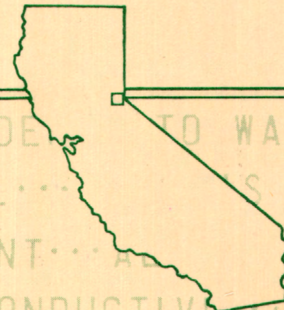
[redacted]

C-1

PB-255-225

Sedimentation Discharge from Highway Cut-Slopes in the Lake Tahoe Basin California 1972-74



U.S. GEOLOGICAL SURVEY

Water-Resources Investigations 76-19

cooperation with the
ARTMENT OF TRANSPORTATION
HWAYS

BIBLIOGRAPHIC DATA SHEET	1. Report No. USGS/WRD/WRI-76/042	2.	3. Recipient's Accession No.
4. Title and Subtitle			5. Report Date May 1976
SEDIMENT DISCHARGE FROM HIGHWAY CUT-SLOPES IN THE LAKE TAHOE BASIN, CALIFORNIA, 1972-74 (Final report)			6.
7. Author(s) Carl G. Kroll			8. Performing Organization Rept. No. USGS/WRI-76-19
9. Performing Organization Name and Address U.S. Geological Survey, Water Resources Division 345 Middlefield Rd. Menlo Park, Calif. 94025			10. Project/Task/Work Unit No. 11. Contract/Grant No.
12. Sponsoring Organization Name and Address U.S. Geological Survey, Water Resources Division 345 Middlefield Rd. Menlo Park, Calif. 94025			13. Type of Report & Period Covered Final, 1972-74 14.

15. Supplementary Notes
Prepared in cooperation with the California Department of Transportation, Division of Highways

16. Abstracts

Streamflow and fluvial-sediment discharge data were collected at selected streams and highway gutters in the Lake Tahoe basin to determine the extent of erosion from highway cuts and to attempt to evaluate the effects of various land-treatment practices to reduce erosion.

Estimate of long-term annual sediment discharge from six streams into the lake is 7,100 tons, of which 2,300 tons is finer than 62 micrometres. During 1972-74, snowmelt runoff (April-July) accounted for 65 percent of the water and sediment discharge. Approximately 90 percent of the sediment is transported in suspension.

Sediment measured at 16 gutterflow stations at the base of highway cut-slopes indicates that less than 100 tons of fine sediment per year are contributed to the lake from all California State highway cuts. Sediment-transport rates are highly variable and an unknown portion of the measured sediment was derived from sources other than highway cuts.

17. Key Words and Document Analysis. 17a. Descriptors

*Fluvial sediment, *Sediment transport, *Suspended load, Bedload, Streamflow, California

17b. Identifiers/Open-Ended Terms

Lake Tahoe, Highway erosion, Small watersheds, Highway gutters

17c. COSATI Field/Group

18. Availability Statement No restriction on distribution.	19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 90
	20. Security Class (This Page) UNCLASSIFIED	22. Price

SEDIMENT DISCHARGE FROM HIGHWAY CUT-SLOPES IN THE LAKE TAHOE BASIN, CALIFORNIA, 1972-74

By Carl G. Kroll

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations 76-19

Prepared in cooperation with the
California Department of Transportation
Division of Highways

7219-06

May 1976

UNITED STATES DEPARTMENT OF THE INTERIOR

Thomas S. Kleppe, Secretary

GEOLOGICAL SURVEY

V. E. McKelvey, Director

For additional information write to:

District Chief
Water Resources Division
U.S. Geological Survey
345 Middlefield Rd.
Menlo Park, CA 94025

CONTENTS

ILLUSTRATIONS

TABLES

CONVERSION FACTORS

Factors for converting English units to the International System of Units (SI) are given below to four significant figures; however, in the text, the metric equivalents are shown only to the number of significant figures consistent with the values for the English units.

English units	*Multiply by*	*Metric units (SI)*
acre-ft (acre-feet)	0.001234	hm^3 (cubic hectometres)
ft (feet)	.3048	m (metres)
	304.8	mm (millimetres)
ft^3/s (cubic feet per second)	.02832	m^3/s (cubic metres per second)
in (inches)	25.40	mm (millimetres)
mi (miles, statute)	1.609	km (kilometres)
mi^2 (square miles)	2.590	km^2 (square kilometres)
qt (quarts)	.9463	l (litres)
tons	.9072	t (tonnes)
$tons/mi^2$ (tons per square mile)	.3503	t/km^2 (tonnes per square kilometres)
tons/d (tons per day)	.9072	t/d (tonnes per day)

SEDIMENT DISCHARGE FROM HIGHWAY CUT-SLOPES IN THE LAKE TAHOE BASIN, CALIFORNIA, 1972-74

By Carl G. Kroll

ABSTRACT

Streamflow and fluvial-sediment discharge data were collected at selected streams and highway gutters in the Lake Tahoe basin to determine the extent of erosion from highway cuts and to attempt to evaluate the effects of various land-treatment practices to reduce erosion.

Estimate of long-term annual total-sediment discharge from six streams into the lake is 7,100 tons (6,400 tonnes), of which 2,300 tons (2,100 tonnes) is finer than 62 micrometres. During 1972-74, snowmelt runoff (April-July) accounted for 65 percent of the water and sediment discharge. Approximately 90 percent of the sediment is transported in suspension.

Sediment measured at 16 gutterflow stations at the base of highway cut-slopes indicates that less than 100 tons (91 tonnes) of fine sediment per year are contributed to the lake from all California State highway cuts. Sediment-transport rates are highly variable, and an unknown part of the measured sediment was derived from sources other than highway cuts.

Data were not adequate to demonstrate the effectiveness of treatments to stabilize cut-slopes.

INTRODUCTION

The impact of urbanization on the environment of the Lake Tahoe basin has been a source of increasing public concern in recent years. Associated with urbanization is the construction of a highway system within the basin (fig. 1). Although erosion, transportation, and deposition of soil or rock fragments occurs in all natural watersheds, highway construction may have caused an increase in the quantity of sediment readily available for discharge to streams and the lake.

The U.S. Geological Survey, in cooperation with the California Department of Transportation (formerly California Division of Highways) began a study in October 1971 to determine the quantity of sediment eroding from State highway cut-slopes peripheral to the California side of Lake Tahoe and discharged to streams or to the lake, as compared to the quantity transported to the lake in streams. During the study some cut-slopes were being treated to reduce erosion by stabilizing the soil. Analyses were made to evaluate changes in sediment yield from the treated cut-slopes that could be attributed to the treatment. The scope of the work included:

1. Measurement of sediment discharge at seven streamflow stations (table 1).
2. Estimation of sediment discharge at selected gutterflow stations.
3. Comparison of sediment discharge at streamflow stations to sediment discharge at gutterflow stations to determine the significance of the sediment derived from cut-slopes.
4. Comparison of successive annual sediment discharges at treated cut-slopes to evaluate the probable effects of the stabilization experiments.

Suspended-sediment discharge records and flow-duration tables obtained from data collected at seven streamflow stations on tributaries to Lake Tahoe were used to estimate annual fine-sediment (diameter less than 0.062 mm) discharge into the lake from all tributaries. Sediment-discharge data collected at 16 gutterflow stations were used to adjust the estimates of total erosion from 123 cut-slopes along California State highways, made by the California Department of Transportation (Division of Highways, 1971a).

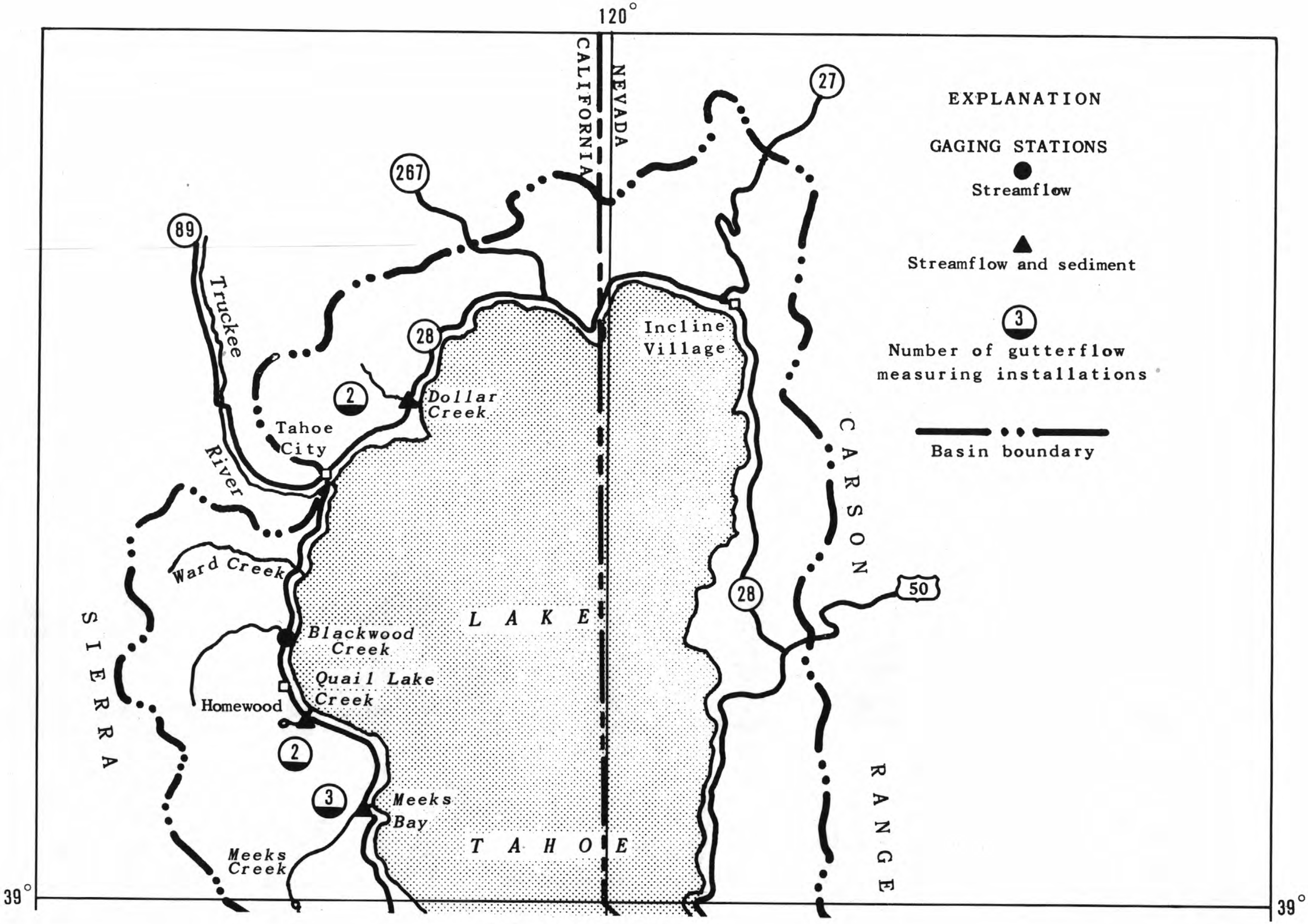
The quantity of sediment eroded from cut-slopes and contributed to Lake Tahoe cannot be measured directly. However, the relative importance of the cut-slope sediment can be approximated from the results of a comparison of an overestimated quantity of sediment eroded from the cut-slopes to an underestimated quantity of sediment reaching the lake from all streams. This is the approach used in this study. The over- and underestimated quantities of sediment were based on averages, lumped parameters, and approximations.

Table 1.--*Streamflow and gutterflow stations*

[Streamflow stations are listed in downstream order with the same numbering system used in water-supply papers and annual data reports of the Geological Survey. When gutterflow and streamflow stations are close to each other, the stations are listed together.]

Station number	Station name	Drainage area (mi^2)	Highway milepost[1]
10336593	Grass Lake Creek near Meyers	6.99	--
	Gutter		89 ED 1.70
	Do.		1.94
	Do.		2.11
	Do.		2.21
	Do.		2.44
	Do.		2.99
	Do.		4.37
	Do.		4.45
10336600	Upper Truckee River near Meyers	33.1	--
10336610	Upper Truckee River at South Lake Tahoe	54.8	50 ED 76.41
10336630	Eagle Cr. near Camp Richardson	6.38	89 ED 17.13
	Gutter		16.61
	Do.		16.87
10336640	Meeks Creek at Meeks Bay	8.08	89 ED 24.82
	Gutter		24.49
	Do.		24.65
	Do.		25.44
10336650	Quail Lake Cr. at Homewood	.95	89 PL 1.55
	Gutter		1.27
	Do.		1.42
10336660	Blackwood Cr. near Tahoe City	11.2	89 PL 3.91
10336684	Dollar Cr. near Tahoe City	1.07	28 PL 3.50
	Gutter		3.38
	Do.		3.50
10336780	Trout Cr. near Tahoe Valley	36.7	--
10336790	Trout Cr. at South Lake Tahoe	40.4	50 ED 77.33

[1] Numbers are taken from milepost markers along highways. First 2 digits designate highway number; the two letters designate county--ED for El Dorado, PL for Placer; the last series of numbers designate distance in miles from southern boundary of designated county. In the balance of this report, milepost numbers are used as identifying numbers for gutterflow stations.


120°
39°
39°
CALIFORNIA
NEVADA
EXPLANATION
GAGING STATIONS
Streamflow
Streamflow and sediment
3
Number of gutterflow measuring installations
Basin boundary
27
267
89
28
28
50
Truckee
River
Tahoe City
Dollar Creek
2
Incline Village
Ward Creek
Blackwood Creek
Quail Lake Creek
Homewood
2
3
Meeks Bay
Meeks Creek
LAKE
TAHOE
SIERRA
CARSON
RANGE

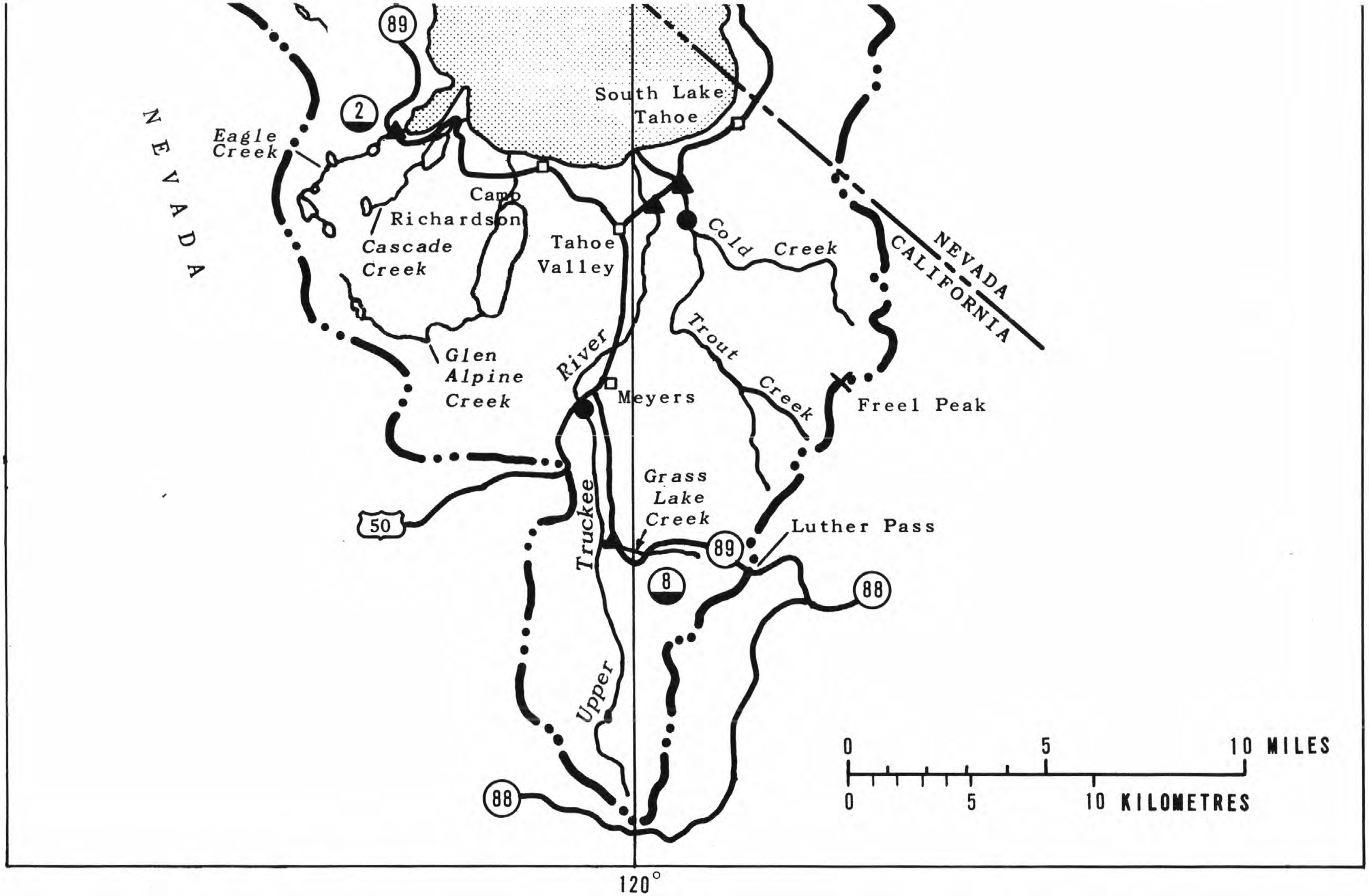


FIGURE 1.--Location of streamflow, streamflow and sediment, and gutterflow stations in Lake Tahoe basin.

Two progress reports (Kroll, 1973; 1974) present streamflow and suspended-sediment discharge data for 1972 and 1973 water years (October 1 through September 30) for selected tributaries to Lake Tahoe. The two progress reports also present periodic water- and sediment-discharge data for selected state highway gutters during the same two water years. This, the third and final report, includes tabulated streamflow and suspended-sediment discharge for the 1974 water year, and summarizes results of the study. Streamflow and sediment data collected at the streamflow stations also will be published in annual data reports for California (U.S. Geol. Survey, 1972a; 1972b; 1973a; 1973b; 1974a; 1974b), and similar data for streams tributary to Lake Tahoe in Nevada will be in the annual data reports for Nevada.

BASIN CHARACTERISTICS

Lake Tahoe is approximately 200 mi (300 km) northeast of San Francisco on the California-Nevada state line (fig. 1). It is nestled between the Sierra Nevada and the Carson Range, at an altitude of about 6,225 ft (1,897 m). The basin contributing flow to the lake has an area of 315 mi^2 (816 km^2), excluding the lake which has a surface area of 191 mi^2 (495 km^2). Watersheds drained by the Upper Truckee River and Trout Creek are the two largest contributing subbasins. The total area of the two subbasins is about 96 mi^2 (250 km^2). Forty percent of the land surface within the Lake Tahoe basin is above 7,500 ft (2,300 m) altitude. The highest point in the basin is Freel Peak on the southeast rim at an altitude of 10,881 ft (3,317 m).

During the last 2 million years, four periods of glaciation were major influences in shaping the present landscape of the Lake Tahoe basin (Crippen and Pavelka, 1970, p. 15). Much of the material eroded by glacial processes was redeposited when glacial ice melted and has become the primary source from which soils and sediment are derived today. Soils at the north end of the basin are derived from volcanic rocks, whereas those at the south end are derived from granitic rocks. During periods when the lake surface was higher than it is now (as much as 600 ft or 180 m higher), sediment was deposited in the shallows around the margin of the lake. These lacustrine deposits and later alluvial deposits form most of the level areas bordering the lake, and provide the materials that are most susceptible to erosion.

Coastal airmasses rising over the Sierra Nevada produce most of the precipitation in the Lake Tahoe basin and cause the largest quantity of precipitation (about 90 in/yr or 2,300 mm/yr) to fall at high altitudes in the basins drained by Eagle, Cascade, and Glen Alpine Creeks. As the airmasses descend on the east side of the Sierra Nevada, total precipitation decreases to about 35 in (890 mm) along the west shore, 15 in (380 mm) along the east shore, and then increases to about 40 in (1,000 mm) as the airmasses rise over the Carson Range.

Approximately 68 percent of the average precipitation in the basin occurs in winter, from December through March (fig. 2). At Tahoe City, 21 in (530 mm) of precipitation, mostly snow, falls during these months. Precipitation during April, May, October, and November accounts for 28 percent of the average, and is the primary producer of direct runoff from rainfall in the Lake Tahoe basin. Widely scattered thundershowers from June through September produce 1.4 in (36 mm), which is only about 4 percent of the average annual total at Tahoe City.

Temperature in the Lake Tahoe basin varies with many factors, including altitude, proximity to the lake, and sun and wind exposure. Temperatures are generally colder at higher altitudes, as well as at distances farther from the lake. At Tahoe City, the average monthly temperature is below freezing from December through March (fig. 3).

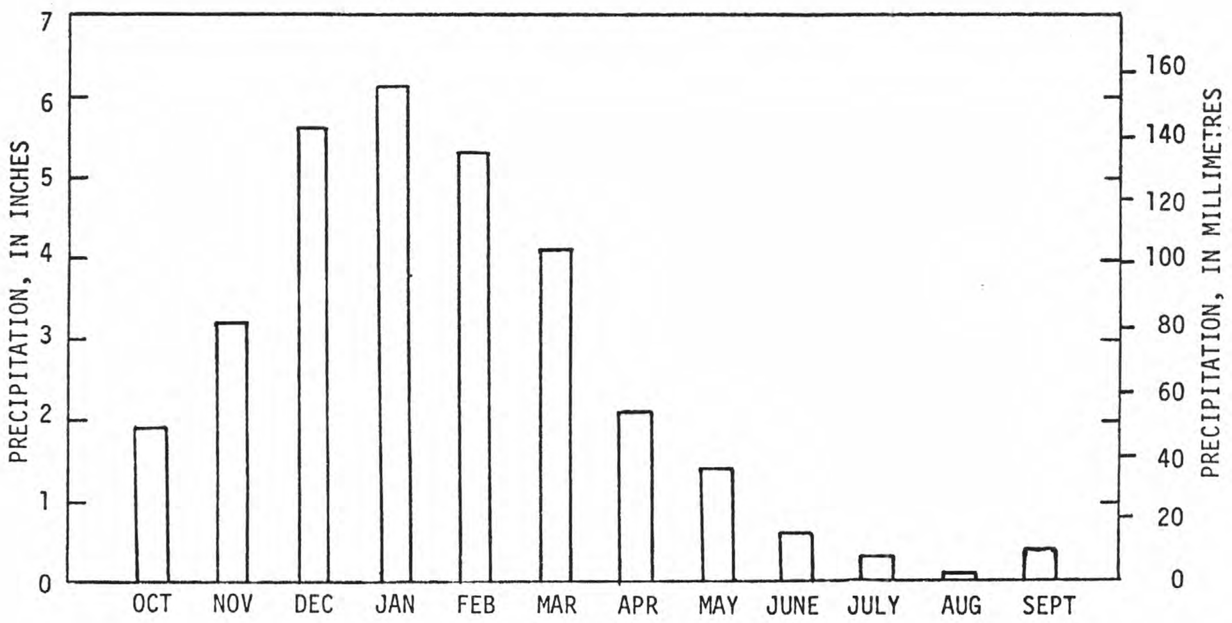


FIGURE 2.--Average monthly precipitation, Tahoe City, 1931-60.

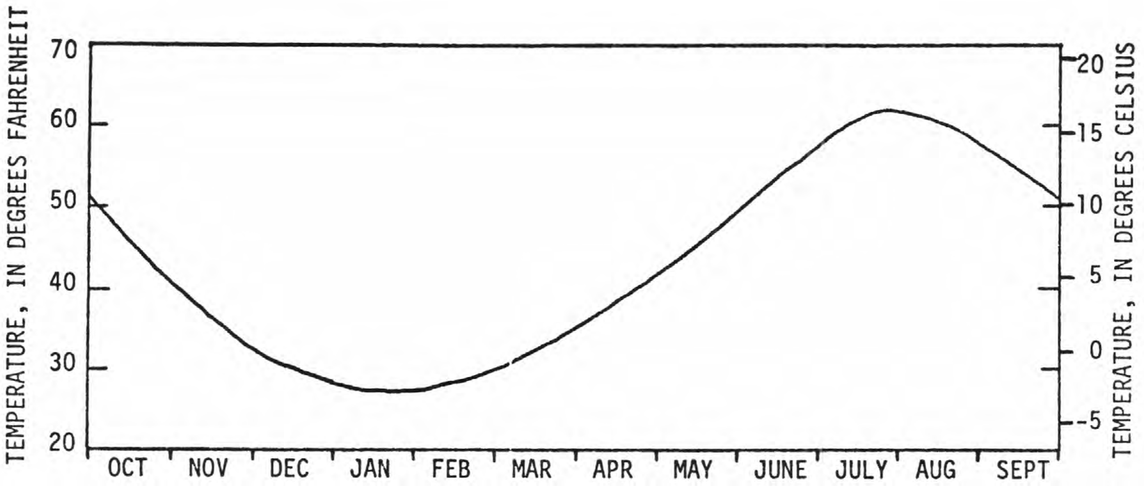


FIGURE 3.--Average monthly air temperature, Tahoe City, 1931-60.

Weather conditions recorded at Tahoe City on a given day provide only a rough estimate of weather conditions in any other part of the Lake Tahoe basin. Rainfall may occur in one area; yet the ground may be dry a short distance away. Or, precipitation may accumulate as snow in one area and fall as rain and produce immediate runoff nearby.

The estimated long-term mean annual runoff into Lake Tahoe is 312,000 acre-ft (385 hm^3). Approximately 10 percent (39,000 acre-ft or 48 hm^3) is from Nevada and 90 percent (273,000 acre-ft or 337 hm^3) is from California. Upper Truckee River and Trout Creek contribute approximately 30 percent (103,000 acre-ft or 127 hm^3) of the inflow. Inflow to the lake from the six subbasins monitored as part of this study, including Upper Truckee River and Trout Creek, is approximately 45 percent (144,000 acre-ft or 178 hm^3) of the total (Crippen and Pavelka, 1970, p. 37).

Data obtained at streamflow stations on the Upper Truckee River near Meyers and Blackwood Creek near Tahoe City (fig. 1), which have been in operation since October 1960, were used to derive estimates of long-term streamflow characteristics on the California side of the Lake Tahoe basin. Approximately 70 percent of the annual inflow occurs from April through July, primarily as snowmelt. Most of the remaining 30 percent occurs during November through March, with only minor runoff produced by occasional widely scattered thundershowers. Mean monthly discharges during 1961-74 in Upper Truckee River near Meyers are shown in figure 4.

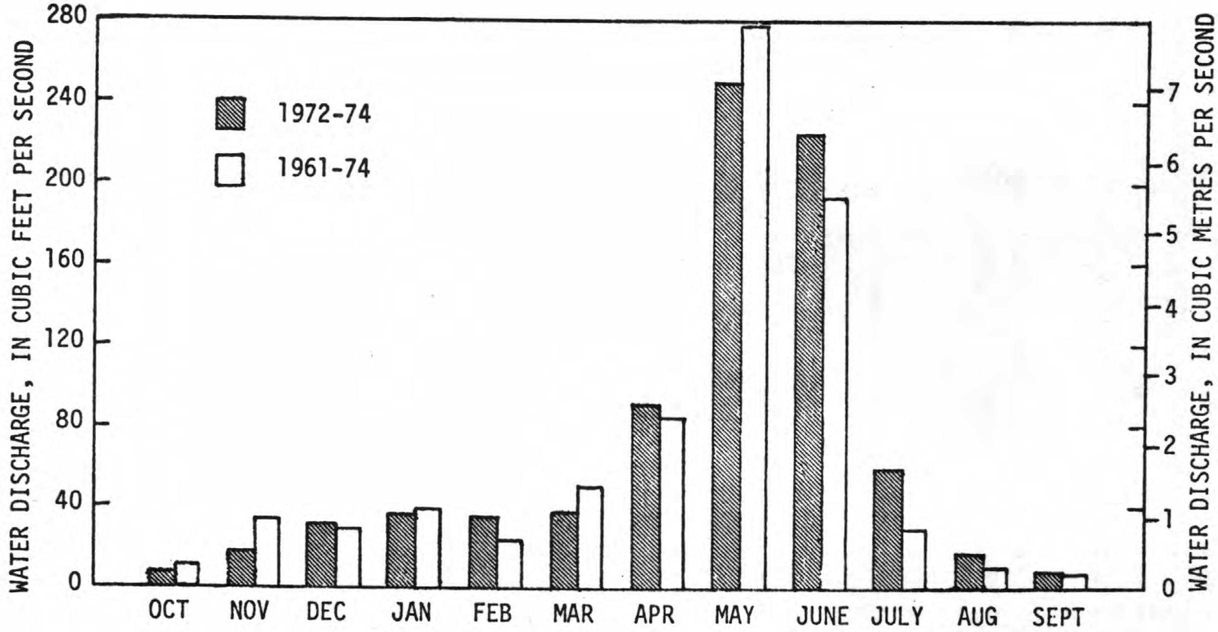


FIGURE 4.--Mean monthly water discharge in Upper Truckee River near Meyers (for period indicated).

Virtually all urban development has been near the shoreline of Lake Tahoe where the level land is most readily adaptable to construction. The primary area of development, which includes approximately 60 percent of the permanent population, has been at the south end of the lake. Another 30 percent of the population is in the area from Homewood to Incline Village, with the remaining 10 percent scattered along the east and west shores.

SEDIMENT DISCHARGE AT STREAMFLOW STATIONS

Most of the sediment discharged to the lake from the study basins is transported in suspension, through the supporting action of turbulent flow. In a few streams, for example, the Upper Truckee River and Trout Creek, there is also a bedload discharge, which consists of coarse-sediment particles that are transported by skipping, sliding, and rolling along the streambed (Colby, 1963, p. A12).

Bedload discharge is regulated by the availability of various sizes of bed material and the ability of a stream to transport each size of material. The Upper Truckee River and Trout Creek at South Lake Tahoe have bed material that is primarily in the sand class (table 2). In all other streambeds, the bed material consists mainly of cobbles and boulders and some gravel. Only during extremely high and rare discharges will some of the larger material be transported as bedload.

Table 2.--*Sediment-size ranges for class identification*

[After Lane and others, 1947]

Class	Diameter range		
	Millimetres	Micrometres	Inches
Boulders	256-4096	--	10-160
Cobbles	64-256	--	2.5-10
Gravel	2-64	--	0.078-2.5
Sand	0.062-2.000	62-2000	0.0024-0.078
Silt	0.004-0.062	4-62	0.00015-0.0024
Clay	0.00024-0.004	0.24-4	0.000010-0.00015

Methods

Seven streamflow stations were established to determine water and sediment discharges. Two of the stations were located near the mouths of the Upper Truckee River and Trout Creek to monitor inflow to Lake Tahoe from the drainage basins of those two streams. Other stations were located where State Highway 89 crosses Eagle, Meeks, and Quail Lake Creeks, where State Highway 28 crosses Dollar Creek, and near the mouth of Grass Lake Creek. Those sites were selected because of their proximity to state highway cut-slopes that were being studied.

Each streamflow station consisted of a continuous water-stage recorder housed in a shelter on the streambank. At each station, periodic water-discharge measurements, suspended-sediment samples, and bed-material samples (if applicable) were obtained to compute water, suspended-sediment, and bedload discharge.

Water Discharge

Daily or instantaneous water discharges were computed from a stage-discharge relation, based on discharge measurements and the corresponding stages, by applying daily mean stages or instantaneous stages to the relation (Carter and Davidian, 1968).

Suspended-Sediment Discharge

Suspended-sediment discharge can be separated into suspended fine- and suspended coarse-sediment discharges. The dividing size between fine and coarse sediment is 0.062 mm, which is also the dividing size between silt and sand. Several suspended-sediment samples from each stream were analyzed for particle-size distribution (table 11; Kroll, 1973, p. 13; 1974, p. 12).

Suspended-sediment concentrations were determined from analyses of periodic depth-integrated suspended-sediment samples (Guy and Norman, 1970, p. 5). Samples were collected once or twice weekly during periods of high flow. Concentration was plotted against time, and a temporal concentration curve drawn. The daily mean concentrations were obtained from the curve, and each daily mean suspended-sediment discharge computed as the product of daily mean concentration, water discharge, and a conversion factor of 0.0027. Daily values of suspended-sediment concentration and discharge for 1972-74 water years were determined at each of the seven streamflow stations (table 11; Kroll, 1973, p. 16; 1974, p. 18). Discharges for the period from July through September 1974 were estimated from previous years to obtain records for three complete water years.

A graph of water discharge versus sediment discharge is known as a sediment transport curve, and is used to estimate long-term mean sediment discharge. A transport curve of suspended-sediment discharge representing the 1972-74 water years was developed for each of the seven streams. A sample of such a curve for Upper Truckee River at South Lake Tahoe is given in figure 5.

The relations between total suspended-sediment and fine and coarse suspended-sediment discharges were determined from analysis of particle-size distribution of selected sediment samples. A curve representing each relation for the Upper Truckee River at South Lake Tahoe is shown in figure 6.

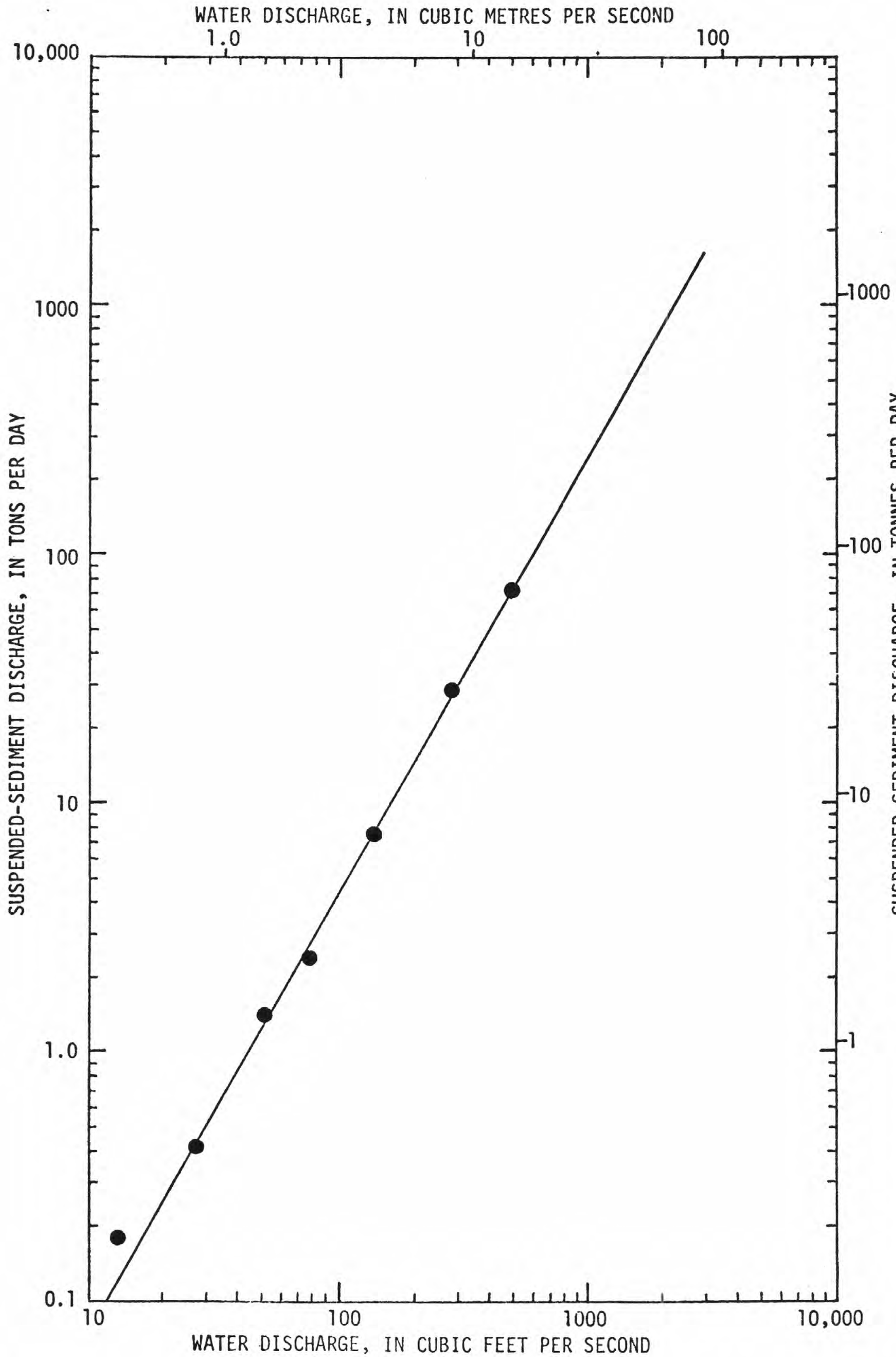


FIGURE 5.--Relation between water discharge and suspended-sediment discharge, Upper Truckee River at South Lake Tahoe, 1972-74.

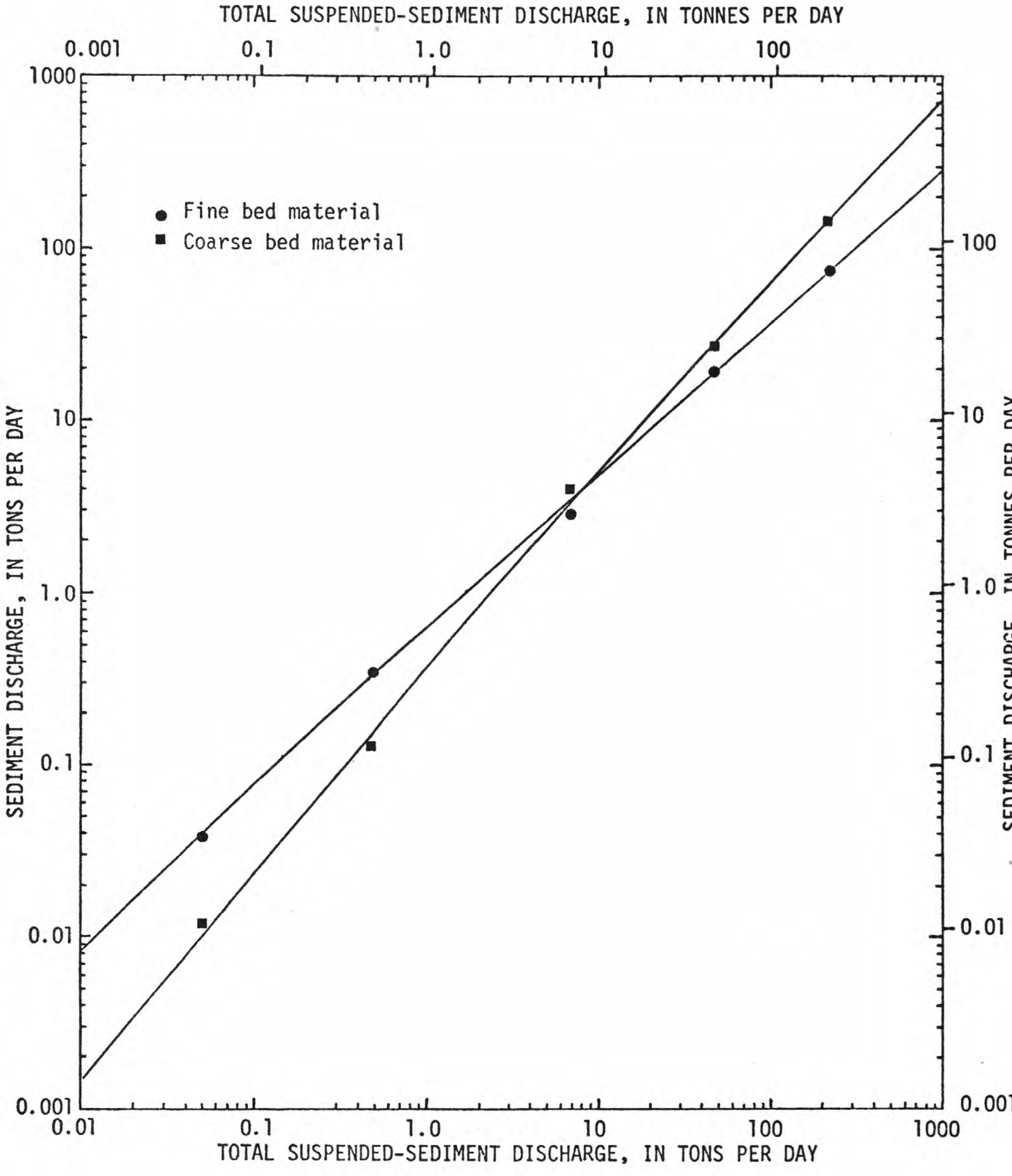


FIGURE 6.--Relations between total suspended-sediment and fine and coarse suspended-sediment discharges, Upper Truckee River at South Lake Tahoe, 1972-74.

Bedload Discharge

Bedload discharges in Upper Truckee River and Trout Creek at South Lake Tahoe were computed by using the bedload part of the modified Einstein procedure described by Colby and Hembree (1955). Two independent computations were made for each stream. The first computation was based on particle-size analyses of bed material during the spring when its composition generally is finer than at other times of the year, and the second computation was based on particle-size analyses of bed material during the autumn when its composition generally is coarser than at other times of the year. For each stream the results of both bedload computations were similar, therefore the average of the results was used to develop a relation between water discharge and bedload for the stream (fig. 7).

A transport curve for total sediment discharge was developed by adding the curve for suspended sediment (fig. 5) to the curve for bedload (fig. 7), if any, for each stream. The transport curve for fine suspended sediment was developed by applying the relation between fine and total suspended sediment to the suspended-sediment transport curve. These curves were used to estimate long-term sediment discharges at each stream-flow station, and are given in figures 8 through 14.

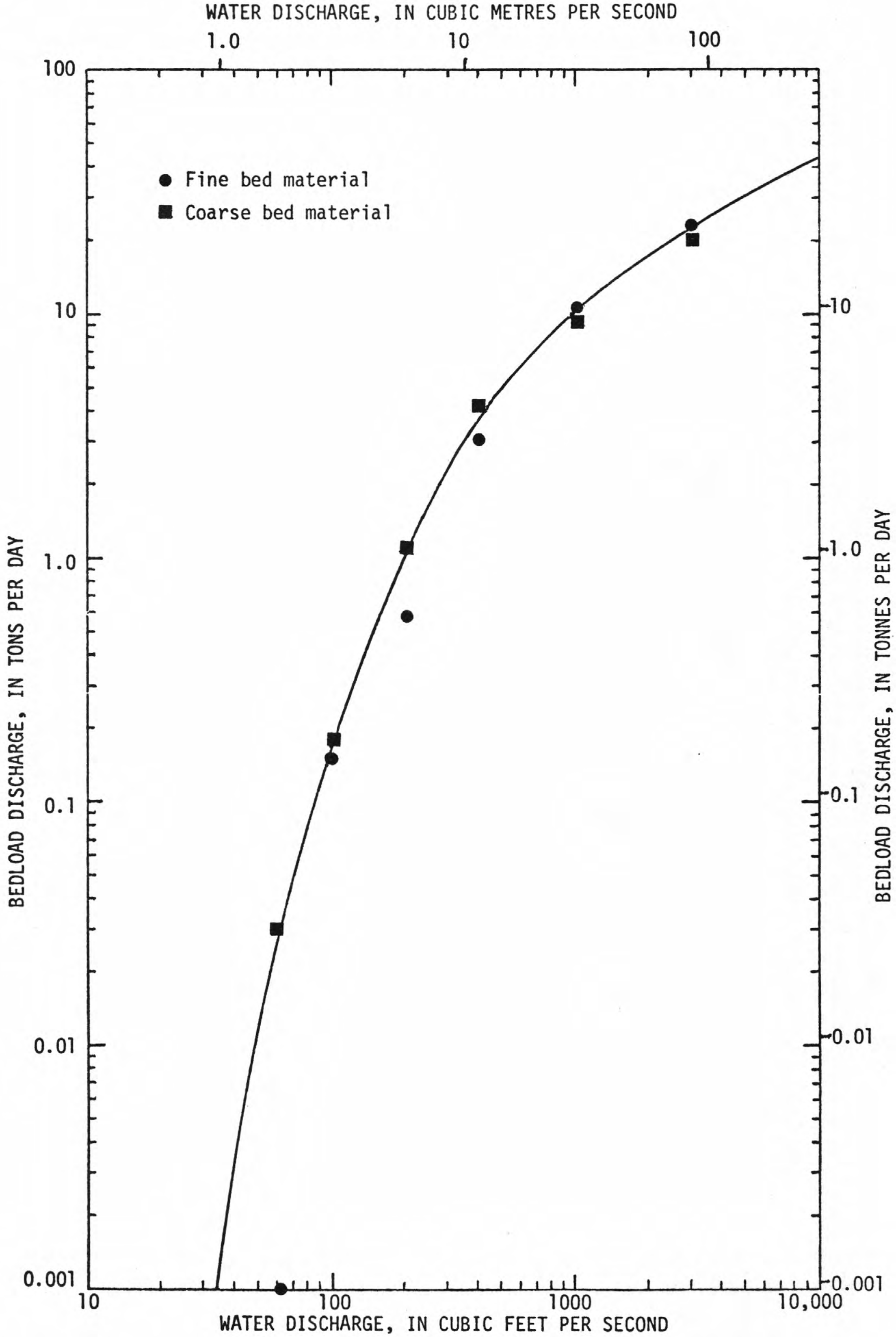


FIGURE 7.--Relation between water discharge and bedload discharge, Upper Truckee River at South Lake Tahoe, 1972-74.

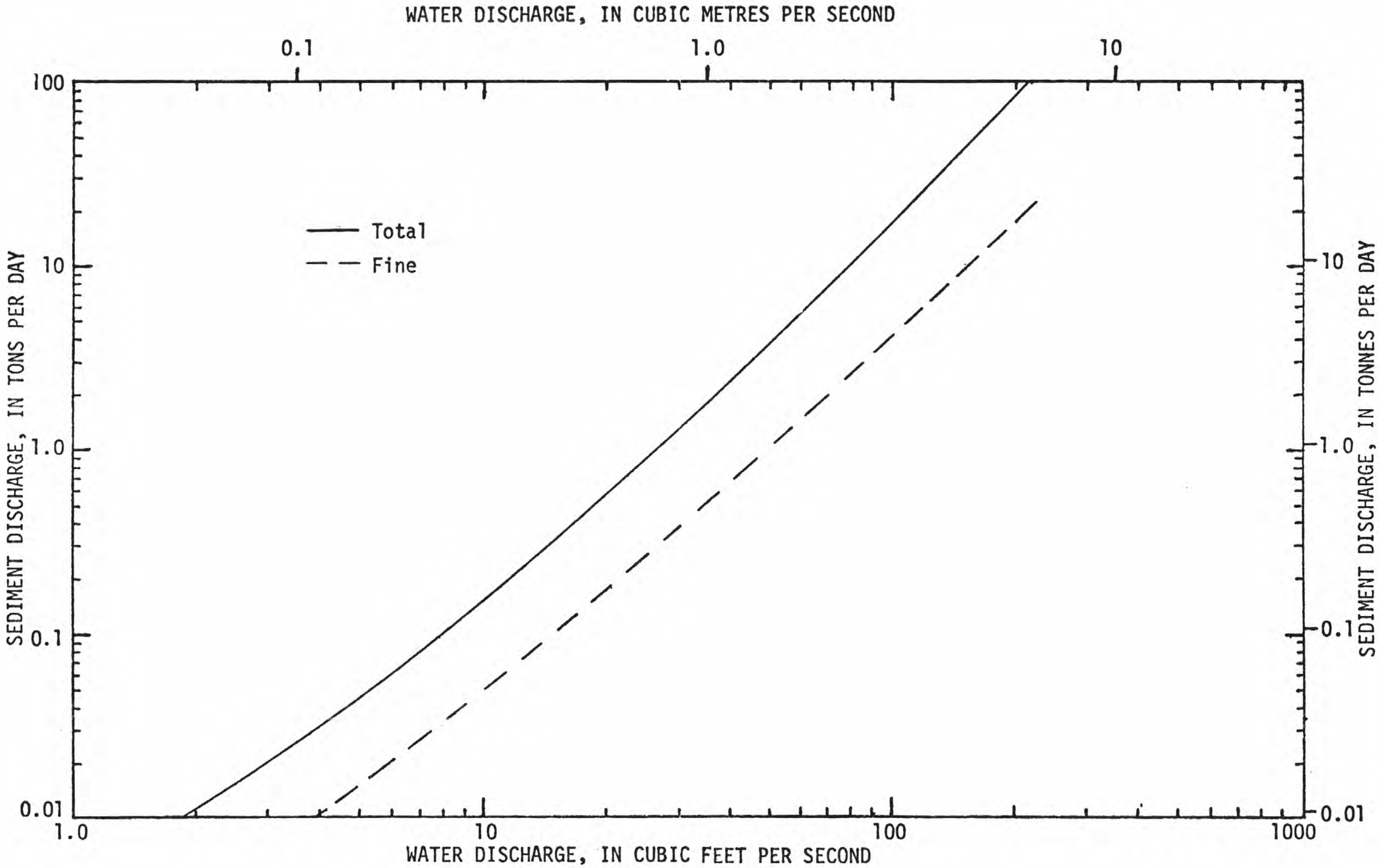


FIGURE 8.--Relation between water and sediment discharges, Grass Lake Creek near Meyers, 1972-74.

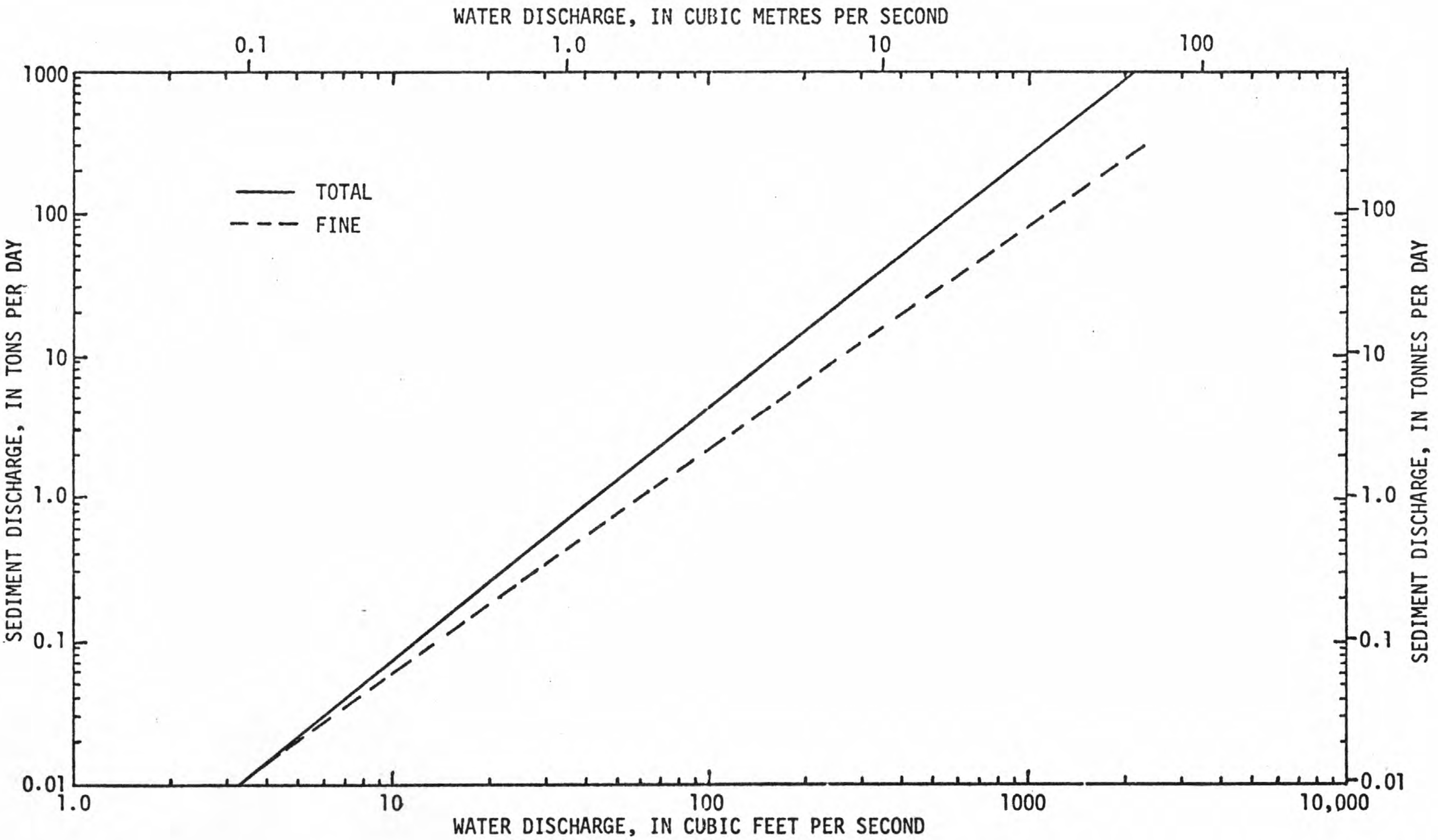


FIGURE 9.--Relations between water and sediment discharges, Upper Truckee River at South Lake Tahoe, 1972-74.

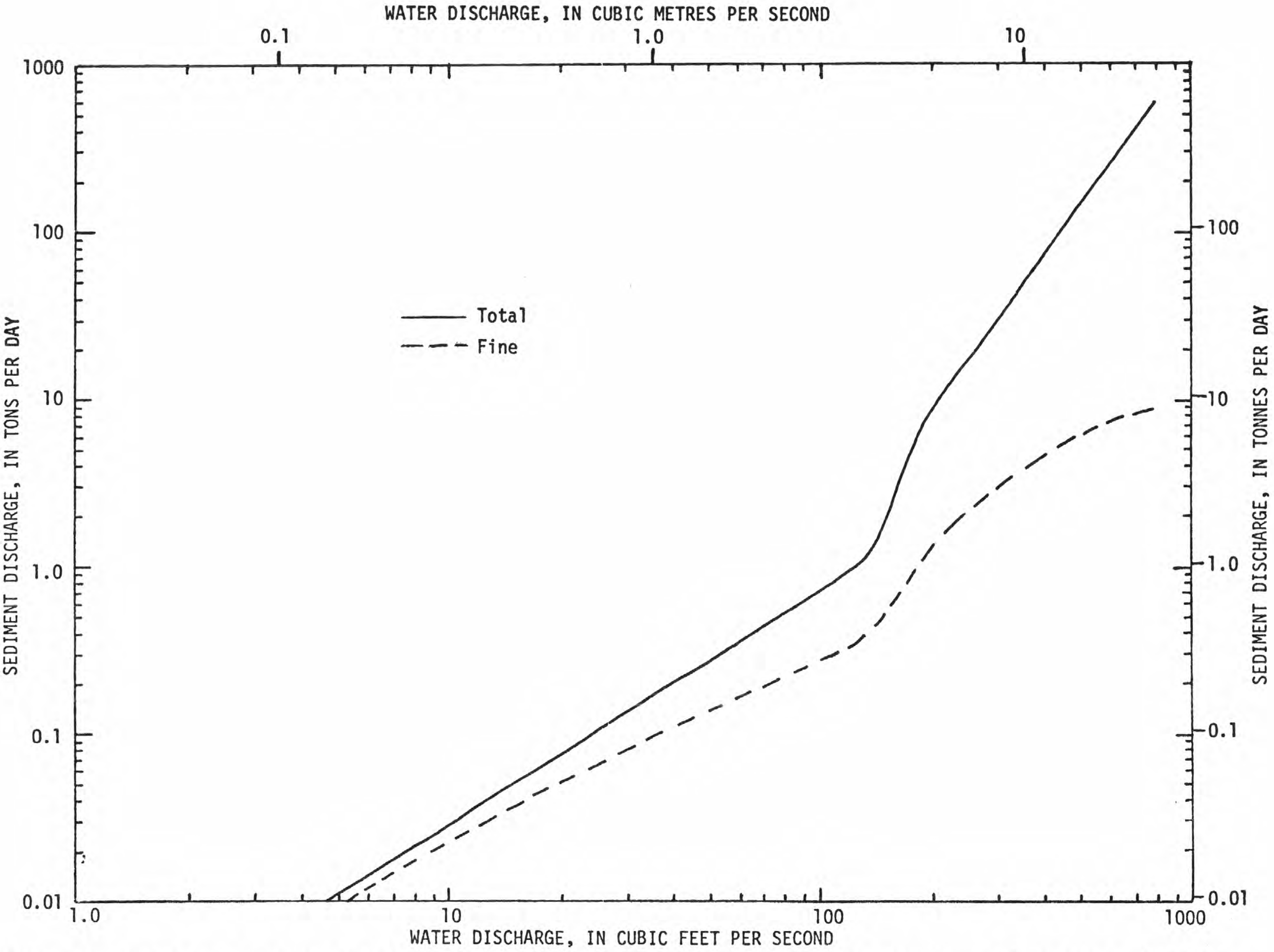


FIGURE 10.--Relations between water and sediment discharges, Eagle Creek near Camp Richardson, 1972-74.

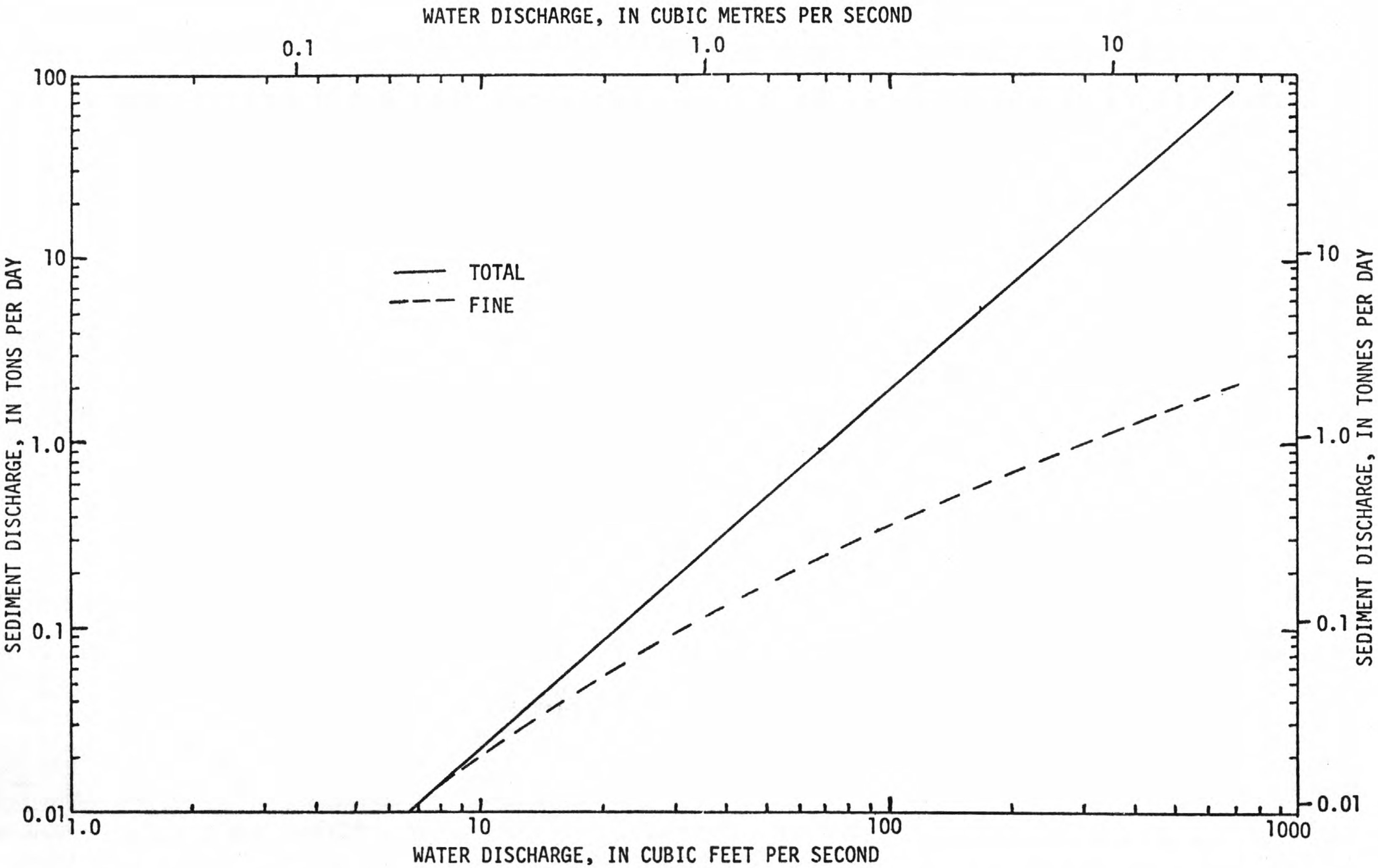


FIGURE 11.--Relations between water and sediment discharges, Meeks Creek at Meeks Bay, 1972-74.

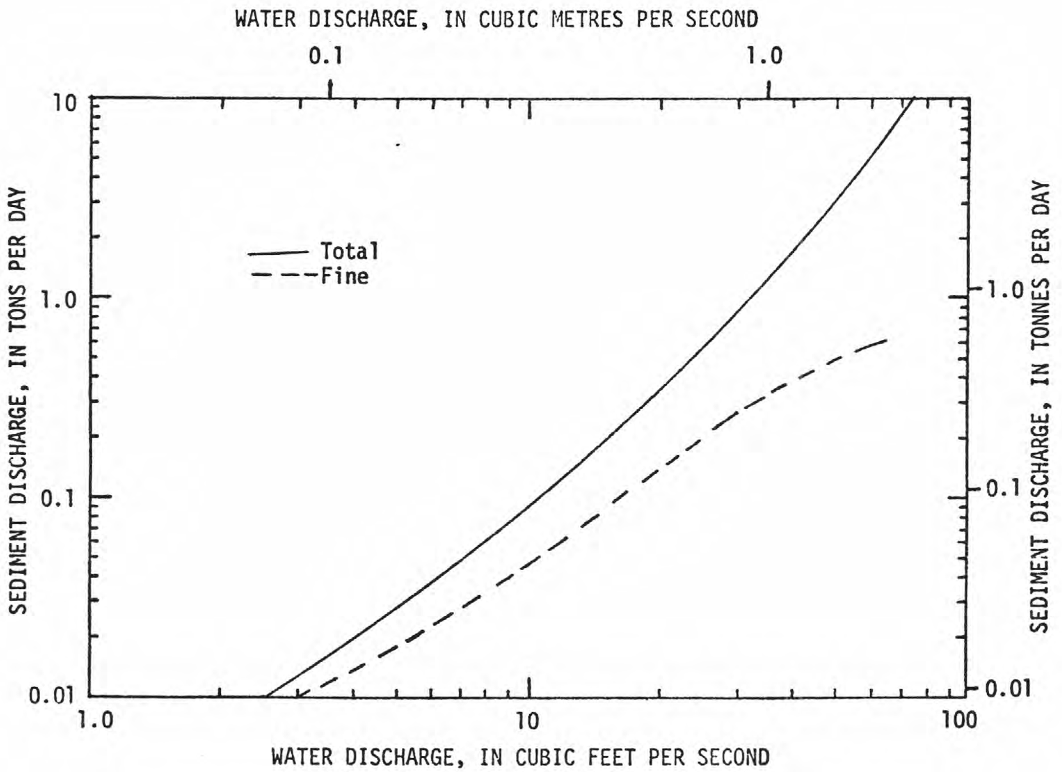


FIGURE 12.--Relations between water and sediment discharges, Quail Lake Creek at Homewood, 1972-74.

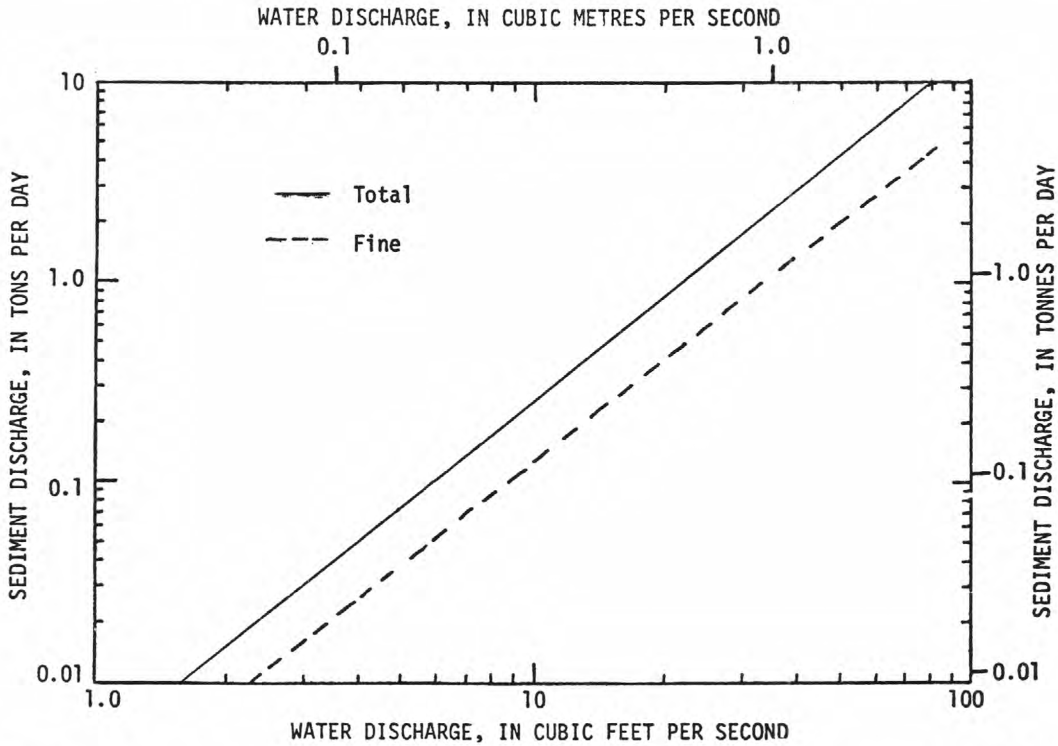


FIGURE 13.--Relations between water and sediment discharges, Dollar Creek near Tahoe City, 1972-74.

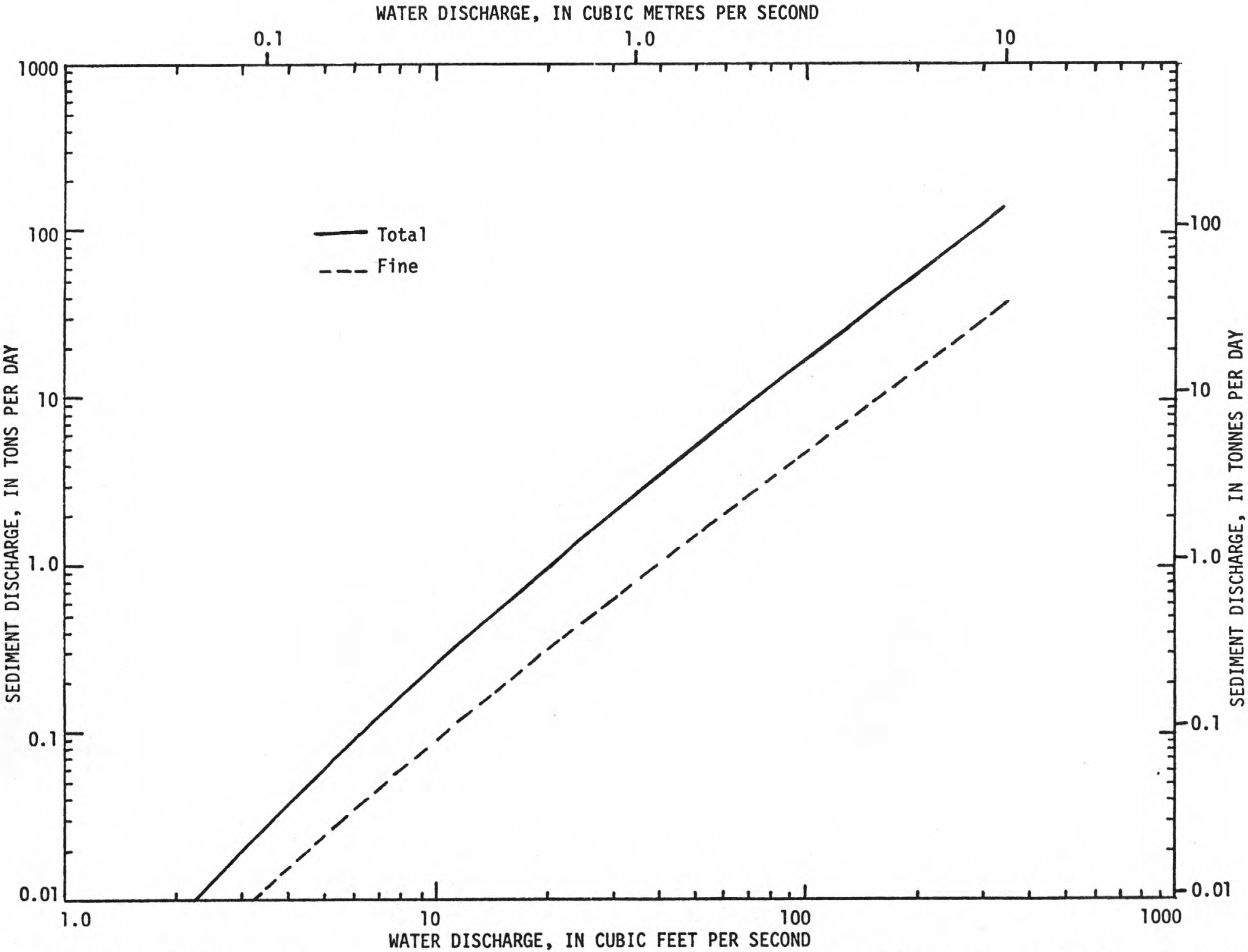


FIGURE 14.--Relations between water and sediment discharges, Trout Creek at South Lake Tahoe, 1972-74.

A flow-duration table shows the percent of time when specified discharges were equaled or exceeded during a given period. It presents the flow characteristics of a stream for the entire range of discharges, with no regard to sequence of occurrence.

The flow-duration table for Upper Truckee River at South Lake Tahoe based on 3 years of flow data is listed in table 3. The mean daily water discharge was computed by adding the products (not shown) of each percent interval times its water discharge, and dividing the sum by 100. The same procedure was used with each column of sediment discharge to obtain the mean daily sediment discharges.

Table 3.--*Summary of duration of water and sediment discharge, Upper Truckee River at South Lake Tahoe, 1972-74*

[All numbers are rounded to two significant figures]

Percent of time		Water discharge (ft^3/s)	Sediment discharge, in tons per day					
			Suspended sediment					
Equalled or exceeded	Interval		Fine-grained	Coarse-grained	Total	Bed-load	Total coarse-grained	Total sediment
100	5	9	0.05	0.01	0.06	--	0.01	0.06
90	20	12	.08	.02	.10	--	.02	.10
60	25	32	.39	.19	.58	--	.19	.58
40	15	73	1.4	1.1	2.5	.05	1.1	2.6
30	9	110	2.7	2.4	5.1	.21	2.6	5.3
22	6	160	4.8	5.2	10	.58	5.8	11
18	4	190	6.0	7.0	13	.86	7.9	14
14	3	240	9.0	11	20	1.4	12	21
12	2	260	10	13	23	1.6	15	25
10	2	300	13	17	30	2.1	19	32
8	2	330	15	20	35	2.5	22	38
6	2	380	19	27	46	3.1	30	49
4	1.5	440	23	36	59	3.8	40	63
3	1.0	480	26	43	69	4.3	47	73
2	1.0	510	29	47	76	4.7	52	81
1	.8	570	34	58	92	5.4	63	97
.4	.4	640	40	70	110	6.2	76	120
.2	.16	680	47	83	130	6.7	90	140
.08	.08	760	53	97	150	7.6	100	160
.04	.06	800	60	110	170	8.0	120	180
Mean daily		110	4.0	5.3	9.3	.56	5.9	9.9
Annual		39,000	1,500	1,900	3,400	200	2,100	3,600

Long-term Estimates

A short-term streamflow record can be made more representative of a long-term period by adjusting it to the long-term streamflow record of a nearby stream. A relation is established between both stations for the short period of record by plotting concurrent daily discharges at one station against the corresponding concurrent daily discharges at the other station. By applying this relation to the long-term flow duration table of the index station, a long-term duration table can be made for the station with only a short-term record. The long-term estimates will be reasonable only if the hydrologic and climatic conditions for both basins remain approximately the same. Stations used as index stations were those on Upper Truckee River near Meyers and Blackwood Creek near Tahoe City. Both had a water discharge record from 1961-74.

Table 4.--*Mean monthly runoff at*

[All numbers are rounded to

Station	Runoff,					
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Grass Lake Creek near Meyers	160	310	270	380	270	600
Upper Truckee River at South Lake Tahoe[1]	980	3,800	4,600	6,100	2,900	6,900
Eagle Creek near Camp Richardson	170	1,200	790	1,000	320	890
Meeks Creek at Meeks Bay	43	670	620	1,000	440	1,200
Quail Lake Creek at Homewood	23	63	69	120	39	96
Dollar Creek near Tahoe City	12	24	31	58	32	94
Trout Creek at South Lake Tahoe	1,200	1,400	1,500	2,000	1,400	2,100
Total	2,400	7,200	7,600	10,000	5,100	11,000

[1] Includes Grass Lake Creek.

Results of Analysis

During 1972-74, annual runoff from the study basins into the lake totaled 136,000 acre-ft (168 hm^3). Sixty-six percent of the runoff occurred as snowmelt during the period April through July. Daily water discharge values were computed (Kroll, 1973; 1974); mean monthly runoff at each of the seven streamflow stations is given in table 4.

streamflow stations, 1972-74

two significant figures]

in acre-feet							Percent during April-July snowmelt
Apr.	May	June	July	Aug.	Sept.	Total	
990	2,800	2,000	410	130	110	8,400	73
9,000	23,000	16,000	2,700	830	640	77,000	65
1,300	5,300	4,400	810	120	76	16,000	72
1,800	4,700	2,300	320	23	15	13,000	69
200	680	320	51	18	17	1,700	74
310	210	22	5.4	1.6	4.3	800	68
2,900	5,900	5,900	2,100	1,100	880	28,000	59
15,000	40,000	29,000	5,900	2,100	1,600	136,000	66

Sediment discharged into Lake Tahoe from the study basins during the 1972-74 water years amounted to 5,400 tons (4,900 t) annually, of which approximately 37 percent (2,000 tons or 1,800 t) was fine material. Table 5 lists annual values of fine, coarse, and total sediment discharges in each stream. The lowest fine-sediment yield was from Meeks Creek (2.6 tons/mi^2 or 0.91 t/km^2), and the highest yield was from the Upper Truckee River (27 tons/mi^2 or 9.5 t/km^2). Sixty-five percent of the annual sediment discharge occurred during the snowmelt period, April through July. Mean monthly totals of suspended-sediment discharge for all 3 years are listed in table 6, and represent all sources of sediment (natural and urbanized) from areas upstream from the stations. Suspended-sediment concentrations and discharges during 1972-74 ranged from zero in all streams during midwinter or late summer low flows to a maximum of 312 mg/l (milligrams per litre) and 339 tons/d (308 t/d) in the Upper Truckee River at South Lake Tahoe during rainfall runoff. A list of maximum and minimum suspended-sediment concentrations and discharges in each stream is given in table 7.

The estimated long-term mean annual runoff into the lake from the study basins is 144,000 acre-ft (178 hm^3), which is about 6 percent more than was measured during 1972-74. The estimated long-term mean annual total-sediment discharge is 7,100 tons (6,400 t), approximately one-third more than the average during 1972-74. Fine-sediment discharge is estimated to be approximately 2,300 tons per year (2,100 t/year). A list of estimated long-term mean discharges of water, and fine, coarse, and total sediment in each stream are given in table 8.

The estimated 1961-74 mean annual fine-sediment discharge from all streams tributary to Lake Tahoe is 5,000 tons (4,500 t) based on the sediment measured in study basins that yield approximately 45 percent of the total water inflow to the lake.

Table 5.--*Summary of mean annual sediment discharges at streamflow stations, 1972-74*

[All numbers are rounded to two significant figures]

Station	Water discharge (acre-ft)	Sediment discharge, in tons: Suspended						
		Suspended			Bed-load	Total		
		Fine-grained	Coarse-grained	Total		Fine-grained	Coarse-grained	Total
Grass Lake Creek near Meyers	8,400	55	140	200	0	55	140	200
Upper Truckee River at South Lake Tahoe [1]	77,000	1,500	1,900	3,400	200	1,500	2,100	3,600
Eagle Creek near Camp Richardson	16,000	24	54	77	0	24	54	77
Meeks Creek at Meeks Bay	13,000	21	67	88	0	21	67	88
Quail Lake Creek at Homewood	1,700	3.5	3.5	7.0	0	3.5	3.5	7.0
Dollar Creek near Tahoe City	800	2.9	2.2	5.1	0	2.9	2.2	5.1
Trout Creek at South Lake Tahoe	28,000	470	910	1,400	280	470	1,200	1,700
Total	136,000	2,000	2,900	5,000	480	2,000	3,400	5,400

[1] Includes Grass Lake Creek.

Table 6.--*Mean monthly sediment discharge*

[All numbers are rounded

Station	Discharge,					
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Grass Lake Creek near Meyers	0.38	6.2	1.7	2.1	1.2	5.6
Upper Truckee River at South Lake Tahoe[1]	5.3	250	310	530	29	230
Eagle Creek near Camp Richardson	.19	23	4.2	8.9	.44	2.3
Meeks Creek at Meeks Bay	.08	12	4.7	10	.83	3.6
Quail Lake Creek at Homewood	0	.28	.36	.55	.01	.20
Dollar Creek near Tahoe City	0	.04	.09	.34	.04	.37
Trout Creek at South Lake Tahoe	19	60	55	130	47	100
Total	24	340	380	690	78	340

[1] Includes Grass Lake Creek.

at streamflow stations, 1972-74

to two significant figures]

in tons							Percent during April-July snowmelt
Apr.	May	June	July	Aug.	Sept.	Total	
19	120	44	2.6	0.48	0.33	200	91
260	1,300	590	34	9.1	4.0	3,600	60
3.7	23	9.9	1.2	.13	.27	77	48
5.7	36	13	.63	.01	.10	88	64
.49	3.6	1.2	.15	.02	.01	6.9	79
2.9	1.3	.02	0	0	0	5.1	83
160	540	430	75	32	20	1,700	72
440	1,900	1,000	110	42	24	5,400	65

Table 7.--*Maximum and minimum daily suspended-sediment concentration and discharge at streamflow stations, 1972-74*

Station	Concentration (mg/l)		Discharge (tons/day)	
	Maximum	Minimum	Maximum	Minimum
Grass Lake Creek near Meyers	113	0	22	0
Upper Truckee River at South Lake Tahoe	312	0	339	0
Eagle Creek near Camp Richardson	36	0	28	0
Meeks Creek at Meeks Bay	31	0	18	0
Quail Lake Creek at Homewood	16	0	.71	0
Dollar Creek near Tahoe City	17	0	.86	0
Trout Creek at South Lake Tahoe	300	0	52	0

Table 8.--*Summary of estimated long-term mean annual water and sediment discharges at streamflow stations, 1961-74*

[All numbers are rounded to two significant figures]

Station	Water discharge (acre-ft)	Sediment discharge, in tons						
		Suspended			Bed-load	Total		
		Fine-grained	Coarse-grained	Total		Fine-grained	Coarse-grained	Total
Grass Lake Creek near Meyers	8,700	70	190	260	0	70	190	260
Upper Truckee River at South Lake Tahoe[1]	80,000	1,700	2,600	4,300	200	1,700	2,800	4,500
Eagle Creek near Camp Richardson	18,000	40	420	460	0	40	420	460
Meeks Creek at Meeks Bay	14,000	20	140	160	0	20	140	160
Quail Lake Creek at Homewood	1,700	5	7	12	0	5	7	12
Dollar Creek near Tahoe City	1,000	7	7	14	0	7	7	14
Trout Creek at South Lake Tahoe	29,000	570	1,100	1,700	300	570	1,400	2,000
Total	144,000	2,300	4,300	6,600	500	2,300	4,800	7,100

[1] Includes Grass Lake Creek.

Sources, Deposition, and Transport

Sediment transported in highway gutters is derived from several sources. In addition to erosion from highway cut-slopes, a significant amount of the sediment is sand, fine gravel, and salt that is applied on icy highways during winter months to decrease driving hazards. The heaviest applications are at curves and hills. Another source of applied sediment is the mud transported to the highways on tires and under fenders of vehicles, both during rainy weather and when there is fresh snow on driveways and side roads.

The applied sediment is pushed off the highway by snowplows and passing vehicles, and blown onto the cut-slopes by snow blowers. Eventually, most of the sand and fine gravel accumulates in the gutters, mixes with sediment eroded from the slopes, and is available for transport toward the lake by snowmelt or rainfall runoff. Some of the applied sediment has been known to remain in or near the gutters throughout the entire year. Consequently, most sediment discharge measurements probably include applied sediment. There is no practical way to distinguish the sources of sampled sediment. Analyses of samples of sand and fine gravel obtained from the stockpiles in highway maintenance yards at Tahoe City and Meyers indicate that only about 1 percent is finer than 0.062 mm. No attempt was made to determine the proportion of mud that was finer than 0.062 mm.

The undisturbed part of the hills into which the highway cuts were made make no significant contribution to the flow of water or sediment in the gutters at the toe of the cuts. Rock-lined diversion trenches were installed by the California Department of Transportation near the top of some cut-slopes to prevent flow from running from the natural surface of the hill down the face of the cut. Inspection of the surface tributary to the diversion trenches indicated that the ground cover of pine needles and other organic debris had not been washed away, and that no gullies or channels had formed. At only two stations (89 ED 2.11 and 28 PL 3.38), a small part of the measured sediment was contributed from runoff on side roads.

Sediment eroded from cut-slopes, as well as that from other sources, will not necessarily be transported to streams or the lake. An unknown but probably large quantity is removed from the gutters during cleaning and maintenance operations. The sediment is scraped and shoveled out of the gutters, and hauled away by truck. Some of the coarse sediment that is transported past the gutterflow stations settles out in depressions enroute to streams, and probably will not reach the lake. All fine sediment is assumed to reach the lake because it is transported primarily in suspension. However, the fine sediment might temporarily be deposited and then transported farther by runoff from the next storm. Several months or possibly years may elapse before all the fine sediment measured at the gutters arrives at the lake.

Sediment discharge at a gutterflow station is variable, and is dependent on the water discharge, the filtering effect of snow, the availability and source of material, and the elapsed time since the last gutter maintenance and cleaning operation. Precipitation from a summer storm might cause rapid runoff from unprotected highway cut-slopes, causing rapid movement of sediment in the gutters. During and immediately after a new snowfall, the slush from partly melted snow usually tends to retard the flow of water in the gutters, and to filter, temporarily, all but the finest particles. Runoff of snowmelt from the highway surface, carrying a high proportion of applied sediment, often flows on the highway shoulder instead of in the gutters because snow from previous storms has accumulated in the gutters and turned to ice. Frequently, this will cause some flow to be diverted across the highway before it reaches the gutterflow stations. In the same manner, some of the flow measured at gutterflow stations originates on the opposite side of the highway.

Methods

Periodic sediment discharge measurements were made in the gutters at 16 highway cuts (table 1) to estimate the amount of eroded sediment that is transported away from the highway right-of-way. The 16 gutters were selected from a list (California Division of Highways, 1971) of highway cuts that were undergoing significant erosion. The gutters also were selected on the basis of proximity to gageable streams. Annual discharge at a 17th gutterflow station (89 ED 16.61) was not estimated because its drainage includes part of a slide-prone area, and the characteristics of the sediment discharge are not appropriate to the scope of this study.

During the first year, V-notch weirs and natural drop structures were used for sediment discharge measurements. During the last 2 years, sheet metal flumes were installed to replace the weirs and improve the precision of measurements. Water samples for sediment analysis were obtained by capturing the total flow, and consequently the total sediment load, in the gutter in 6- or 15-quart (5.7- or 14-litre) containers. Water discharge was calculated from the volume and time required to fill the container. Almost all sediment samples were analyzed for particle-size distribution to determine the percentage finer than 0.062 mm. Sediment-discharge measurements were made weekly on a regular schedule, several times daily during snowmelt runoff, and hourly on selected days of rainfall runoff. Discharges of water and sediment measured at each gutterflow station are included in the appendixes of progress reports of the year for which they were determined (Kroll, 1973; 1974). Discharges measured during the 1974 water year are in table 13 of this report.

Miniature (6-in or 150-mm) crest-stage gages were installed at the upstream end of each flume to estimate peak stage. Unfortunately, they proved to be unreliable most of the time because backwater caused by ice buildup within the flumes flooded the gage and froze, rendering the gage inoperable. Also, snow and slush in the gutters in early winter and spring, and pine cones and needles, cans, and other debris during the summer effectively prevented development of stage-discharge relations for estimating peak discharges.

Two methods were used to estimated water and sediment discharge at the gutterflow stations. The choice depended upon the source of runoff; some runoff originated from snowmelt and some from rainfall. Runoff from snowmelt fluctuates fairly uniformly in a 24-hour period because of daily temperature variations. Snowmelt runoff generally increases or decreases depending upon daily average temperatures and the availability of snow. Several measurements were made weekly at each gutterflow station to define the 24-hour fluctuation and determine the daily mean discharge. Discharges for the 6 days of each week when measurements were not made were estimated by interpolation. Sediment discharge was estimated from the sediment-transport curve, developed on the basis of the samples collected, and the cumulative frequency table of water discharge.

The rainfall runoff associated with the initial erosion of sediment from the cut-slopes is usually insufficient to transport sediment after it has moved to the gutter. A larger volume of runoff water is required to transport the sediment out of the gutters; runoff from the impervious highway surface is the usual source.

Rainfall runoff varies rapidly and is of short duration compared to snowmelt runoff. The frequency of measurements was not adequate to permit an estimate of total rainfall runoff for each storm. Only runoff from selected storms was measured and sampled. Total runoff was estimated from the cumulative frequency of hourly rainfall totals recorded at a station operated by the California Department of Transportation near milepost 89 ED 2.44, on the west approach to Luther Pass, and at a station in Ward Valley operated by the University of California, Tahoe Research Group. Rainfall recorded on Luther Pass was used directly to estimate runoff at the eight nearby gutterflow stations. Rainfall recorded in Ward Valley was adjusted to represent rainfall at the nine gutterflow stations along the west shore of Lake Tahoe. It was assumed that there was instantaneous runoff and that the coefficient of runoff was 0.85 for the highway surface and 0.5 for the cut-slopes (Linsley and Franzini, 1964, p. 41).

The relations between water and sediment discharges at gutterflow stations were poorly defined. An overestimate of sediment discharge at gutterflow stations, based on the highest concentrations of sediment sampled, was used in a test for significance of sediment contributed to Lake Tahoe from highway cut-slopes.

Results of Analysis

The estimated annual sediment discharge at 16 gutterflow stations is 300 tons (272 t), and includes sediment from all sources (table 9). Of this total, 200 tons (182 t) was discharged at a single station (28 PL 3.38), on a curve and grade where large quantities of sand and gravel had been spread to improve winter driving conditions. Fine-sediment discharge at the 16 stations was 30 tons (27 t). A disproportionately large part of the total was discharged at station 28 PL 3.38 (10 tons or 9.1 t), and station 89 ED 24.49 (9 tons or 8.2 t), which is also on a curve and probably received a large amount of applied sediment. Discharges of fine sediment at all other stations were 1 ton (0.9 t) per year or less.

Table 9.--*Estimated mean annual water and sediment discharges at gutterflow stations, 1972-74*

[All numbers are rounded to one significant figure]

Station number[1]	Water discharge (acre-ft)	Sediment discharge, in tons	
		Fine	Total
89 ED 1.70	3	0.2	0.2
1.94	2	.9	8
2.11	.4	.4	5
2.21	.5	.2	1
2.44	2	1	4
2.99	.4	.5	1
4.37	3	1	5
4.45	.4	.2	.6
16.87	20	1	6
24.49	.4	9	40
24.65	.2	.5	5
25.44	.4	.3	5
89 PL 1.27	.6	.6	1
1.42	.3	.4	2
28 PL 3.38	1	10	200
3.50	.7	1	3
Total	40	30	300

[1]See table 1 for list of gutterflow stations.

The quantity of fine sediment derived from gutters at all cut-slopes along California State highways in the Tahoe basin was estimated by using estimates of total quantity of sediment eroded from 123 cut-slopes made by the California Department of Transportation (California Division of Highways, 1971). The estimates of total eroded sediment were adjusted by the ratio of the quantity of fine sediment measured at the 16 gutterflow stations to the estimated erosion at the same stations. The result is an estimated 100 tons per year (91 t per year) of fine sediment transported from all cut-slopes along California State highways in the Lake Tahoe basin. This estimate includes all sources of sediment and assumes that all fine sediment actually enters the lake.

Comparison of Sediment Discharge in Streams and Gutters

Annual fine-sediment discharge, 1972-74, from all streams tributary to Lake Tahoe is estimated to be more than 4,400 tons (4,000 t). The annual fine-sediment discharge to the lake from all California State highway gutters associated with cut-slopes is less than 100 tons (91 t). Fine-sediment discharge in streams and gutters for both the measured stations and estimated totals for all cut-slopes in California are listed for comparison in table 10. The discharge in all gutters is approximately 2 percent of the discharge in all streams.

Table 10.--*Estimated annual discharge of fine sediment transported in streams and gutters, 1972-74*

Discharge, in tons			
Measured streams	Measured California State highway gutters at cut-slopes	All streams	All California State highway gutters at cut-slopes
2,000	30	>4,400	<100

Evaluation of Experimental Cut-Slope Stabilization

Data were not adequate to demonstrate the effectiveness of treatments to stabilize cut-slopes. Many of the cut-slopes were disturbed during the processes of planting and implementing other erosion-control procedures, and therefore the erosion rates and sediment concentrations obtained during part of 1972 and 1973 were unusually high. Results of analysis of sediment in samples obtained at gutterflow stations during 1974 indicate that the mean sediment concentration was approximately 60 percent less than the previous 2 years. However, the data obtained reflect the collective effects of natural and man-caused erosion as well as any effects of experimental erosion-control measures; therefore, the reason for differences in concentrations could not be determined.

SUMMARY

In 1972-74, sediment discharge was measured in seven streams tributary to Lake Tahoe. The mean annual fine-sediment (diameter less than 0.062 mm) discharge from the streams was 2,000 tons (1,800 t); discharge ranged from a low of 2.6 tons/mi^2 (0.91 t/km^2) from Meeks Creek to a high of 27 tons/mi^2 (9.5 t/km^2) from Upper Truckee River. Mean annual total sediment discharge was 5,400 tons (4,900 t). The discharge rate of fine sediment into Lake Tahoe from all streams is estimated at 4,400 tons/yr (4,000 t/yr), based on the current sediment discharge rate and the water runoff record from 1972-74.

Sediment discharge was measured at 16 gutterflow stations. Not all measured sediment was found to be derived from cut-slopes, and not all sediment so derived was measured or transported to the lake. Large quantities of sediment were placed on highways to improve winter driving conditions, and mud on tires and under fenders was tracked onto the highway from side roads and driveways. Some sediment was removed from the gutters by highway personnel, and some sediment was deposited in channels and probably will not reach the lake.

The estimated annual discharge of fine sediment from all sources during 1972-74 at 16 gutterflow stations was 30 tons (27 t). The quantity of fine sediment actually derived from the 16 cut-slopes and contributed to the lake is likely to be less than 30 tons (27 t). The estimate of annual fine-sediment discharge from all cut-slopes along California State highways in the Tahoe basin is less than 100 tons (91 t), and is approximately 2 percent of the fine sediment discharged by all streams tributary to Lake Tahoe.

Data obtained during this study reflect the collective effects of natural and man-caused erosion, other sources of sediment, and the effects of experimental measures to reduce erosion from cut-slopes. In the absence of information from the period prior to introduction of erosion control measures, no evaluation of the control measures could be made on the basis of the data collected during the study.

SELECTED REFERENCES

California Division of Highways, 1971, Slope erosion transects, Lake Tahoe Basin: Interim research rept., no. M & R 657078-1, 30 p.

Carter, R. W., and Davidian, J., 1968, General procedure for gaging streams: U.S. Geol. Survey Techniques Water-Resources Inv., book 3, chap. A6, 13 p.

Colby, B. R., 1963, Fluvial sediments--a summary of source, transportation, deposition, and measurement of sediment discharge: U.S. Geol. Survey Bull. 1181-A, 47 p.

Colby, B. R., and Hembree, C. H., 1955, Computations of total sediment discharge, Niobrara River near Cody, Nebraska: U.S. Geol. Survey Water-Supply Paper 1357, 187 p.

Crippen, J. R., and Pavelka, B. R., 1970, The Lake Tahoe Basin, California-Nevada: U.S. Geol. Survey Water-Supply Paper 1972, 56 p.

Glancy, P. A., 1971, A reconnaissance of streamflow and fluvial sediment transport, Incline Village area, Lake Tahoe, Nevada: Nevada Dept. Conservation and Nat. Resources, Water Resources Inf. Series rept. 8, 28 p.

______1973, A reconnaissance of streamflow and fluvial sediment transport, Incline Village area, Lake Tahoe, Nevada: Nevada Dept. Conservation and Nat. Resources, Water Resources Inf. Series rept. 19, 37 p.

Guy, H. P., and Norman, V. W., 1970, Field methods for measurement of fluvial sediment: U.S. Geol. Survey Techniques Water-Resources Inv., book 3, chap. C2, 59 p.

Kroll, C. G., 1973, Sediment discharge in the Lake Tahoe Basin, California, 1972 water year: U.S. Geol. Survey open-file rept., 33 p.

______1974, Sediment discharge in the Lake Tahoe Basin, California, 1973 water year: U.S. Geol. Survey open-file rept. 74-259, 65 p.

Lane, E. W., and others, 1947, Report of the subcommittee on sediment terminology: Amer. Geophys. Union Trans., v. 28, no. 6, p. 936-938.

Linsley, R. K., and Franzini, J. B., 1964, Water-resources engineering: New York, McGraw-Hill, 654 p.

U.S. Geological Survey, 1972a, Water resources data for California--Part 1. Surface water records, volume 2: Northern Great Basin and Central Valley: Menlo Park, Calif., U.S. Geol. Survey ann. rept., p. 513-1,043.

______1972b, Water resources data for California--Part 2. Water quality records, Menlo Park, Calif., U.S. Geol. Survey ann. rept., 570 p.

______1973a, Water resources data for California--Part 1. Surface water records, volume 2: Northern Great Basin and Central Valley: Menlo Park, Calif., U.S. Geol. Survey ann. rept., 1,033 p.

______1973b, Water resources data for California--Part 2. Water quality records, Menlo Park, Calif., U.S. Geol. Survey ann. rept., 654 p.

______1974a, Water resources data for California--Part 1. Surface water records, volume 2: Northern Great Basin and Central Valley: Menlo Park, Calif., U.S. Geol. Survey ann. rept., 509 p.

______1974b, Water resources data for California--Part 2. Water quality records, Menlo Park, Calif., U.S. Geol. Survey ann. rept., (in preparation).

Table 11.--*Suspended-sediment discharge in streams, October 1973 to June 1974*

10336593 GRASS LAKE CREEK NEAR MEYERS

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (FT³/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT³/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT³/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.4	3	.01	3.1	0	0	5.2	5	.07
2	1.4	3	.01	3.0	0	0	5.3	8	.11
3	1.6	2	.01	2.5	0	0	5.0	5	.07
4	1.6	2	.01	2.5	0	0	4.4	4	.05
5	1.6	2	.01	2.8	1	.01	4.3	4	.05
6	1.6	2	.01	6.2	9	.15	4.1	4	.04
7	3.0	6	.05	12	11	.36	4.1	3	.03
8	2.8	2	.02	7.2	4	.08	4.1	3	.03
9	2.4	1	.01	9.2	13	.53	4.1	3	.03
10	2.2	1	.01	14	14	.57	4.1	2	.02
11	2.2	1	.01	43	66	8.2	4.1	2	.02
12	2.4	1	.01	37	42	5.6	4.1	2	.02
13	2.4	0	0	19	6	.31	4.1	2	.02
14	2.2	0	0	12	3	.10	3.9	2	.02
15	2.0	0	0	10	2	.05	3.9	2	.02
16	2.0	0	0	9.7	2	.05	3.9	2	.02
17	2.0	0	0	8.8	2	.05	4.4	4	.05
18	2.0	0	0	7.6	2	.04	4.3	2	.02
19	2.0	0	0	6.5	2	.04	4.1	2	.02
20	2.4	0	0	6.5	2	.04	3.9	2	.02
21	2.4	0	0	6.2	2	.03	3.9	2	.02
22	2.6	2	.01	6.2	2	.03	3.9	2	.02
23	3.7	1	.01	6.2	2	.03	3.9	2	.02
24	3.1	0	0	5.6	2	.03	3.7	2	.02
25	3.3	0	0	5.3	2	.03	3.7	2	.02
26	3.3	0	0	5.0	2	.03	3.9	2	.02
27	3.5	0	0	5.0	2	.03	3.9	2	.02
28	3.5	0	0	5.0	2	.03	4.8	3	.04
29	3.3	0	0	5.0	2	.03	15	14	.59
30	3.1	0	0	5.0	2	.03	11	3	.09
31	3.3	0	0	--	--	--	8.0	2	.04
TOTAL	76.3	--	.19	277.1	--	16.48	151.1	--	1.63

Table 11.--*Suspended-sediment discharge in streams, October 1973 to June 1974*--Continued

10336593 GRASS LAKE CREEK NEAR MEYERS--Continued

DAY	JANUARY MEAN DISCHARGE (FT^3/S)	JANUARY MEAN CONCEN-TRATION (MG/L)	JANUARY SEDIMENT DISCHARGE (TONS/DAY)	FEBRUARY MEAN DISCHARGE (FT^3/S)	FEBRUARY MEAN CONCEN-TRATION (MG/L)	FEBRUARY SEDIMENT DISCHARGE (TONS/DAY)	MARCH MEAN DISCHARGE (FT^3/S)	MARCH MEAN CONCEN-TRATION (MG/L)	MARCH SEDIMENT DISCHARGE (TONS/DAY)
1	7.6	2	.04	9.7	5	.13	10	2	.05
2	6.9	3	.06	10	5	.14	9.2	2	.05
3	6.4	4	.07	9.7	5	.13	9.2	2	.05
4	6.0	2	.03	9.2	6	.15	9.2	2	.05
5	5.6	2	.03	8.8	6	.14	8.8	2	.05
6	5.3	2	.03	11	7	.21	8.8	2	.05
7	4.8	2	.03	9.7	6	.16	8.4	2	.05
8	4.4	2	.02	8.8	6	.14	8.4	2	.05
9	4.3	2	.02	8.4	5	.11	7.6	2	.04
10	4.3	2	.02	8.4	5	.11	7.6	2	.04
11	4.3	2	.02	8.4	4	.09	7.6	2	.04
12	4.3	2	.02	8.8	4	.10	7.2	2	.04
13	4.3	2	.02	8.4	4	.09	7.2	2	.04
14	6.6	5	.16	8.0	4	.09	8.0	2	.04
15	19	14	.72	8.0	4	.09	9.2	2	.05
16	17	8	.37	8.4	4	.09	10	2	.05
17	18	6	.29	8.8	3	.07	10	2	.05
18	19	9	.46	8.4	3	.07	9.2	2	.05
19	21	5	.28	8.0	3	.06	9.2	2	.05
20	18	3	.15	9.2	3	.07	9.7	2	.05
21	16	3	.13	7.6	3	.06	10	2	.05
22	17	8	.37	7.2	3	.06	10	2	.05
23	15	4	.16	7.2	3	.06	11	2	.06
24	14	4	.15	7.6	2	.04	11	2	.06
25	13	4	.14	7.6	2	.04	12	2	.06
26	12	4	.13	7.6	2	.04	11	2	.06
27	12	4	.13	7.2	2	.04	11	2	.06
28	12	4	.13	6.8	2	.04	11	2	.06
29	11	4	.12	--	--	--	12	3	.10
30	11	4	.12	--	--	--	10	3	.08
31	11	4	.12	--	--	--	11	3	.09
TOTAL	331.1	--	4.54	236.9	--	2.62	294.5	--	1.67

10336593 GRASS LAKE CREEK NEAR MEYERS--Continued

DAY	APRIL MEAN DISCHARGE (FT^3/S)	APRIL MEAN CONCEN-TRATION (MG/L)	APRIL SEDIMENT DISCHARGE (TONS/DAY)	MAY MEAN DISCHARGE (FT^3/S)	MAY MEAN CONCEN-TRATION (MG/L)	MAY SEDIMENT DISCHARGE (TONS/DAY)	JUNE MEAN DISCHARGE (FT^3/S)	JUNE MEAN CONCEN-TRATION (MG/L)	JUNE SEDIMENT DISCHARGE (TONS/DAY)
1	9.7	4	.10	28	27	2.0	62	21	3.5
2	9.7	4	.10	31	36	3.0	60	18	2.9
3	9.7	4	.10	33	25	2.2	60	22	3.6
4	10	4	.11	36	32	3.1	61	21	3.5
5	11	3	.09	41	37	4.1	61	19	3.1
6	11	3	.09	49	50	6.6	63	18	3.1
7	12	3	.10	63	60	10	62	17	2.8
8	14	3	.11	70	75	14	56	16	2.4
9	14	3	.11	75	95	19	53	18	2.6
10	13	3	.11	80	80	17	53	19	2.7
11	14	3	.11	78	73	15	53	23	3.3
12	15	3	.12	74	50	10	52	22	3.1
13	16	3	.13	68	32	5.9	49	13	1.7
14	17	4	.18	66	30	5.3	47	13	1.6
15	19	7	.36	61	24	4.0	44	10	1.2
16	20	9	.49	53	20	2.9	42	10	1.1
17	22	11	.65	44	17	2.0	39	9	.95
18	23	9	.56	39	21	2.2	36	9	.87
19	21	7	.40	36	9	.87	34	8	.73
20	22	9	.53	34	9	.83	32	8	.69
21	24	9	.58	35	9	.85	30	8	.65
22	27	11	.80	38	12	1.2	29	8	.63
23	26	11	.77	42	19	2.2	29	8	.63
24	21	17	.96	46	20	2.5	26	9	.63
25	21	13	.74	50	30	4.1	24	9	.58
26	20	6	.32	61	28	4.6	23	7	.43
27	20	5	.27	70	36	6.8	21	7	.40
28	20	7	.38	73	42	8.3	21	7	.40
29	21	6	.34	66	31	5.5	21	7	.40
30	25	14	.95	62	25	4.2	20	7	.38
31	--	--	--	62	19	3.2	--	--	--
TOTAL	528.1	--	10.66	1664	--	173.45	1263	--	50.57

TOTAL DISCHARGE FOR PERIOD OCT. 1, 1973, TO JUNE 30, 1973 (FT^3/S - DAYS) 4822.1
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR PERIOD OCT. 1, 1973, TO JUNE 30, 1973 (TONS) 261.81

Table 11.--*Suspended-sediment discharge in streams, October 1973 to June 1974*--Continued

10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE

DAY	OCTOBER MEAN DISCHARGE (FT^3/S)	OCTOBER MEAN CONCENTRATION (MG/L)	OCTOBER SEDIMENT DISCHARGE (TONS/DAY)	NOVEMBER MEAN DISCHARGE (FT^3/S)	NOVEMBER MEAN CONCENTRATION (MG/L)	NOVEMBER SEDIMENT DISCHARGE (TONS/DAY)	DECEMBER MEAN DISCHARGE (FT^3/S)	DECEMBER MEAN CONCENTRATION (MG/L)	DECEMBER SEDIMENT DISCHARGE (TONS/DAY)
1	8.6	5	.12	19	2	.10	73	3	.59
2	8.0	3	.06	19	2	.10	78	7	1.5
3	8.2	2	.04	17	2	.09	81	9	2.0
4	12	3	.21	16	4	.17	82	6	1.3
5	8.6	2	.05	15	3	.12	80	8	1.7
6	9.4	2	.05	58	20	3.5	80	11	2.4
7	12	2	.06	98	22	8.1	82	13	2.9
8	16	3	.13	100	14	3.8	80	14	3.0
9	13	2	.07	90	18	5.5	77	17	3.5
10	12	3	.10	232	113	74	73	17	3.4
11	12	2	.06	697	134	275	70	19	3.6
12	11	2	.06	875	79	198	70	17	3.2
13	12	2	.06	358	35	35	73	15	3.0
14	12	1	.03	203	13	7.1	73	18	3.5
15	13	1	.04	158	8	3.4	71	18	3.5
16	12	0	0	136	5	1.8	69	17	3.2
17	12	0	0	142	7	2.7	71	14	2.7
18	12	0	0	132	9	3.2	80	15	3.2
19	11	0	0	103	7	1.9	77	15	3.1
20	12	0	0	90	7	1.7	68	13	2.4
21	13	0	0	87	5	1.2	59	11	1.8
22	13	1	.04	82	6	1.3	57	11	1.7
23	27	7	.51	76	8	1.6	56	10	1.5
24	19	1	.05	70	6	1.1	56	12	1.8
25	19	2	.10	69	10	1.9	53	10	1.4
26	19	1	.05	68	10	1.8	53	11	1.6
27	19	2	.10	67	9	1.6	74	12	2.4
28	20	2	.11	67	6	1.1	95	16	4.1
29	20	2	.11	69	3	.56	332	312	339
30	19	2	.10	69	2	.37	324	79	83
31	19	2	.10	--	--	--	190	11	5.6
TOTAL	433.8	--	2.41	4282	--	637.81	2857	--	497.59

10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE--Continued

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	155	5	2.1	93	4	1.0	66	13	2.3
2	110	8	2.4	93	6	1.5	80	17	3.7
3	95	6	1.5	92	6	1.5	104	17	4.8
4	88	5	1.2	87	5	1.2	110	16	4.8
5	82	4	.89	82	4	.89	108	13	3.8
6	77	4	.83	82	6	1.3	98	12	3.2
7	74	6	1.2	83	6	1.3	91	9	2.2
8	72	5	.97	82	7	1.5	86	10	2.3
9	72	7	1.4	80	8	1.7	85	11	2.5
10	72	7	1.4	77	8	1.7	85	10	2.3
11	71	6	1.2	75	7	1.4	85	10	2.3
12	68	3	.55	75	6	1.2	96	10	2.6
13	67	3	.54	71	7	1.3	96	11	2.9
14	110	7	2.1	71	7	1.3	105	11	3.1
15	430	194	244	67	6	1.1	114	10	3.1
16	444	175	212	68	4	.73	117	12	3.8
17	484	101	139	70	5	.95	120	12	3.9
18	391	113	153	69	7	1.3	115	11	3.4
19	439	172	212	71	10	1.9	109	11	3.2
20	265	95	68	72	15	2.9	109	10	2.9
21	206	52	29	66	14	2.5	112	10	3.0
22	179	37	18	62	18	3.0	115	9	2.8
23	167	33	15	60	6	.97	117	8	2.5
24	141	35	13	59	5	.80	121	6	2.0
25	127	30	10	58	5	.78	124	6	2.0
26	118	30	9.6	57	5	.77	127	7	2.4
27	121	28	9.1	57	5	.77	129	6	2.1
28	108	18	5.2	57	7	1.1	138	13	4.8
29	105	10	2.8	--	--	--	192	60	31
30	98	5	1.3	--	--	--	176	50	24
31	94	5	1.3	--	--	--	150	37	15
TOTAL	5130	--	1160.58	2036	--	38.36	3480	--	154.7

Table 11.--*Suspended-sediment discharge in streams, October 1973 to June 1974*--Continued

10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE--Continued

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	166	48	22	241	24	16	457	45	56
2	172	40	19	280	30	23	470	45	57
3	158	16	6.8	323	40	35	490	45	60
4	143	20	7.7	327	35	31	503	45	61
5	150	13	5.3	341	33	30	481	40	52
6	143	10	3.9	386	33	34	520	35	49
7	140	11	4.2	440	51	61	514	42	58
8	150	12	4.9	520	60	84	448	45	54
9	150	13	5.3	547	65	96	420	27	31
10	127	8	2.7	564	69	105	438	28	33
11	126	7	2.4	547	72	106	442	37	44
12	132	7	2.5	545	50	74	470	35	44
13	129	7	2.4	498	42	56	465	32	40
14	135	7	2.6	461	30	37	440	38	45
15	148	11	4.4	465	30	38	406	28	31
16	168	14	6.4	392	36	38	374	23	23
17	182	15	7.4	343	40	37	336	22	20
18	204	28	15	305	40	33	301	20	16
19	172	14	6.5	257	73	51	256	20	14
20	168	8	3.6	232	72	45	211	11	6.3
21	174	9	4.2	220	72	43	201	15	8.1
22	208	18	10	230	60	37	222	19	11
23	232	49	31	275	47	35	227	20	12
24	214	26	15	330	57	51	219	18	11
25	195	19	10	398	55	59	200	13	7.0
26	175	20	9.5	479	55	71	181	14	6.8
27	167	15	6.8	601	42	68	162	13	5.7
28	164	10	4.4	630	42	71	153	10	4.1
29	162	8	3.5	542	33	48	153	9	3.7
30	172	13	6.0	463	34	43	157	11	4.7
31	--	--	--	446	44	53	--	--	--
TOTAL	4926	--	235.4	12628	--	1609	10317	--	868.4

TOTAL DISCHARGE FOR PERIOD OCT. 1, 1973, TO JUNE 30, 1973 (FT^3/S - DAYS) 46089.8
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR PERIOD OCT. 1, 1973, TO JUNE 30, 1973 (TONS) 5204.25

DAY	OCTOBER MEAN DISCHARGE (FT^3/S)	OCTOBER MEAN CONCEN-TRATION (MG/L)	OCTOBER SEDIMENT DISCHARGE (TONS/DAY)	NOVEMBER MEAN DISCHARGE (FT^3/S)	NOVEMBER MEAN CONCEN-TRATION (MG/L)	NOVEMBER SEDIMENT DISCHARGE (TONS/DAY)	DECEMBER MEAN DISCHARGE (FT^3/S)	DECEMBER MEAN CONCEN-TRATION (MG/L)	DECEMBER SEDIMENT DISCHARGE (TONS/DAY)
1	.39	3	0	4.2	0	0	10	1	.03
2	.37	3	0	4.0	0	0	13	1	.04
3	.33	2	0	3.6	0	0	14	0	0
4	.42	1	0	2.9	0	0	12	0	0
5	.47	1	0	4.0	1	.01	9.9	0	0
6	.58	1	0	22	5	.27	9.3	0	0
7	1.1	2	.01	117	15	6.0	9.1	0	0
8	2.2	2	.01	78	2	.57	8.8	1	.02
9	2.9	1	.01	67	6	2.9	8.8	1	.02
10	3.1	1	.01	213	19	12	8.8	1	.02
11	2.9	1	.01	287	36	28	9.1	2	.05
12	2.7	0	0	253	20	16	9.3	2	.05
13	2.7	0	0	89	1	.24	10	2	.05
14	2.7	0	0	56	1	.15	10	2	.05
15	2.9	0	0	36	1	.10	9.3	1	.03
16	2.9	0	0	28	1	.08	8.6	1	.02
17	2.9	0	0	27	1	.07	12	1	.03
18	2.7	0	0	27	1	.07	11	1	.03
19	2.5	0	0	23	1	.06	9.6	1	.03
20	2.4	0	0	19	1	.05	8.6	1	.02
21	2.7	0	0	18	1	.05	8.3	1	.02
22	3.8	2	.02	16	1	.04	9.1	1	.02
23	9.9	4	.11	15	1	.04	8.8	1	.02
24	10	1	.03	14	1	.04	8.1	1	.02
25	8.3	0	0	13	1	.04	7.6	1	.02
26	6.9	0	0	13	1	.04	7.3	1	.02
27	6.4	0	0	12	1	.03	9.9	1	.03
28	6.1	0	0	12	1	.03	10	1	.03
29	5.7	0	0	12	1	.03	63	10	1.8
30	4.6	0	0	10	1	.03	44	4	.48
31	4.2	0	0	--	--	--	30	3	.24
TOTAL	107.76	--	.21	1495.7	--	66.94	407.3	--	3.19

Table 11.--*Suspended-sediment discharge in streams, October 1973 to June 1974*--Continued

10336630 EAGLE CREEK NEAR CAMP RICHARDSON--Continued

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	22	3	.18	11	1	.03	13	6	.21
2	17	3	.14	11	1	.03	15	3	.12
3	14	2	.08	10	1	.03	16	7	.30
4	13	2	.07	9.6	1	.03	17	7	.32
5	12	2	.06	9.3	1	.03	16	5	.22
6	13	2	.07	8.8	1	.02	12	4	.13
7	13	2	.07	8.1	1	.02	9.6	3	.08
8	12	2	.06	7.8	1	.02	8.6	3	.07
9	10	2	.05	7.8	1	.02	7.6	2	.04
10	9.3	2	.05	7.8	1	.02	7.3	2	.04
11	8.6	2	.05	7.8	1	.02	7.1	1	.02
12	8.8	2	.05	7.6	1	.02	7.3	0	0
13	8.3	2	.04	7.8	1	.02	7.3	0	0
14	16	3	.24	7.6	1	.02	7.6	0	0
15	182	21	10	7.1	2	.04	10	0	0
16	138	13	4.8	7.3	2	.04	12	0	0
17	94	3	.77	7.6	2	.04	12	0	0
18	112	13	6.1	7.3	2	.04	11	1	.03
19	114	5	1.8	9.3	4	.10	10	1	.03
20	57	1	.15	8.3	4	.09	11	1	.03
21	35	1	.09	7.6	3	.06	12	1	.03
22	26	1	.07	7.3	3	.06	13	1	.04
23	21	1	.06	6.6	3	.05	14	1	.04
24	18	1	.05	6.1	3	.05	16	1	.04
25	17	1	.05	6.1	3	.05	18	1	.05
26	15	1	.04	6.6	3	.05	16	1	.04
27	14	1	.04	6.6	3	.05	15	1	.04
28	13	1	.04	6.4	3	.05	15	1	.04
29	12	1	.03	--	--	--	18	1	.05
30	11	1	.03	--	--	--	16	1	.04
31	11	1	.03	--	--	--	15	1	.04
TOTAL	1067.0	--	25.36	222.2	--	1.10	385.4	--	2.09

10336630 EAGLE CREEK NEAR CAMP RICHARDSON--Continued

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (FT³/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT³/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT³/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	16	2	.09	51	3	.41	133	3	1.1
2	16	2	.09	64	2	.35	138	4	1.5
3	14	2	.08	64	1	.17	151	3	1.2
4	12	2	.06	66	1	.18	145	3	1.2
5	12	2	.06	72	1	.19	143	2	.77
6	11	2	.06	86	2	.46	157	2	.85
7	11	1	.03	113	3	.92	149	2	.80
8	12	2	.06	126	3	1.0	116	2	.63
9	13	4	.14	138	3	1.1	114	2	.62
10	12	2	.06	122	2	.66	130	3	1.1
11	12	2	.06	112	2	.60	135	2	.73
12	14	2	.08	101	2	.55	142	2	.77
13	16	2	.09	87	2	.47	136	2	.73
14	18	1	.05	86	2	.46	126	1	.34
15	25	1	.07	84	2	.45	116	1	.31
16	31	1	.08	63	2	.34	105	2	.57
17	36	0	0	46	2	.25	95	2	.51
18	39	1	.11	34	2	.18	90	1	.24
19	26	1	.07	27	6	.44	76	1	.21
20	24	1	.06	24	9	.58	60	1	.16
21	29	2	.16	29	3	.23	63	1	.17
22	43	3	.35	48	1	.13	76	1	.21
23	43	2	.23	77	5	1.0	79	1	.21
24	31	1	.08	100	12	3.2	72	1	.19
25	24	1	.06	116	8	2.5	64	1	.17
26	19	2	.10	145	7	2.7	59	1	.16
27	17	1	.05	167	6	2.7	52	1	.14
28	17	1	.05	167	6	2.7	52	1	.14
29	19	0	0	131	3	1.1	60	1	.16
30	27	1	.07	113	4	1.2	67	1	.18
31	--	--	--	120	4	1.3	--	--	--
TOTAL	639	--	2.55	2779	--	28.52	3101	--	16.07

TOTAL DISCHARGE FOR PERIOD OCT. 1, 1973, TO JUNE 30, 1973 (FT³/S-DAYS) 10204.36
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR PERIOD OCT. 1, 1973, TO JUNE 30, 1973 (TONS) 146.03

Table 11.--*Suspended-sediment discharge in streams, October 1973 to June 1974*--Continued

10336640 MEEKS CREEK AT MEEKS BAY

DAY	OCTOBER MEAN DISCHARGE (FT^3/S)	OCTOBER MEAN CONCEN-TRATION (MG/L)	OCTOBER SEDIMENT DISCHARGE (TONS/DAY)	NOVEMBER MEAN DISCHARGE (FT^3/S)	NOVEMBER MEAN CONCEN-TRATION (MG/L)	NOVEMBER SEDIMENT DISCHARGE (TONS/DAY)	DECEMBER MEAN DISCHARGE (FT^3/S)	DECEMBER MEAN CONCEN-TRATION (MG/L)	DECEMBER SEDIMENT DISCHARGE (TONS/DAY)
1	.02	4	0	.58	7	.01	10	1	.03
2	.02	4	0	.43	6	.01	16	1	.04
3	.02	3	0	.30	5	0	16	1	.04
4	.02	3	0	.20	5	0	13	1	.04
5	.02	3	0	.43	5	.01	12	1	.03
6	.02	3	0	2.4	4	.03	10	1	.03
7	.02	3	0	3.0	3	.02	11	1	.03
8	.04	2	0	11	5	.15	10	1	.03
9	.04	2	0	6.8	2	.03	9.2	1	.02
10	.04	2	0	38	16	1.6	9.2	1	.02
11	.05	2	0	209	23	14	10	1	.03
12	.05	1	0	262	19	18	11	1	.03
13	.10	1	0	58	2	.33	11	1	.03
14	.10	1	0	37	2	.20	12	1	.03
15	.20	1	0	28	1	.08	11	1	.03
16	.05	1	0	25	1	.07	9.2	1	.02
17	.05	1	0	29	1	.08	14	2	.08
18	.10	1	0	28	1	.08	17	3	.14
19	.20	1	0	20	1	.05	13	2	.07
20	.58	1	0	14	1	.04	12	1	.03
21	.58	1	0	14	1	.04	12	1	.03
22	.73	8	.02	13	1	.04	14	1	.04
23	1.5	2	.01	12	1	.03	12	1	.03
24	1.5	1	0	12	1	.03	11	1	.03
25	1.2	1	0	10	1	.03	11	1	.03
26	.96	1	0	12	1	.03	12	1	.03
27	.96	2	.01	11	1	.03	17	1	.05
28	.73	3	.01	10	1	.03	20	2	.11
29	.73	4	.01	11	1	.03	49	15	2.1
30	.73	5	.01	12	1	.03	62	12	2.0
31	.58	6	.01	--	--	--	32	3	.26
TOTAL	11.94	--	.08	890.14	--	35.11	488.6	--	5.51

10336640 MEEKS CREEK AT MEEKS BAY--Continued

DAY	JANUARY MEAN DISCHARGE (FT³/S)	JANUARY MEAN CONCENTRATION (MG/L)	JANUARY SEDIMENT DISCHARGE (TONS/DAY)	FEBRUARY MEAN DISCHARGE (FT³/S)	FEBRUARY MEAN CONCENTRATION (MG/L)	FEBRUARY SEDIMENT DISCHARGE (TONS/DAY)	MARCH MEAN DISCHARGE (FT³/S)	MARCH MEAN CONCENTRATION (MG/L)	MARCH SEDIMENT DISCHARGE (TONS/DAY)
1	23	2	.12	18	1	.05	22	2	.12
2	21	2	.11	17	1	.05	24	2	.13
3	18	1	.05	16	2	.09	24	1	.06
4	16	1	.04	15	2	.08	22	1	.06
5	15	1	.04	14	2	.08	18	1	.05
6	14	1	.04	14	2	.08	14	1	.04
7	14	2	.08	13	2	.07	14	1	.04
8	14	2	.08	12	2	.06	13	1	.04
9	13	2	.07	12	2	.06	12	1	.03
10	12	2	.06	11	2	.06	11	1	.03
11	11	2	.06	11	2	.06	11	1	.03
12	12	2	.06	10	2	.05	12	1	.03
13	11	2	.06	10	2	.05	12	1	.03
14	12	2	.06	10	2	.05	13	1	.04
15	47	8	1.3	10	2	.05	15	1	.04
16	116	30	9.5	10	3	.08	16	1	.04
17	113	14	4.3	10	3	.08	18	1	.05
18	79	12	2.7	10	3	.08	18	1	.05
19	130	8	2.9	11	4	.12	17	1	.05
20	67	2	.36	12	4	.13	17	1	.05
21	43	2	.23	10	4	.11	18	1	.05
22	35	2	.19	10	3	.08	20	1	.05
23	30	2	.16	8.5	3	.07	20	1	.05
24	27	2	.15	8.5	3	.07	22	1	.06
25	24	2	.13	8.5	2	.05	24	1	.06
26	24	1	.06	8.5	2	.05	24	1	.06
27	21	1	.06	9.2	2	.05	24	1	.06
28	20	1	.05	8.5	2	.05	25	1	.07
29	19	1	.05	--	--	--	36	1	.10
30	19	1	.05	--	--	--	37	1	.10
31	18	1	.05	--	--	--	28	1	.08
TOTAL	1038	--	23.17	317.7	--	1.96	601	--	1.75

Table 11.--*Suspended-sediment discharge in streams, October 1973 to June 1974*--Continued

10336640 MEEKS CREEK AT MEEKS BAY--Continued

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	32	1	.09	50	3	.41	100	4	1.1
2	32	1	.09	68	8	1.5	106	4	1.1
3	24	0	0	75	7	1.4	103	7	1.9
4	22	0	0	74	16	3.2	103	6	1.7
5	22	1	.06	78	11	2.3	93	5	1.3
6	22	1	.06	86	8	1.9	99	4	1.1
7	21	0	0	104	7	2.0	96	5	1.3
8	23	1	.06	121	8	2.6	74	3	.60
9	25	2	.14	128	7	2.4	67	7	1.3
10	22	2	.12	120	5	1.6	78	7	1.5
11	22	2	.12	106	5	1.4	78	4	.84
12	25	2	.14	100	4	1.1	83	7	1.6
13	27	2	.15	86	3	.70	76	5	1.0
14	28	2	.15	83	3	.67	72	5	.97
15	32	2	.17	86	3	.70	64	4	.69
16	38	2	.21	74	2	.40	56	3	.45
17	42	2	.23	58	1	.16	52	6	.84
18	48	2	.26	47	1	.13	51	4	.55
19	40	2	.22	40	1	.11	47	3	.38
20	36	1	.10	36	2	.19	39	2	.21
21	38	1	.10	36	1	.10	36	2	.19
22	47	2	.25	46	1	.12	40	2	.22
23	55	3	.45	67	4	.72	40	2	.22
24	45	2	.24	86	9	2.1	35	2	.19
25	40	1	.11	97	7	1.8	32	2	.17
26	32	1	.09	117	6	1.9	29	2	.16
27	29	1	.08	137	7	2.6	26	2	.14
28	29	2	.16	132	8	2.9	25	2	.14
29	31	1	.08	107	4	1.2	27	2	.15
30	35	1	.09	86	2	.46	28	2	.15
31	--	--	--	90	3	.73	--	--	--
TOTAL	964	--	4.02	2621	--	39.50	1855	--	22.16

TOTAL DISCHARGE FOR PERIOD OCT. 1, 1973, TO JUNE 30, 1973 (FT^3/S - DAYS) 8787.38

TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR PERIOD OCT. 1, 1973, TO JUNE 30, 1973 (TONS) 133.26

10336650 QUAIL LAKE CREEK NEAR HOMEWOOD

DAY	OCTOBER MEAN DISCHARGE (FT³/S)	OCTOBER MEAN CONCEN- TRATION (MG/L)	OCTOBER SEDIMENT DISCHARGE (TONS/DAY)	NOVEMBER MEAN DISCHARGE (FT³/S)	NOVEMBER MEAN CONCEN- TRATION (MG/L)	NOVEMBER SEDIMENT DISCHARGE (TONS/DAY)	DECEMBER MEAN DISCHARGE (FT³/S)	DECEMBER MEAN CONCEN- TRATION (MG/L)	DECEMBER SEDIMENT DISCHARGE (TONS/DAY)
1	.32	2	0	.36	1	0	1.0	1	0
2	.32	3	0	.42	1	0	1.2	1	0
3	.36	2	0	.36	1	0	1.0	1	0
4	.36	2	0	.36	1	0	.95	1	0
5	.36	1	0	.42	3	0	.76	1	0
6	.36	1	0	1.2	3	.01	.76	1	0
7	.54	1	0	2.1	5	.03	.76	1	0
8	.54	1	0	.95	2	.01	.67	1	0
9	.48	1	0	.85	5	.01	.67	2	0
10	.42	1	0	1.4	5	.02	.67	2	0
11	.42	0	0	4.0	9	.10	.67	2	0
12	.42	0	0	11	13	.42	.67	2	0
13	.36	0	0	7.5	3	.06	.67	2	0
14	.36	0	0	4.8	1	.01	.67	2	0
15	.36	0	0	2.8	1	.01	.67	2	0
16	.36	0	0	2.7	1	.01	.60	2	0
17	.36	0	0	3.0	1	.01	1.0	4	.01
18	.36	0	0	2.8	1	.01	1.0	2	.01
19	.36	0	0	2.1	1	.01	.85	2	0
20	.42	0	0	1.8	1	0	.76	2	0
21	.42	0	0	1.6	1	0	.76	2	0
22	.48	1	0	1.4	1	0	.76	1	0
23	.67	0	0	1.2	1	0	.76	1	0
24	.54	0	0	1.2	1	0	.76	1	0
25	.48	0	0	1.2	0	0	.67	1	0
26	.42	0	0	.95	0	0	.67	2	0
27	.42	0	0	.85	0	0	1.0	2	.01
28	.42	0	0	.85	0	0	1.8	3	.01
29	.42	1	0	.85	0	0	10	16	.49
30	.36	1	0	.76	0	0	6.5	6	.11
31	.36	1	0	--	--	--	4.0	3	.03
TOTAL	12.83	--	0	61.78	--	.72	43.68	--	.67

Table 11.--*Suspended-sediment discharge in streams, October 1973 to June 1974*--Continued

10336650 QUAIL LAKE CREEK NEAR HOMEWOOD--Continued

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3.2	2	.02	1.8	1	0	1.0	2	.01
2	2.6	2	.01	1.6	1	0	1.8	1	0
3	2.1	2	.01	1.6	1	0	2.0	1	.01
4	2.0	2	.01	1.4	1	0	2.0	0	0
5	1.6	2	.01	1.4	1	0	1.6	0	0
6	1.6	2	.01	1.2	1	0	1.4	0	0
7	1.5	2	.01	1.2	1	0	1.2	0	0
8	1.4	2	.01	1.0	1	0	1.2	0	0
9	1.2	2	.01	1.0	1	0	1.0	0	0
10	1.0	2	.01	.95	1	0	1.0	1	0
11	.95	2	.01	.95	1	0	.95	1	0
12	.95	2	.01	.95	1	0	1.0	1	0
13	.95	2	.01	.95	1	0	1.0	1	0
14	1.3	4	.02	.85	1	0	1.0	1	0
15	4.6	5	.06	.85	1	0	1.4	1	0
16	6.1	5	.08	.85	1	0	1.6	1	0
17	9.7	5	.13	.85	1	0	1.6	1	0
18	9.2	7	.17	.76	1	0	1.6	1	0
19	12	6	.19	.85	1	0	1.6	1	0
20	8.2	2	.04	.94	1	0	1.6	1	0
21	5.4	1	.01	1.0	1	0	1.6	1	0
22	4.0	1	.01	.90	1	0	1.8	1	0
23	3.4	1	.01	.85	1	0	2.0	1	.01
24	3.0	1	.01	.76	2	0	2.1	1	.01
25	2.7	1	.01	.67	2	0	2.2	0	0
26	2.6	1	.01	.60	2	0	2.4	0	0
27	2.2	1	.01	.67	2	0	2.7	0	0
28	2.1	1	.01	.67	2	0	2.7	0	0
29	2.0	1	.01	--	--	--	4.2	2	.02
30	1.8	1	0	--	--	--	3.8	1	.01
31	1.6	1	0	--	--	--	3.2	1	.01
TOTAL	102.95	--	.92	28.07	--	0	56.25	--	.08

10336650 QUAIL LAKE CREEK NEAR HOMEWOOD--Continued

DAY	APRIL MEAN DISCHARGE (FT^3/S)	APRIL MEAN CONCEN-TRATION (MG/L)	APRIL SEDIMENT DISCHARGE (TONS/DAY)	MAY MEAN DISCHARGE (FT^3/S)	MAY MEAN CONCEN-TRATION (MG/L)	MAY SEDIMENT DISCHARGE (TONS/DAY)	JUNE MEAN DISCHARGE (FT^3/S)	JUNE MEAN CONCEN-TRATION (MG/L)	JUNE SEDIMENT DISCHARGE (TONS/DAY)
1	3.4	1	.01	6.1	3	.05	12	3	.10
2	3.2	1	.01	7.7	2	.04	12	3	.10
3	2.6	0	0	9.4	4	.10	13	3	.11
4	2.2	1	.01	10	4	.11	12	3	.10
5	2.1	2	.01	11	4	.12	12	3	.10
6	2.1	1	.01	12	7	.23	8.1	3	.07
7	2.1	1	.01	14	7	.26	2.8	2	.02
8	2.2	1	.01	16	9	.39	3.0	3	.02
9	2.2	1	.01	16	7	.30	6.1	5	.08
10	2.1	1	.01	15	6	.24	8.2	5	.11
11	2.1	1	.01	15	5	.20	9.4	4	.10
12	2.2	1	.01	14	3	.11	11	7	.21
13	2.4	1	.01	13	3	.11	9.9	5	.13
14	2.6	1	.01	12	2	.06	9.4	5	.13
15	2.8	2	.02	12	3	.10	9.9	3	.08
16	3.6	2	.02	11	2	.06	8.7	3	.07
17	4.2	1	.01	9.9	2	.05	7.7	3	.06
18	4.6	1	.01	8.0	2	.04	7.0	2	.04
19	4.0	1	.01	6.5	2	.04	6.1	2	.03
20	4.2	1	.01	5.6	1	.02	5.2	2	.03
21	4.4	1	.01	6.1	3	.05	4.8	2	.03
22	5.2	2	.03	8.2	2	.04	4.6	2	.02
23	5.9	1	.02	9.4	3	.08	4.6	2	.02
24	5.2	1	.01	10	2	.05	4.2	2	.02
25	4.2	1	.01	12	6	.19	3.8	2	.02
26	3.8	0	0	15	7	.28	3.4	2	.02
27	3.2	2	.02	15	7	.28	3.2	2	.02
28	3.4	1	.01	15	5	.20	3.0	2	.02
29	3.8	2	.02	14	4	.15	2.8	2	.02
30	4.6	3	.04	12	3	.10	2.8	2	.02
31	--	--	--	12	4	.13	--	--	--
TOTAL	100.6	--	.38	352.9	--	4.18	210.7	--	1.90

TOTAL DISCHARGE FOR PERIOD OCT. 1, 1973, TO JUNE 30, 1973 (FT^3/S - DAYS) 969.76
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR PERIOD OCT. 1, 1973, TO JUNE 30, 1973 (TONS) 8.85

Table 11.--*Suspended-sediment discharge in streams, October 1973 to June 1974*--Continued

10336684 DOLLAR CREEK NEAR TAHOE CITY

DAY	OCTOBER MEAN DISCHARGE (FT³/S)	OCTOBER MEAN CONCEN-TRATION (MG/L)	OCTOBER SEDIMENT DISCHARGE (TONS/DAY)	NOVEMBER MEAN DISCHARGE (FT³/S)	NOVEMBER MEAN CONCEN-TRATION (MG/L)	NOVEMBER SEDIMENT DISCHARGE (TONS/DAY)	DECEMBER MEAN DISCHARGE (FT³/S)	DECEMBER MEAN CONCEN-TRATION (MG/L)	DECEMBER SEDIMENT DISCHARGE (TONS/DAY)
1	.09	2	0	.20	1	0	.35	1	0
2	.08	2	0	.24	1	0	.32	1	0
3	.07	1	0	.24	1	0	.28	1	0
4	.06	1	0	.20	1	0	.28	1	0
5	.08	1	0	.17	1	0	.28	1	0
6	.07	1	0	.44	2	0	.28	1	0
7	.10	1	0	.52	1	0	.28	1	0
8	.12	1	0	.36	1	0	.28	1	0
9	.12	1	0	.32	4	0	.28	1	0
10	.13	0	0	.40	2	0	.28	1	0
11	.15	0	0	.94	7	.02	.32	1	0
12	.15	0	0	1.7	10	.05	.28	1	0
13	.15	0	0	.80	2	0	.32	1	0
14	.15	0	0	.60	1	0	.24	1	0
15	.12	0	0	.48	1	0	.24	1	0
16	.11	0	0	.52	1	0	.24	1	0
17	.11	0	0	.65	1	0	.48	2	0
18	.11	0	0	.65	1	0	.40	1	0
19	.11	0	0	.44	1	0	.32	1	0
20	.13	0	0	.40	1	0	.28	1	0
21	.13	0	0	.40	1	0	.28	1	0
22	.20	1	0	.36	1	0	.28	1	0
23	.44	1	0	.20	1	0	.24	1	0
24	.40	0	0	.20	1	0	.20	1	0
25	.40	0	0	.28	1	0	.20	1	0
26	.28	0	0	.28	1	0	.20	1	0
27	.20	0	0	.32	1	0	.24	1	0
28	.15	0	0	.32	1	0	.28	1	0
29	.17	1	0	.36	1	0	2.0	13	.08
30	.17	1	0	.36	1	0	1.6	3	.01
31	.20	1	0	--	--	--	1.0	3	.01
TOTAL	4.95	--	0	13.35	--	.07	12.55	--	.10

10336684 DOLLAR CREEK NEAR TAHOE CITY--Continued

DAY	JANUARY MEAN DISCHARGE (FT³/S)	JANUARY MEAN CONCEN-TRATION (MG/L)	JANUARY SEDIMENT DISCHARGE (TONS/DAY)	FEBRUARY MEAN DISCHARGE (FT³/S)	FEBRUARY MEAN CONCEN-TRATION (MG/L)	FEBRUARY SEDIMENT DISCHARGE (TONS/DAY)	MARCH MEAN DISCHARGE (FT³/S)	MARCH MEAN CONCEN-TRATION (MG/L)	MARCH SEDIMENT DISCHARGE (TONS/DAY)
1	.80	3	.01	.85	2	0	1.2	8	.03
2	.52	3	0	.75	2	0	1.6	5	.02
3	.48	3	0	.75	2	0	1.3	4	.01
4	.44	3	0	.75	2	0	1.1	4	.01
5	.44	3	0	.70	2	0	1.1	4	.01
6	.40	3	0	.65	2	0	1.1	4	.01
7	.36	3	0	.60	2	0	1.1	4	.01
8	.36	3	0	.56	2	0	1.1	4	.01
9	.40	3	0	.56	2	0	1.0	4	.01
10	.40	3	0	.60	2	0	.95	3	.01
11	.32	3	0	.60	2	0	.95	3	.01
12	.32	3	0	.60	2	0	.95	3	.01
13	.32	3	0	.56	2	0	.95	3	.01
14	.42	3	0	.56	2	0	1.2	3	.01
15	1.8	10	.05	.52	2	0	1.6	3	.01
16	2.4	8	.04	.52	2	0	2.1	3	.02
17	4.1	12	.13	.48	2	0	2.5	3	.02
18	4.4	11	.15	.48	2	0	2.4	3	.02
19	5.7	8	.12	.52	2	0	2.4	3	.02
20	3.8	4	.04	.52	2	0	2.5	3	.02
21	2.4	4	.03	.48	2	0	3.0	4	.03
22	1.8	4	.02	.48	2	0	3.2	4	.03
23	1.5	3	.01	.48	2	0	3.6	4	.04
24	1.3	3	.01	.48	2	0	3.9	5	.05
25	1.2	3	.01	.52	3	0	4.1	4	.04
26	1.1	3	.01	.56	4	.01	3.9	4	.04
27	1.0	2	.01	.56	4	.01	3.9	3	.03
28	.95	2	.01	.56	3	0	3.5	3	.03
29	.95	2	.01	--	--	--	4.2	5	.06
30	.90	2	0	--	--	--	5.0	3	.04
31	.85	2	0	--	--	--	3.8	3	.03
TOTAL	42.13	--	.66	16.25	--	.02	71.20	--	.70

Table 11.--*Suspended-sediment discharge in streams, October 1973 to June 1974*--Continued

10336684 DOLLAR CREEK NEAR TAHOE CITY--Continued

DAY	APRIL MEAN DISCHARGE (FT³/S)	APRIL MEAN CONCEN- TRATION (MG/L)	APRIL SEDIMENT DISCHARGE (TONS/DAY)	MAY MEAN DISCHARGE (FT³/S)	MAY MEAN CONCEN- TRATION (MG/L)	MAY SEDIMENT DISCHARGE (TONS/DAY)	JUNE MEAN DISCHARGE (FT³/S)	JUNE MEAN CONCEN- TRATION (MG/L)	JUNE SEDIMENT DISCHARGE (TONS/DAY)
1	3.6	4	.04	5.4	6	.09	.60	2	0
2	3.5	2	.02	5.9	5	.08	.65	2	0
3	3.0	2	.02	5.7	4	.06	.48	2	0
4	2.7	2	.01	5.4	4	.06	.40	2	0
5	2.8	2	.02	5.0	4	.05	.36	2	0
6	3.0	2	.02	4.8	4	.05	.32	2	0
7	3.2	2	.02	5.0	5	.07	.32	2	0
8	3.5	2	.02	5.0	5	.07	.36	2	0
9	3.9	3	.03	4.4	5	.06	.40	2	0
10	3.4	2	.02	3.8	4	.04	.20	2	0
11	3.6	3	.03	3.6	5	.05	.24	2	0
12	4.1	4	.04	3.4	4	.04	.24	2	0
13	4.2	4	.05	2.7	4	.03	.17	2	0
14	4.4	5	.06	2.4	4	.03	.17	2	0
15	5.4	7	.10	2.4	5	.03	.36	2	0
16	6.7	8	.14	2.0	4	.02	.40	2	0
17	7.5	14	.28	1.8	3	.01	.28	2	0
18	7.9	7	.15	1.6	4	.02	.24	2	0
19	6.4	7	.12	1.4	4	.02	.28	2	0
20	6.2	4	.07	1.3	4	.01	.24	2	0
21	6.2	4	.07	1.2	4	.01	.20	2	0
22	7.5	7	.14	1.1	2	.01	.24	2	0
23	7.5	4	.08	1.0	3	.01	.28	2	0
24	5.9	2	.03	.95	3	.01	.12	2	0
25	4.6	3	.04	1.0	3	.01	.11	2	0
26	3.9	4	.04	1.0	2	.01	.11	2	0
27	3.5	4	.04	.90	2	0	.09	2	0
28	3.6	4	.04	.90	1	0	.08	2	0
29	3.9	5	.05	.80	1	0	.09	2	0
30	4.8	7	.09	.75	2	0	.11	2	0
31	--	--	--	.63	2	0	--	--	--
TOTAL	140.4	--	1.88	83.23	--	.95	8.14	--	0

TOTAL DISCHARGE FOR PERIOD OCT. 1, 1973, TO JUNE 30, 1973 (FT³/S - DAYS) 392.20
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR PERIOD OCT. 1, 1973, TO JUNE 30, 1973 (TONS) 4.38

10336790 TROUT CREEK AT SOUTH LAKE TAHOE--Continued

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT^3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	14	7	.26	17	9	.41	20	6	.32
2	15	6	.24	16	9	.39	22	17	1.0
3	14	6	.23	14	9	.34	26	14	.98
4	16	6	.26	14	14	.53	26	13	.91
5	16	6	.26	21	22	1.2	25	13	.88
6	17	6	.28	29	26	2.0	25	14	.95
7	20	7	.38	31	29	2.4	25	14	.95
8	20	7	.38	26	29	2.0	25	14	.95
9	18	5	.24	22	23	1.4	24	14	.91
10	18	4	.19	29	23	1.8	24	13	.84
11	18	3	.15	67	154	33	24	13	.84
12	18	3	.15	81	150	38	25	8	.54
13	17	2	.09	38	22	2.3	24	12	.78
14	16	1	.04	32	16	1.4	23	11	.68
15	16	0	0	29	13	1.0	23	10	.62
16	16	1	.04	29	10	.78	24	9	.58
17	16	1	.04	32	9	.78	25	10	.68
18	15	2	.08	33	8	.71	28	11	.83
19	15	3	.12	26	7	.49	27	11	.80
20	16	3	.13	24	8	.52	28	10	.76
21	16	3	.13	23	5	.31	25	9	.61
22	17	4	.18	23	8	.50	24	7	.45
23	26	5	.35	23	8	.50	23	8	.50
24	20	4	.22	23	7	.43	23	9	.56
25	22	6	.36	22	10	.59	22	9	.53
26	22	6	.36	22	9	.53	22	9	.53
27	21	7	.40	20	8	.43	26	9	.63
28	22	7	.42	23	7	.43	27	9	.66
29	21	7	.40	21	5	.28	64	128	26
30	18	9	.44	22	5	.30	51	45	6.2
31	18	9	.44	--	--	--	36	17	1.7
TOTAL	554	--	7.26	832	--	95.75	836	--	54.17

Table 11.--*Suspended-sediment discharge in streams, October 1973 to June 1974*--Continued

10336790 TROUT CREEK AT SOUTH LAKE TAHOE--Continued

DAY	JANUARY MEAN DISCHARGE (FT3/S)	JANUARY MEAN CONCEN-TRATION (MG/L)	JANUARY SEDIMENT DISCHARGE (TONS/DAY)	FEBRUARY MEAN DISCHARGE (FT3/S)	FEBRUARY MEAN CONCEN-TRATION (MG/L)	FEBRUARY SEDIMENT DISCHARGE (TONS/DAY)	MARCH MEAN DISCHARGE (FT3/S)	MARCH MEAN CONCEN-TRATION (MG/L)	MARCH SEDIMENT DISCHARGE (TONS/DAY)
1	26	22	1.5	32	16	1.4	45	50	6.1
2	30	20	1.6	31	25	2.1	36	46	4.5
3	32	15	1.3	32	30	2.6	36	50	4.9
4	30	13	1.1	30	36	2.9	40	35	3.8
5	28	13	.98	32	28	2.4	38	25	2.6
6	27	12	.87	30	30	2.4	34	23	2.1
7	27	10	.73	29	23	1.8	32	17	1.5
8	26	10	.70	29	23	1.8	32	16	1.4
9	24	9	.58	30	22	1.8	32	20	1.7
10	23	8	.50	30	31	2.5	31	18	1.5
11	22	8	.48	30	33	2.7	31	15	1.3
12	24	8	.52	30	25	2.0	32	16	1.4
13	25	7	.47	27	25	1.8	32	19	1.6
14	30	18	1.5	27	22	1.6	36	22	2.1
15	64	300	52	27	21	1.5	38	22	2.3
16	62	80	13	27	15	1.1	38	23	2.4
17	80	100	22	24	17	1.1	38	24	2.5
18	80	129	34	27	14	1.0	37	24	2.4
19	84	128	32	27	12	.87	37	25	2.5
20	62	50	8.4	28	17	1.3	38	25	2.6
21	53	28	4.0	26	20	1.4	40	30	3.2
22	46	28	3.5	26	15	1.1	43	30	3.5
23	46	30	3.7	26	23	1.6	42	29	3.3
24	42	27	3.1	26	30	2.1	42	28	3.2
25	38	23	2.4	26	30	2.1	42	29	3.3
26	36	21	2.0	28	23	1.7	42	23	2.6
27	35	32	3.0	28	24	1.8	44	25	3.0
28	34	27	2.5	27	25	1.8	46	41	5.1
29	34	27	2.5	--	--	--	55	67	9.9
30	33	25	2.2	--	--	--	59	72	11
31	33	16	1.4	--	--	--	50	62	8.4
TOTAL	1236	--	204.53	792	--	50.27	1218	--	107.7

10336790 TROUT CREEK AT SOUTH LAKE TAHOE--Continued

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (FT3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (FT3/S)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	65	110	19	80	53	11	142	55	21
2	69	120	22	86	58	13	142	56	21
3	54	33	4.8	92	65	16	144	50	19
4	50	24	3.2	92	53	13	148	43	17
5	53	24	3.4	95	60	15	150	50	20
6	52	30	4.2	102	68	19	155	50	21
7	48	31	4.0	114	80	25	156	45	19
8	50	32	4.3	125	108	36	149	39	16
9	52	25	3.5	129	89	31	145	38	15
10	48	14	1.8	131	83	29	147	30	12
11	48	14	1.8	130	75	26	149	32	13
12	50	19	2.6	131	68	24	151	43	18
13	52	19	2.7	124	57	19	148	48	19
14	52	21	2.9	122	55	18	141	37	14
15	57	27	4.2	120	65	21	138	32	12
16	62	30	5.0	115	52	16	135	36	13
17	68	40	7.3	109	36	11	128	35	12
18	71	39	7.5	104	43	12	121	35	11
19	63	24	4.1	97	35	9.2	114	36	11
20	63	24	4.1	94	38	9.6	107	38	11
21	65	27	4.7	94	39	9.9	101	38	10
22	73	33	6.5	94	40	10	98	34	9.0
23	74	37	7.4	97	39	10	94	31	7.9
24	69	34	6.3	101	52	14	89	31	7.4
25	64	26	4.5	112	63	19	85	29	6.7
26	59	23	3.7	122	60	20	82	27	6.0
27	58	25	3.9	138	62	23	77	27	5.6
28	59	23	3.7	141	67	26	74	26	5.2
29	61	26	4.3	140	62	23	70	25	4.7
30	69	35	6.5	137	65	24	68	25	4.6
31	--	--	--	140	61	23	--	--	--
TOTAL	1778	--	163.9	3508	--	575.7	3648	--	382.1

TOTAL DISCHARGE FOR PERIOD OCT. 1, 1973, TO JUNE 30, 1973 (FT^3/S - DAYS) 14402

TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR PERIOD OCT. 1, 1973, TO JUNE 30, 1973 (TONS) 1641.38

Table 12.--*Particle-size distribution of suspended sediment at selected streamflow stations, October 1973 to June 1974*

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (FT^3/S)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
			10336593 GRASS LAKE CREEK NEAR MEYERS			
OCT.						
04...	1100	4.5	1.6	2	.01	73
NOV.						
09...	2350	--	18	30	1.5	33
11...	1400	--	53	74	11	32
11...	1710	4.5	49	42	5.6	33
DEC.						
03...	1410	--	5.0	5	.07	35
JAN.						
03...	1130	--	6.4	5	.09	43
16...	1020	2.0	15	7	.28	40
APR.						
21...	1035	2.0	21	5	.28	39
24...	1440	.5	23	28	1.7	55
MAY						
01...	0650	2.0	26	13	.91	28
01...	1840	5.0	35	61	5.8	28
02...	1725	6.5	36	61	5.9	43
03...	1225	4.5	8.8	12	.29	31
05...	1755	6.5	51	84	12	35
06...	1330	6.0	42	22	2.5	27
07...	0935	3.0	48	18	2.3	26
08...	0630	2.5	60	40	6.5	25
08...	1800	7.0	93	140	35	25
08...	1850	7.0	95	138	35	26
09...	1730	8.0	98	163	43	23
10...	0930	3.5	70	22	4.2	24
13...	1515	8.5	66	28	5.0	27
14...	0910	4.0	59	18	2.9	36
15...	0605	3.0	62	18	3.0	30
15...	1500	7.5	56	21	3.2	24
15...	1845	7.5	64	30	5.2	23
16...	1040	3.5	51	16	2.2	40
17...	1205	4.0	44	16	1.9	24
18...	1345	4.0	41	27	3.0	68
20...	1515	8.0	35	10	.94	40
22...	1615	10.0	37	17	1.7	19
23...	1205	7.5	38	12	1.2	21
24...	1425	10.5	41	10	1.1	32
25...	1145	7.5	44	22	2.6	42
26...	0950	6.0	50	14	1.9	22
27...	1410	10.0	60	24	3.9	23
28...	1935	9.0	82	59	13	24
30...	1415	10.5	57	20	3.1	18
31...	1115	7.0	57	12	1.8	31

Table 12.--*Particle-size distribution of suspended sediment at selected streamflow stations, October 1973 to June 1974*--Continued

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (FT^3/S)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
10336593 GRASS LAKE CREEK NEAR MEYERS--CONTINUED						
JUNE						
01...	1410	11.5	57	18	2.8	29
02...	1020	--	58	13	2.0	31
04...	1015	8.0	58	20	3.1	21
05...	1250	10.5	57	16	2.5	28
06...	1055	9.5	61	15	2.5	28
07...	1450	12.0	58	17	2.7	22
09...	0815	7.0	51	17	2.3	19
10...	1405	12.0	51	17	2.3	23
11...	0945	9.5	53	23	3.3	22
12...	1230	13.0	51	22	3.0	18
13...	1250	13.0	49	10	1.3	31
14...	1105	10.5	48	13	1.7	30
15...	0745	9.0	95	10	2.6	29
17...	1025	10.0	39	9	.95	32
18...	1510	12.5	35	9	.85	30
20...	0820	7.0	32	8	.69	25
25...	1505	12.5	24	10	.65	41
28...	1510	14.5	21	7	.40	40
10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE						
OCT.						
03...	1450	--	8.6	2	.05	77
NOV.						
10...	0825	6.0	265	135	97	28
11...	1250	6.0	758	142	291	52
12...	1330	--	1060	74	212	23
DEC.						
04...	1640	--	82	6	1.3	52
JAN.						
09...	1130	--	71	3	.58	100
16...	1600	3.5	425	207	238	37
17...	1320	2.0	531	50	72	35
FEB.						
05...	1255	1.5	80	4	.86	64
10336630 EAGLE CREEK NEAR CAMP RICHARDSON						
OCT.						
02...	1025	8.0	.42	3	.00	100
NOV.						
10...	0110	--	255	47	32	19
11...	1005	--	320	36	31	8
12...	1420	2.0	242	12	7.8	1
12...	1430	--	235	16	10	5
DEC.						
06...	1415	1.0	9.1	0	0	100
JAN.						
09...	1450	.5	9.9	2	.05	100
15...	1120	--	205	19	11	30
JUNE						
05...	2300	--	177	2	.96	43

Table 12.--*Particle-size distribution of suspended sediment at selected streamflow stations, October 1973 to June 1974*--Continued

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (FT^3/S)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
		10336640 MEEKS CREEK AT MEEKS BAY				
OCT.						
05...	1615	14.0	2.0	3	.02	49
NOV.						
10...	1400	5.5	45	12	1.5	18
11...	1630	--	333	21	19	8
12...	1300	2.5	251	13	8.8	4
JAN.						
16...	0935	.0	130	35	12	48
APR.						
19...	0810	1.0	40	2	.22	100
MAY						
26...	0905	4.5	115	4	1.2	100
		10336650 QUAIL LAKE CREEK AT HOMEWOOD				
OCT.						
02...	1300	9.5	.32	3	.00	100
NOV.						
12...	0820	4.0	13	16	.56	36
JAN.						
17...	1000	2.0	11	5	.15	45
APR.						
10...	1455	6.5	2.0	1	.01	100
21...	0925	2.5	4.0	1	.01	100
27...	1655	4.0	3.2	2	.02	100
28...	0940	3.0	3.2	1	.01	100
MAY						
05...	1915	3.0	12	6	.19	100
07...	1245	--	12	6	.19	100
08...	1550	6.0	16	13	.56	29
26...	0850	5.5	14	6	.23	42
		10336684 DOLLAR CREEK NEAR TAHOE CITY				
OCT.						
01...	1200	9.5	.10	3	.00	79
NOV.						
12...	0730	4.5	2.5	13	.09	56
APR.						
20...	1900	4.0	6.4	4	.07	65
21...	0845	3.0	5.4	1	.01	75
		10336790 TROUT CREEK AT SOUTH LAKE TAHOE				
OCT.						
03...	1150	8.0	15	6	.24	24
NOV.						
11...	1575	6.0	94	221	56	41
12...	1110	--	101	172	47	28
DEC.						
04...	1150	--	26	13	.91	61
JAN.						
03...	1700	--	32	13	1.1	37
15...	1455	2.0	8.2	526	12	10
FEB.						
05...	1425	2.5	32	33	2.9	30

Table 13.--*Sediment discharge and particle-size distribution at gutterflow stations, October 1973 to June 1974*

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			89 ED 1.70			
NOV.						
11...	1040	2.5	95	134	34	89
11...	1220	--	30	41	3.3	93
11...	1340	3.5	55	86	13	96
11...	1450	3.5	10	31	.84	89
11...	1640	--	55	88	13	95
JAN.						
17...	1210	.5	4.0	14	.15	77
17...	1740	.5	7.0	22	.42	87
19...	1140	1.0	50	5	.67	--
22...	1340	1.0	17	11	.50	88
29...	1700	2.0	17	13	.60	91
29...	1840	2.0	10	11	.30	74
MAR.						
13...	1345	.5	8.0	16	.35	90
13...	1600	.5	16	10	.43	94
13...	1905	.5	3.0	8	.06	--
20...	1225	3.0	12	36	1.2	93
20...	1550	5.0	7.0	29	.55	98
20...	1845	5.0	.00	7	.00	--
25...	0735	2.0	18	2	.10	--
25...	1615	8.0	17	2	.09	--
28...	1355	2.0	75	119	24	65
28...	1615	2.0	38	25	2.6	94
28...	1900	.5	19	6	.31	92
APR.						
10...	1320	13.0	6.0	30	.49	70
10...	1500	18.0	1.0	20	.05	90
16...	0605	.0	15	1	.04	--
16...	1015	14.0	19	3	.15	--
16...	1340	24.5	13	3	.11	--
16...	1810	11.5	28	6	.45	--
16...	2220	4.5	30	3	.24	--
19...	0625	2.0	22	1	.06	--
19...	1510	18.5	13	3	.11	--
24...	1425	2.0	10	42	1.1	50
24...	1830	.0	11	21	.62	59
24...	2255	--	13	9	.32	--
			89 ED 1.94			
OCT.						
07...	1500	4.5	8.0	24	.52	85
22...	1815	1.0	22	48	2.9	23
24...	1430	.0	5.0	861	12	4
NOV.						
06...	1630	2.0	7.0	19	.36	80
08...	1120	6.0	1.0	26	.07	90
10...	0030	--	11	14	.42	81
10...	0930	8.5	.00	15	.00	--
10...	1850	--	19	25	1.3	51
11...	1020	3.0	110	2590	769	6
11...	1220	--	36	62	6.0	43
11...	1330	--	44	48	5.7	50
11...	1440	4.0	28	22	1.7	78
11...	1630	--	26	127	8.9	40
12...	1430	--	12	69	2.2	54
27...	1030	.5	1.0	9	.02	--
29...	1145	.5	8.0	137	3.0	99

Table 13.--*Sediment discharge and particle-size distribution at*

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (10^{-3} FT^3/S)	TOTAL SEDI- MENT (MG/L)	TOTAL SEDI- MENT DIS- CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			89 ED 1.94--Continued			
DEC.						
03...	1610	.0	5.0	14	.19	87
12...	1205	.5	7.0	9	.17	--
17...	1510	.0	19	129	6.6	98
18...	1505	1.0	9.0	26	.63	87
29...	1215	.5	46	175	22	77
JAN.						
02...	1450	.0	9.0	16	.39	91
08...	1545	.5	7.0	12	1.6	85
15...	1120	.5	65	389	68	27
16...	1000	1.0	22	11	.65	84
16...	1140	--	55	460	68	90
16...	1240	.0	55	219	33	46
16...	1350	--	32	16	1.4	66
16...	1650	.0	44	91	11	91
16...	1740	--	38	60	6.2	94
17...	1200	1.0	24	86	5.6	96
17...	1735	.5	38	23	2.4	63
19...	1135	1.0	28	15	1.1	42
22...	1330	1.0	14	10	.38	68
29...	0820	1.0	4.0	4	.04	68
29...	1330	.5	24	56	3.6	83
29...	1645	1.5	24	29	1.9	94
29...	1845	.5	17	11	.50	85
FEB.						
06...	0805	.5	2.0	4	.02	71
06...	1235	.5	8.0	25	.54	94
06...	1540	.5	14	37	1.4	96
06...	1830	.5	9.0	10	.24	71
12...	0525	.0	2.0	0	.00	--
12...	1315	.5	6.0	29	.47	91
12...	1530	.0	6.0	54	.87	31
20...	1100	.5	3.0	8	.06	--
27...	1015	.5	1.0	9	.02	33
MAR.						
05...	1605	1.0	17	86	3.9	71
06...	0845	.5	5.0	5	.07	--
06...	1200	.5	7.0	27	.51	92
13...	0550	1.0	6.0	2	.03	--
13...	1335	.0	36	1360	132	5
13...	1555	1.0	55	2090	310	4
13...	1910	1.0	24	29	1.9	30
20...	0755	.5	2.0	2	.01	--
20...	1220	7.5	11	53	1.6	77
20...	1545	12.0	8.0	18	.39	76
20...	1845	6.0	6.0	8	.13	--
25...	0730	1.5	9.0	2	.05	--
25...	1315	6.5	13	10	.35	52
25...	1845	5.0	11	44	1.3	88
28...	0710	.5	8.0	32	.69	97
28...	1400	.5	38	21500	2210	9
28...	1610	.5	30	4660	377	11
28...	1855	.0	14	81	3.1	74

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			89 ED 1.94--Continued			
APR.						
02...	1225	.0	14	36	1.4	64
02...	1610	.5	9.0	14	.34	78
05...	0630	.0	9.0	12	.29	82
05...	1000	2.5	13	608	21	72
05...	1230	3.0	26	6070	426	4
05...	1625	.5	30	610	49	5
05...	2155	--	14	9	.34	63
10...	0605	.0	7.0	4	.08	--
10...	1000	.5	9.0	16	.39	79
10...	1320	.5	32	177	15	32
10...	1505	4.5	34	361	33	13
10...	1805	4.0	18	20	.97	60
10...	2140	--	8.0	6	.13	--
16...	0615	.0	9.0	14	.34	67
16...	1010	10.0	15	159	6.4	40
16...	1535	18.5	10	10	.27	71
16...	2215	4.0	12	12	.39	67
19...	0630	2.0	16	4	.17	--
19...	1510	15.0	11	7	.21	--
24...	1100	.5	15	62	2.5	24
24...	1420	.0	28	64	4.8	57
24...	1835	.0	24	38	2.5	64
24...	2250	--	17	12	.55	76
MAY						
01...	0625	1.5	6.0	2	.03	--
01...	2245	--	4.0	2	.02	--
08...	0610	4.0	13	2	.07	--

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .125 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .250 MM
NOV.							
11...	1020	3.0	110	2590	769	11	22

DATE	TOTAL SED. SIEVE DIAM. % FINER THAN .500 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 1.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 2.00 MM
NOV.			
11...	36	46	100

Table 13.--*Sediment discharge and particle-size distribution at*

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			89 ED 2.11			
OCT.						
07...	1450	5.5	5.0	104	1.4	92
22...	1810	1.0	13	67	2.4	80
24...	1400	.0	3.0	19	.15	74
NOV.						
10...	1845	--	6.0	13	.21	83
11...	1210	--	11	88	2.6	88
11...	1330	--	19	172	8.8	76
11...	1430	4.0	6.0	43	.70	55
12...	1430	--	1.0	9	.02	85
DEC.						
17...	1500	1.0	3.0	480	3.9	16
29...	1250	.5	30	456	37	8
JAN.						
15...	1115	1.0	13	51	1.8	79
16...	0950	1.0	2.0	12	.06	51
16...	1130	--	5.0	41	.55	85
16...	1240	.5	13	118	4.1	97
16...	1340	--	5.0	14	.19	84
16...	1540	--	3.0	18	.15	84
16...	1640	1.0	6.0	84	1.4	96
16...	1730	--	6.0	62	1.0	96
17...	1145	1.0	2.0	11	.06	76
17...	1735	1.0	6.0	15	.24	78
19...	1145	2.0	2.0	181	.98	2
22...	1320	1.5	1.0	8	.02	74
29...	0805	1.5	1.0	82	.22	6
29...	1320	1.5	6.0	56	.91	72
29...	1705	1.0	7.0	19	.36	74
29...	1835	1.5	4.0	10	.11	67
FEB.						
06...	0750	1.0	1.0	22	.06	26
06...	1530	1.5	8.0	54	1.2	97
12...	1305	.5	1.0	51	.14	94
12...	1525	.0	.00	48	.00	27
MAR.						
05...	1535	.5	11	21	.62	82
06...	1155	.5	1.0	166	.45	16
13...	1315	.5	19	262	13	33
13...	1550	1.0	22	282	17	46
13...	1900	1.0	5.0	20	.27	78
20...	1540	15.5	8.0	73	1.6	60
28...	0700	.5	1.0	12	.03	75
28...	1345	.5	2.0	65	.35	53
28...	1610	1.0	3.0	292	2.4	95
28...	1850	.0	2.0	74	.40	98
APR.						
02...	1200	.0	1.0	63	.17	33
02...	1600	1.0	1.0	23	.06	25
05...	0620	.5	1.0	43	.12	11
05...	1225	.5	12	1930	63	23
05...	1620	.5	8.0	51	1.1	28
05...	2155	--	1.0	4	.01	--
10...	0600	.0	1.0	28	.08	18
10...	1315	4.5	13	196	6.9	22
10...	1455	12.0	6.0	50	.81	30
24...	0710	.5	1.0	27	.07	22
24...	1105	1.0	1.0	4	.01	--
24...	1415	2.0	3.0	20	.16	84
24...	1835	.5	2.0	18	.10	--
24...	2300	--	1.0	9	.02	--
MAY						
01...	0620	2.0	1.0	1	.00	--

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .062 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
89 ED 2.21							
OCT.							
07...	1450	5.5	7.0	35	.66	--	91
22...	1800	2.0	18	61	3.0	--	16
24...	1335	.0	7.0	23	.43	--	89
NOV.							
06...	1615	2.5	11	107	3.2	--	89
10...	1840	--	10	67	1.8	--	21
11...	1010	3.0	65	513	90	--	13
11...	1210	--	24	20	1.3	--	77
11...	1320	--	36	42	4.1	--	46
11...	1430	4.0	12	16	.52	--	74
11...	1620	--	24	3920	254	2	--
12...	1425	--	5.0	11	.15	--	89
DEC.							
17...	1445	.5	5.0	79	1.1	--	88
29...	1235	.5	26	236	17	--	95
JAN.							
15...	1110	1.0	9.0	41	1.0	--	91
16...	0950	1.0	3.0	11	.09	--	76
16...	1120	--	4.0	39	.42	--	90
16...	1230	--	20	283	15	--	96
16...	1340	--	6.0	20	.32	--	86
16...	1530	--	5.0	22	.30	--	89
16...	1630	.5	13	224	7.9	--	99
16...	1730	--	10	58	1.6	--	94
17...	1140	1.0	4.0	133	1.4	--	92
17...	1730	1.0	4.0	46	.50	--	95
19...	1125	1.0	3.0	9	.07	--	74
22...	1315	1.0	2.0	48	.26	--	15
29...	0800	1.0	1.0	73	.20	--	5
29...	1310	1.5	2.0	30	.16	--	25
29...	1830	2.0	3.0	16	.13	--	75
FEB.							
06...	0745	1.0	1.0	10	.03	--	74
06...	1525	1.5	3.0	42	.34	--	92
12...	1300	1.5	1.0	18	.05	--	62
12...	1522	1.0	1.0	18	.05	--	52
MAR.							
05...	1520	.5	11	36	1.1	--	91
06...	0835	1.0	1.0	9	.02	--	68
06...	1150	1.0	4.0	175	1.9	--	22
13...	0835	1.0	1.0	10	.03	--	60
13...	1325	1.0	18	66	3.2	--	81
13...	1545	1.0	18	38	1.8	--	90
13...	1855	1.5	6.0	15	.24	--	90
20...	0745	.5	1.0	3	.01	--	--
20...	1210	4.5	6.0	69	1.1	--	96
20...	1540	5.0	6.0	53	.86	--	96
20...	1840	4.0	2.0	25	.13	--	92
25...	0720	3.0	.00	23	.00	--	69
25...	1300	5.0	1.0	34	.09	--	80
28...	0650	.5	1.0	15	.04	--	44
28...	1340	.5	11	158	4.7	--	62
28...	1605	1.5	10	235	6.3	--	95
28...	1845	.0	3.0	39	.32	--	87

Table 13.--*Sediment discharge and particle-size distribution at*

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .062 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			89 ED 2.21--Continued				
APR.							
02...	1145	.0	4.0	51	.55	--	88
02...	1555	.5	2.0	51	.28	--	41
05...	0615	.5	2.0	8	.04	--	81
05...	1225	.5	12	28	.91	--	94
05...	1620	.0	8.0	11	.24	--	82
05...	2150	--	2.0	6	.03	--	83
10...	0555	.5	1.0	8	.02	--	--
10...	1310	5.5	13	27	.95	--	94
10...	1450	9.5	7.0	15	.28	--	87
10...	2125	--	1.0	4	.01	--	--
16...	1005	14.0	1.0	9	.02	--	--
19...	0620	1.0	1.0	2	.01	--	--
24...	0700	.0	2.0	18	.10	--	60
24...	1415	.0	5.0	70	.94	--	92
24...	1825	.0	4.0	31	.33	--	89
24...	2245	--	2.0	11	.06	--	81
MAY							
01...	0620	2.0	1.0	1	.00	--	--
15...	0545	--	1.0	36	.10	--	14

DATE	TIME	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .125 MM	TOTAL SED. FALL DIAM. % FINER THAN .250 MM	TOTAL SED. FALL DIAM. % FINER THAN .500 MM	TOTAL SED. FALL DIAM. % FINER THAN 1.00 MM	TOTAL SED. FALL DIAM. % FINER THAN 2.00 MM
NOV.									
11...	1620	24	3920	254	2	5	21	87	100

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			89 ED 2.44			
OCT.						
04...	1120	13.0	1.0	3	.01	--
07...	1440	4.5	2.0	92	.50	95
15...	1045	10.5	1.0	3	.01	--
22...	1800	3.0	14	161	6.1	96
24...	1350	.0	11	68	2.0	95
30...	1100	8.5	3.0	13	.11	75
NOV.						
08...	1110	14.0	4.0	20	.22	88
10...	0020	--	11	93	2.8	68
10...	0915	6.0	4.0	23	.25	52
10...	1835	--	16	73	3.2	94
11...	1010	4.0	65	115	20	68
11...	1200	--	65	105	18	44
11...	1320	--	65	144	25	43
11...	1420	4.0	30	57	4.6	56
11...	1620	--	70	388	73	80
12...	0915	--	5.0	45	.61	94
12...	1420	--	5.0	20	.27	94
13...	1355	2.0	10	32	.86	40

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			89 ED 2.44--Continued			
DEC.						
03...	1510	.5	5.0	7	.09	65
12...	1145	1.0	5.0	8	.11	71
17...	1425	1.0	18	95	4.6	98
18...	1450	1.0	9.0	24	.58	83
29...	1155	.5	70	57	11	90
JAN.						
02...	1355	.0	5.0	28	.38	66
08...	1335	1.5	4.0	16	.17	41
15...	1100	1.0	32	96	8.3	41
16...	0940	1.0	15	18	.73	37
16...	1120	--	18	33	1.6	83
16...	1230	5.0	32	161	14	94
16...	1330	--	22	46	2.7	57
16...	1530	--	19	21	1.1	88
16...	1630	1.0	24	84	5.4	91
16...	1720	--	24	110	7.1	95
17...	1130	.5	15	63	2.6	96
17...	1725	1.0	25	72	4.9	96
19...	1120	1.0	16	21	.91	74
22...	1310	1.5	8.0	6	.13	85
29...	0755	1.5	9.0	8	.19	90
29...	1305	2.5	14	39	1.5	99
29...	1620	1.0	26	78	5.5	97
29...	1830	1.5	14	25	.94	93
FEB.						
06...	0740	1.0	5.0	29	.39	29
06...	1520	1.5	13	86	3.0	40
12...	0510	.0	2.0	9	.05	79
12...	1255	.5	7.0	34	.64	65
20...	1040	1.0	2.0	23	.12	66
27...	1000	1.0	3.0	6	.05	61
MAR.						
05...	1450	.5	14	24	.91	91
06...	0830	.5	5.0	3	.04	--
06...	1145	1.0	5.0	3	.04	--
13...	1310	.5	40	102	11	56
13...	1535	.5	48	69	8.9	61
13...	1850	1.0	24	18	1.2	76
20...	0740	.5	4.0	6	.06	--
20...	1205	1.0	14	36	1.4	77
20...	1530	12.5	14	48	1.8	60
20...	1835	6.5	10	15	.40	75
25...	0715	1.5	3.0	2	.02	--
25...	1830	6.0	4.0	3	.03	--
28...	0645	.5	3.0	3	.02	--
28...	1330	.5	11	153	4.5	83
28...	1600	1.5	22	203	12	68
28...	1845	.5	12	93	3.0	95
APR.						
02...	1125	.5	6.0	19	.31	60
02...	1550	.0	9.0	40	.97	86
05...	0615	.5	10	18	.49	20
05...	1220	1.0	22	72	4.3	29
05...	1615	.0	26	366	26	66
05...	2145	--	13	23	.81	27
10...	0550	.5	8.0	15	.32	35
10...	1450	6.0	26	218	15	13
10...	2125	--	8.0	27	.58	19

Table 13.--*Sediment discharge and particle-size distribution at*

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			89 ED 2.44--Continued			
APR.						
16...	0600	.0	2.0	14	.08	29
16...	1000	4.5	9.0	14	.34	72
16...	2205	3.5	3.0	6	.05	71
19...	0620	1.5	4.0	4	.04	--
19...	1000	6.5	7.0	7	.13	68
24...	0650	.0	2.0	189	1.0	22
24...	1045	.5	8.0	20	.43	61
24...	1410	.5	9.0	47	1.1	73
24...	1820	.0	11	34	1.0	77
24...	2240	--	9.0	12	.29	77
MAY						
01...	0615	2.0	7.0	2	.04	--
01...	1400	18.0	11	3	.09	--
08...	1735	12.0	10	2	.05	--
15...	1440	15.0	18	8	.39	--
22...	1030	15.0	28	23	1.7	--
JUNE						
18...	1520	15.5	13	1	.04	--
			89 ED 2.99			
OCT.						
22...	1820	2.0	6.0	7	.11	64
NOV.						
06...	1605	2.0	3.0	21	.17	56
10...	1825	--	8.0	33	.71	66
11...	1050	--	100	291	79	18
11...	1230	--	8.0	23	.50	80
11...	1350	--	32	72	6.2	39
11...	1450	4.0	28	43	3.3	40
11...	1650	--	10	23	.62	78
12...	1440	--	2.0	24	.13	89
DEC.						
17...	1410	.5	8.0	213	4.6	98
29...	1140	.5	15	135	5.5	88
JAN.						
15...	1055	1.0	6.0	127	2.1	73
16...	1150	--	13	1220	43	98
16...	1250	.0	18	397	19	94
16...	1410	--	3.0	48	.39	94
16...	1550	.0	15	391	16	91
16...	1650	.0	20	395	21	92
16...	1750	--	8.0	252	5.4	97
17...	1125	.0	5.0	213	2.9	98
17...	1725	.5	1.0	421	1.1	97
19...	1115	.5	1.0	27	.07	84
MAR.						
13...	1605	.5	2.0	219	1.2	93
13...	1915	.5	2.0	35	.19	87
20...	1555	1.0	2.0	104	.56	90
20...	1850	6.0	4.0	21	.23	84
25...	1550	.0	3.0	48	.39	86
25...	1850	.5	2.0	16	.09	87
28...	1405	.5	2.0	233	1.3	95
28...	1620	2.0	.00	129	.00	90

89 ED 2.99--Continued

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
APR.						
02...	1615	.5	1.0	25	.07	76
05...	1240	3.0	1.0	318	.86	58
05...	1635	.0	3.0	74	.60	85
05...	1905	1.5	1.0	26	.07	90
10...	1510	.5	1.0	64	.17	95
10...	1815	.0	3.0	29	.23	93
16...	0620	.0	1.0	9	.02	82
16...	1310	2.0	.00	96	.00	31
16...	1545	.5	19	78	4.0	75
16...	1820	1.0	14	38	1.4	73
16...	2200	.5	3.0	14	.11	82
19...	1020	2.0	.00	58	.00	11
19...	1515	.0	2.0	65	.35	89
19...	1815	4.0	3.0	26	.21	90
19...	2225	7.0	1.0	15	.04	83
24...	0640	.0	1.0	41	.11	40
24...	1115	.5	1.0	26	.07	80
24...	1435	2.0	2.0	50	.27	97
24...	1840	.5	2.0	31	.17	88
MAY						
01...	0610	.5	1.0	14	.04	--
01...	1415	1.0	19	1000	51	14
01...	1805	.5	22	91	5.4	65
01...	2300	1.0	4.0	12	.13	--
08...	0615	1.0	3.0	6	.05	--
08...	1415	21.0	2.0	14	.08	66
08...	1750	14.5	3.0	106	.86	95
15...	0600	2.5	1.0	62	.17	24
15...	1435	17.0	1.0	8	.02	--

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .125 MM
MAY						
01...	1415	1.0	19	1000	51	20

DATE	TOTAL SED. SIEVE DIAM. % FINER THAN .250 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .500 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 1.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 2.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 4.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 8.00 MM
MAY						
01...	25	28	35	44	61	100

Table 13.--*Sediment discharge and particle-size distribution at*

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (10^{-3} FT^3/S)	TOTAL SEDI- MENT (MG/L)	TOTAL SEDI- MENT DIS- CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			89 ED 4.37			
OCT.						
07...	1420	7.0	18	26	1.3	73
22...	1750	3.5	12	4550	147	5
NOV.						
06...	1555	2.0	4.0	20	.22	52
10...	0010	--	14	15	.57	90
10...	1810	--	70	18	3.4	76
11...	1000	5.0	110	55	16	15
11...	1150	--	100	473	128	7
11...	1310	--	85	89	20	23
11...	1410	4.5	65	81	14	16
11...	1535	--	22	36	2.1	27
11...	1605	--	220	4160	2470	6
11...	1650	--	14	18	.68	72
12...	0900	--	.00	18	.00	98
12...	1410	--	1.0	19	.05	96
19...	1400	.0	3.0	413	3.3	99
DEC.						
17...	1350	.5	18	191	9.3	98
29...	1120	.5	90	110	27	93
JAN.						
15...	1050	1.0	20	27	1.5	83
16...	0930	1.0	8.0	9	.19	76
16...	1120	--	12	34	1.1	84
16...	1220	.0	65	877	154	56
16...	1320	--	65	685	120	61
16...	1420	.5	30	68	5.5	89
16...	1520	--	55	359	53	95
16...	1620	.5	46	180	22	97
16...	1720	--	42	141	16	93
17...	1115	.5	60	48	7.8	79
17...	1715	1.0	50	16	2.2	82
19...	1105	1.5	42	8	.91	56
22...	1250	1.5	8.0	3	.06	100
29...	1300	1.5	3.0	6	.05	62
29...	1610	--	11	11	.33	98
29...	1820	1.5	6.0	5	.08	100
FEB.						
06...	0725	.5	1.0	3	.01	75
06...	1505	1.0	5.0	26	.35	97
12...	1510	2.5	1.0	5	.01	--
05...	1415	1.0	9.0	26	.63	94
06...	0825	1.0	1.0	1	.00	--
06...	1135	1.0	1.0	1	.00	--
13...	0520	.5	1.0	1	.00	--
13...	1300	1.5	5.0	28	.38	96
13...	1530	1.0	42	39	4.4	83
13...	1845	1.0	12	5	.16	--
20...	0730	1.0	3.0	0	.00	--
20...	1200	1.5	5.0	6	.08	100
20...	1525	4.0	34	36	3.3	77
20...	1830	2.5	12	8	.26	--
25...	0705	1.5	5.0	0	.00	--
25...	1250	2.5	7.0	14	.26	94
25...	1545	3.0	9.0	13	.32	96
25...	1820	3.0	6.0	5	.08	88
28...	0635	1.0	3.0	5	.04	91
28...	1315	.5	32	313	27	83
28...	1555	.5	28	797	60	97
28...	1835	1.0	11	69	2.0	93

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
89 ED 4.37--Continued						
APR.						
02...	1105	.5	9.0	27	.66	73
02...	1545	.5	10	6	.16	--
05...	0600	1.0	7.0	3	.06	--
05...	1220	1.0	13	33	1.2	56
05...	1605	1.0	18	60	2.9	42
05...	2140	--	9.0	7	.17	68
10...	0535	1.0	6.0	2	.03	--
10...	1300	3.0	20	25	1.3	69
10...	1445	6.0	26	43	3.0	64
10...	2120	--	7.0	3	.06	--
16...	0550	.5	8.0	24	.52	27
16...	0955	1.5	10	350	9.4	8
16...	1755	3.0	13	887	31	9
19...	0610	1.5	12	13	.42	16
19...	1310	14.5	10	49	1.3	30
19...	2155	4.0	15	11	.45	12
24...	0625	.0	18	287	14	24
24...	1035	.0	12	82	2.7	30
24...	1400	.5	13	22	.77	86
24...	1810	.0	18	376	18	9
24...	2230	--	15	60	2.4	12
MAY						
01...	0600	1.5	19	5	.26	--
01...	1350	6.5	15	19	.77	13
01...	1800	7.0	20	13	.70	22
08...	0550	3.0	30	3	.24	--

DATE	TIME	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .125 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .250 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .500 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 1.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 2.00 MM
NOV.									
11...	1605	220	4160	2470	8	12	18	27	100

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/D)	TOTAL SEDIMENT (MG/L)	TOTAL MENT DISCHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
89 ED 4.45						
OCT.						
07...	1430	8.0	1.0	21	.06	80
22...	1745	4.0	2.0	13	.07	--
24...	1500	.0	1.0	44	.12	94
NOV.						
09...	2400	4.0	5.0	147	2.0	14
10...	1820	--	10	11	.30	84
11...	1000	5.0	34	7	.64	85
11...	1150	--	34	13	1.2	84
11...	1310	--	38	16	1.6	48

Table 13.--*Sediment discharge and particle-size distribution at*

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
		89 ED 4.45--Continued				
NOV.						
11...	1410	4.5	28	7	.53	97
11...	1540	--	7.0	9	.17	63
11...	1610	--	75	94	19	79
11...	1650	--	7.0	330	6.2	2
12...	0900	.0	1.0	35	.09	99
12...	1405	--	3.0	25	.20	98
19...	1350	.0	3.0	566	4.6	98
DEC.						
17...	1340	.0	5.0	198	2.7	89
29...	1110	1.0	48	189	24	82
JAN.						
15...	1040	.5	9.0	36	.87	94
16...	0920	.5	2.0	24	.13	93
16...	1110	--	4.0	69	.75	97
16...	1220	.5	28	454	34	85
16...	1320	--	20	118	6.4	76
16...	1420	.5	13	58	2.0	80
16...	1520	--	20	133	7.2	97
16...	1620	.0	14	116	4.4	97
16...	1720	--	12	98	3.2	64
17...	1110	.5	16	102	4.4	97
17...	1710	.1	10	12	.32	82
19...	1100	1.0	6.0	4	.06	--
MAR.						
13...	1530	1.0	8.0	42	.91	93
13...	1840	1.0	3.0	16	.13	86
20...	1520	3.0	12	37	1.2	88
20...	1830	1.0	5.0	9	.12	79
25...	1245	1.0	1.0	44	.12	92
25...	1540	1.0	5.0	27	.36	91
25...	1815	1.0	2.0	10	.05	86
28...	1310	1.0	3.0	100	.81	90
28...	1555	.5	6.0	374	6.1	98
28...	1830	1.0	1.0	60	.16	95
APR.						
02...	1050	.5	6.0	236	3.8	89
05...	1215	1.0	2.0	151	.82	97
05...	1600	.5	3.0	23	.19	79
10...	1255	3.0	3.0	34	.28	78
10...	1440	1.0	7.0	36	.68	93
10...	1755	1.0	3.0	14	.11	75
16...	1305	6.0	9.0	3820	93	6
16...	1510	6.5	10	274	74	64
16...	1755	7.0	2.0	25	.13	72
19...	1305	17.5	1.0	46	.12	70
24...	1025	3.0	1.0	455	1.2	16
24...	1400	2.0	3.0	104	.84	69
24...	1805	.5	3.0	38	.31	91

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .125 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .250 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .500 MM
NOV.							
11...	1610	75	94	19	82	92	100

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			89 ED 16.61			
OCT.						
22...	1710	4.5	85	16600	3810	6
22...	1950	--	28	1480	112	5
NOV.						
06...	1430	.5	16	140	6.0	99
09...	1810	--	85	11500	2640	22
09...	1900	--	28	682	52	31
09...	2200	--	55	1540	229	16
10...	1440	7.0	38	23800	2440	76
10...	1530	--	46	11200	1390	35
10...	1900	--	130	43700	15300	7
11...	1020	4.5	420	19800	22500	28
12...	1515	--	320	865	747	13
13...	1200	2.0	190	37	19	67
20...	1100	3.0	10	320	8.6	15
DEC.						
17...	1240	.0	1.0	479	1.3	98
JAN.						
15...	1210	--	110	248	74	28
16...	1050	2.5	85	424	97	38
16...	1830	--	130	719	252	13
17...	1010	--	200	160	86	23
17...	1815	4.0	110	100	30	14
18...	1220	1.5	300	641	519	20
18...	1325	1.0	360	394	383	25
18...	1425	2.0	340	210	193	49
18...	1525	2.0	280	490	370	16
18...	1630	2.0	440	657	781	27
18...	1805	2.0	300	312	253	13
19...	1235	4.0	180	55	27	54
22...	1505	4.0	38	23	2.4	25
29...	0700	1.5	3.0	3	.02	94
29...	1515	1.5	3.0	19	.15	51
MAR.						
06...	1300	.5	2.0	27	.15	83
25...	1515	1.0	1.0	169	.46	79
25...	1750	1.0	2.0	44	.24	66
28...	1235	.5	9.0	851	21	98
28...	1525	2.5	3.0	187	1.5	96
28...	1800	1.0	1.0	78	.21	92
APR.						
05...	0515	2.0	1.0	9	.02	83
05...	1145	2.0	6.0	22	.36	95
05...	1520	1.5	7.0	20	--	78
05...	2110	--	2.0	7	.11	86
10...	1225	1.5	1.0	39	.11	80
10...	1400	1.5	1.0	4	.01	--
16...	0515	1.5	3.0	4	.03	94
16...	0920	2.0	9.0	19	.46	90
16...	1235	3.0	14	21	.79	84
16...	1425	2.5	22	18	1.1	89
16...	1725	1.5	17	8	.37	86
16...	2120	2.0	8.0	5	.11	87
19...	0540	2.5	8.0	8	.17	--
19...	1720	4.0	12	11	.36	87
24...	0530	1.0	20	118	6.4	92
24...	1315	2.0	18	17	.83	85
24...	1715	2.0	24	37	2.4	80
24...	2145	--	19	47	2.4	92

Table 13.--*Sediment discharge and particle-size distribution at*

89 ED 16.61--Continued

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
MAY						
01...	0515	2.0	14	7	.26	--
01...	1320	4.5	65	2760	484	17
01...	1720	2.0	75	228	46	27
01...	2155	2.5	34	19	1.7	55
08...	0520	3.5	34	51	4.7	85
08...	1315	5.5	55	158	23	43
08...	1655	5.0	46	161	20	38
15...	0505	2.0	18	15	.73	46
15...	1410	9.0	22	40	2.4	44
22...	0940	11.5	3.0	8	.06	74

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .002 MM	TOTAL SED. FALL DIAM. % FINER THAN .004 MM	TOTAL SED. FALL DIAM. % FINER THAN .008 MM	TOTAL SED. FALL DIAM. % FINER THAN .016 MM
OCT.									
22...	1710	4.5	85	16600	3810	1	1	3	4
NOV.									
10...	1440	7.0	38	23800	2440	28	31	48	56
10...	1900	--	130	43700	15300	--	--	--	--
MAY									
01...	1320	4.5	65	2760	484	--	--	--	--

DATE	TOTAL SED. FALL DIAM. % FINER THAN .031 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .125 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .250 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .500 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 1.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 2.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 4.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 8.00 MM
OCT.								
22...	5	10	18	29	42	100	--	--
NOV.								
10...	72	81	84	87	91	95	99	100
10...	--	13	24	37	53	100	--	--
MAY								
01...	--	20	26	32	42	61	100	--

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT³/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .062 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			89 ED 16.87				
OCT.							
22...	1705	6.5	2.0	45	.24	--	10
24...	1130	2.0	1.0	108	.29	--	9
24...	1530	3.0	1.0	742	2.0	--	4
NOV.							
06...	1425	1.0	10	3	.08	--	--
08...	1225	5.0	3.0	0	.00	--	--
09...	1800	--	10	12	.32	--	30
09...	1850	--	12	3	.10	--	--
09...	2150	--	30	140	11	--	--
10...	1035	6.5	8.0	1	.02	--	--
10...	1430	6.0	12	110	3.6	--	94
10...	1530	--	11	76	2.3	--	49
10...	1900	--	30	156	13	--	89
11...	1010	5.5	420	957	1090	35	--
12...	1515	--	130	31	11	--	13
13...	1145	2.0	67	14	2.5	--	30
20...	1125	3.5	14	990	37	--	10
28...	0905	3.5	8.0	18	.39	--	19
DEC.							
06...	1430	3.0	8.0	1	.02	--	--
17...	1250	3.0	15	2	.08	--	--
18...	1550	3.0	18	0	.00	--	--
JAN.							
09...	1430	3.0	15	0	.00	--	--
15...	1200	--	190	20	10	--	19
16...	1040	3.5	100	16	4.3	--	20
16...	1830	--	170	555	255	--	2
17...	1005	3.0	260	22	15	--	13
17...	1820	4.0	180	6	2.9	--	7
18...	1215	2.5	320	422	365	--	25
18...	1330	3.0	380	2500	2570	--	2
18...	1430	3.0	360	192	187	--	16
18...	1530	2.5	280	2450	1850	--	3
18...	1640	--	500	153	207	--	35
18...	1815	2.5	280	1230	930	--	3
19...	1240	4.0	280	19	14	--	9
22...	1510	4.5	85	1	.23	--	100
29...	0655	3.5	26	1	.07	--	33
29...	1520	3.0	28	1	.08	--	83
FEB.							
06...	1035	2.5	17	0	.00	--	--
12...	0435	2.5	15	0	.00	--	
20...	1355	3.0	12	1	.03	--	
27...	1240	--	9.0	8	.19	--	
MAR.							
06...	1315	3.0	14	3	.11	--	
13...	0445	2.0	12	5	.16	--	
13...	1220	2.5	8.0	2	.04	--	
13...	1810	3.0	11	3	.09	--	
20...	0655	2.5	16	2	.09	--	
20...	1125	3.0	18	4	.19	--	
20...	1800	3.0	16	2	.09	--	
25...	0630	3.0	12	2	.06	--	
25...	1745	3.0	16	2	.09	--	
28...	0530	2.5	16	3	.13	--	
28...	1520	1.5	20	3	.16	--	

Table 13.--*Sediment discharge and particle-size distribution at*

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
89 ED 16.87--Continued						
APR.						
05...	0450	3.0	20	2	.11	--
05...	1515	2.0	26	2	.14	--
10...	0450	3.0	20	2	.11	--
10...	1225	4.5	20	2	.11	--
16...	0510	2.5	24	1	.06	--
16...	1420	3.5	34	10	.92	67
19...	1205	5.0	32	3	.26	--
24...	0525	3.0	17	2	.09	--
24...	1315	1.5	38	4	.41	--
24...	2145	--	38	12	1.2	60
MAY						
01...	0510	3.0	42	20	2.3	78
01...	1315	6.0	48	92	12	21
01...	1715	3.5	65	626	110	1
08...	0520	4.5	160	105	45	6
08...	1655	6.0	190	66	34	36
22...	0935	7.0	120	2	.65	--
29...	1540	6.0	350	223	211	12
JUNE						
17...	0925	7.5	190	4	2.1	--

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .125 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .125 MM
OCT.							
24...	1530	3.0	1.0	742	2.0	--	6
NOV.							
11...	1010	5.5	420	957	1090	62	--
MAY							
01...	1715	3.5	65	626	110	--	3

DATE	TOTAL SED. FALL DIAM. % FINER THAN .250 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .250 MM	TOTAL SED. FALL DIAM. % FINER THAN .500 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .500 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 1.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 2.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 4.00 MM
OCT.							
24...	--	9	--	12	35	100	--
NOV.							
11...	96	--	100	--	--	--	--
MAY							
01...	--	10	--	25	43	82	100

89 ED 24.49

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .062 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
OCT.							
22...	1650	6.5	42	69	7.8	--	40
22...	2000	--	3.0	23	.19	--	61
NOV.							
09...	1730	--	22	2410	143	--	4
09...	1830	--	18	1670	81	--	8
09...	1920	--	26	1800	126	6	--
09...	2130	--	42	2360	268	--	4
10...	1410	10.0	4.0	139	1.5	--	32
10...	1510	--	5.0	147	2.0	--	15
10...	1550	9.0	19	375	19	--	18
10...	1840	--	48	1350	175	4	--
11...	1610	--	--	--	--	--	--
11...	1615	--	40	86	1.0	--	36
12...	1500	.5	8.0	48	1.4	--	61
12...	1545	--	3.0	173		--	14
DEC.					2.8		
17...	1325	1.0	3.0	350	31	--	92
29...	0905	.5	32	356		--	75
JAN.					1.6		
15...	0905	.0	5.0	116	64	--	90
16...	1425	.0	44	538	26	--	48
16...	1850	--	40	244	3.6	--	93
17...	1035	.0	14	95	.16	--	96
17...	1435	1.0	1.0	61	96	--	92
18...	1205	.5	70	509	117	--	81
18...	1310	1.5	50	870	8.4	--	24
18...	1405	1.5	24	130	12	--	79
18...	1505	1.5	30	151	4.2	--	74
18...	1615	1.5	15	104	6.6	--	84
18...	1745	.5	19	128	5.2	--	79
19...	1000	.5	26	74		--	98
MAR.					.00		
20...	1435	7.5	.00	94	.22	--	77
20...	1745	1.5	1.0	81	47	--	86
28...	1210	.5	11	1570	19	--	49
28...	1505	.5	18	389	.28	--	93
28...	1730	1.5	1.0	102	.54	--	92
29...	0905	2.0	4.0	50	1.1	--	92
29...	1400	7.0	6.0	69		--	90
APR.					.12		
05...	1505	1.5	1.0	43		--	97

DATE	TIME	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .125 MM	TOTAL SED. FALL DIAM. % FINER THAN .250 MM	TOTAL SED. FALL DIAM. % FINER THAN .500 MM	TOTAL SED. FALL DIAM. % FINER THAN 1.00 MM	TOTAL SED. FALL DIAM. % FINER THAN 2.00 MM
NOV.									
09...	1920	26	1800	126	10	12	24	97	100
10...	1840	48	1350	175	4	5	46	100	--

Table 13.--*Sediment discharge and particle-size distribution at*

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .062 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
89 ED 24.65							
OCT.							
22...	1640	6.0	3.0	493	4.0	--	28
NOV.							
10...	1820	--	4.0	193	2.1	--	50
11...	1640	--	8.0	4410	95	3	--
DEC.							
17...	1320	1.0	1.0	76	.21	--	81
29...	0920	1.0	17	184	8.4	--	48
JAN.							
16...	1420	.0	15	1340	54	--	15
16...	1850	--	1.0	168	.45	--	50
18...	1200	.5	20	642	35	--	32
18...	1300	.0	13	143	5.0	--	87
18...	1400	1.0	10	124	3.3	--	89
18...	1500	.0	7.0	100	1.9	--	92
18...	1610	1.0	5.0	113	1.5	--	88
18...	1740	.0	1.0	66	.18	--	99

DATE	TIME	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .125 MM	TOTAL SED. FALL DIAM. % FINER THAN .250 MM	TOTAL SED. FALL DIAM. % FINER THAN .500 MM	TOTAL SED. FALL DIAM. % FINER THAN 1.00 MM
NOV.								
11...	1640	8.0	4410	95	4	11	49	100

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .062 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
89 ED 25.44							
NOV.							
10...	1830	--	4.0	150	1.6	--	15
11...	0850	6.0	16	892	39	5	--
11...	1635	--	8.0	453	9.8	--	10
DEC.							
29...	0945	3.0	1.0	80	.22	--	65
JAN.							
18...	1155	4.5	1.0	72	.19	--	84
18...	1225	5.5	1.0	102	.28	--	87

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .125 MM	TOTAL SED. FALL DIAM. % FINER THAN .250 MM	TOTAL SED. FALL DIAM. % FINER THAN .500 MM	TOTAL SED. FALL DIAM. % FINER THAN 1.00 MM
NOV.									
11...	0850	6.0	16	892	59	8	16	32	100

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .062 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			89 PL 1.27				
OCT.							
22...	1625	5.5	32	48	4.1	--	88
22...	2030	--	8.0	25	.54	--	81
23...	1320	.5	2.0	60	.32	--	86
23...	1600	--	3.0	42	.34	--	89
23...	1740	--	4.0	48	.52	--	74
23...	2010	--	2.0	54	.29	--	84
24...	1600	1.5	1.0	61	.16	--	62
25...	1450	2.5	1.0	17	.05	--	73
NOV.							
09...	1700	6.5	19	218	11	--	67
09...	2200	--	26	184	13	--	60
10...	1830	8.0	70	1170	221	9	--
11...	1440	6.0	22	50	3.0	--	94
12...	0810	.5	3.0	15	.12	--	96
12...	1100	--	14	71	2.7	--	93
12...	1330	--	20	63	3.4	--	90
12...	1520	.5	5.0	38	.51	--	83
DEC.							
17...	1340	1.0	13	959	34	--	100
29...	0850	.5	190	1790	918	--	32
29...	1000	1.0	120	331	107	--	74
29...	1130	.0	32	179	15	--	96
29...	1500	.0	5.0	54	.73	--	99
JAN.							
15...	0925	.5	21	131	7.4	--	89
16...	1000	.5	2.0	34	.18	--	98
16...	1445	.0	75	637	129	--	42
16...	1900	--	34	120	11	--	86
17...	1050	.0	15	64	2.6	--	98
17...	1445	1.0	3.0	69	.56	--	99
18...	1145	1.0	260	1230	863	--	49
18...	1350	1.0	32	151	13	--	93
18...	1450	2.0	160	1670	721	--	50
18...	1610	.5	36	151	15	--	96
18...	1700	1.0	80	320	69	--	77
18...	1835	--	70	202	38	--	73
19...	1305	1.0	20	70	3.8	--	96
MAR.							
13...	1430	2.0	1.0	609	1.6	--	100
25...	1445	1.0	1.0	102	.28	--	72
25...	1725	.5	3.0	218	1.8	--	72
28...	1725	1.0	1.0	434	1.2	--	36
29...	0920	1.0	14	57	2.2	--	92
29...	1350	2.0	18	122	5.9	--	93
APR.							
02...	1340	2.0	2.0	12	.06	--	95
02...	1505	2.0	1.0	11	.03	--	87
05...	1735	1.0	2.0	45	.24	--	96
16...	0850	1.0	.00	28	.00	--	96
16...	1355	2.0	3.0	70	.57	--	96
16...	1645	1.0	8.0	55	1.2	--	93
19...	1635	3.5	3.0	206	1.7	--	58
19...	2055	1.5	2.0	52	.28	--	96
24...	1250	4.5	1.0	172	.46	--	95
24...	1640	1.5	1.0	111	.30	--	95
24...	2110	--	1.0	59	.16	--	90
MAY							
01...	1250	9.5	7.0	201	3.8	--	96
01...	1655	13.0	9.0	126	3.1	--	99
01...	2125	7.0	1.0	47	.13	--	100

Table 13.--*Sediment discharge and particle-size distribution at*

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .125 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .125 MM	TOTAL SED. FALL DIAM. % FINER THAN .250 MM
			89 PL 1.27--Continued					
NOV. 10...	1830	8.0	70	1170	221	11	--	23
MAY 01...	1250	9.5	7.0	201	3.8	--	97	--

DATE	TOTAL SED. SIEVE DIAM. % FINER THAN .250 MM	TOTAL SED. FALL DIAM. % FINER THAN .500 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .500 MM	TOTAL SED. FALL DIAM. % FINER THAN 1.00 MM
NOV. 10...	--	56	--	100
MAY 01...	99	--	100	--

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (10^{-3} FT^3/S)	TOTAL SEDIMENT (MG/L)	TOTAL SEDIMENT DISCHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			89 PL 1.42			
OCT.						
22...	1620	5.0	7.0	142	2.7	54
22...	2030	--	3.0	51	.41	77
23...	1310	.0	1.0	56	.15	85
23...	1740	--	1.0	43	.12	93
24...	1600	.0	1.0	22	.06	62
25...	1445	.0	1.0	20	.05	73
NOV.						
06...	1340	.5	6.0	586	9.5	11
09...	1650	--	3.0	231	1.9	63
09...	2150	--	6.0	124	2.0	55
10...	1840	10.0	16	171	7.4	50
11...	1440	6.5	7.0	99	1.9	28
12...	0810	.0	1.0	22	.06	93
12...	1100	--	7.0	37	.70	34
12...	1330	.0	4.0	68	.73	74
12...	1520	.5	3.0	24	.19	57
17...	1245	1.0	1.0	96	.26	28
29...	0840	.0	30	20	1.6	96
29...	1000	--	20	27	1.5	96
29...	1130	.0	12	27	.87	98
29...	1455	.0	4.0	29	.31	98

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			89 PL 1.42--Continued			
JAN.						
15...	0930	.0	4.0	22	.24	98
16...	092	1.0	1.0	9	--	--
16...	0920	1.0	1.0	9	.02	--
16...	1355	.0	10	204	5.5	75
16...	1910	--	8.0	64	1.4	77
17...	1010	.0	4.0	18	.19	71
17...	1410	.5	1.0	14	.04	--
18...	1140	1.0	19	692	35	36
18...	1250	5.0	14	203	7.7	79
18...	1340	.5	12	75	2.4	82
18...	1455	.0	13	328	12	55
18...	1600	.0	15	130	5.3	97
18...	1730	.0	12	138	4.5	96
19...	0935	.5	6.0	197	3.2	11
MAR.						
25...	1440	.5	.00	61	.00	76
25...	1715	.5	1.0	30	.08	98
28...	1450	2.0	1.0	193	.52	80
28...	1720	.5	3.0	208	1.7	97
29...	0915	.0	11	120	3.6	66
29...	1345	1.0	14	83	3.1	92
APR.						
05...	1445	.0	4.0	97	1.0	14
05...	1730	.5	3.0	31	.25	73
05...	2040	--	1.0	86	.23	20
16...	1150	2.0	4.0	91	.98	81
16...	1350	2.0	6.0	66	1.1	96
16...	1640	2.5	5.0	42	.57	93
16...	2045	1.0	1.0	15	.04	94
19...	1145	4.0	1.0	288	.78	68
19...	1340	2.5	3.0	161	1.3	96
19...	1630	7.0	2.0	93	.50	81
19...	2040	13.0	1.0	40	.11	70
24...	1635	.5	1.0	199	.54	40
MAY						
01...	1245	16.0	6.0	132	2.1	82
01...	1650	15.0	6.0	63	1.0	77
01...	2120	9.0	1.0	272	.73	9
08...	1250	26.0	1.0	174	.47	20
08...	1630	27.0	1.0	177	.48	15

Table 13.--*Sediment discharge and particle-size distribution at*

DATE	TIME	TEMPER- ATURE (DEG C)	INSTAN- TANEOUS DIS- CHARGE (10^{-3} FT^3/S)	TOTAL SEDI- MENT (MG/L)	TOTAL SEDI- MENT DIS- CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			28 PL 3.38			
OCT.						
22...	1520	7.5	55	3950	587	16
22...	2110	--	14	333	13	19
23...	1000	--	3.0	252	2.0	55
23...	1230	--	4.0	244	2.6	72
23...	1520	.0	3.0	312	2.5	95
23...	1950	--	4.0	207	2.2	91
24...	1220	.0	24	17000	1100	3
24...	1700	1.0	5.0	71	.96	94
25...	1300	--	10	218	5.9	66
NOV.						
09...	2305	--	11	13300	395	4
10...	1935	6.0	55	1340	199	23
11...	1600	9.5	1.0	126	.34	71
12...	0710	1.0	9.0	70	1.7	98
12...	1030	--	85	1130	259	95
12...	1230	--	20	440	24	98
14...	1500	2.0	12	1500	49	43
15...	1405	--	8.0	200	4.3	95
15...	1440	1.5	7.0	192	3.6	96
15...	1710	.5	2.0	238	1.3	85
19...	1100	--	1.0	138	.37	90
28...	1335	1.5	32	6250	540	14
29...	1240	--	22	4590	273	26
29...	1430	--	12	12100	392	3
DEC.						
03...	1125	.5	9.0	5370	130	10
17...	1020	--	7.0	896	17	90
29...	0750	.0	13	3290	115	78
29...	0920	--	170	10200	4680	38
29...	1100	2.5	95	7980	2050	30
29...	1425	1.5	42	876	99	70
JAN.						
15...	1125	2.0	34	6470	594	21
16...	1200	1.0	130	15400	5410	54
16...	1650	1.0	190	12900	6620	18
17...	0930	.5	28	651	49	68
17...	1415	3.0	24	236	15	88
18...	1115	3.0	280	10700	8090	18
18...	1225	2.5	95	6300	1620	17
18...	1310	3.5	110	2850	846	36
18...	1420	5.0	100	3750	1010	33
18...	1530	4.5	65	1750	307	44
18...	1655	3.5	70	3320	627	21
19...	1355	5.0	32	388	34	92
24...	1115	.5	1.0	1560	4.2	98
29...	1125	.5	1.0	1430	3.9	100
29...	1415	1.5	2.0	546	2.9	96
29...	1700	1.0	1.0	514	1.4	99
FEB.						
06...	1405	1.5	.00	342	.00	94
20...	1540	1.0	1.0	696	1.9	31
27...	1330	.0	1.0	98	.26	41
MAR.						
01...	1100	1.0	110	31900	9470	13
05...	1650	.0	13	216	7.6	72
13...	1115	1.5	3.0	2270	18	48
13...	1400	7.5	22	10600	630	22
13...	1715	4.5	8.0	331	7.1	84

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			28 PL 3.38--Continued			
MAR.						
20...	1040	10.0	.00	418	.00	95
27...	1800	.0	3.0	2480	20	30
28...	1125	1.5	55	16500	2450	45
28...	1430	.5	95	237000	60800	2
28...	1705	2.5	24	647	42	--
29...	0850	3.0	26	1010	71	28
29...	1310	11.5	24	919	60	36
APR.						
02...	0905	.0	2.0	358	.19	61
02...	1240	.5	95	10100	2590	36
02...	1420	5.0	80	18400	3970	8
02...	1725	2.5	19	415	21	38
05...	0810	.5	1.0	237	.64	54
05...	1055	10.0	1.0	154	.42	82
05...	1415	14.5	4.0	147	1.6	86
05...	1700	7.0	2.0	98	.53	95
24...	1115	3.5	26	24500	1720	8
24...	1620	7.0	1.0	236	.64	27

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .002 MM	TOTAL SED. FALL DIAM. % FINER THAN .004 MM	TOTAL SED. FALL DIAM. % FINER THAN .008 MM	TOTAL SED. FALL DIAM. % FINER THAN .016 MM
NOV.									
12...	1030	--	85	1130	259	43	63	85	93
JAN.									
24...	1115	.5	1.0	1560	4.2	58	84	93	97
MAR.									
01...	1100	1.0	110	31900	9470	5	6	8	10
28...	1125	1.5	55	16500	2450	15	19	25	32
28...	1430	.5	95	237000	60800	1	1	1	2
APR.									
02...	1240	.5	95	10100	2590	7	11	16	23

DATE	TOTAL SED. FALL DIAM. % FINER THAN .031 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .125 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .250 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .500 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 1.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 2.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 4.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 8.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 16.0 MM
NOV.									
12...	94	96	97	98	100	--	--	--	--
JAN.									
24...	98	98	99	99	100	--	--	--	--
MAR.									
01...	12	14	15	20	27	61	90	100	--
28...	38	50	54	56	61	68	74	100	--
28...	2	3	4	5	7	41	76	98	100
APR,									
02...	30	39	44	48	52	56	81	100	100

Table 13.--*Sediment discharge and particle-size distribution at*

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			28 PL 3.50			
OCT.						
23...	1530	.0	2.0	76	.41	59
23...	1710	--	3.0	137	1.1	90
23...	1950	--	1.0	124	.33	95
24...	1220	1.0	6.0	336	5.4	84
24...	1650	4.0	3.0	63	.51	97
25...	1310	--	7.0	369	7.0	40
NOV.						
06...	1055	--	2.0	83	.45	79
08...	1030	7.0	2.0	672	3.6	100
09...	2255	--	2.0	963	5.2	65
09...	2310	--	2.0	1120	6.0	50
10...	1935	6.5	4.0	4600	50	30
11...	1550	8.0	5.0	466	6.3	25
12...	0710	3.5	8.0	766	17	14
12...	1030	--	12	2200	71	6
12...	1240	--	6.0	201	3.3	39
12...	1550	6.0	3.0	62	.50	95
14...	0840	.5	1.0	69	.19	98
14...	1450	2.0	1.0	441	1.2	99
15...	1125	--	2.0	201	1.1	97
15...	1430	1.5	3.0	578	4.7	99
15...	1700	.5	2.0	335	1.8	98
28...	1330	2.0	19	3350	172	8
29...	0930	2.0	2.0	114	.62	96
29...	1240	--	10	503	14	44
29...	1430	--	6.0	71	1.2	82
DEC.						
17...	1010	1.0	11	290	8.6	95
29...	0800	.5	70	14600	2760	17
29...	0920	--	60	4810	779	34
29...	1110	--	46	1630	202	57
29...	1415	1.5	26	511	36	77
JAN.						
15...	1120	1.5	30	1130	92	72
16...	1150	1.5	19	2750	141	49
16...	1645	1.5	24	875	57	60
17...	0925	2.0	10	118	3.2	78
17...	1405	2.0	14	223	8.4	51
18...	1105	1.5	34	1570	144	68
18...	1220	1.0	38	1520	156	43
18...	1305	1.5	32	1030	89	65
18...	1430	2.0	40	2930	316	31
18...	1525	2.5	40	762	82	60
18...	1700	1.5	30	691	56	51
19...	1110	.5	7.0	578	11	93
19...	1330	2.5	14	226	8.5	91
24...	1110	.5	7.0	578	11	93
29...	1115	.5	1.0	331	.89	92
29...	1420	1.5	6.0	787	13	73
29...	1650	1.5	2.0	485	2.6	100
FEB.						
06...	1400	.5	2.0	557	3.0	71
MAR.						
01...	1040	.5	8.0	166	3.6	99
05...	1635	1.0	2.0	102	.55	99
13...	0810	.5	1.0	89	.24	100
13...	1105	1.0	4.0	328	3.5	99
13...	1355	1.0	17	909	42	75
13...	1710	1.5	8.0	185	4.0	91

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. SIEVE DIAM. % FINER THAN .062 MM
			28 PL 3.50--Continued			
MAR.						
20...	1030	4.5	4.0	2500	27	48
20...	1355	17.0	2.0	317	1.7	99
20...	1710	6.5	1.0	200	.54	99
25...	0535	3.0	1.0	50	.13	98
26...	1800	7.0	1.0	162	.44	99
27...	1755	1.0	3.0	923	7.5	46
28...	0415	.5	2.0	142	.77	98
28...	1115	1.5	3.0	477	3.9	69
28...	1415	3.5	32	4080	353	68
28...	1700	1.5	12	583	19	85
29...	0845	3.0	13	345	12	42
29...	1305	10.0	13	246	8.6	85
APR.						
01...	1020	.5	3.0	175	1.4	85
02...	0855	1.5	3.0	131	1.1	30
02...	1235	2.5	28	1340	101	76
02...	1415	3.0	26	2280	160	29
02...	1720	2.0	10	373	10	54
05...	0400	.5	1.0	45	.12	98
05...	0805	1.0	1.0	126	.34	81
05...	1045	9.0	3.0	162	1.3	98
05...	1420	14.0	2.0	122	.66	98
05...	1655	6.5	1.0	80	.22	99
05...	2025	--	1.0	32	.09	98
24...	1110	4.0	.00	48	.00	71

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (10^{-3} FT^3/S)	TOTAL SEDI-MENT (MG/L)	TOTAL SEDI-MENT DIS-CHARGE (10^{-3} T/D)	TOTAL SED. FALL DIAM. % FINER THAN .002 MM	TOTAL SED. FALL DIAM. % FINER THAN .004 MM	TOTAL SED. FALL DIAM. % FINER THAN .008 MM
JAN.								
19...	1110	.5	7.0	578	11	--	--	--
24...	1110	.5	7.0	578	11	--	--	--
MAR.								
28...	1415	3.5	32	4080	353	26	29	38
APR.								
02...	1235	2.5	28	1340	101	22	33	44

DATE	TOTAL SED. FALL DIAM. % FINER THAN .016 MM	TOTAL SED. FALL DIAM. % FINER THAN .031 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .125 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .250 MM	TOTAL SED. SIEVE DIAM. % FINER THAN .500 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 1.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 2.00 MM	TOTAL SED. SIEVE DIAM. % FINER THAN 4.00 MM
JAN.								
19...	--	--	95	96	98	99	100	--
24...	--	--	95	96	98	99	100	--
MAR.								
28...	47	56	75	80	82	84	88	100
APR.								
02...	58	70	80	84	87	88	91	100

Kroll—SEDIMENT DISCHARGE FROM HIGHWAY CUT-SLOPES IN THE LAKE TAHOE BASIN, CALIFORNIA, 1972-74 WRI 76-19