per year	836,679
Average percent of silt by weight	.042
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.

SILT DATA

Guadalupe River Watershed  
at  
SPRING BRANCH STATION ON GUADALUPE RIVER

for

Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge of Stream ac.-ft.	Silt Load of Stream tons	ac.-ft.	Percentage of Dry Silt by Weight pct.
<u>1952</u>				
October	4,650	210	0	.003
November	4,670	250	0	.004
December	11,500	1,810	1	.012
<u>1953</u>				
January	10,030	850	1	.006
February	5,960	200	0	.002
March	6,700	750	0	.008
April	4,960	440	0	.007
May	2,770	460	0	.012
June	617	90	0	.011
July	967	160	0	.012
August	980	110	0	.008
September	14,720	23,700	16	.118
Totals	68,520 <sup>1/</sup>	29,030	18	

U.S.G.S. yearly discharge in acre-feet - - - - -	68,520
Total silt for year in acre-feet - - - - -	18
Acre-feet of silt per year per square mile of contributing watershed - - - - -	.013
Average percent of silt by weight for year - - - - -	.031
Drainage area in square miles (net)- - - - -	1,432

<sup>1/</sup> Nearest U.S.G.S. totals

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 Bierle old Highway No. 46)

Water Year	Discharge of Stream		Silt Load of Stream		Average Percentage of Dry Silt by Weight pct.
	ac.-ft.	tons	ac.-ft.	tons	
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	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
<b>TOTALS</b>	<b>1,910,870</b>	<b>2,022,190</b>	<b>1,318</b>		

For period of 11.748 years

Average discharge in acre-feet per year	162,655
Average acre-feet of silt per year	112
Average acre-feet of silt per year per square mile of contributing watershed	.084
Average tons of silt per year	172,131
Average percent of silt by weight	.078
Drainage area in square miles (net)	1,432

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



SILT DATA

Guadalupe River Watershed  
at  
VICTORIA STATION ON GUADALUPE RIVER

for

Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream ac.-ft.	tons	ac.-ft.	Dry Silt by Weight pct.
<u>1952</u>				
October	43,450	2,840	2	.005
November	57,310	20,820	14	.027
December	115,900	98,310	64	.062
<u>1953</u>				
January	101,600	45,080	30	.033
February	46,310	3,590	2	.006
March	40,000	3,680	2	.007
April	43,490	5,580	4	.009
May	156,900	187,410	123	.088
June	20,020	2,380	2	.009
July	19,630	1,380	1	.005
August	29,820	7,970	5	.020
September	103,000	51,810	34	.037
Totals	777,400 <sup>1/</sup>	430,850	283	

U.S.G.S. yearly discharge in acre-feet - - - - - 777,400

Total silt for year in acre-feet - - - - - 283

Acre-feet of silt per year per square mile  
of contributing watershed - - - - - .053

Average percent of silt by weight for year - - - - - .041

Drainage area in square miles (net) - - - - - 5,311

<sup>1/</sup> Nearest U.S.G.S. total

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	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>	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	<u>777,400</u>	<u>430,850</u>	<u>283</u>	.041
TOTALS	6,866,360	4,015,290	2,635	

For period of 8.083 years

Average discharge in acre-feet per year	849,482
Average acre-feet of silt per year	326
Average acre-feet of silt per year per square mile of contributing watershed-	.061
Average tons of silt per year	496,757
Average percent of silt by weight	.043
Drainage area in square miles (net)	5,311

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

SILT DATA

Lavaca River Watershed  
at  
EDNA STATION ON LAVACE RIVER

for

Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream ac.-ft.	tons	ac.-ft.	Dry Silt by Weight pct.
<u>1952</u>				
October	256	0	0	0
November	17,100	17,620	12	.077
December	23,720	28,820	19	.089
<u>1953</u>				
January	3,060	1,350	1	.032
February	3,250	620	0	.014
March	2,000	230	0	.008
April	2,980	1,100	1	.027
May	42,130	30,200	20	.053
June	1,620	70	0	.003
July	1,140	120	0	.008
August	14,330	11,820	8	.061
September	6,760	1,980	1	.022
Totals	118,300 <sup>1/</sup>	93,930	62	

U.S.G.S. yearly discharge in acre-feet - - - - -	118,300
Total silt for year in acre-feet - - - - -	62
Acre-feet of silt per year per square mile of contributing watershed - - - - -	.070
Average percent of silt by weight for year - - - - -	.058
Drainage area in square miles (net) - - - - -	887

<sup>1/</sup> Nearest U.S.G.S. total

SUMMARY OF SILT DATA

for

Lavaca River Watershed

Stream: LAVACA

Station: EDNA

Sampler: Mrs. Ida Berryhill

(Samples were 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 pct.
	ac.-ft.	tons	ac.-ft.	tons	
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	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	<u>118,300</u>	<u>93,930</u>	<u>62</u>		.058
TOTALS	1,098,960	1,190,850	781		

For period of 8.083 years

Average discharge in acre-feet per year - - - - -	-135,959
Average acre-feet of silt per year - - - - -	97
Average acre-feet of silt per year per square mile of contributing watershed - - - - -	.109
Average tons of silt per year - - - - -	-147,328
Average percent of silt by weight - - - - -	.080
Drainage area in square miles (net) - - - - -	887

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

Neches River Watershed  
at  
ZAVALLA STATION ON ANGELINA RIVER <sup>1/</sup>  
for  
Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge of Stream ac.-ft.	Silt Load of Stream tons	ac.-ft.	Percentage of Dry Silt by Weight pct.
<u>1952</u>				
October				
November				
December				
<u>1953</u>				
January	57,180	9,800	6	.013
February	132,600	19,140	13	.011
March	486,200	62,110	41	.009
April	132,900	21,130	14	.012
May	1,165,000	133,860	88	.008
June	106,600	24,070	16	.017
July	53,360	6,070	4	.008
August	26,250	3,980	3	.011
September	16,170	1,480	1	.007
Totals	2,176,260 <sup>2/</sup>	281,640 <sup>2/</sup>	186 <sup>2/</sup>	

U.S.G.S. yearly discharge in acre-feet - - - - -	2,176,260
Total silt for year in acre-feet - - - - -	186
Acre-feet of silt per year per square mile of contributing watershed - - - - -	.066
Average percent of silt by weight for year - - - - -	.009
Drainage area in square miles (net) - - - - -	2,803

<sup>1/</sup> The silt station on Angelina River was formerly located near Horger and was discontinued May 31, 1952 on account of river discharge records obtained by the Surface Water Division, U.S. Geological Survey discontinuing the gaging station records in 1951. The new silt station on the Angelina River was established at a new U.S.G.S. gaging station located at bridge on State Highway 103 between Broaddus and Zavalla on December 11, 1952. The Zavalla station is located approximately 30 miles upstream from the Horger station.

<sup>2/</sup> 9 months record - not included in general summary.

SUMMARY OF SILT DATA

for

Neches River Watershed

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

Water Year	Discharge	Silt Load of Stream		Average
	of Stream			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	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 <sup>2/</sup>	846,510	136,370	90	.012
1952-53 <sup>3/</sup>	<u>2,176,260</u>	<u>281,640</u>	<u>186</u>	.009
TOTALS	17,666,840	3,753,260	2,464	

For period of 7.417 years

Average discharge in acre-feet per year - - - - -	2,381,939
Average acre-feet of silt per year - - - - -	332
Average acre-feet of silt per year per square mile of contributing watershed - - - - -	.118
Average tons of silt per year - - - - -	506,035
Average percent of silt by weight - - - - -	.016
Drainage area in square miles (net) - - - - -	3,435 <sup>4/</sup>
Drainage area in square miles (net) - - - - -	2,803 <sup>5/</sup>

- <sup>1/</sup> Station was established September 1, 1945.  
<sup>2/</sup> Discontinued May 31, 1952.  
<sup>3/</sup> Station reestablished 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.  
<sup>4/</sup> Horger Station  
<sup>5/</sup> Broaddus Station

SILT DATA

Neches River Watershed  
at  
ROCKLAND STATION ON NECHES RIVER

for

Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	tons	ac.-ft.	Dry Silt by Weight
	ac.-ft.			pct.
<u>1952</u>				
October	594	50	0	.006
November	7,530	670	0	.007
December	46,870	13,950	9	.022
<u>1953</u>				
January	81,800	13,770	9	.012
February	115,900	22,220	15	.014
March	265,500	43,980	29	.012
April	182,300	19,170	13	.008
May	1,080,000	100,070	66	.007
June	192,700	44,180	29	.017
July	39,220	4,230	3	.008
August	12,640	1,130	1	.007
September	9,750	980	1	.007
Totals	2,035,000 <sup>1/</sup>	264,400	175	

U.S.G.S. yearly discharge in acre-feet - - - - -	2,035,000
Total silt for year in acre-feet - - - - -	175
Acre-feet of silt per year per square mile of contributing watershed - - - - -	.049
Average percent of silt by weight for year - - - - -	.010
Drainage area in square miles (net) - - - - -	3,539

<sup>1/</sup> Nearest U.S.G.S. total

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	Silt Load of Stream		Average
	of Stream	tons	ac.-ft.	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	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	<u>2,035,000</u>	<u>264,400</u>	<u>175</u>	
TOTALS	44,772,230	9,913,520	6,495	

For period of 23.118 years

Average discharge in acre-feet per year	1,936,683
Average acre-feet of silt per year	281
Average acre-feet of silt per year per square mile of contributing watershed	.079
Average tons of silt per year	428,823
Average percent of silt by weight	.016
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 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream ac.-ft.	tons	ac.-ft.	Dry Silt by Weight pct.
<u>1952</u>				
October	0	0	0	0
November	0	0	0	0
December	0	0	0	0
<u>1953</u>				
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	0	0	0	0
May	1,390	1,270	1	.067
June	0	0	0	0
July	0	0	0	0
August	1,620	730	0	.033
September	81,410	9,880	6	.009
Totals	84,420	11,880	7	

U.S.G.S. yearly discharge in acre-feet - - - - -	84,420
Total silt for year in acre-feet - - - - -	7
Acre-feet of silt per year per square mile of contributing watershed - - - - -	.001
Average percent of silt by weight for year - - - - -	.010
Drainage area in square miles (net) - - - - -	5,260

SUMMARY OF SILT DATA

for

Nueces River Watershed

Stream: NUECES  
 Station: COTULLA  
 Sampler: C. G. Jennings

(Samples taken from Highway  
 Bridge in Cotulla)

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>	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
<b>TOTALS</b>	<b>1,769,090</b>	<b>1,037,570</b>	<b>679</b>	

For period of 11.748 years

Average discharge in acre-feet per year - - - - -	150,586
Average acre-feet of silt per year - - - - -	58
Average acre-feet of silt per year per square mile of contributing watershed - - - - -	.011
Average tons of silt per year - - - - -	88,319
Average percent of silt by weight - - - - -	.043
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 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream ac.-ft.	tons	ac.-ft.	Dry Silt by Weight pct.
<u>1952</u>				
October	376	20	0	.004
November	1,060	90	0	.006
December	1,170	150	0	.009
<u>1953</u>				
January	1,570	2,090	1	.010
February	873	90	0	.008
March	1,020	170	0	.012
April	15,440	153,990	101	.733
May <sup>1/</sup>				
June				
July				
August				
September				
Totals	21,510	156,600	102	

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) - - - - -

<sup>1/</sup> Station was discontinued May 1, 1953. -38-

SUMMARY OF SILT DATA

for

Nueces River Watershed

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

(Samples were taken 2 miles 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	tons	ac.-ft.	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
1949-50	266,300	385,840	253	.106
1950-51	406,340	607,760	398	.110
1951-52	165,800	308,740	203	.137
1952-53 <sup>2/</sup>	<u>21,510</u>	<u>156,600</u>	<u>102</u>	
TOTALS	16,092,610	18,544,280	12,160	

For period of 25.583 years

Average discharge in acre-feet per year	629,035
Average acre-feet of silt per year	475
Average acre-feet of silt per year per square mile of contributing watershed	.030
Average tons of silt per year	724,867
Average percent of silt by weight	.085
Drainage area in square miles (net)	15,600

<sup>1/</sup> Station was established October 1, 1927.

<sup>2/</sup> Station was discontinued May 1, 1953.

SILT DATA

Nueces River Watershed  
at  
CORPUS CHRISTI DAM STATION ON NUECES RIVER

for

Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream	tons	ac.-ft.	Dry Silt by Weight
	ac.-ft.			pct.
<u>1952</u>				
October	3,400	330	0	.007
November	2,710	180	0	.005
December	2,710	170	0	.005
<u>1953</u>				
January	3,150	220	0	.005
February	2,570	240	0	.007
March	3,250	400	0	.009
April	4,170	480	0	.008
May	81,150	15,800	10	.014
June	4,370	480	0	.008
July	5,070	330	0	.005
August	23,720	1,910	1	.006
September	400,200	138,660	91	.025
Totals	536,500 <sup>1/</sup>	159,200	102	

U.S.G.S yearly discharge in acre-feet - - - - -	536,500
Total silt for year in acre-feet - - - - -	102
Acre-feet of silt per year per square mile of contributing watershed - - - - -	
Average percent of silt by weight for year - - - - -	.022
Drainage area in square miles (net) - - - - -	

<sup>1/</sup> Nearest U.S.G.S. total

SUMMARY OF SILT DATA

for

Nueces River Watershed

Stream: NUECES

Station: CORPUS CHRISTI DAM

Sampler: Eddie Wright

(Samples taken below and adjacent to outlet gates)

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>	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	<u>536,500</u>	<u>159,200</u>	<u>102</u>	.022
TOTALS	6,701,910	2,183,780	1,424	

For period of 11.667 years

Average discharge in acre-feet per year- - - - -	574,433
Average acre-feet of silt per year - - - - -	122
Average acre-feet of silt per year per square mile of contributing watershed- - - - -	---
Average tons of silt per year- - - - -	187,176
Average percent of silt by weight - - - - -	.024
Drainage area in square miles (net) - - - - -	---

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

SILT DATA

Nueces River Watershed  
 at  
 CALLIHAM STATION ON FRIO RIVER <sup>1/</sup>  
 for  
 Water Year 1952-1953  
 (October 1, 1952 to September 30, 1953)

Month	Discharge of Stream ac.-ft.	Silt Load of Stream		Percentage of Dry Silt by Weight pct.
		tons	ac.-ft.	
<u>1952</u>				
October				
November				
December				
<u>1953</u>				
January	3	0	0	0
February	9	0	0	0
March	18	0	0	
April	695	640	0	.068
May	31,420	54,900	36	.128
June	91	0	0	0
July	205	20	0	.007
August	12,880	34,540	23	.197
September	180,500	153,930	101	.063
Totals	225,821 <sup>2/</sup>	244,030 <sup>2/</sup>	160 <sup>2/</sup>	

U.S.G.S. yearly discharge in acre-feet	225,820
Total silt for year in acre-feet	160
Acre-feet of silt per year per square mile of contributing watershed	.029
Average percent of silt by weight for year	.079
Drainage area in square miles (net)	5,491

<sup>1/</sup> The Calliham Station on Frio River was established January 1, 1953 at bridge on Calliham-Whitsett Highway 1 mile north of Calliham.

<sup>2/</sup> 9 months record

SUMMARY OF SILT DATA

for

Nueces River Watershed

Stream: FRIO  
 Station: NEAR CALLIHAM  
 Sampler: Donald Stephenson

(Samples taken from bridge on  
 Calliham-Whitsett Highway one  
 mile north of Calliham

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.
1952-53 <sup>1/</sup>	<u>225,821</u>	<u>244,030</u>	<u>160</u>	.079
TOTALS	225,821	244,030	160	

For period of 0.750 years

Average discharge in acre-feet per year - - - - -	225,821
Average acre-feet of silt per year - - - - -	244,030
Average acre-feet of silt per year per square mile of contributing watershed - - - - -	.029
Average tons of silt per year - - - - -	160
Average percent of silt by weight - - - - -	.079
Drainage area in square miles (net) - - - - -	5,491

<sup>1/</sup> 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 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream ac.-ft.	tons	ac.-ft.	Dry Silt by Weight pct.
<u>1952</u>				
October	2,280	290	0	.009
November	7,070	1,220	1	.013
December	136,100	41,970	28	.023
<u>1953</u>				
January	143,100	24,960	16	.013
February	211,900	34,650	24	.012
March	430,200	94,330	62	.016
April	156,200	179,200	118	.084
May	1,372,000	153,610	101	.008
June	291,100	31,910	21	.008
July	78,070	24,160	16	.023
August	33,570	5,380	4	.012
September	29,510	3,550	2	.009
<b>Totals</b>	<b>2,891,000</b>	<b>595,230</b>	<b>393</b>	

U.S.G.S. yearly discharge in acre-feet - - - - -	2,891,000
Total silt for year in acre-feet - - - - -	393
Acre-feet of silt per year per square mile of contributing watershed - - - - -	.081
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 of Stream		Silt Load of Stream		Average 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	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	<u>2,891,000</u>	<u>595,230</u>	<u>393</u>		.015
TOTALS	54,665,060	19,048,660	12,486		

For period of 19.156 years

Average discharge in acre-feet per year - - - - -	2,853,678
Average acre-feet of silt per year - - - - -	652
Average acre-feet of silt per year per square mile of contributing watershed - - - - -	.134
Average tons of silt per year - - - - -	994,397
Average percent of silt by weight - - - - -	.026
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 re-established September 1, 1935.

SILT DATA

San Antonio River Watershed  
at  
GOLIAD STATION ON SAN ANTONIO RIVER

for

Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge of Stream		Silt Load of Stream		Percentage of Dry Silt by Weight pct.
	ac.-ft.	tons	ac.-ft.	tons	
<u>1952</u>					
October	9,180	710	0		.006
November	13,420	9,450	6		.052
December	15,730	10,920	7		.051
<u>1953</u>					
January	16,680	18,590	12		.082
February	9,090	700	0		.006
March	10,520	2,000	1		.014
April	12,290	6,250	4		.037
May	57,840	117,040	77		.149
June	5,060	830	1		.012
July	7,600	2,870	2		.028
August	19,950	48,750	32		.180
September	78,510	127,840	84		.120
Totals	255,900 <sup>1/</sup>	345,950	226		

U.S.G.S. yearly discharge in acre-feet - - - - - 255,900

Total silt for year in acre-feet - - - - - 226

Acre-feet of silt per year per square mile  
of contributing watershed - - - - - .058

Average percent of silt by weight for year - - - - - .099

Drainage area in square miles (net) - - - - - 3,918

<sup>1/</sup> Nearest U.S.G.S. total

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	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
TOTALS	4,934,630	7,167,110	4,699	

For period of 11.748 years

Average discharge in acre-feet per year	420,040
Average acre-feet of silt per year	400
Average acre-feet of silt per year per square mile of contributing watershed	.102
Average tons of silt per year	610,071
Average percent of silt by weight	.107
Drainage area in square miles (net)	3,918

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

SILT DATA  
 San Jacinto River Watershed  
 at  
 CONROE STATION ON WEST FORK OF SAN JACINTO <sup>1/</sup>  
 for  
 Water Year 1952-1953  
 (October 1, 1952 to September 30, 1953)

Month	Discharge of Stream ac.-ft.	Silt Load of Stream tons	ac.-ft.	Percentage of Dry Silt by Weight pct.
<u>1952</u>				
October				
November				
December	6,490	2,400	2	.027
<u>1953</u>				
January	12,790	3,340	2	.019
February	26,710	7,220	5	.020
March	13,090	3,280	2	.018
April	23,090	6,940	5	.022
May	174,200	51,840	34	.022
June	3,430	410	0	.009
July	2,830	160	0	.004
August	2,010	290	0	.011
September	5,500	960	1	.013
Totals	270,140 <sup>2/</sup>	76,840 <sup>2/</sup>	51 <sup>2/</sup>	

U.S.G.S. yearly discharge in acre-feet- - - - -	270,140
Total silt for year in acre-feet- - - - -	51
Acre-feet of silt per year per square mile of contributing watershed - - - - -	.061
Average percent of silt by weight for year - - - - -	.021
Drainage area in square miles (net) - - - - -	832

<sup>1/</sup> The Conroe Station on West Fork of San Jacinto River was established January, 1953. It replaced the Humble Station which was discontinued April 30, 1952 on account of back water caused by the construction of a dam near Huffman. The new station near Conroe is approximately 25 miles upstream from the Humble Station. The drainage area above the Humble Station is 1,811 square miles and the drainage area above the Conroe Station is 832 square miles.

<sup>2/</sup> 10 months record - not included in general summary.

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  
Dec. 1, 1952.

Stream: WEST FORK OF SAN JACINTO (Samples were taken from  
Station: NEAR CONROE highway bridge about 2  
Sampler: L. C. Clark miles north of Humble)

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 <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
<b>TOTALS</b>	12,372,230	5,755,000	3,769	

For period of 16.753 years

Average discharge in acre-feet per year - - - - - 738,508  
 Average acre-feet of silt per year - - - - - 225  
 Average acre-feet of silt per year per square mile  
 of contributing watershed - - - - - .124  
 Average tons of silt per year - - - - - 343,521  
 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 reestablished July 1, 1937.
- 4/ Station was discontinued April 30, 1952.
- 5/ Station was reestablished near Conroe December 1, 1952.

SILT DATA

San Jacinto River Watershed  
 at  
 CLEVELAND STATION ON EAST FORK OF SAN JACINTO <sup>1/</sup>  
 for  
 Water Year 1952-1953  
 (October 1, 1952 to September 30, 1953)

Month	Discharge of Stream ac.-ft.	Silt Load of Stream tons	ac.-ft.	Percentage of Dry Silt by Weight pct.
<u>1952</u>				
October				
November				
December	4,780	1,890	1	.029
<u>1953</u>				
January	4,760	750	0	.012
February	17,000	3,280	2	.014
March	5,370	1,130	1	.015
April	29,300	10,110	7	.025
May	77,030	13,000	9	.012
June	2,020	140	0	.005
July	1,450	150	0	.008
August	1,360	200	0	.011
September	1,110	30	0	.002
Totals	144,180 <sup>2/</sup>	30,680 <sup>2/</sup>	20 <sup>2/</sup>	

U.S.G.S. yearly discharge in acre-feet - - - - - 144,180  
 Total silt for year in acre-feet - - - - - 20  
 Acre-feet of silt per year per square mile  
 of contributing watershed - - - - - .061  
 Average percent of silt by weight for year - - - - - .016  
 Drainage area in square miles (net) - - - - - 330

<sup>1/</sup> Station established December 1, 1952 at bridge on State Highway 105  
 and  $1\frac{1}{4}$  miles west of Cleveland.  
<sup>2/</sup> 10 months record -

SUMMARY OF SILT DATA

for

San Jacinto Watersheds

Stream: EAST FORK OF SAN JACINTO  
 Station: NEAR CLEVELAND  
 Sampler: E. M. Wheeler

(Samples taken from bridge on  
 State Highway 105 and  $1\frac{1}{4}$  miles  
 west of Cleveland)

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.
1952-53 <sup>1/</sup>	<u>144,180</u>	<u>30,680</u>	<u>20</u>	.016
TOTALS	144,180	30,680	20	

For period of 0.833 year

Average discharge in acre-feet per year - - - - -	144,180
Average acre-feet of silt per year - - - - -	20
Average acre-feet of silt per year per square mile of contributing watershed - - - - -	.061
Average tons of silt per year - - - - -	30,680
Average percent of silt by weight - - - - -	.016
Drainage area in square miles (net) - - - - -	330

<sup>1/</sup> 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 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge	Silt Load of Stream		Percentage of
	of Stream ac.-ft.	tons	ac.-ft.	Dry Silt by Weight pct.
<u>1952</u>				
October	13,710	1,760	1	.009
November	55,160	62,890	41	.084
December	323,300	487,090	319	.111
<u>1953</u>				
January	234,000	103,440	68	.032
February	214,000	39,400	26	.014
March	528,200	577,440	379	.080
April	198,400	327,260	215	.121
May	2,031,000	1,016,810	667	.037
June	285,300	144,610	95	.037
July	41,630	13,050	9	.023
August	29,200	5,960	4	.015
September	35,080	4,840	3	.010
Totals	3,990,000 <sup>1/</sup>	2,784,550	1,827	

U.S.G.S. yearly discharge in acre-feet - - - - - 3,990,000

Total silt for year in acre-feet - - - - - 1,827

Acre-feet of silt per year per square mile  
of contributing watershed - - - - - .106

Average percent of silt by weight for year - - - - - .051

Drainage area in square miles (net) - - - - - 17,192

<sup>1/</sup> Nearest U.S.G.S. total

SUMMARY OF SILT DATA

for

Trinity River Watershed

Stream: TRINITY  
 Station: ROMAYOR  
 Sampler: Claud Allen

(Samples taken from the  
 railroad bridge)

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.
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	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	<u>3,990,000</u>	<u>2,784,550</u>	<u>1,827</u>	.051
<b>TOTALS</b>	101,989,160	99,128,200	65,025	

For period of 17.142 years

Average discharge in acre-feet per year - - - - -	5,949,665
Average acre-feet of silt per year - - - - -	3,793
Average acre-feet of silt per year per square mile of contributing watershed - - - - -	.221
Average tons of silt per year - - - - -	5,782,767
Average percent of silt by weight - - - - -	.071
Drainage area in square miles (net) - - - - -	17,192

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

SILT DATA

Trinity River Watershed  
at  
ROSSER STATION ON TRINITY RIVER

for

Water Year 1952-1953  
(October 1, 1952 to September 30, 1953)

Month	Discharge of Stream ac.-ft.	Silt Load of Stream		Percentage of Dry Silt by Weight pct.
		tons	ac.-ft.	
<u>1952</u>				
October				
November				
December				
<u>1953</u>				
January				
February				
March <sup>1/</sup>	52,400	11,410	7	.016
April	76,300	99,910	66	.096
May	411,700	112,910	74	.020
June	12,500	1,120	1	.007
July	14,300	3,690	2	.019
August	10,900	830	1	.006
September	10,600	420	0	.003
Totals	588,700	230,090	150	

U.S.G.S. yearly discharge in acre-feet - - - - -	588,700
Total silt for year in acre-feet - - - - -	150
Acre-feet of silt per year per square mile of contributing watershed - - - - -	.019
Average percent of silt by weight for year - - - - -	.029
Drainage area in square miles (net) - - - - -	8,057

<sup>1/</sup> Station reestablished March 1, 1953.

SUMMARY OF SILT DATA

for

Trinity River Watershed

Stream: TRINITY  
 Station: ROSSER  
 Sampler: A. J. Dodson

(Samples are taken from highway  
 bridge on State Highway No. 34  
 between Ennis and Rosser)

Water Year	Discharge	Silt Load of Stream		Average
	of Stream	tons	ac.-ft.	Percentage of Dry Silt by Weight
	ac.-ft.			pct.
1938-39 <u>1/</u>	436,040	853,710	560	.144
1939-40 <u>2/</u>	779,560	1,551,160	1,016	.146
1952-53 <u>3/</u>	<u>588,700</u>	<u>230,090</u>	<u>150</u>	.029
TOTALS	1,804,300	2,634,960	1,726	

For period of 2.181 years

Average discharge in acre-feet per year - - - - -	827,281
Average acre-feet of silt per year - - - - -	791
Average acre-feet of silt per year per square mile of contributing watershed - - - - -	.098
Average tons of silt per year - - - - -	1,208,143
Average percent of silt by weight - - - - -	.107
Drainage area in square miles (net) - - - - -	8,057

- 1/ Station was established November 15, 1938 but first water samples were taken November 22, 1938.  
2/ Station was discontinued June 27, 1940.  
3/ Station was reestablished 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, 1953)

Water-shed	Stream	Silt Station	Years Samples Taken	Total Length Record	Average	Average Amount		Amt. of	Dry	Net Drainage Area
					Run-off of Stream	of Silt	Silt per Sq. Mi. Watershed	Silt by Weight		
				years	ac.-ft.	ac.-ft.	tons	ac.-ft.	per-cent	sq.mi.
Brazos	Salt Fork	Aspermont <sup>1/</sup>	1924-25	1.238	111,100	2,818	4,297,420	1.272	2.842	2,216
Brazos	Salt Fork	Seymour <sup>1/</sup>	1924-30	6.107	398,864	6,501	9,912,150	1.238	1.826	5,250
Brazos	Dbl.Mt.Fork	Aspermont <sup>1/</sup>	1924-33	9.244	135,280	2,665	4,062,400	1.765	2.206	1,510
Brazos	Clear Fork	Crystal Falls <sup>1/</sup>	1925-29	3.307	214,440	568	866,020	.131	.297	4,320
Brazos	Clear Fork	Eliasville <sup>1/</sup>	1924-25	1.244	177,240	529	808,630	.092	.335	5,740
Brazos	Little River	Little River <sup>1/</sup>	1924-29	4.962	419,870	752	1,147,190	.143	.201	5,253
Brazos	San Gabriel	Circleville <sup>1/</sup>	1924-29	5.403	110,744	222	339,590	.369	.225	602
Brazos	Leon	Belton <sup>2/</sup>	1945-50	4.333	339,520	353	527,417	.100	.114	3,547
Brazos	Navasota	Easterly	1942-53	11.748	289,064	179	272,808	.189	.069	949
Brazos	Brazos	South Bend	1942-53	11.710	442,208	2,295	3,498,267	.186	.581	12,360
Brazos	Brazos	Possum King. Dam	1942-53	11.710	454,133	59	90,614	---	.015	---
Brazos	Brazos	Mineral Wells <sup>1/</sup>	1924-34	10.332	953,550	6,506	9,920,060	.468	.764	13,910
Brazos	Brazos	Glen Rose <sup>1/</sup>	1924-29	4.588	1,181,370	8,378	12,773,810	.537	.794	15,600
Brazos	Brazos	Waco <sup>1/</sup>	1924-33	9.254	1,717,130	10,325	15,742,010	.536	.673	19,260
Brazos	Brazos	Bryan <sup>1/</sup>	1899-1902	3.419	4,156,736	39,117	---	1.340	.941 <sup>4/</sup>	29,190
Brazos	Brazos	Richmond	1924-53	29.306	5,296,247	20,756	31,685,458	.596	.439	34,810
Colorado	Llano	Llano	1942-53	11.167	180,408	489	746,735	.122	.304	4,000
Colorado	Pedernales	Johnson City	1942-53	11.167	112,608	836	1,274,428	.883	.831	947
Colorado	Colorado	San Saba	1930-53	23.055	1,060,389	2,761	4,209,562	.148	.292	18,700
Colorado	Colorado	Tow <sup>1/</sup>	1927-32	5.162	1,245,440	3,360	5,122,520	.174	.302	19,300
Colorado	Colorado	Inks Dam <sup>3/</sup>	1942-52	9.333	619,191	48	73,327	---	.009	---
Colorado	Colorado	Buchanan Dam <sup>13/</sup>	1947-53	6.000	461,495	18	25,507	---	.004	---
Colorado	Colorado	Austin	1937-53	16.164	1,458,368	549	836,679	.021	.042	26,260
Colorado	Colorado	Columbus- Eagle Lake <sup>5/</sup>	1937-41	6.997	3,167,710	5,898	8,991,960	.202	.209	29,140
Guadalupe	Guadalupe	Spring Branch	1942-53	11.748	162,655	112	172,131	.084	.078	1,432
Guadalupe	Guadalupe	Victoria	1945-53	8.083	849,482	326	496,757	.061	.043	5,311
Lavaca	Lavaca	Edna	1945-53	8.083	135,959	97	147,328	.109	.080	887
Neches	Angelina	Horger <sup>6/</sup>	1945-52	6.667	2,323,471	342	520,717	.100	.016	3,435
Neches	Neches	Rockland	1930-53	23.148	1,936,683	281	428,823	.079	.016	3,539
Nueces	Nueces	Three Rivers <sup>13/</sup>	1927-53	25.583	629,035	475	724,867	.030	.085	15,600
Nueces	Nueces	Corpus Chri. Dam	1942-53	11.667	574,433	122	187,176	---	.024	---

SUMMARY OF SILT DATA (Continued)

Water-shed	Stream	Silt Station	Years Samples Taken	Total Length Record	Average Run-off of Stream	Average Amount of Silt		Amt. of Silt per Sq. Mi. Water-shed	Dry Silt by Weight	Net Drainage Area
				years	ac.-ft.	ac.-ft.	tons	ac.-ft.	per-cent	sq.mi.
Nueces	Nueces	Cotulla	1941-53	11.748	150,586	58	88,319	.011	.043	5,260
Rio Grande	Rio Grande	Eagle Pass <sup>1/</sup>	1934-43	9.068	3,180,057	9,776	14,904,545	.078	.334	125,260
Rio Grande	Rio Grande	Roma <sup>1/</sup>	1929-43	14.184	4,166,619	12,588	19,192,311	.080	.338	157,204
Red	Pease	Crowell <sup>8/</sup>	1942-47	5.000	113,411	992	1,512,834	.412	.980	2,410
Red	Red	Denison <sup>1/</sup>	30-33;36-37	6.260	3,326,780	13,640	20,793,380	.415	.459	32,840
Red	Wichita	Wichita Falls <sup>1/</sup>	1900-02	2.014	566,420	5,516	---	1.776	.974	<sup>4/</sup> 3,105
Sabine	Sabine	Logansport, La.	32-33;35-53	19.156	2,853,678	652	994,397	.134	.026	4,858
Sabine	Sabine	Ruliff <sup>2/</sup>	1945-46	1.083	11,408,860	3,124	5,771,404	.331	.037	9,440
San Antonio	San Antonio	Falls City <sup>1/</sup>	1927-33	5.967	127,120	142	216,730	.069	.125	2,070
San Antonio	San Antonio	Goliad	1942-53	11.748	420,040	400	610,071	.102	.107	3,918
San Jacinto	West Fork	Humble <sup>10/</sup>	32-33;37-52	15.920	760,182	234	356,668	.129	.034	1,811
San Jacinto	San Jacinto	Huffman <sup>11/</sup>	1945-52	6.597	1,420,188	507	772,982	.182	.040	2,791
Trinity	Trinity	Rosser <sup>12/</sup>	38-49;52-53	2.181	827,281	791	1,208,143	.098	.107	8,057
Trinity	Trinity	Romayor	1936-53	17.142	5,949,665	3,793	5,782,767	.221	.071	17,192

- <sup>1/</sup> Silt by months and summary data prior to 1940 contained in Progress Report No. 1.
- <sup>2/</sup> Station discontinued December 31, 1949.
- <sup>3/</sup> Station discontinued November 31, 1951.
- <sup>4/</sup> Percent of silt by volume.
- <sup>5/</sup> Station discontinued October 31, 1941..
- <sup>6/</sup> Station discontinued May 31, 1952.
- <sup>7/</sup> Station discontinued May 31, 1943.
- <sup>8/</sup> Station discontinued June 30, 1947.
- <sup>9/</sup> Station discontinued September 30, 1946.
- <sup>10/</sup> Station discontinued April 30, 1952.
- <sup>11/</sup> Station discontinued March 31, 1952.
- <sup>12/</sup> Station discontinued June 27, 1940. Re-established March 1, 1953.
- <sup>13/</sup> Station discontinued March 1, 1953.