Effect of Erosion-Control Structures on Sediment and Nutrient Transport, Edgewood Creek Drainage, Lake Tahoe Basin, Nevada, 1981-83

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CONVERSION FACTORS AND ABBREVIATIONS

"Inch-pound" units of measure used in this report may be converted to International System (metric) units by using the following factors:

Multiply	*By*	*To obtain*
Cubic feet per second (ft^3/s)	0.02832	Cubic meters per second (m^3/s)
Cubic yards (yd^3)	0.7646	Cubic meters (m^3)
Feet (ft)	0.3048	Meters (m)
Inches (in.)	25.40	Millimeters (mm)
Inches per year (in/yr)	25.40	Millimeters per year (mm/yr)
Miles (mi)	1.609	Kilometers (km)
Pounds per day (lb/day)	5.250	Milligrams per second (mg/s)
Square miles (mi^2)	2.590	Square kilometers (km^2)
Tons per year	0.9072	Metric tons per year

For temperature, degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) by using the formula °F = [(1.8)(°C)] + 32.

ALTITUDE DATUM

In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929), which is derived from a general adjustment of the first-order leveling networks of both the United States and Canada.

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ABSTRACT

Three sites in the Edgewood Creek basin with a combined drainage area of about 1.2 square miles were selected to assess the effect of erosion-control structures along Nevada State Highway 207 on sediment and nutrient transport. The flow at site one is thought to have been largely unaffected by urban development, and was completely unaffected by erosion-control structures. The flow at site two was from a basin affected by urban development and erosion-control structures. Site three was downstream from the confluence of streams measured at sites one and two. Most data on streamflow and water quality were collected between June 1981 and May 1983 to assess the hydrologic characteristics of the three sites.

As a result of the erosion-control structures, mean annual concentrations of total sediment were reduced from about 24,000 to about 410 milligrams per liter at site two and from about 1,900 to about 190 milligrams per liter at site three. Sediment loads were reduced from about 240 to about 10 tons per year at site two and from about 550 to about 110 tons per year at site three. At site one, in contrast, mean concentrations and loads remained low throughout the study period.

At site two, sediment-particle size changed from predominately coarse prior to construction, to predominately fine thereafter; at site three, it changed from about half coarse sediment to predominately fine.

Mean concentrations and loads of total iron also were significantly reduced after construction at sites two and three, whereas mean concentrations of nitrogen and phosphorus species did not change appreciably.

INTRODUCTION

The adverse impact of urban growth in the Lake Tahoe basin, California and Nevada, has been of concern to decision makers and the general public for many years. Some researchers (Goldman and others, 1974) have suggested that the trends of decreasing water clarity and increasing algal productivity in the lake have been due, in part, to the excessive introduction of terrestrial sediments and nutrients.

As a result of the urban development along State Highway 207 in the Lake Tahoe basin, the U.S. Geological Survey, in cooperation with Douglas County, Nev., began an investigation of sediment and nutrient transport in the Edgewood Creek drainage basin. The study area is shown in figure 1, and the field work was done during the period 1981-83.

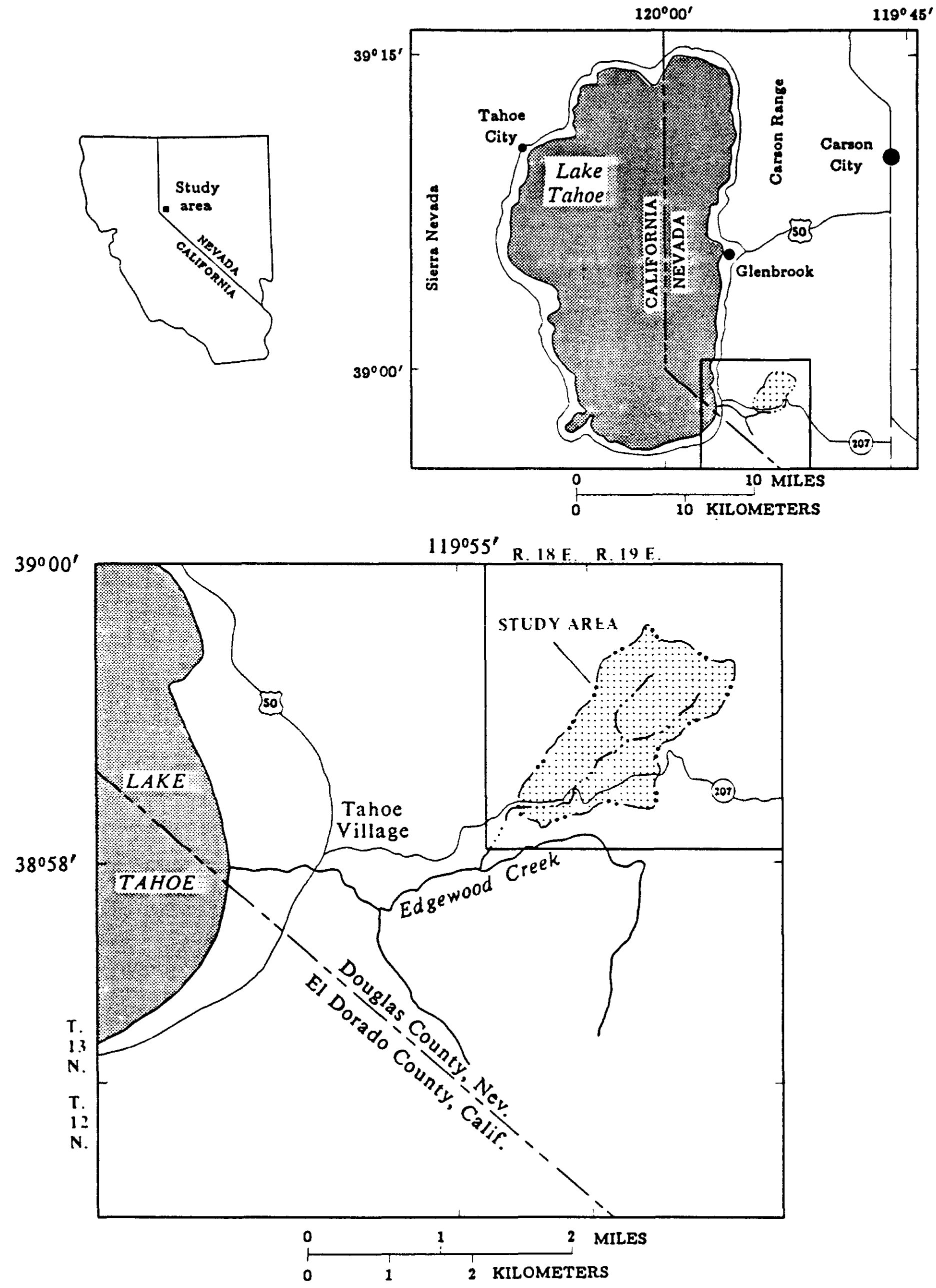

FIGURE 1.–Location of study area and sampling sites.

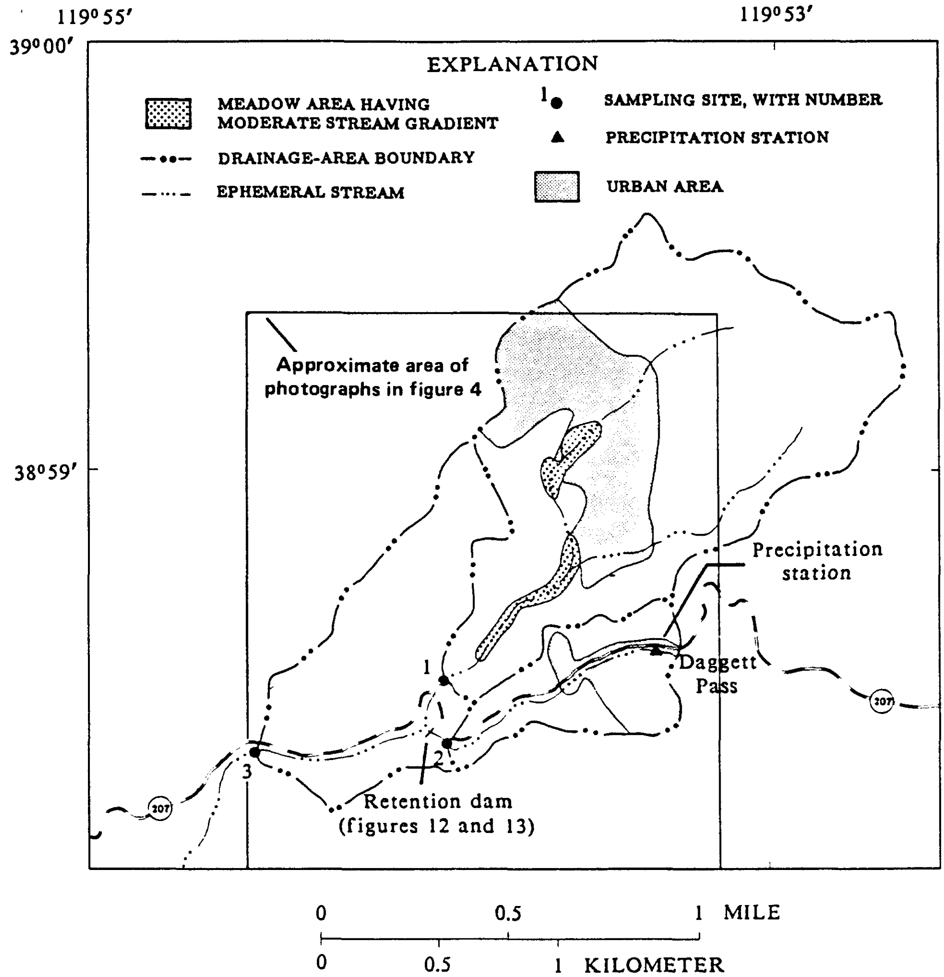

FIGURE 1.--Continued.

Purpose and Scope of Study

The purpose of the study was to determine the effectiveness of erosion-control structures emplaced in 1982 along Nevada State Highway 207 (also known as Kingsbury Grade) in reducing sediment and nutrient transport in the streams. The erosion-control structures consisted of rock gabions, wooden retaining walls, rock linings on roadside ditches, curbs and gutters, and vegetation planted to stabilize the slopes. Sediment retention basins were built to trap material that might still be eroded after the erosion-control work was completed. Figure 2 shows a rock gabion wall and figure 3 a retention dam constructed as part of the erosion-control work. The scope of the project involved the collection of data on streamflow, stream sediment, and nutrients (nitrogen, phosphorus, and iron) at three sites in a small basin tributary to Edgewood Creek.

A.

B.

FIGURE 2.--State Highway 207 near Daggett Pass in (A) May 1982, before construction of rock gabion, and (B) August 1982, after construction.

A.

B.

FIGURE 3.--Tributary of Edgewood Creek tributary near Tahoe Village, in (A) June 1981, before construction of retention dam, and (B) August 1982, after construction.

Most of the construction of erosion-control structures occurred from May to September 1982. As a result, no water-quality samples were collected between April 17 and September 16, 1982. Samples collected during the last half of September 1982 may have been affected by some construction still in progress, but most of the rock gabions, retention dams, and retaining walls were completed by that time. Study periods of similar length, before and after construction, were considered necessary to adequately compare results for the two periods. Therefore, samples collected during the year ending May 31, 1982, were termed "before construction," and those during the year ending May 31, 1983, were designated "after construction." Some water-quality and streamflow data were collected prior to June 1, 1981, and after May 31, 1983; they were not used in any calculations herein, but are listed in tables 5-10.

Acknowledgments

The author is grateful to the residents in the study area who permitted access to their property. A special debt of gratitude is owed to personnel at the Kingsbury Fire Station who provided information on storms moving through the study area. Mark Gonzales, Douglas County Engineering Department, also provided valuable assistance.

GEOGRAPHIC AND HYDROLOGIC SETTING

Physical Characteristics

The Edgewood Creek drainage basin (figure 1) covers about 7 mi^2 and consists of several smaller drainage basins that lie entirely on the west slope of the Carson Range of the Sierra Nevada. The drainage basin extends about 3 miles east from Lake Tahoe; altitudes in the basin range from about 6,000 to about 9,000 feet above sea level. The major tributaries are ephemeral in most years and rely mainly on snowmelt for their water supply; in late summer, when the snow is gone, they cease to flow.

The bedrock underlying the Edgewood Creek basin is dominated by intrusive igneous rock, of which granodiorite is the most abundant (Burnett, 1971, page 120). The soil in the study area is generally of the Cagwin series, consisting of "* * * somewhat excessively drained soils that are 20 to 40 inches deep over granitic material * * *" (Rogers, 1974, page 9). The slopes range from 5 to 70 percent (Rogers, page 9), and the erosion hazard ranges from moderate to high (Rogers, page 54).

The vegetation in the area is dominated by a conifer forest. Aspen, other deciduous trees and shrubs, grasses, and annual flowering plants are found near springs and streams.

The virtual elimination of the forests by logging during the late 1800's has resulted in secondary or more recent growth in the basin. Little is known about the effects of these logging operations on the hydrologic characteristics in the basin, but it is suspected that sediment transport by streams increased to a great extent during that time.

During the early 1900's, when reforestation was taking place, no major development occurred in the basin. Figure 4A illustrates the nearly natural (mostly undeveloped) condition that existed in 1953. The only signs of man's impact at that time were a few secondary roads. A subsequent photograph taken in 1980 (figure 4B) illustrates the extent of residential development in the study area since 1953.

Precipitation

Precipitation in the Tahoe Basin occurs principally during winter storms that sometimes produce rain at lower altitudes and snowfall at the higher altitudes. Snowfall accumulation is usually greatest at altitudes above 7,000 feet (the surface of Lake Tahoe is at about 6,229 feet). Precipitation generally decreases from west to east; that is, the west side of the Lake Tahoe basin receiving greater amounts of precipitation. Monthly averages at two locations in the Lake Tahoe basin are shown in figure 5. Glenbrook (altitude 6,350 feet) is on the east side of Lake Tahoe, and Tahoe City (altitude 6,230 feet) is on the west side. The altitudes and the overall seasonal trends are somewhat similar at both sites, but the amount of precipitation on the east side is about 18 inches annually compared to about 32 inches on the west side.

Precipitation records for the study area are from an unofficial weather station near the summit of Daggett Pass (figure 1). These records were obtained from the National Weather Service office in Reno, Nev., and figure 6 shows the amounts that occurred at this site. The total from June 1981 to May 1982 is estimated because no data were available for December 1981. Glenbrook precipitation data for December were used to estimate the total.

The precipitation received at nearby Glenbrook was more than 60 percent above normal during the study. Rain fell on the snow pack in the winter of 1981 and spring of 1982, which is not uncommon. Precipitation during the winter of 1982 and spring 1983 was predominantly in the form of snow, with a depth of about 12 feet measured near Kingsbury. The water content of this snow was about 46 inches compared to the normal water content of about 28 inches.

Streamflow

Streamflow in the three study sites ranged from 0 to 12 ft^3/s during the 2-year study period (table 1). Maximum instantaneous flows usually occurred during snowmelt runoff, typically from April through June; the maximums ranged from 3.0 to 7.9 ft^3/s at the three sites before construction, and from 2.7 to 12 ft^3/s after construction. Overland runoff during snowmelt accounts for most of the annual flow. Periods of flow are shown in figure 7.

A. B.

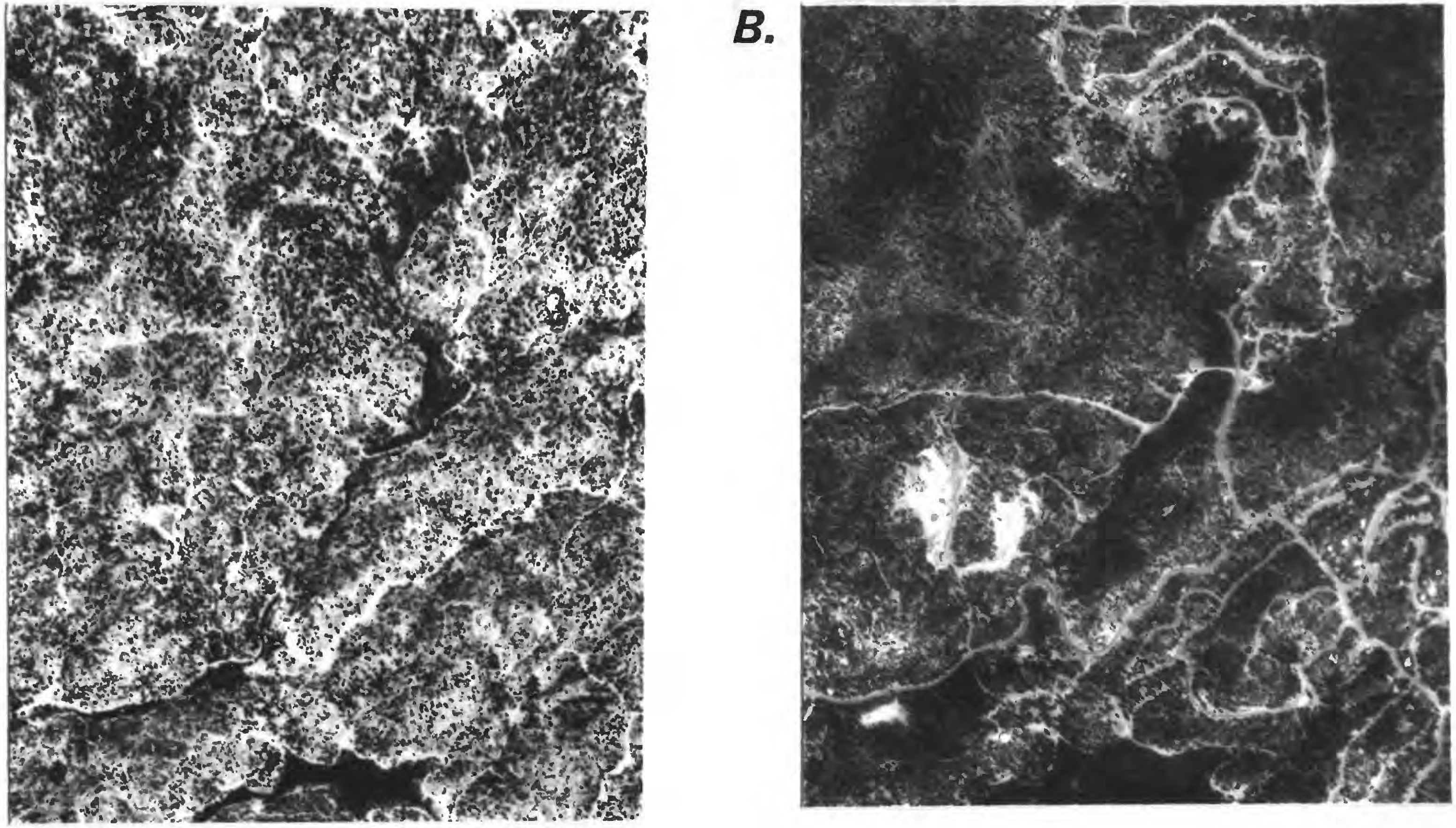

FIGURE 4.--Progress of urban development in study area between (A) June 25, 1953, and (B) August 4, 1980. U.S. Geological Survey vertical aerial photographs. For approximate location of photograph, see figure 1.

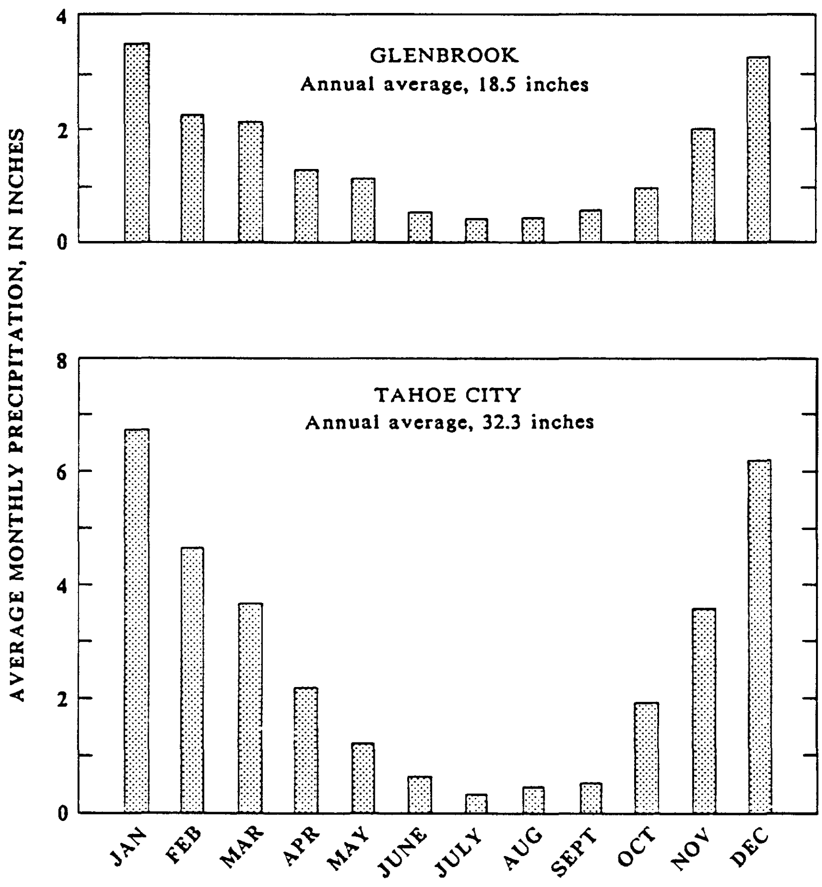

FIGURE 5.--Average monthly precipitation at Glenbrook, Nev., and Tahoe City, Calif., 1950-80 (based on data from National Climatic Center, 1951-81).

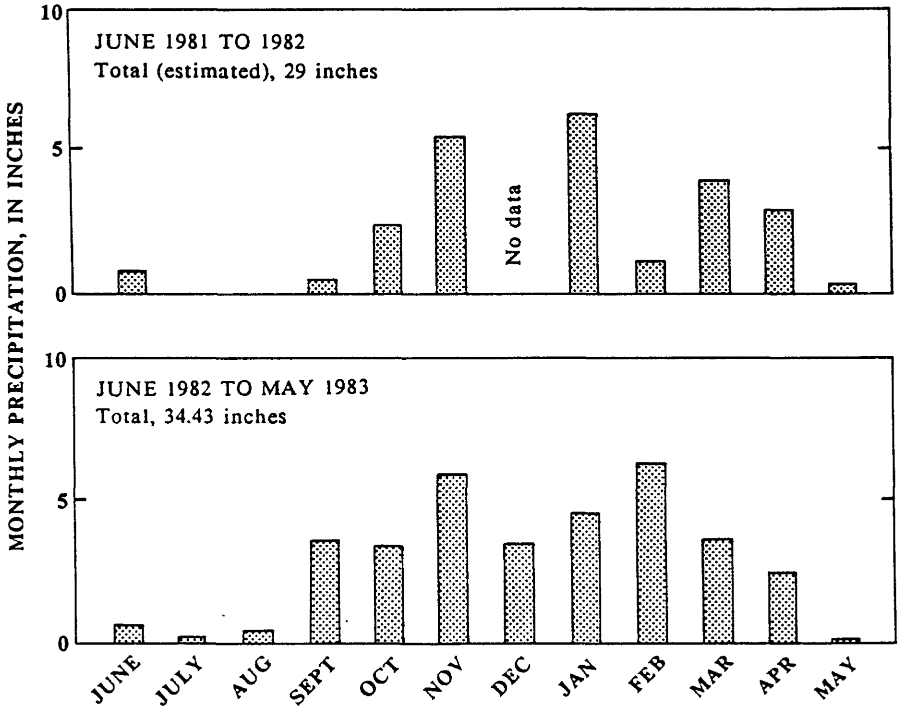

FIGURE 6.--Monthly precipitation at unofficial weather station near summit of Daggett Pass for the periods June 1981 to May 1982 and June 1982 to May 1983.

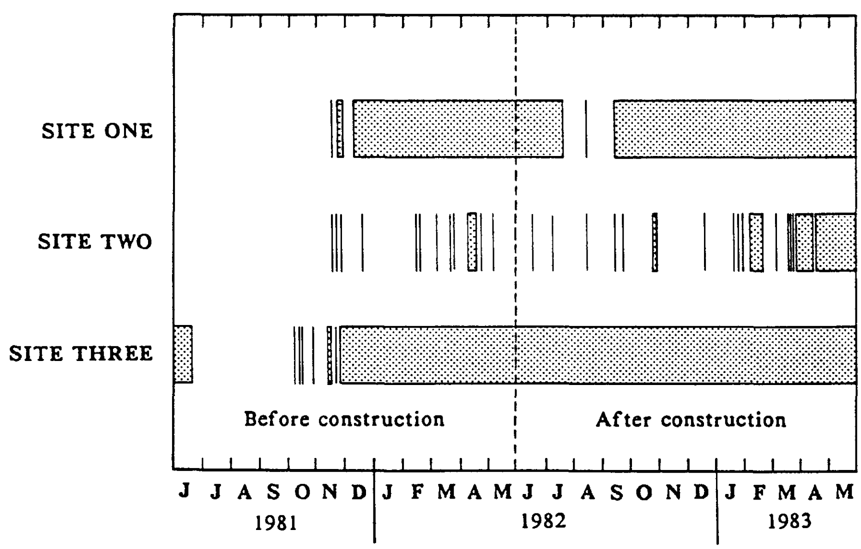

FIGURE 7.--Periods of flow at the three sampling sites, June 1981 to May 1983.

TABLE 1.—*Comparison of measured instantaneous maximum and minimum values and estimated annual mean values for streamflow, sediment, and nutrients before and after erosion-control construction*[1]

[Streamflow in cubic feet per second (E, estimated). Concentrations in milligrams per liter]

	Streamflow	Total sediment	Total nitrogen as N	Total phosphorus as P	Total iron as Fe
		SITE ONE (10336756)			
Maximum					
Before	4.0	16	0.92	0.07	1.0
After	8.9	397	1.9	.64	19
Minimum					
Before	.00	1	.48	< .01	.02
After	.00	1	.50	< .01	.07
Mean					
Before	.18	3	.67	.02	.15
After	.38	32	.87	.09	2.1
		SITE TWO (10336757)			
Maximum					
Before	E3.0	133,000	10	1.6	630
After	E2.7	4,500	3.4	1.1	110
Minimum					
Before	.00	1,790	.67	.11	23
After	.00	25	.69	.08	1.7
Mean					
Before	.01	24,000	1.4	.36	240
After	.02	[a]410	1.5	.20	[a]12
		SITE THREE (10336758)			
Maximum					
Before	7.9	22,200	3.3	0.93	280
After	12	1,680	4.4	1.2	57
Minimum					
Before	.00	6	.56	< .01	1.1
After	.01	10	.49	.03	.63
Mean					
Before	.30	1,900	1.1	.17	38
After	.59	190	.94	.18	6.3

[1] See "Methods Used in the Study" (in text) for discussion of mean values.

[a] Statistical coefficients of determination for relations between streamflow and (1) sediment and (2) iron at site two after construction are less than 0.50, indicating that these estimated mean concentrations are of questionable accuracy. (See text section titled "Methods Used in the Study.")

The streamflow records at sites one, two, and three were judged to be of fair, poor, and fair accuracy, respectively. A "fair" rating signifies that about 95 percent of the daily discharges are correct within 15 percent of the true discharges; "poor" means that the daily discharges have less than fair accuracy.

Average streamflow at Trout Creek, about 5 miles southwest of the study area, is about 38 ft^3/s on the basis of 23 years of record. During the years ending May 31, 1982 and 1983, the average streamflows were about 41 and 64 ft^3/s, respectively. The data for these 2 years show that more runoff occurred during the second year at Trout Creek, but that both years were above average. Data for the three sites in the study area also show greater flow in the second, post-construction year (table 1).

DESCRIPTION OF STUDY SITES

The three sites, shown in figure 1, are as follows:

Site number	Name	Station number	Drainage area (square miles)
One	Edgewood Creek tributary near Daggett Pass, Nev.	10336756	0.80
Two	Tributary of Edgewood Creek tributary near Tahoe Village, Nev.	10336757	.14
Three	Edgewood Creek tributary at Highland Drive, near Tahoe Village, Nev.	10336758	1.23

The drainage tributary to site one has steep stream-channel gradients in the headwater areas and moderate gradients in the narrow, elongated meadow areas farther downstream. The drainage includes an urban area upstream from the meadow lands (figure 1). Much of the suspended sediment in the urban runoff apparently is deposited in the lower gradient meadow areas. As a result, no erosion-control work took place upstream from site one in 1982.

The drainage upstream from site two includes the right-of-way for State Highway 207 and urban development in areas near the highway. Runoff from this basin flows to site two in the gutters of Highway 207. Most of the erosion-contol construction in the study area during 1982 took place along and adjacent to these gutters.

Site three receives the flow from sites one and two, along with a moderate amount of additional flow from the largely non-urban drainage between site three and sites one and two. Some erosion-control construction took place along Highway 207 between sites two and three in 1982.

Site one was chosen as the control, or "background," site for this study because it (1) was completely unaffected by erosion-control structures and (2) is thought to have been largely unaffected by urban development.

Site two was relocated three times during the study because of hydrologic and logistic problems which resulted in poor streamflow records. The first location was about 300 feet upstream from the confluence with the Edgewood Creek tributary (figure 1). This location was unsatisfactory because of an unstable channel and shifting control.

In December 1981, the gage was relocated about 600 feet above the confluence and approximately 10 feet west of State Highway 207. This site also developed a shifting control which resulted in scouring and filling of the channel. Snow buildup caused by snow-removal equipment obstructed the channel during the winter months. The gage was removed in June 1982 to prevent damage during the construction of erosion-control structures.

In October 1982, after most construction was completed, the gage was relocated about 400 feet above the confluence of Edgewood Creek tributary. At this final location, a 90-degree V-notch weir was installed and placed in concrete. The channel above and below the control (a total of about 100 feet) was lined with concrete resulting in a localized stable channel. During low flows, however, the gage pool had some silt buildup. The relocations of the site two sampling location and gage may have caused some of the results to be suspect. Nevertheless, the results are considered useful and included in this report.

METHODS USED IN THE STUDY

The streamflow in the study area was monitored at the three sites by continuous stream-stage recorders. Streamflow measurements were made onsite by volumetric methods or by using a pygmy or Price AA current meter, according to standard U.S. Geological Survey procedures (Buchanan and Somers, 1969, pages 38-40, 61-63).

Total-sediment samples were collected, and the coarse (sand and larger) and fine (silt and clay) sediment percentages determined whenever possible. The open mouths of sediment bottles were used as the nozzle orifices because shallow depths occurred at each site (Guy and Norman, 1970, pages 41-42). Samples were collected at locations in the stream where total (suspended and bedload) sediment samples could be obtained. This technique allowed larger particles to be captured than would have been the case using the more standard suspended samples, and the results are believed to be superior to those results that would have been obtained using standard suspended-sediment methods (Glancy, 1977, page 5). Sample analyses were done by Geological Survey personnel at the sediment laboratory in Boise, Idaho.

Nitrogen and phosphorus are commonly referred to as nutrients. Steen (1971, page 353) defines a nutrient as any substance which promotes growth or provides energy for physiological processes. Goldman (1974, page 153) states that nitrogen and, to a lesser extent, iron and phosphorus are now the most important nutrients which are in low supply and individually or in combination reduce or "limit" the growth of phytoplankton in Lake Tahoe. Therefore, iron is also classified as a nutrient in this report.

Total- and dissolved-nutrient samples were collected during the study and analyzed using procedures described by Skougstad and others (1979). Immediately after collection, all nutrient samples were chilled and maintained at 4 °C or less until analyzed. Water samples for determination of dissolved constituents were filtered as soon as possible through a 0.45-micrometer filter and then shipped to the U.S. Geological Survey Central Laboratory in Arvada, Colo., for analysis. In order to obtain samples from all three sites during runoff events, the samples for dissolved constituents were not filtered onsite because the duration of runoff events was too short and dynamic to allow adequate time for filtration of turbid samples. In addition, by allowing the samples to settle, some of the sediment had fallen to the bottom of the sample container, permitting easier filtration.

Nutrient species for which analytical determinations, or calculations therefrom, were made during this study are as follows:

Nitrogen
- nitrite (analysis)
- nitrite plus nitrate (analysis)
- nitrate (calculation)

- ammonia (analysis)[1]
- ammonia plus organic nitrogen (analysis)
- organic nitrogen (calculation)

- all forms (calculation)[2]

Phosphorus
- orthophosphate (analysis)
- all forms (analysis)

Iron
- all forms (analysis)

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[1] Ammonia data are the result of an analytical procedure that determines the combined concentration of the ammonium ion (NH_4^+) plus un-ionized ammonia (NH_3). In most waters having a pH of less than about 8.5, the concentration of ammonium exceeds that of ammonia. For consistency in this report, however, the term "ammonia" is used throughout to indicate the combined concentration of NH_4^+ and NH_3.

[2] The combined concentration of nitrite, nitrate, ammonia, and organic nitrogen.

Concentrations of nitrogen and phosphorus species are expressed in terms of elemental nitrogen (N) or elemental phosphorus (P) to facilitate comparisons among the several species.

Iron concentrations discussed in the text are expressed in milligrams per liter (mg/L). Tables 8-10 show concentrations of iron in micrograms per liter (μg/L). To convert μg/L to mg/L, multiply by 0.001.

Specific conductance was measured by collecting a sample and analyzing it at the Carson City laboratory.

Samples were collected during varying flow conditions. Data collection began in January 1981 and ended in September 1983. Sampling was emphasized and most intensive during periods of snowmelt and rainfall runoff. A few samples were also obtained during base-flow periods. The sampling-frequency strategy, designed to concentrate data collection during periods of heavy sediment transport, resulted in most samples being collected during a select few days of the year. At site three, for example, 42 samples were collected during 15 days after construction. Of these 42 samples, 27 were collected during spring snowmelt.

Accurate analytical results for some nutrient samples could not be achieved because the concentrations were less than the analytical detection limits. For those nutrient samples, the detection limit is listed along with a "<" ("less than") symbol in tables 8-10. For example, many values for dissolved nitrite nitrogen are reported as "<0.02 mg/L."

The analytical data in tables 8-10, along with instantaneous streamflow data in tables 5-7, were used to calculate instantaneous sediment and nutrient loads. These loads were then fitted by nonlinear least-squares regression to an equation of the form:

$$Y = A(X^B) ,$$

where Y = instantaneous load, in tons or pounds per day,
X = instantaneous streamflow, in cubic feet per second, and
A, B = regression constants.

For example, the resulting equation for total sediment at site two before construction is:

$$Y = 112(X^{1.48}).$$

For this relation, the statistical coefficient of determination (r^2) is 0.89, which indicates that 89 percent of the total variation in sediment load can statistically be attributed to the relation with streamflow. The standard error of estimate for this relation is 2.9, indicating that about two-thirds of the estimated sediment-load values are within 2.9 tons of the values predicted from the relation with streamflow.

TABLE 2.—*Statistical characterization of relations between (1) streamflow and (2) sediment and nutrient loads before and after erosion-control construction*

Constituent	Regression equations[1] Before	Regression equations[1] After	Coefficient of determination (r^2) Before	Coefficient of determination (r^2) After	Standard error of estimate Before	Standard error of estimate After
		SITE ONE (10336756)				
Total sediment	$Y=0.0111(X^{1.80})$	$Y=0.0239(X^{2.25})$	0.93	0.92	1.5	2.2
Total nitrogen	$Y=3.74(X^{1.08})$	$Y=4.49(X^{1.10})$	.99	.96	1.1	1.3
Total phosphorus	$Y=0.135(X^{1.22})$	$Y=0.282(X^{1.72})$	.92	.89	1.6	2.0
Total iron	$Y=0.000648(X^{2.04})$	$Y=0.00231(X^{2.00})$	.93	.92	1.6	1.9
		SITE TWO (10336757)				
Total sediment	$Y=112(X^{1.48})$	$Y=1.31(X^{1.12})$	0.89	0.34	2.9	3.7
Total nitrogen	$Y=8.44(X^{1.06})$	$Y=13.1(X^{1.24})$	.90	.88	2.0	1.5
Total phosphorus	$Y=2.13(X^{1.08})$	$Y=1.50(X^{1.16})$	.91	.67	1.9	2.0
Total iron	$Y=0.996(X^{1.39})$	$Y=0.0351(X^{1.18})$	.94	.44	2.1	3.0
		SITE THREE (10336758)				
Total sediment	$Y=4.50(X^{1.72})$	$Y=0.304(X^{1.67})$	0.71	0.75	5.1	2.7
Total nitrogen	$Y=5.87(X^{0.70})$	$Y=5.20(X^{1.06})$	.75	.85	1.6	1.6
Total phosphorus	$Y=0.892(X^{0.91})$	$Y=0.832(X^{1.34})$	.59	.71	2.4	2.4
Total iron	$Y=0.0998(X^{1.45})$	$Y=0.0125(X^{1.52})$	.78	.74	3.2	2.5

[1] Symbols: *X*, instantaneous streamflow, in cubic feet per second; *Y*, instantaneous load, in tons per day for sediment and iron, and pounds per day for nitrogen and phosphorus.

The equations, correlation coefficients of determination, and standard errors for the several relations are listed in table 2. Most of the listed coefficients of determination are greater than 0.70, indicating that much of the variation in sediment and nutrient loads generally can be attributed to the relations with streamflow. Only two of the coefficients, for sediment and iron at site two after construction, are appreciably less than 0.60. These two low values (0.34 and 0.44, respectively) indicate that less than half of the variation in loads can be statistically attributed to a relation with streamflow. Likewise, any computations based on the regression equation expressing that relation (for example, the annual loads and mean concentrations discussed below) are of questionable accuracy.

Equations for sediment and nutrient loads were entered into a computer program along with mean daily streamflows, in cubic feet per second, for each station. For every mean daily discharge, a daily sediment or nutrient load was estimated from the equation. By adding the daily loads for the year, a total annual load was determined.

Annual mean concentrations for each constituent were calculated by dividing the total annual load by (1) the total annual streamflow and (2) the appropriate conversion constant. For nitrogen and phosphorus loads (in pounds per day), the conversion factor is 5.4; for sediment and iron loads (in tons per day), the conversion factor is 0.0027.

When concentrations of total nitrite plus nitrate were reported as less than the analytical detection limit, the closest concentration below the detection limit was used in the calculation of total nitrogen. For example, when the nitrite-plus-nitrate concentration was reported as <0.10 mg/L, the value 0.09 mg/L was used in the calculation. This assumption gives estimated total-nitrogen concentrations that may be higher than the actual concentrations.

EFFECT OF EROSION-CONTROL STRUCTURES

Sediment

Concentrations

Mean sediment concentrations before and after construction were significantly different at all sites. After construction, higher annual mean concentrations of total sediment occurred at site one, but lower mean concentrations occurred at sites two[1] and three, with site two having the greater reduction (table 1). The increase at site one was probably the result of the greater post-construction streamflow. (The flow at site one is thought to be largely unaffected by urbanization and is completely unaffected by erosion-control structures.) The mean daily discharge at site two increased from 0.01 to 0.02 ft^3/s, but the mean sediment concentration was reduced from about 24,000 to about 410 mg/L. The reduction in mean sediment concentration at site three was about 10-fold. Figure 8 shows the mean sediment concentrations and loads at all three sites, both before and after construction.

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[1] The statistical coefficient of determination for the relation between streamflow and sediment at site two after construction is less than 0.50, indicating that the estimated mean annual concentration is of questionable accuracy (see text section titled "Methods Used in the Study"). However, the order of magnitude of the estimate may be correct. The low coefficient of determination at site two after construction may have resulted because the small basin had not as yet re-equilibrated after emplacement of the erosion-control structure.

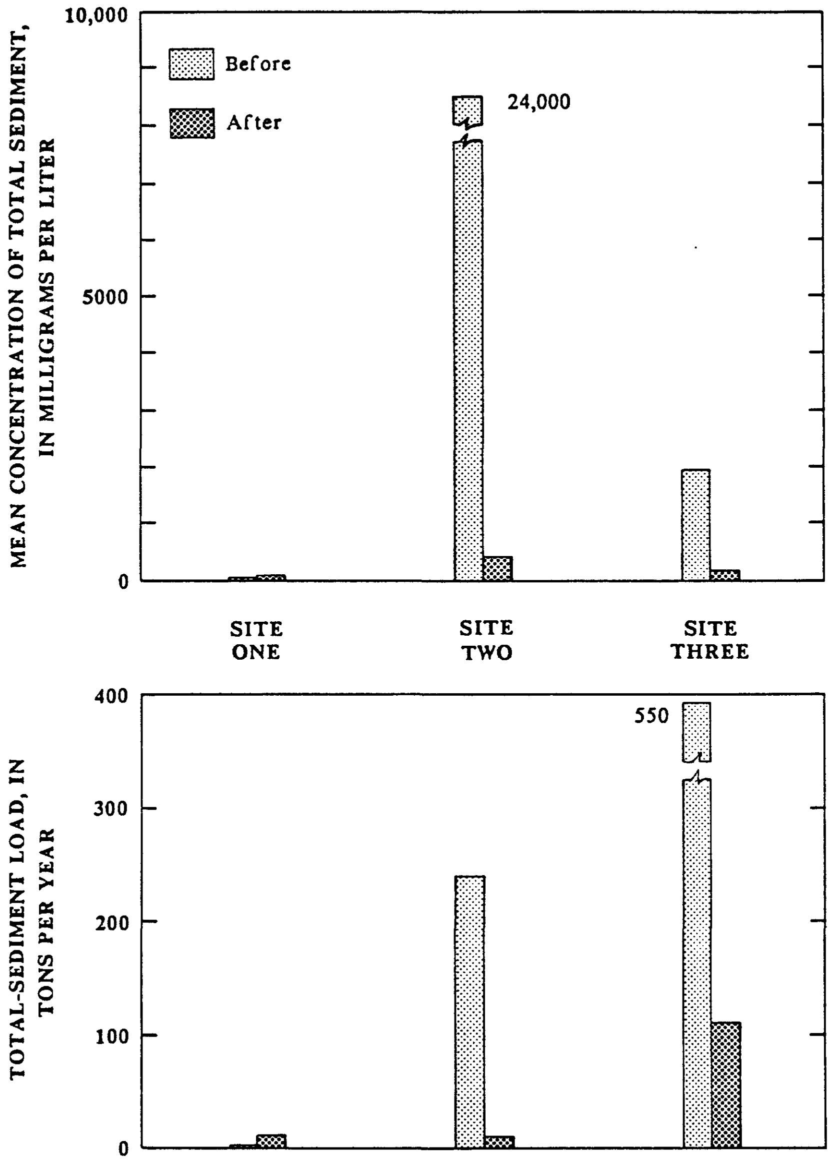

FIGURE 8.–Total-sediment concentrations and loads before and after erosion-control construction. The statistical coefficient of determination for the relation between streamflow and sediment at site two after construction is less than 0.50, indicating that the estimated annual mean concentration and load are of questionable accuracy (see text secton titled "Methods Used in the Study"). However, the order of magnitude of the estimates may be correct.

Mean daily discharge was greater at sites two and three after construction because of the greater amount of precipitation. In contrast, mean sediment concentrations were significantly less at these two sites. The reduction of sediment movement at sites two and three is believed to be the result of the effectiveness of the erosion-control structures and retention dams.

Loads

The sediment load moving past site one increased from about 0.5 ton/yr before construction to about 12 ton/yr afterward (table 3; figure 8). The increase in load is believed to be the result of increases in streamflow quantities and rates during the runoff season after construction. In contrast, the sediment load moving past site two[1] decreased from about 240 to about 10 ton/yr. Major reductions in sediment concentrations accompanied the substantial reductions in sediment load at this site. The sediment load moving past site three was reduced from about 550 to about 110 ton/yr; reductions in sediment concentrations, similar to those at site two, accompanied the decreased load at site three.

The sediment rating curves for sites two and three, which show the relation between sediment loads and streamflow, are given in figures 9 and 10. These curves, and the data upon which they are based, indicate that the erosion-control structures modified sediment yields at the two measurement sites. For any given streamflow, the sediment loads associated with that streamflow after construction characteristically were noticeably less than they were before construction. The reduction in sediment yield is interpreted as a quantitative measurement of the effectiveness of the erosion-control structures.

Particle Size

For the purpose of this study, sediment contained in whole-water samples was classified as either fine or coarse. Fine sediment is herein defined as all material with a diameter less than 0.062 millimeter (that is, silt and clay), and coarse sediment as all material with a diameter greater than 0.062 millimeter (sand and gravel).

Particle size at site one was not determined before construction because of the low rate of sediment transport at this site (figure 11). After construction, nine samples had sufficient material for particle size determinations. Results averaged about 88 percent fine and 12 percent coarse sediment (figure 11).

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[1] The statistical coefficient of determination for the relation between streamflow and sediment at site two after construction is less than 0.50, indicating that the estimated annual load is of questionable accuracy (see text section titled "Methods Used in the Study"). However, the order of magnitude of the estimate may be correct.

TABLE 3.--*Comparison of estimated annual quantities for streamflow, sediment, and nutrients before and after erosion-control construction*

[Streamflow in acre-feet per year. Sediment and iron loads in tons per year; nitrogen and phosphorus loads in pounds per year]

Constituent or property	Site one (10336756)		Site two (10336757)		Site three (10336758)		Drainage between sites one, two, and three	
	Before	After	Before	After	Before	After	Before	After
Streamflow	130	270	7.4	18	220	430	80	140
Total sediment	.52	12	240	[a]10	550	110	310	90
Total nitrogen as N	240	650	29	76	670	1,100	400	400
Total phosphorus as P	8.1	71	7.2	10	98	210	83	130
Total iron as Fe	< .1	.8	2.4	[a].3	11	3.7	9	3

[a] Statistical coefficients of determination for relations between streamflow and (1) sediment and (2) iron at site two after construction are less than 0.50, indicating that these loads are of questionable accuracy. (See text section titled "Methods Used in the Study.")

[b] See figure 1. Quantity at site three, minus quantities at sites one and two.

At site two before construction, 25 samples collected for particle-size analysis showed that the coarse fraction was dominating (averaged about 80 percent) the water-sediment mixture (figure 11). After the construction, 31 of the collected samples averaged about 62 percent fine and about 38 percent coarse sediment. This suggests that the erosion-control structures reduced a large part of the coarse fraction of the sediment load.

Site three did not undergo as drastic a change in the size of material before and after the construction. The 29 samples collected before construction averaged about 53 percent coarse sediment, whereas the 37 samples collected after construction averaged about 34 percent.

The results of the particle-size analyses also suggest that the erosion-control structures are effective in decreasing the transport of the larger coarse-size particles.

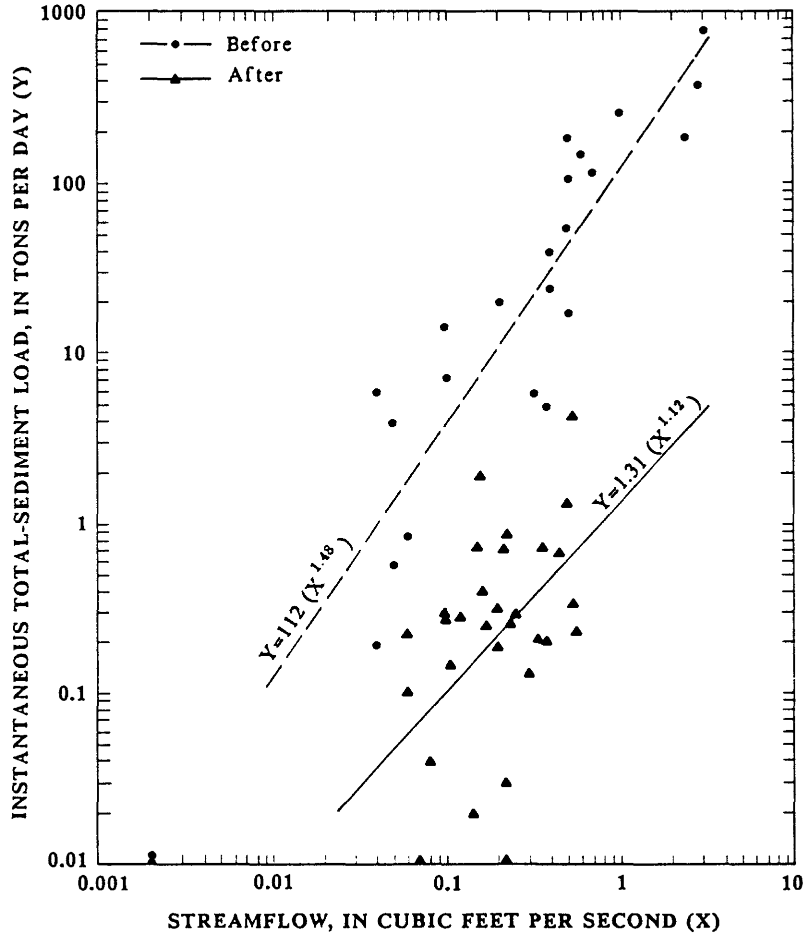

FIGURE 9.--Relation of streamflow to instantaneous total-sediment load at site two before and after erosion-control construction.

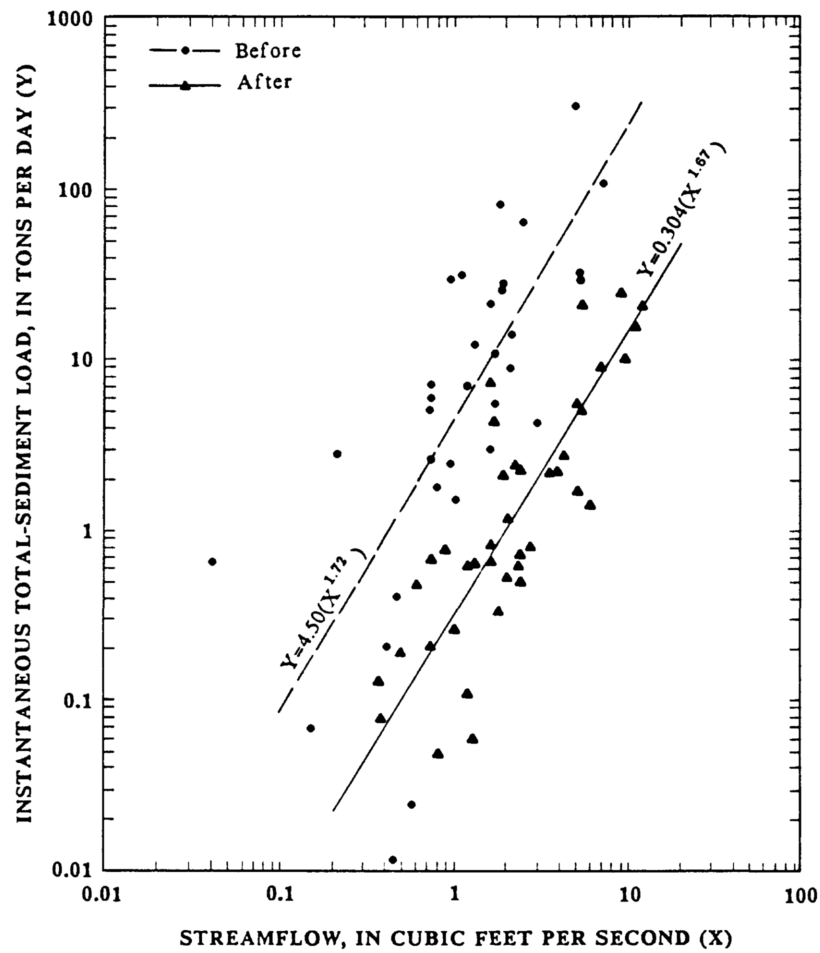

FIGURE 10.--Relation of streamflow to instantaneous total-sediment load at site three before and after erosion-control construction.

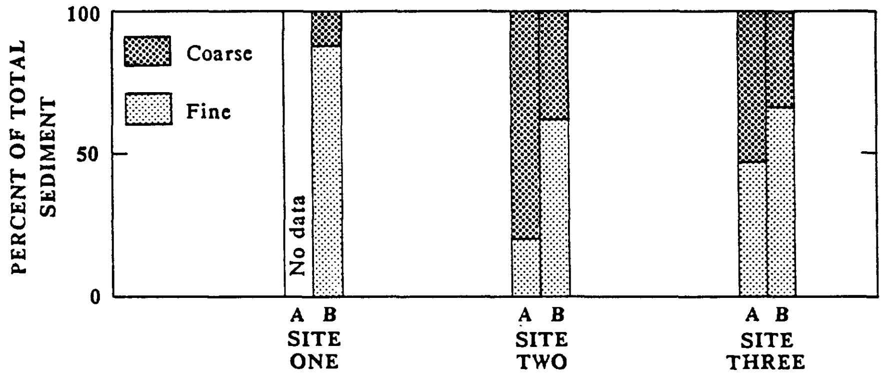

FIGURE 11.--Average percentages of coarse and fine sediment (A) prior to and (B) following erosion-control construction.

Deposition

The area behind a retention dam (figure 1) was surveyed to determine the effectiveness of the dam in trapping sediment. The dam is downstream from site two and upstream from the confluence with the site-one tributary. Two cross sections were surveyed in September 1982, after the retention dam was constructed and prior to any significant flow. The same cross sections were surveyed again after the spring runoff in July 1983. Figure 12 is a longitudinal profile showing the estimated depth of fill behind the retention dam after the spring runoff of 1983, based on the two cross sections and the measurement of high-water marks. Figure 13 shows the estimated area of fill in cross-section 1. The fill in cross-section 2 is not shown but was used to estimate the total amount of fill after construction. The volume of fill was calculated by multiplying the average depth across the channel at several intervals by the width of the fill between the intervals and by the estimated length of the channel in which the fill occurred. The estimated amount of fill behind the retention dam was about 75 cubic yards, subject to a possible error of plus or minus 20 cubic yards largely because only two cross sections were used to compute sediment fill.

According to Mark Gonzales, Douglas County Project Engineer (oral communication, 1983), heavy machinery removed about 100 cubic yards of material behind the retention dam. The difference between the calculated and reported amounts of fill could be the result of heavy machinery removing more material than was deposited or errors in the computations described above. A resurvey of the cross sections after the removal of material was not done.

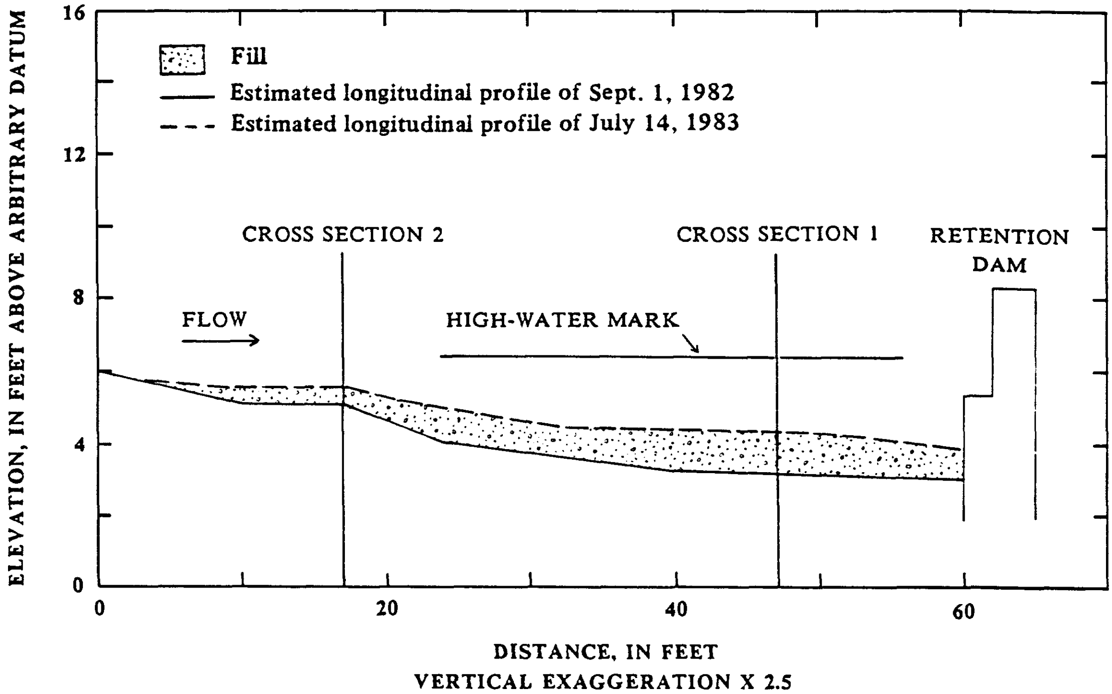

FIGURE 12.--Estimated average depth of fill behind newly constructed retention dam after spring runoff in 1983. Volume of fill, approximately 75 cubic yards. Dam is located downstream from site two (figure 1).

Nutrients

Concentrations

Table 1 lists mean annual concentrations of total nitrogen, phosphorus, and iron before and after the erosion-control construction. The data for nitrogen show little change with time at the three sites, despite significantly greater amounts of streamflow in the post-construction year.

Mean phosphorus concentrations at the "background" site (one) remained low throughout the 2-year period. A slightly higher value in the second year may be attributable to the substantially greater amount of sediment that accompanied higher mean annual streamflows during that period. Phosphorus is fairly abundant in sediment (Hem, 1985, p. 126), and particularly so in the organic components. At site two, the mean concentration of phosphorus was much lower after construction than before, presumably due to the pronounced decrease in sediment concentrations as a result of the erosion-control structures. At site three, in contrast, the mean phosphorus concentration was slightly greater in the second year, despite a more than 10-fold decrease in sediment. The reason for this is unclear.

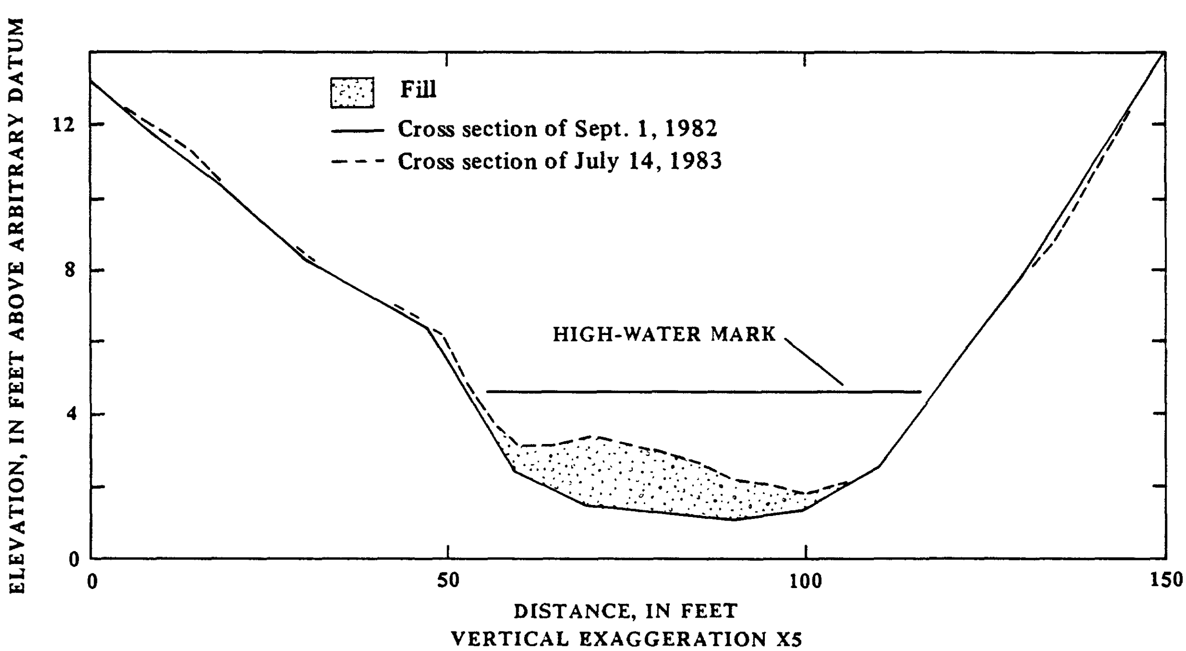

FIGURE 13.--Depth of fill at cross section 1 (figure 12) behind newly constructed retention dam after spring runoff in 1983.

Total-iron concentrations usually can be correlated with sediment concentrations. Figure 14 compares total iron and total sediment at site two before and after the erosion-control work. Before construction, all measured sediment concentrations were greater than 1,500 mg/L, and 14 of the 20 samples had total-iron concentrations greater than 100 mg/L. After the erosion-control work, all but 3 of the 32 measured sediment concentrations were below 1,500 mg/L, and the measured total-iron concentration exceeded 100 mg/L only once.

Total-iron concentrations at the "background" site were greater during the second year than during the first. The increase is believed to have been related to the greater sediment concentrations associated with increased streamflow in the second year.

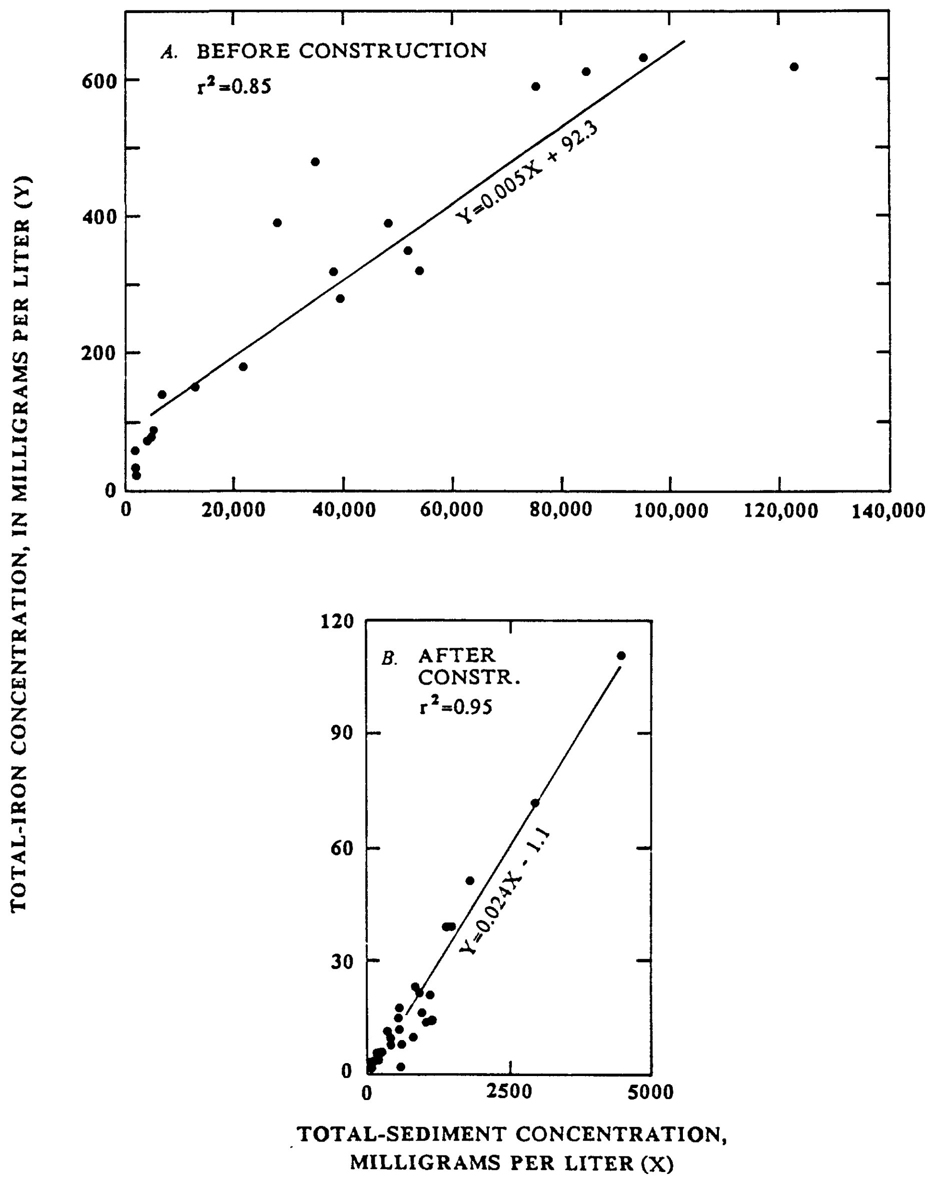

FIGURE 14.--Comparison of total-iron and total-sediment concentrations at site two before and after erosion-control construction. Note: scales of iron and sediment axes are proportionally the same in part *B* as in part *A*.

Sites two[1] and three had a reduction in the mean concentration of total iron after the erosion-control construction (figure 15). The reduction is believed to have been the result of the erosion-control structures, which reduced the concentrations of sediment and, therefore, iron.

Loads

Figures 16 and 17 show the plots of streamflow versus nitrogen load at sites two and three. The data show little difference in relation before and after construction. Thus, because streamflow at the two sites was greater during the year after construction than during the year before, the nitrogen loads were greater too in the second year (table 3). The load at site one also was greater during the second year, for the same reason.

Figures 18 and 19 show plots of streamflow versus phosphorus load at sites two and three. Like nitrogen, the phosphorus data plot in the same general area on each graph, but site two exhibits a moderate difference between relations before and after construction. Nonetheless, increased streamflow during the second year resulted in increased total-phosphorus loads at both sites (table 3). The streamflow and load at the "background" site (one) also were greater in the second year than in the first.

Figures 20 and 21 show the plots of streamflow versus total-iron load for sites two and three. The graphs show that the tonnage of iron for any given streamflow is proportionally smaller after the construction than before. In that regard, the before-and-after relation for iron is similar to that for sediment load (figures 9 and 10).[2] The decreased tonnages of both constituents in the second year probably are a result of the erosion-control structures. At site one, which was not influenced by erosion-control structures, greater streamflow in the second year was accompanied by a greater total-iron load (along with a much greater amount of sediment; table 3).

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[1] The statistical coefficient of determination for the relation between streamflow and iron at site two after construction is less than 0.50, indicating that the estimated mean annual concentration is of questionable accuracy (see text section titled "Methods Used in the Study"). However, the order of magnitude of the estimate may be correct. The low coefficient of determination at site two after construction may have resulted because the small basin had not as yet re-equilibrated after emplacement of the erosion-control structures.

[2] The statistical coefficient of determination for the relation between streamflow and iron at site two after construction is less than 0.50, indicating that the estimated annual load is of questionable accuracy (see text section titled "Methods Used in the Study"). However, the order of magnitude of the estimate may be correct.

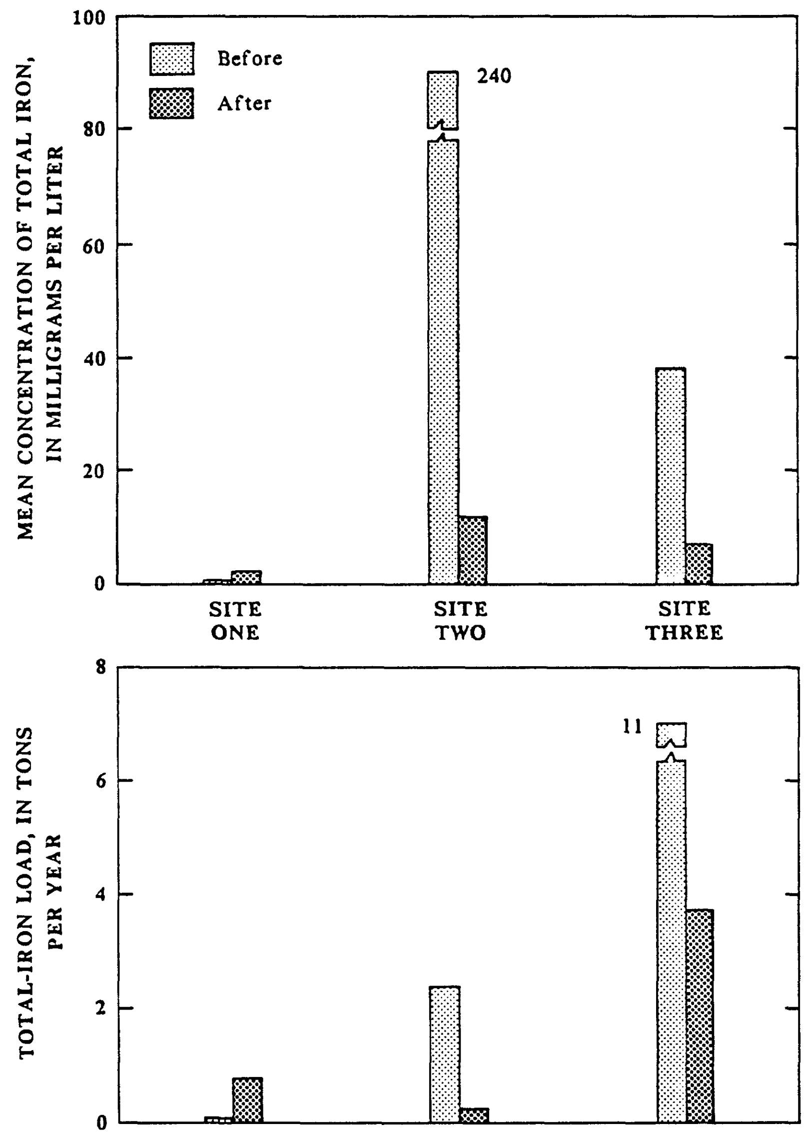

FIGURE 15.--Total-iron concentrations and loads before and after erosion-control construction. The statistical coefficient of determination for the relation between streamflow and iron at site two after construction is less than 0.50, indicating that the estimated annual mean concentration and load are of questionable accuracy (see text section titled "Methods Used in the Study"). However, the order of magnitude of the estimates may be correct.

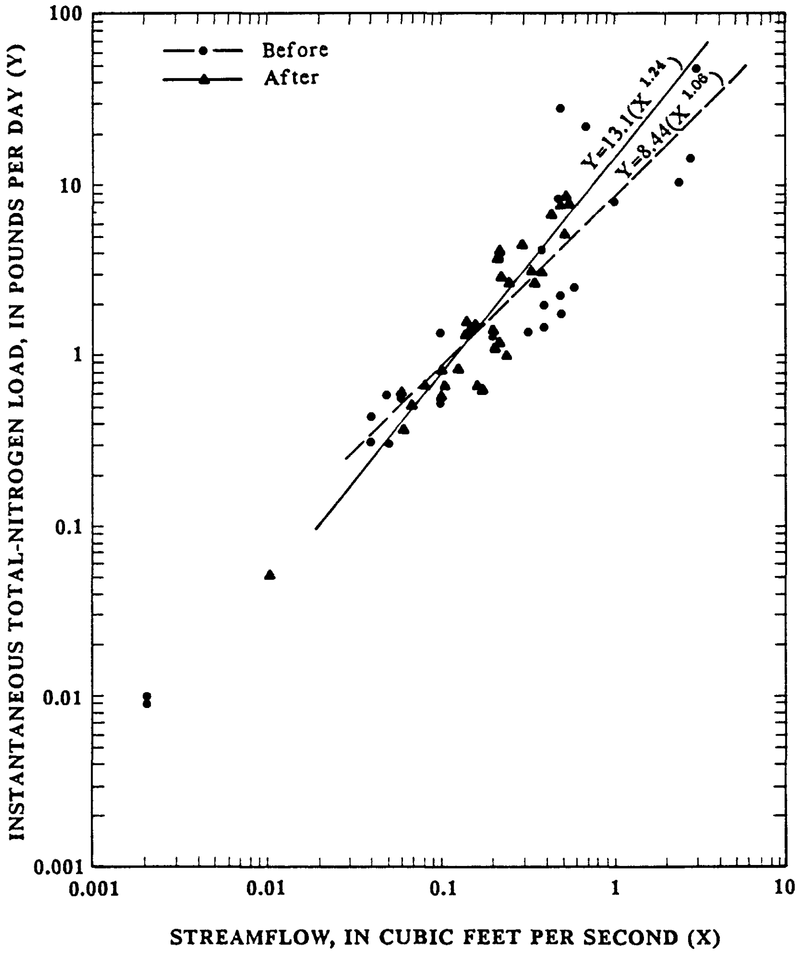

FIGURE 16.--Relation of streamflow to instantaneous total-nitrogen load at site two before and after erosion-control construction.

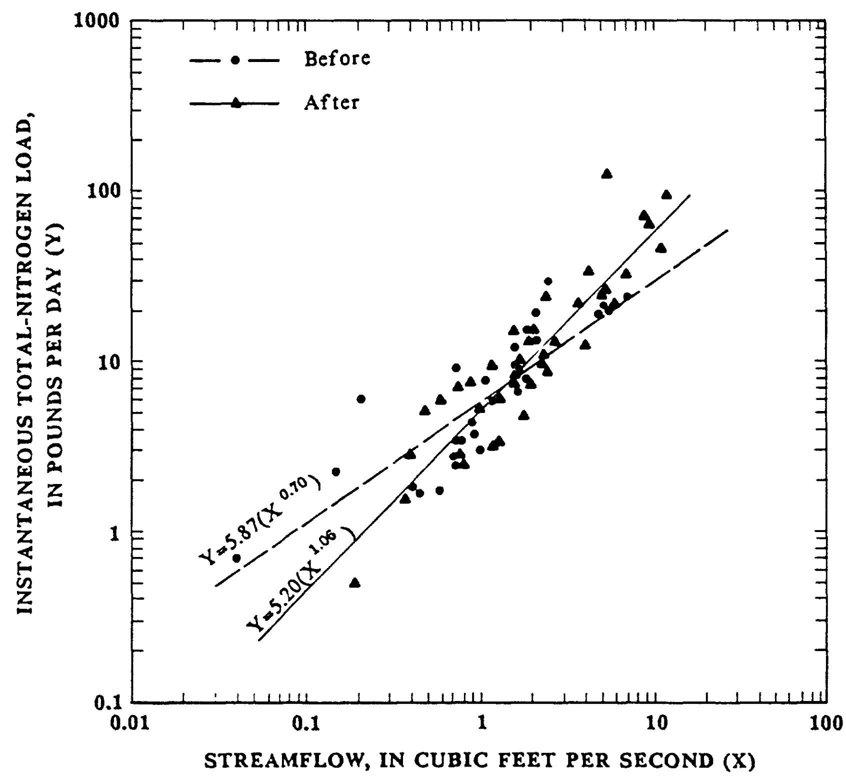

FIGURE 17.--Relation of streamflow to instantaneous total-nitrogen load at site three before and after erosion-control construction.

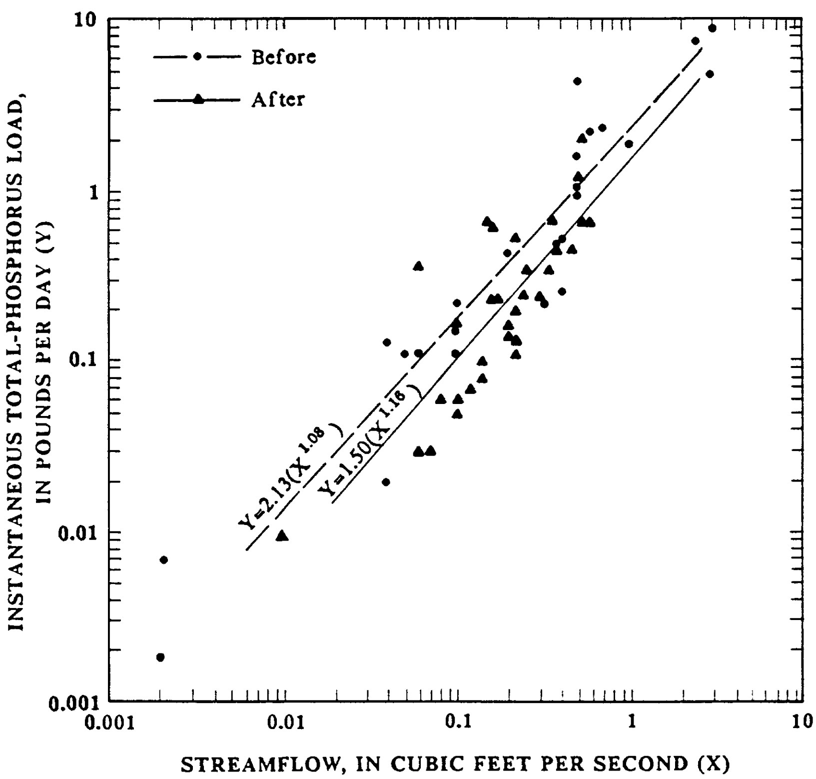

FIGURE 18.--Relation of streamflow to instantaneous total-phosphorus load at site two before and after erosion-control construction.

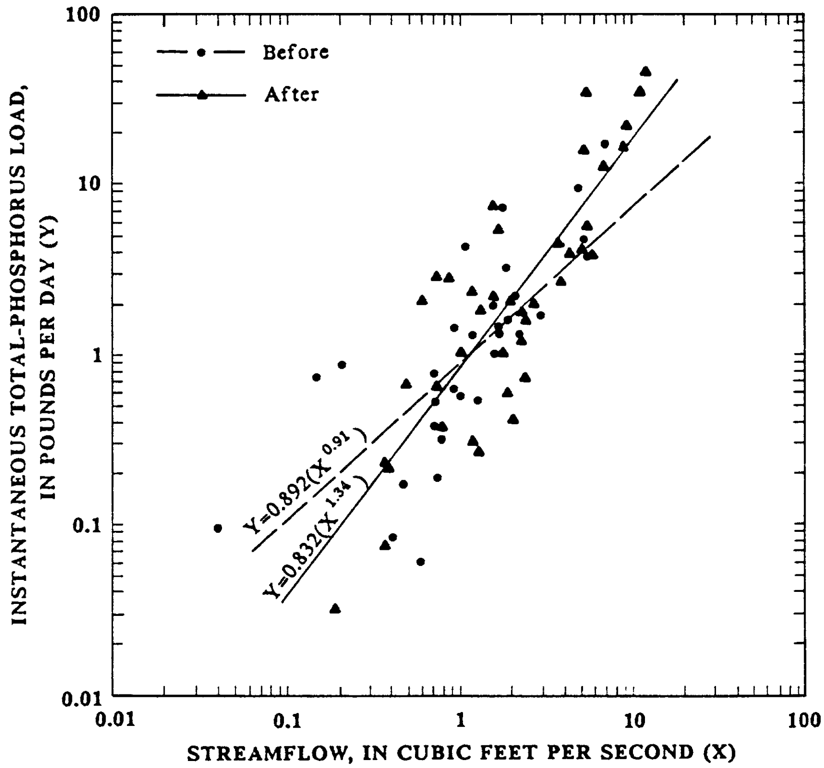

FIGURE 19.--Relation of streamflow to instantaneous total-phosphorus load at site three before and after erosion-control construction.

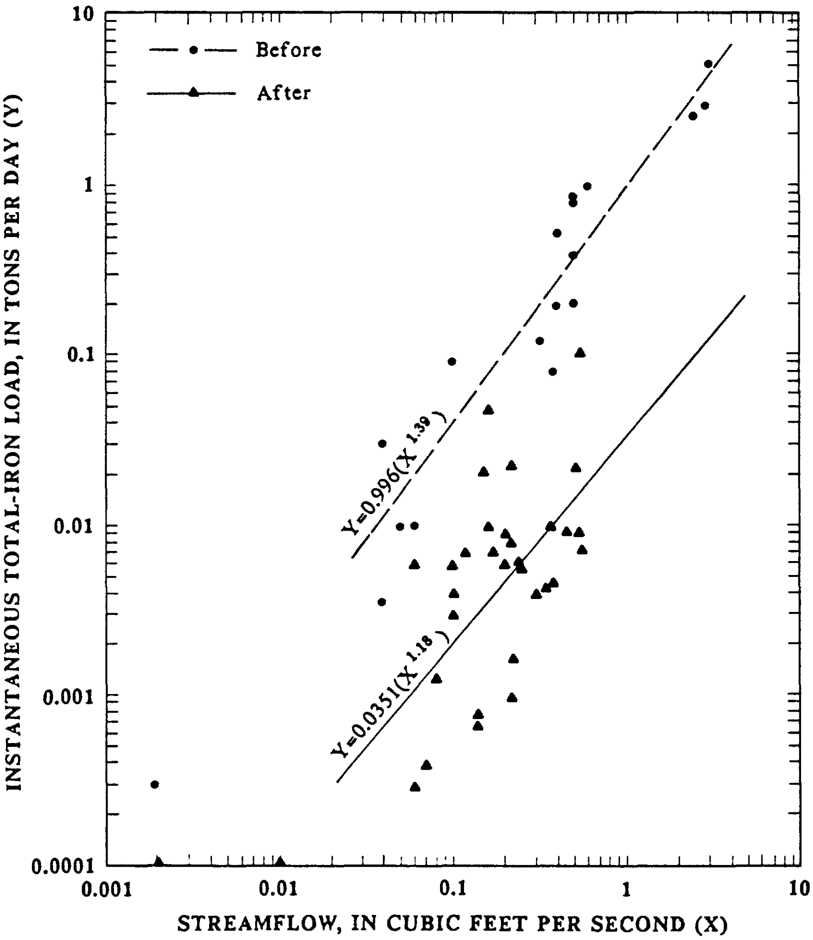

FIGURE 20.--Relation of streamflow to instantaneous total-iron load at site two before and after erosion-control construction.

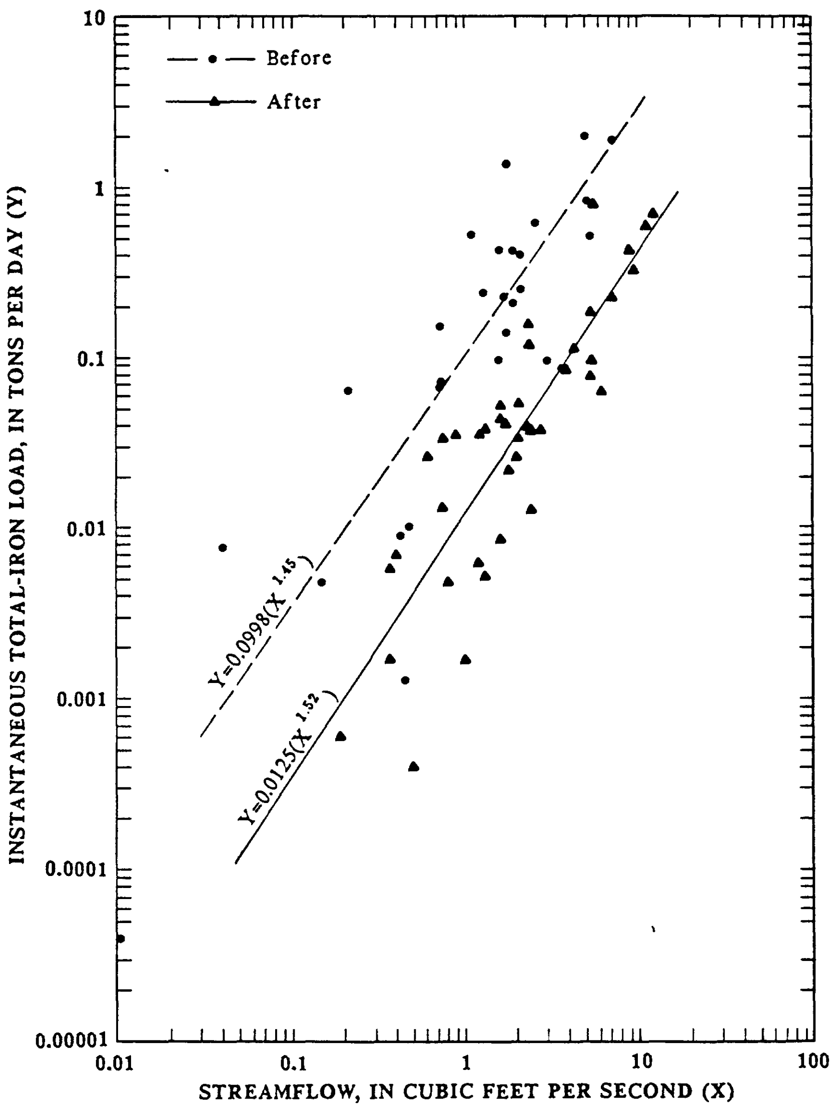

FIGURE 21.--Relation of streamflow to instantaneous total-iron load at site three before and after erosion-control construction.

SUMMARY AND CONCLUSIONS

The purpose of the study was to determine the effectiveness of newly emplaced erosion-control structures (rock gabions, wooden retaining walls, rock linings of roadside ditches, curbs and gutters, and vegetation planted to stabilize the slopes) in the Edgewood Creek drainage basin. The entire basin is small, about 7 mi^2, and is at the southeast end of Lake Tahoe. The scope of the project involved collection of data on streamflow, stream sediment, and nutrients (nitrogen, phosphorus, and iron) at three sites (combined drainage area, about 1.2 mi^2) in the Edgewood Creek basin.

Geologically, the study area is dominated by granodiorite, an intrusive igneous rock, and the weathering products therefrom. Vegetation consists mostly of conifer forest, with aspen, deciduous trees and shrubs, grasses, and annual flowering plants along the streams. Precipitation averages about 18 inches per year.

Samples were collected at three stream sites. Site one, the "background" station, drains an area of about 0.8 mi^2. Flow at the site is completely unaffected by erosion-control structures and is thought to have been largely unaffected by urban development. Site two drains about 0.1 mi^2 that is affected by both urbanization and erosion-control structures. Site three (about 1.2 mi^2) is downstream from the confluence of streams sampled at sites one and two. The streams studied in this basin flow intermittently.

Principal streamflow measurements and water-quality samples were collected between June 1981 and May 1983. The period of erosion-control construction, during which almost no sampling took place, was May-September 1982. For convenience, the year ending in May 1982 is considered to have been "before construction," and the year ending in May 1983, "after construction." Stream outflow from the study area (site three) totaled 220 acre-feet in the pre-construction year and 430 acre-feet in the post-construction year.

Table 4 summarizes changes in streamflow and water quality at the three sampling sites in the second (post-construction) year of study, relative to the first year.

At the "background" site, sediment concentrations were greater during the second year than during the first because streamflow also was greater. In contrast, mean sediment concentrations at sites two and three were significantly less during the year after construction than during the year before, despite greater streamflow in the second year. The mean sediment concentration at site two was reduced from about 24,000 to about 410 mg/L. The mean concentration at site three was reduced from about 1,900 to about 190 mg/L. These decreases suggest that the erosion-control structures were effective in reducing sediment concentrations.

TABLE 4.--*Summary of changes in streamflow, sediment, and nutrients in the second year of study (after erosion-control construction) relative to the first year*

[Changes that are thought to have been the result of erosion control are underlined; those thought to have been the result of greater streamflow in the second year are preceded by an asterisk]

Constituent or property	Background (site one)	Erosion control: Site two	Erosion control: Site three
MEAN ANNUAL FLOW AND CONCENTRATION			
Streamflow	Increase	Increase	Increase
Total sediment	*Increase	<u>Decrease</u>[1]	<u>Decrease</u>
Total nitrogen	Some increase	Little change	Some decrease
Total phosphorus	*Some increase	<u>Decrease</u>	Little change
Total iron	*Increase	<u>Decrease</u>[1]	<u>Decrease</u>
TOTAL ANNUAL FLOW AND LOAD			
Streamflow	Increase	Increase	Increase
Total sediment	*Increase	<u>Decrease</u>[1]	<u>Decrease</u>
Total nitrogen	*Increase	*Increase	*Increase
Total phosphorus	*Increase	*Some increase	*Increase
Total iron	*Increase	<u>Decrease</u>[1]	<u>Decrease</u>

[1] Statistical coefficients of determination for relations between streamflow and (1) sediment and (2) iron at site two after construction are less than 0.50, indicating that these comparisons are of questionable certainty. (See text section titled "Methods Used in the Study.")

The sediment load moving past site one increased from about 0.5 ton during the first year to about 12 tons during the second year. In contrast, the loads moving past sites two and three decreased, from about 240 to about 10 ton/yr and from about 550 to about 110 ton/yr, respectively, as a result of the erosion-control structure.

Sediment particle-size distribution was not determined at site one before construction because sediment concentrations generally were too low. Nine samples collected there following construction averaged about 88 percent silt and clay and only 12 percent sand and gravel. Particles at site two were dominated by sand and gravel (about 80 percent) before construction and by silt and clay (about 62 percent) afterward. At site three, the sediment was about 53 percent sand and gravel before the construction, but only about 34 percent after construction.

Two channel cross sections were surveyed upstream from a new retention dam between sites two and three, to estimate the amount of fill retained by the dam. One survey was made in September 1982, after the dam was built but prior to any flow, and the same cross sections were resurveyed in July 1983, after the spring runoff. About 75 cubic yards of material (plus or minus about 20 cubic yards) was trapped by the retention dam during the intervening period.

The principal conclusion of this study is that the new erosion-control structures were effective in reducing the concentrations and loads of sediment and iron, but had little effect on nitrogen or phosphorus.

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BASIC DATA

TABLE 5.--*Streamflow data for site one (Edgewood Creek tributary near Daggett Pass; No. 10336756)*

WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

	Discharge, cubic feet per second, mean values											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	--	--	--	0.06	0.02	0.12	0.08	0.00	0.00	0.00	0.00	0.00
2	--	--	--	.06	.02	.08	.04	.00	.00	.00	.00	.00
3	--	--	--	.06	.02	.06	.10	.00	.00	.00	.00	.00
4	--	--	--	.06	.04	.06	.10	.00	.00	.00	.00	.00
5	--	--	--	.06	.04	.03	.14	.00	.00	.00	.00	.00
6	--	--	--	.06	.04	.03	.19	.00	.00	.00	.00	.00
7	--	--	--	.06	.04	.03	.16	.00	.00	.00	.00	.00
8	--	--	--	.06	.04	.04	.16	.00	.00	.00	.00	.00
9	--	--	--	.06	.04	.08	.16	.00	.00	.00	.00	.00
10	--	--	--	.06	.04	.12	.14	.18	.00	.00	.00	.00
11	--	--	--	.06	.06	.08	.14	.11	.00	.00	00	.00
12	--	--	--	.06	.16	.06	.14	.00	.00	.00	.00	.00
13	--	--	--	.06	.33	.03	.10	.00	.00	.00	.00	.00
14	--	--	--	.06	.79	.03	.10	.00	.00	.00	.00	.00
15	--	--	--	.05	.60	.08	.10	.00	.00	.00	.00	.00
16	--	--	--	.05	.66	.02	.08	.00	.00	.00	.00	.00
17	--	--	--	.05	.54	.02	.08	.00	.00	.00	.00	.00
18	--	--	--	.04	.43	.00	.08	.00	.00	.00	.00	.00
19	--	--	--	.04	.48	.02	.12	.00	.00	.00	.00	.00
20	--	--	--	.04	.33	.00	.16	.00	.00	.00	.00	.00
21	--	--	--	.03	.22	.03	.16	.00	.00	.00	.00	.00
22	--	--	--	.03	.22	.06	.12	.00	.00	.00	.00	.00
23	--	--	--	.02	.22	.06	.08	.00	.00	.00	.00	.00
24	--	--	--	.00	.22	.06	.00	.00	.00	.00	.00	.00
25	--	--	--	.00	.14	.12	.00	.00	.00	.00	.00	.00
26	--	--	--	.00	.12	.04	.00	.00	.00	.00	.00	.00
27	--	--	--	.00	.14	.06	.00	.00	.00	.00	.00	.00
28	--	--	--	.00	.14	.06	.00	.00	.00	.00	.00	.00
29	--	--	--	.00	--	.10	.00	.00	.00	.00	.00	.00
30	--	--	--	.00	--	.06	.00	.00	.00	.00	.00	.00
31	--	--	--	.00	--	.08	--	.00	--	.00	.00	--
TOTAL	--	--	--	1.19	6.14	1.72	2.73	.29	.00	.00	.00	.00
MEAN	--	--	--	.04	.22	.05	.09	.01	.00	.00	.00	.00
MAX	--	--	--	.06	.79	.12	.19	.18	.00	.00	.00	.00
MIN	--	--	--	.00	.02	.00	.00	.00	.00	.00	.00	.00

TABLE 5.--*Streamflow data for site one (Edgewood Creek tributary near Daggett Pass; No. 10336756)*--Continued

WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

	Discharge, cubic feet per second, mean values											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.10	0.10	0.25	0.20	1.3	0.15	0.10	0.00	0.00
2	.00	.00	.00	.10	.09	.19	.20	1.3	.15	.08	.00	.00
3	.00	.00	.00	.08	.09	.19	.24	1.3	.12	.06	.00	.00
4	.00	.00	.00	.10	.09	.16	.24	1.1	.12	.06	.00	.00
5	.00	.00	.00	.10	.09	.16	.24	.93	.17	.05	.00	.00
6	.00	.00	.00	.10	.10	.16	.24	.85	.15	.05	.00	.00
7	.00	.00	.00	.08	.12	.16	.24	.85	.15	.04	.00	.00
8	.00	.00	.00	.08	.14	.19	.24	.85	.12	.04	.00	.00
9	.00	.00	.00	.10	.16	.19	.36	.77	.12	.04	.00	.00
10	.00	.00	.00	.10	.14	.33	.63	.77	.10	.03	.00	.00
11	.00	.00	.01	.12	.14	.43	2.8	.57	.10	.24	.00	.00
12	.00	.00	.01	.10	.13	.33	1.0	.51	.10	.04	.00	.00
13	.00	.00	.01	.10	.20	.33	1.0	51	.10	.02	.00	.00
14	.00	.00	.03	.10	.54	.29	1.0	.46	.08	.02	.37	.00
15	.00	.00	.08	.10	.66	.22	.93	.40	.08	.01	.02	.21
16	.00	.00	.04	.10	1.5	.22	.85	.40	.06	.01	.00	.17
17	.00	.01	.02	.12	.60	.19	.93	.36	.05	.01	.00	.10
18	.00	.00	.02	.12	.29	.19	1.0	.31	.12	.01	.00	.08
19	.00	.00	1.1	.14	.29	.16	.93	.31	.15	.00	.00	.08
20	.00	.00	1.2	.14	.43	.16	.85	.27	.08	.00	.00	.06
21	.00	.01	.54	.12	.54	.19	.85	.27	.06	.00	.00	.04
22	.00	.16	.25	.10	.54	.19	1.0	.24	.06	.00	.00	.03
23	.00	.19	.16	.10	.38	.22	1.2	.36	.05	.00	.00	.02
24	.00	.12	.14	.12	.29	.25	1.2	.20	.06	.00	.00	.75
25	.00	.01	.14	.16	.25	.29	1.2	.17	.08	.00	.00	.31
26	.00	.00	.14	.19	.22	.22	1.3	.17	.05	.00	.00	.15
27	.00	.00	.12	.14	.22	.25	1.4	.15	.04	.00	.00	.08
28	.00	.00	.10	.12	.25	.25	1.4	.15	.06	.00	.00	.06
29	.00	.00	.12	.10	—	.19	1.2	.15	.10	.00	.00	.06
30	.00	.00	.12	.10	—	.16	1.3	.15	.10	.00	.00	.10
31	.00	—	.10	.10	—	.16	—	.15	—	.00	.00	—
TOTAL	.00	.50	4.45	3.43	8.59	6.87	26.17	16.28	2.93	.91	.39	2.30
MEAN	.00	.02	.14	.11	.31	.22	.87	.53	.10	.03	.01	.08
MAX	.00	.19	1.2	.19	1.5	.43	2.8	1.3	.17	.24	.37	.75
MIN	.00	.00	.00	.08	.09	.16	.20	.15	.04	.00	.00	.00

CAL YR 1981 TOTAL 17.02 MEAN .05 MAX 1.2 MIN .00
WTR YR 1982 TOTAL 72.82 MEAN .20 MAX 2.8 MIN .00

TABLE 5.—*Streamflow data for site one (Edgewood Creek tributary near Daggett Pass; No. 10336756)*—Continued

WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

Discharge, cubic feet per second, mean values

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.10	0.36	0.18	0.14	0.10	0.12	0.50	0.50	2.7	0.85	0.10	0.64
2	.10	.21	.12	.14	.10	.12	.50	1.1	2.7	.85	.10	.18
3	.08	.18	.12	.15	.10	.12	.42	1.0	2.8	.71	.15	.10
4	.04	.12	.12	.15	.10	.10	.26	.92	2.4	.64	.10	.08
5	.04	.12	.12	.15	.10	.12	.21	.92	2.2	.64	.08	.71
6	.04	.18	.12	.16	.10	.12	.21	1.2	2.1	.64	.10	.06
7	.03	.15	.12	.17	.15	.18	.30	1.5	2.1	.58	.21	.02
8	.03	.10	.10	.19	.15	.26	.39	1.6	1.9	.58	.78	.02
9	.03	.08	.10	.18	.12	.36	.42	1.6	1.9	.58	.85	.02
10	.03	.08	.10	.17	.12	.42	.37	1.4	2.0	.50	.78	.01
11	.03	.08	.10	.16	.15	.42	.28	1.3	1.9	.30	.36	.02
12	.03	.06	.10	.16	.26	.36	.21	1.8	1.7	.30	.21	.01
13	.03	.06	.10	.16	.26	.50	.23	2.0	1.6	.26	.21	.01
14	.03	.05	.10	.15	.21	.42	.21	2.2	1.5	.36	.71	.01
15	.04	.05	.10	.15	.18	.26	.22	2.8	1.6	.42	.71	.01
16	.04	.05	.12	.15	.15	.21	.26	2.8	1.5	.36	.36	.01
17	.05	.05	.12	.15	.21	.18	.31	2.8	1.5	.36	.42	.00
18	.06	.04	.12	.15	.26	.15	.37	3.4	1.4	.36	.36	.00
19	.06	.06	.12	.15	.18	.15	.46	3.9	1.2	.36	.78	.00
20	.08	.06	.18	.15	.15	.15	.50	4.2	1.2	.30	.78	.00
21	.08	.06	.26	.15	.15	.15	.64	4.2	1.2	.30	1.1	.00
22	.12	.06	.26	.12	.21	.15	.92	5.0	1.2	.26	.78	.07
23	.15	.06	.18	.12	.36	.12	.71	5.4	1.2	.26	.58	.26
24	.15	.06	.15	.12	.30	.12	.58	5.4	1.2	.21	.26	.26
25	.94	.06	.12	.15	.26	.10	.50	5.4	1.1	.21	.15	.12
26	1.1	.05	.11	.18	.18	.10	.36	5.4	.92	.21	.08	.10
27	.42	.06	.11	.15	.12	.10	.30	5.2	.85	.21	.05	.10
28	.42	.08	.11	.12	.12	.10	.42	4.4	.85	.21	.04	.10
29	.58	.08	.12	.12	—	.15	.64	4.2	.85	.18	.03	.18
30	.78	.26	.14	.10	—	.42	.58	3.5	.85	.15	.03	.36
31	.58	—	.14	.10	—	.50	—	3.2	—	.12	.21	—
TOTAL	6.29	2.97	4.06	4.56	4.85	6.73	12.28	90.24	48.12	12.27	11.46	3.46
MEAN	.20	.10	.13	.15	.17	.22	.41	2.91	1.60	.40	.37	.12
MAX	1.1	.36	.26	.19	.36	.50	.92	5.4	2.8	.85	1.1	.71
MIN	.03	.04	.10	.10	.10	.10	.21	.50	.85	.12	.03	.00

CAL YR 1982 TOTAL 81.19 MEAN .22 MAX 2.8 MIN .00
WTR YR 1983 TOTAL 207.29 MEAN .57 MAX 5.4 MIN .00

TABLE 6.--*Streamflow data for site two (tributary of Edgewood Creek tributary near Tahoe Village; No. 10336757)*

WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
	Discharge, cubic feet per second, mean values											
1	--	--	--	--	--	--	--	--	0.00	0.00	0.00	0.00
2	--	--	--	--	--	--	--	--	.00	.00	.00	.00
3	--	--	--	--	--	--	--	--	.00	.00	.00	.00
4	--	--	--	--	--	--	--	--	.00	.00	.00	.00
5	--	--	--	--	--	--	--	--	.00	.00	.00	.00
6	--	--	--	--	--	--	--	--	.00	.00	.00	.00
7	--	--	--	--	--	--	--	--	.00	.00	.00	.00
8	--	--	--	--	--	--	--	--	.00	.00	.00	.00
9	--	--	--	--	--	--	--	--	.00	.00	.00	.00
10	--	--	--	--	--	--	--	--	.00	.00	.00	.00
11	--	--	--	--	--	--	--	--	.00	.00	.00	.00
12	--	--	--	--	--	--	--	--	.00	.00	.00	.00
13	--	--	--	--	--	--	--	--	.00	.00	.00	.00
14	--	--	--	--	--	--	--	--	.00	.00	.00	.00
15	--	--	--	--	--	--	--	--	.00	.00	.00	.00
16	--	--	--	--	--	--	--	--	.00	.00	.00	.00
17	--	--	--	--	--	--	--	--	.00	.00	.00	.00
18	--	--	--	--	--	--	--	--	.00	.00	.00	.00
19	--	--	--	--	--	--	--	--	.00	.00	.00	.00
20	--	--	--	--	--	--	--	--	.00	.00	.00	.00
21	--	--	--	--	--	--	--	--	.00	.00	.00	.00
22	--	--	--	--	--	--	--	--	.00	.00	.00	.00
23	--	--	--	--	--	--	--	--	.00	.00	.00	.00
24	--	--	--	--	--	--	--	--	.00	.00	.00	.00
25	--	--	--	--	--	--	--	--	.00	.00	.00	.00
26	--	--	--	--	--	--	--	--	.00	.00	.00	.00
27	--	--	--	--	--	--	--	--	.00	.00	.00	.00
28	--	--	--	--	--	--	--	--	.00	.00	.00	.00
29	--	--	--	--	--	--	--	--	.00	.00	.00	.00
30	--	--	--	--	--	--	--	--	.00	.00	.00	.00
31	--	--	--	--	--	--	--	--	--	.00	.00	--
TOTAL	--	--	--	--	--	--	--	--	.00	.00	.00	.00
MEAN	--	--	--	--	--	--	--	--	.00	.00	.00	.00
MAX	--	--	--	--	--	--	--	--	.00	.00	.00	.00
MIN	--	--	--	--	--	--	--	--	.00	.00	.00	.00

TABLE 6.--*Streamflow data for site two (tributary of Edgewood Creek tributary near Tahoe Village; No. 10336757)*--Continued

WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

	Discharge, cubic feet per second, mean values											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	03	.01	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.01	.90	.00	.00	.05	00	.00
11	.00	.00	.00	.00	.00	.04	.10	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00
13	.00	.50	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.03	.00
15	.00	.00	.00	.00	.40	.00	.02	.00	.00	.00	.00	.01
16	.00	.00	.00	.00	.20	.00	.02	.00	.00	.00	.00	.03
17	.00	.00	.00	.00	.10	.00	.03	.00	.00	.00	.00	.00
18	.00	.00	.02	.00	.00	.00	.01	.00	.03	.00	.00	.00
19	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
21	.00	.25	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
22	.00	.20	.00	.00	.20	.01	.00	.00	.00	.00	.00	.00
23	.00	.15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.10	.00	.00	.00	.01	.01	.00	.00	.00	.00	.24
25	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.10
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	—	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	—	.00	.00	.00	.00	.00	.00	.00
31	.00	—	.00	.00	—	.00	—	.00	—	.00	.00	—
TOTAL	.00	1.20	.12	.00	1.10	.09	1.21	.01	.03	.05	.03	.38
MEAN	.00	.04	.00	.00	.04	.00	.04	.00	.00	.00	.00	.01
MAX	.00	.50	.10	.00	.40	.04	.90	.01	.03	.05	.03	.24
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

WTR YR 1982 TOTAL 4.22 MEAN .01 MAX .90 MIN .00

TABLE 6.—*Streamflow data for site two (tributary of Edgewood Creek tributary near Tahoe Village; No. 10336757)*—Continued

WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

	Discharge, cubic feet per second, mean values											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.01	0.00	0.05	0.01	0.12	0.04	0.00	0.05
2	.00	.00	.00	.00	.00	.00	.03	.03	.12	.03	.00	.00
3	.00	.00	.00	.00	.00	.00	.01	.05	.12	.03	.00	.00
4	.00	.00	.00	.00	.00	.00	.01	.05	.02	.03	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.06	.03	.03	.00	.00
6	.00	.00	.00	.00	.00	.00	.02	.08	.13	.03	.00	.00
7	.00	.00	.00	.00	.01	.00	.04	.10	.07	.02	.03	.00
8	.00	.00	.00	.00	.02	.01	.08	.10	.03	.02	.05	.00
9	.00	.00	.00	.00	.01	.02	.06	.07	.03	.01	.07	.00
10	.00	.00	.00	.00	.01	.08	.03	.09	.03	.01	.01	.00
11	.00	.00	.00	.00	.02	.06	.01	.10	.01	.02	.00	.00
12	.00	.00	.00	.00	.03	.07	.01	.16	.02	.01	.00	.00
13	.00	.00	.00	.00	.03	.27	.02	.16	.06	.01	.00	.00
14	.00	.00	.00	.00	.02	.01	.00	.20	.09	.01	.09	.00
15	.00	.00	.00	.00	.02	.01	.00	.24	.06	.01	.01	.00
16	.00	.00	.00	.00	.02	.01	.03	.18	.05	.01	.00	.00
17	.00	.00	.00	.00	.04	.01	.01	.22	.06	.01	.00	.00
18	.00	.00	.00	.00	.00	.00	.02	.27	.08	.01	.00	.00
19	.00	.00	.00	.00	.01	.04	.07	.29	.06	.01	.03	.00
20	.00	.00	.04	.01	.02	.00	.10	.29	.07	.01	.09	.00
21	.00	.00	.01	.00	.02	.02	.08	.31	.07	.01	.04	.00
22	.00	.00	.00	.00	.03	.01	.08	.33	.07	.01	.01	.01
23	.00	.00	.00	.01	.00	.01	.04	.36	.06	.01	.00	.00
24	.01	.00	.00	.00	.00	.01	.05	.33	.05	.01	.00	.00
25	.21	.00	.00	.00	.00	.01	.05	.29	.05	.01	.00	.00
26	.30	.00	.00	.00	.00	.01	.08	.25	.05	.00	.00	.00
27	.00	.00	.00	.00	.00	.01	.04	.22	.04	.00	.00	.00
28	.00	.00	.00	.00	.00	.01	.05	.20	.04	.00	.00	.01
29	.00	.00	.00	.00	—	.06	.05	.16	.04	.00	.00	.00
30	.19	.00	.00	.01	—	.07	.03	.16	.04	.00	.00	.01
31	.00	—	.00	.01	—	.06	—	.14	—	.00	.04	—
TOTAL	.71	.00	.05	.04	.32	.87	1.15	5.50	1.77	.41	.47	.08
MEAN	.02	.00	.00	.00	.01	.03	.04	.18	.06	.01	.01	.00
MAX	.30	.00	.04	.01	.04	.27	.10	.36	.13	.04	.09	.05
MIN	.00	.00	.00	.00	.00	.00	.00	.01	.01	.00	.00	.00

CAL YR 1982 TOTAL 3.66 MEAN .01 MAX .90 MIN .00
WTR YR 1983 TOTAL 11.37 MEAN .03 MAX .36 MIN .00

TABLE 7.—*Streamflow data for site three (Edgewood Creek tributary at Highland Drive, near Tahoe Village; No. 10336758)*

WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

	Discharge, cubic feet per second, mean values											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	--	--	--	0.08	0.09	0.14	0.37	0.08	0.02	0.00	0.00	0.00
2	--	--	--	.08	.10	.14	.46	.08	.02	.00	.00	.00
3	--	--	--	.08	.12	.14	.28	.07	.02	.00	.00	.00
4	--	--	--	.08	.12	.17	.28	.07	.02	.00	.00	.00
5	--	--	--	.08	.12	.12	.37	.06	.02	.00	.00	.00
6	--	--	--	.08	.12	.12	.44	.06	.01	.00	.00	.00
7	--	--	--	.08	.12	.14	.44	.06	.01	.00	.00	.00
8	--	--	--	.08	.12	.15	.59	.06	.01	.00	.00	.00
9	--	--	--	.08	.12	.19	.37	.05	.01	.00	.00	.00
10	--	--	--	.08	.12	.20	.35	.12	.01	.00	.00	.00
11	--	--	--	.08	.14	.20	.44	.19	.01	.00	.00	.00
12	--	--	--	.08	.17	.19	.46	.08	.01	.00	.00	.00
13	--	--	--	.08	.22	.19	.28	.08	.01	.00	.00	.00
14	--	--	--	.08	.59	.19	.28	.07	.01	.00	.00	.00
15	--	--	--	.07	.37	.20	.35	.07	.01	.00	.00	.00
16	--	--	--	.07	.39	.17	.35	.07	.01	.00	.00	.00
17	--	--	--	.07	.51	.15	.39	.07	.00	.00	.00	.00
18	--	--	--	.06	.39	.15	.44	.10	.00	.00	.00	.00
19	--	--	--	.06	.49	.17	.44	.12	.00	.00	.00	.00
20	--	--	--	.06	.32	.17	.41	.08	.00	.00	.00	.00
21	--	--	--	.06	.22	.22	.35	.07	.00	.00	.00	.00
22	--	--	--	.06	.20	.22	.32	.06	.00	.00	.00	.00
23	--	--	--	.06	.20	.19	.24	.04	.00	.00	.00	.00
24	--	--	--	.05	.14	.19	.22	.03	.00	.00	.00	.00
25	--	--	--	.05	.17	.35	.19	.02	.00	.00	.00	.00
26	--	--	--	.04	.15	.28	.20	.06	.00	.00	.00	.00
27	--	--	--	.03	.14	.30	.19	.05	.00	.00	.00	.00
28	--	--	--	.03	.14	.39	.12	.03	.00	.00	.00	.00
29	--	--	--	.03	--	.35	.10	.02	.00	.00	.00	.00
30	--	--	--	.05	--	.37	.09	.02	.00	.00	.00	.00
31	--	--	--	.09	--	.35	--	.02	--	.00	.00	--
TOTAL	--	--	--	2.06	6.10	6.50	9.81	2.06	.21	.00	.00	.00
MEAN	--	--	--	.07	.22	.21	.33	.07	.01	.00	.00	.00
MAX	--	--	--	.09	.59	.39	.59	.19	.02	.00	.00	.00
MIN	--	--	--	.03	.09	.12	.09	.02	.00	.00	.00	.00

TABLE 7.--*Streamflow data for site three (Edgewood Creek tributary at Highland Drive, near Tahoe Village; No. 10336758)*--Continued

WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

	Discharge, cubic feet per second, mean values											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.06	0.05	0.05	0.54	0.51	1.6	0.41	0.28	0.01	0.62
2	.00	.00	.05	.05	.05	.46	.46	1.6	.37	.19	.01	1.5
3	.00	.00	.05	.05	.05	.49	.44	1.5	.35	.17	.02	.54
4	.00	.00	.07	.05	.04	.49	.44	1.4	.35	.19	.02	.44
5	.00	.00	.05	.05	.03	.49	.41	1.2	.44	.17	.02	.30
6	.00	.00	.04	.04	.02	.41	.37	1.2	.39	.15	.04	.19
7	.01	.00	.03	.03	.04	.41	.39	1.2	.35	.15	.05	.10
8	.00	.00	.03	.04	.05	.44	.39	1.1	.30	.14	.07	.06
9	.00	.00	.03	.05	.07	.54	.56	1.1	.32	.14	.04	.06
10	.01	.00	.03	.05	.09	.67	1.3	1.0	.30	.10	.03	.05
11	.00	.00	.03	.05	.10	.97	5.2	.90	.32	.41	.03	.05
12	.00	.08	.03	.06	.12	.76	1.9	.81	.35	.14	.02	.05
13	.00	.92	.03	.07	.17	.54	1.6	.81	.35	.09	.03	.05
14	.01	.02	.03	.06	.59	.56	1.6	.78	.32	.08	.75	.06
15	.00	.00	.03	.06	1.6	.49	1.4	.76	.37	.07	.63	.22
16	.00	.00	.03	.06	3.0	.44	1.3	.73	.37	.08	.35	.37
17	.00	.17	.04	.06	1.2	.44	1.5	.73	.46	.06	.30	.19
18	.00	.00	.10	.06	.78	.39	1.7	.73	.71	.06	.28	.17
19	.00	.00	.50	.07	.84	.35	1.7	.70	.49	.05	.32	.20
20	.00	.00	1.6	.08	.94	.46	1.7	.64	.35	.05	.41	.19
21	.00	.44	.37	.07	1.0	.39	1.7	.62	.26	.05	.46	.09
22	.00	.39	.17	.05	1.1	.51	2.0	.62	.22	.05	.51	.07
23	.00	.41	.17	.04	.81	.39	1.6	.76	.19	.05	.54	.09
24	.00	.35	.12	.05	.64	.41	1.6	.59	.20	.05	.46	1.2
25	.00	.25	.12	.05	.62	.46	1.5	.54	.22	.05	.41	.35
26	.00	.16	.12	.05	.54	.51	1.6	.49	.17	.05	.41	.30
27	.00	.12	.12	.05	.54	.54	1.7	.46	.15	.04	.39	.30
28	.05	.08	.07	.05	.54	.54	1.6	.46	.20	.04	.54	.30
29	.00	.07	.07	.05	---	.49	1.5	.44	.28	.04	.56	.32
30	.00	.06	.07	.05	---	.49	1.5	.44	.28	.03	.56	.32
31	.00	---	.06	.05	---	.51	---	.44	---	.02	.56	---
TOTAL	.08	3.52	4.32	1.65	15.62	15.58	41.17	26.35	9.84	3.24	8.83	8.75
MEAN	.00	.12	.14	.05	.56	.50	1.37	.85	.33	.10	.28	.29
MAX	.05	.92	1.6	.08	3.0	.97	5.2	1.6	.71	.41	.75	1.5
MIN	.00	.00	.03	.03	.02	.35	.37	.44	.15	.02	.01	.05

CAL YR 1981 TOTAL 34.66 MEAN .09 MAX 1.6 MIN .00
WTR YR 1982 TOTAL 138.95 MEAN .38 MAX 5.2 MIN .00

TABLE 7.--*Streamflow data for site three (Edgewood Creek tributary at Highland Drive, near Tahoe Village; No. 10336758)*--Continued

WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

Discharge, cubic feet per second, mean values

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.28	0.30	0.26	0.20	0.23	0.34	0.94	0.78	3.9	0.84	0.46	0.94
2	.28	.24	.24	.20	.23	.34	.78	1.2	3.6	.87	.44	.56
3	.20	.20	.24	.24	.23	.34	.59	1.5	3.5	.81	.44	.51
4	.17	.19	.24	.24	.23	.34	.49	1.3	3.3	.76	.41	.54
5	.15	.19	.24	.26	.24	.34	.41	1.4	3.1	.76	.39	.87
6	.15	.20	.24	.26	.25	.34	.46	1.6	2.9	.76	.39	.39
7	.15	.22	.22	.28	.27	.39	.59	2.0	2.7	.73	.49	.35
8	.15	.19	.19	.30	.27	.48	.78	2.2	2.6	.73	1.2	.35
9	.14	.15	.19	.28	.25	.68	.84	2.7	2.5	.73	1.0	.35
10	.12	.20	.20	.26	.26	.85	.70	1.9	2.4	.70	.73	.30
11	.12	.19	.20	.28	.30	.82	.54	1.7	2.3	.64	.49	.30
12	.12	.20	.20	.28	.35	.74	.41	2.1	2.0	.62	.41	.30
13	.12	.19	.20	.28	.47	1.0	.46	2.3	1.8	.59	.46	.30
14	.12	.17	.20	.28	.47	.90	.41	2.6	1.7	.56	.95	.30
15	.10	.17	.20	.28	.40	.62	.44	2.9	1.6	.62	.73	.32
16	.10	.17	.20	.28	.36	.56	.56	3.2	1.5	.59	.49	.28
17	.10	.17	.20	.28	.40	.49	.62	3.7	1.4	.59	.54	.30
18	.10	.24	.20	.30	.48	.46	.73	3.8	1.3	.59	.51	.30
19	.10	.22	.20	.26	.45	.54	1.0	4.3	1.2	.56	.90	.30
20	.09	.22	.30	.26	.40	.44	.97	4.4	1.2	.59	1.1	.30
21	.09	.19	.22	.22	.40	.39	1.1	4.7	1.2	.56	1.1	.30
22	.09	.20	.14	.22	.48	.35	1.4	4.9	1.1	.54	.87	.54
23	.12	.17	.12	.24	.62	.35	1.1	6.0	1.1	.54	.67	.56
24	.17	.17	.12	.24	.59	.30	1.0	6.2	1.0	.54	.56	.51
25	1.5	.15	.12	.24	.54	.32	.87	6.3	1.0	.54	.49	.44
26	1.6	.15	.13	.23	.46	.32	.67	6.3	.97	.54	.46	.41
27	.46	.19	.14	.23	.42	.30	.67	6.2	.90	.51	.41	.46
28	.44	.20	.17	.23	.37	.30	.87	5.7	.94	.51	.41	.56
29	.56	.20	.20	.23	—	.54	1.0	5.0	.90	.49	.41	.62
30	1.2	.30	.20	.23	—	.97	.90	4.5	.90	.49	.39	.70
31	.46	—	.19	.23	—	1.0	—	4.1	—	.44	.76	—
TOTAL	9.55	5.94	6.11	7.84	10.42	16.15	22.30	107.48	56.51	19.34	19.06	13.26
MEAN	.31	.20	.20	.25	.37	.52	.74	3.47	1.88	.62	.61	.44
MAX	1.6	.30	.30	.30	.62	1.0	1.4	6.3	3.9	.87	1.2	.94
MIN	.09	.15	.12	.20	.23	.30	.41	.78	.90	.44	.39	.28

CAL YR 1982	TOTAL	152.63	MEAN	.42	MAX	5.2	MIN	.01
WTR YR 1983	TOTAL	293.96	MEAN	.81	MAX	6.3	MIN	.09

TABLE 8.—*Water-quality data for site one (Edgewood Creek tributary near Daggett Pass; No. 10336756)*

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	TEMPER-ATURE WATER (DEG C)	STREAM-FLOW, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (μS)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
FEB										
12...	1645	0.5	0.16	166	0.02	0.01	0.02	0.03	0.05	0.05
16...	2200	1.0	1.1	247	.02	.02	.08	.07	.04	.03
MAR										
11...	1615	—	.10	170	.00	.00	.02	—	.07	.05
13...	1630	.5	.06	167	.00	.01	—	.02	—	.03
21...	1555	—	.16	163	.01	.00	.02	.04	.08	.00
25...	1505	1.0	.16	161	.00	.00	.00	.00	.03	.03
APR										
20...	1715	—	.27	—	.01	.00	—	.08	.07	.07

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	SEDI-MENT, TOTAL (MG/L)	SEDI-MENT, DISCH, SUSP. + BED MA-TERIAL (T/DAY)
FEB									
12...	0.36	0.30	0.06	—	0.02	1,600	30	30	0.01
16...	—	.54	.08	0.06	.01	1,500	110	17	.05
MAR									
11...	.45	.41	.03	.01	.01	290	50	13	.00
13...	—	—	.03	.03	.01	150	30	2	.00
21...	—	.57	.05	.02	.01	860	220	6	.00
25...	.83	.59	.04	.01	.01	1,200	70	8	.00
APR									
20...	.53	.58	.08	.02	.02	2,800	110	20	.01

TABLE 8.--*Water-quality data for site one (Edgewood Creek tributary near Daggett Pass; No. 10336756)*--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	TEMPER-ATURE, WATER (DEG C)	TEMPER-ATURE, AIR (DEG C)	STREAM-FLOW, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (µS)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
NOV												
23...	1520	--	--	0.29	180	--	<0.02	<0.02	--	<0.10	0.15	0.11
DEC												
19...	1445	--	--	.79	147	--	< .02	< .02	.21	< .09	.11	.05
19...	1650	--	--	1.3	159	--	< .02	< .02	.28	< .09	.09	.08
FEB												
16...	1530	--	--	1.8	173	--	< .02	< .02	.11	< .10	.02	.02
MAR												
11...	1035	.5	--	.25	238	--	< .02	< .02	< .09	< .09	.03	< .01
11...	1300	1.0	--	.29	237	--	< .02	< .02	< .09	< .09	.02	< .01
12...	1005	1.0	--	.29	242	--	< .02	< .02	< .09	< .09	.03	.02
25...	1505	1.0	--	.27	219	--	< .02	< .02	< .10	< .10	.04	.03
APR												
09...	1220	.0	--	.27	240	--	< .02	< .02	< .10	< .10	--	.07
09...	1710	.0	3.5	.54	238	--	< .02	< .02	< .10	< .10	.06	.08
10...	1620	.0	6.5	1.2	241	--	< .02	< .02	< .10	< .10	--	.06
10...	1720	.0	--	1.4	240	--	< .02	< .02	< .10	< .10	.06	.07
10...	1830	.0	3.5	1.5	236	--	< .02	< .02	< .10	< .10	.06	.05
10...	2005	.0	5.5	1.5	232	--	< .02	< .02	< .10	< .10	.05	.06
10...	2220	.0	--	1.5	218	--	< .02	< .02	< .10	< .10	.05	.07
11...	0005	.0	--	2.8	194	--	< .02	< .02	< .10	< .10	.08	.07
11...	1320	.0	1.5	4.0	150	--	< .02	< .02	.12	.12	.08	.11
11...	1425	.0	1.5	4.0	150	--	< .02	< .02	.12	.13	.07	.09
17...	1505	3.5	--	1.0	155	--	< .02	< .02	< .10	< .10	.04	< .01
17...	1630	3.0	--	1.3	162	--	< .02	< .02	< .10	< .10	.06	< .01
17...	1800	3.0	--	1.5	150	--	< .02	< .02	< .10	< .10	.06	< .01
SEP												
16...	1005	5.5	--	.17	189	--	< .02	< .02	< .10	< .10	.06	.01
16...	1210	5.5	--	.27	186	--	< .02	< .02	< .10	< .10	.05	.03
16...	1450	6.5	--	.31	186	--	< .02	< .02	< .10	< .10	.06	.01
24...	0655	8.0	8.5	2.2	154	13	< .02	< .02	.10	.11	.09	.06
24...	0820	8.0	9.0	1.2	166	14	< .02	< .02	< .10	< .10	.09	.08
24...	0945	8.0	9.5	.70	174	14	< .02	< .02	< .10	< .10	.09	.06
25...	1530	9.0	--	.17	182	14	< .02	< .02	< .10	< .10	.10	.05
25...	1705	9.0	--	.34	182	14	< .02	< .02	< .10	< .10	.08	.05
25...	1805	9.5	11.0	.70	179	14	< .02	< .02	< .10	< .10	.09	.06
25...	1840	9.5	11.0	.93	174	14	< .02	< .02	< .10	< .10	.06	.06

TABLE 8.—*Water-quality data for site one (Edgewood Creek tributary near Daggett Pass; No. 10336756)*—Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	SEDI-MENT, TOTAL (MG/L)	SEDI-MENT, DISCH, SUSP. + BED MA-TERIAL (T/DAY)
NOV									
23...	0.51	0.38	0.02	0.02	0.04	60	20	3	0.00
DEC									
19...	.43	.42	—	.05	.03	230	50	4	.00
19...	.55	.55	—	.04	.03	500	20	4	.01
FEB									
16...	.71	.61	.07	.06	.03	580	60	9	.04
MAR									
11...	.59	.33	.02	.01	< .02	—	—	1	.00
11...	.51	.36	.02	.01	< .02	—	—	1	.00
12...	.43	.36	.01	.01	< .02	—	—	1	.00
25...	.38	.44	< .01	.01	< .01	20	20	2	.00
APR									
09...	—	.21	< .01	< .01	.02	50	30	1	.00
09...	.62	.21	< .01	< .01	.02	490	40	2	.00
10...	—	.19	< .01	< .01	.02	330	30	8	.03
10...	.41	.29	< .01	< .01	.03	300	40	4	.02
10...	.36	.26	< .01	—	.02	260	30	6	.02
10...	.70	.31	< .01	< .01	.02	440	30	2	.00
10...	.66	.34	< .01	< .01	.02	400	40	4	.02
11...	.55	.39	.02	< .01	—	830	40	14	.11
11...	.63	.40	.03	< .01	.03	1,000	80	16	.17
11...	.49	.47	.03	< .01	.03	780	70	14	.15
17...	.35	.40	< .01	< .01	.01	—	60	1	.00
17...	—	.46	< .01	< .01	.01	160	40	6	.02
17...	—	.64	< .01	< .01	.01	230	80	4	.02
SEP									
16...	.44	.49	.02	.01	.02	190	80	6	.00
16...	1.8	1.0	< .01	< .01	.02	260	90	1	.00
16...	.74	.79	.02	< .01	.02	190	100	1	.00
24...	.91	.54	.19	.07	.04	1,900	190	27	.16
24...	.71	.52	.06	.04	.03	1,000	150	10	.03
24...	.51	.54	.04	.04	.02	590	120	6	.01
25...	.70	.45	.02	.03	.02	170	40	1	.00
25...	.72	.55	.02	.03	.02	300	70	2	.00
25...	.61	.54	.04	.03	.02	1,200	120	12	.02
25...	.84	.84	.04	.03	.02	1,300	140	15	.04

TABLE 8.—*Water-quality data for site one (Edgewood Creek tributary near Daggett Pass; No. 10336756)*—Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE, AIR (DEG C)	STREAM-FLOW, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (µS)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT												
25...	0645	4.5	4.5	1.6	190	21	<0.02	0.02	<0.10	<0.10	0.06	0.09
25...	0830	5.0	5.5	1.3	190	18	< .02	< .02	< .10	< .10	.07	.09
25...	1000	5.0	4.5	1.1	190	18	< .02	< .02	< .10	< .10	.10	.09
26...	0710	3.5	−2.5	.93	176	17	< .02	< .02	< .10	< .10	.13	.11
JAN												
03...	0920	.0	−3.5	.12	188	21	< .02	< .02	.10	—	.11	.07
FEB												
16...	1340	.0	6.5	.16	217	31	< .02	< .02	< .10	< .10	< .01	.03
APR												
19...	1120	1.5	7.0	.42	226	32	< .02	< .02	< .10	< .10	—	.07
19...	1325	2.0	6.0	.51	222	32	< .02	< .02	< .10	< .10	—	.07
19...	1530	2.0	8.5	.85	219	33	< .02	< .02	< .10	< .10	.04	.06
19...	1640	.5	4.0	.98	204	29	< .02	< .02	< .10	< .10	—	.06
19...	1835	.5	2.0	1.3	194	27	< .02	< .02	.10	< .10	.04	.04
20...	0715	1.0	.5	.63	212	29	< .02	< .02	< .10	< .10	.01	.01
MAY												
06...	1135	2.0	3.0	.77	175	20	< .02	< .02	.10	.10	—	.07
06...	1530	3.0	5.0	.89	173	21	< .02	< .02	< .10	.10	—	.10
06...	1700	3.0	4.0	1.5	164	19	< .02	< .02	< .10	.10	.03	.06
06...	1825	2.5	5.5	1.9	155	23	< .02	< .02	< .10	< .10	.03	.04
06...	1925	2.0	3.0	2.0	153	18	< .02	< .02	.10	< .10	.04	.07
07...	1220	3.0	7.0	.93	169	19	< .02	< .02	.10	.10	—	.09
16...	1310	4.5	6.5	2.2	123	12	< .02	< .02	—	.13	.02	.03
16...	1525	5.5	7.0	3.0	117	11	< .02	< .02	< .10	.11	.03	.04
16...	1705	—	—	3.9	108	12	< .02	< .02	< .10	.12	—	.08
16...	1820	4.0	4.5	4.2	102	11	< .02	< .02	< .10	.11	.03	.04
16...	1945	3.5	2.0	3.4	103	11	< .02	< .02	< .10	.11	.03	.04
17...	0945	2.0	5.0	1.9	124	12	< .02	< .02	—	.14	—	.06
23...	1130	7.5	16.0	3.6	96	10	< .02	< .02	.20	.14	.11	.08
23...	1325	10.0	17.5	6.5	87	7.9	< .02	.02	.20	.15	.07	.09
23...	1450	10.0	19.5	6.8	78	6.9	< .02	.02	.20	.11	—	.11
23...	1645	8.5	19.5	7.8	71	6.4	< .02	.02	.20	.11	—	.11
23...	1755	7.0	16.5	8.9	71	6.6	< .02	.03	.20	.12	.08	.10
23...	1935	5.5	11.0	7.7	71	6.2	< .02	.03	.20	.12	.07	.10
24...	0855	3.5	13.0	4.0	89	8.2	< .02	< .02	.20	.14	.07	.09

TABLE 8.—*Water-quality data for site one (Edgewood Creek tributary near Daggett Pass; No. 10336756)*—Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	SEDI-MENT, TOTAL (MG/L)	SEDI-MENT, DISCH, SUSP. + BED MA-TERIAL (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT										
25...	1.3	1.2	0.17	0.07	0.05	850	220	11	0.05	—
25...	.83	.61	.05	.05	.02	520	180	6	.02	—
25...	1.2	.61	.05	.04	.03	390	160	4	.01	--
26...	.97	.89	.04	.03	.02	270	140	6	.02	—
JAN										
03...	.29	—	.02	.02	.01	70	30	1	.00	—
FEB										
16...	.50	.27	.01	.01	< .01	210	40	1	.00	—
APR										
19...	—	—	.07	< .01	.02	460	40	4	.00	—
19...	—	.23	.07	< .01	.01	610	50	4	.00	—
19...	.66	.44	.11	< .01	< .01	2,200	50	20	.05	—
19...	—	.54	.16	< .01	< .01	4,200	90	36	.10	70
19...	.86	.36	.13	< .01	.01	2,900	80	28	.10	77
20...	.69	.69	.06	< .01	.02	650	60	7	.01	—
MAY										
06...	—	.33	.01	.01	.03	400	90	4	.00	—
06...	—	.50	.03	.01	.01	720	100	7	.02	—
06...	.77	.64	.04	.01	.01	1, 00	90	12	.05	—
06...	.77	.46	.06	.01	.01	2, 00	90	20	.10	--
06...	.76	.43	.04	.01	.01	1,600	80	16	.09	—
07...	—	.31	.01	.01	.02	460	80	3	.00	—
16...	.58	.37	.04	.03	.02	610	80	6	.04	—
16...	.57	.56	.07	.03	.02	1,400	90	16	.13	—
16...	—	.42	.06	.03	.03	2, 00	80	26	.27	—
16...	.57	.46	.07	.02	.02	1,600	90	20	.23	--
16...	.77	.76	.05	.01	.02	1,200	90	16	.15	—
17...	—	.34	.04	.04	.02	440	90	6	.03	--
23...	.39	.42	.13	.03	.03	3,600	150	60	.58	94
23...	.53	.31	.33	.02	.03	7,700	120	152	2.7	92
23...	—	.69	.49	.04	.03	11,000	90	237	4.4	90
23...	—	.49	.37	.03	.03	15,000	120	336	7.1	90
23...	1.0	.50	.64	.03	.03	19,000	70	397	9.5	93
23...	.53	.00	.49	.02	.03	9,800	90	228	4.7	92
24...	—	.51	.12	.02	.03	3,000	160	51	.55	96

TABLE 9.—*Water-quality data for site two (tributary of Edgewood Creek tributary near Tahoe Village; No. 10336757)*

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE, AIR (DEG C)	STREAM-FLOW, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (μS)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
NOV												
13...	1240	0.0	—	0.04	955	—	0.04	—	0.18	0.16	0.35	0.18
13...	1515	—	—	2.8	371	—	.03	0.07	.17	.17	.22	.17
DEC												
19...	1355	—	—	E.50	92	—	< .02	.03	< .09	< .09	.12	.13
19...	1620	—	—	E.38	73	—	< .02	.02	< .09	< .09	.09	—
MAR												
11...	1236	.5	—	E.20	585	—	.02	—	< .09	< .09	.35	.06
11...	1410	3.0	—	E.10	317	—	< .02	.02	< .09	< .09	.25	.03
11...	1545	2.5	—	E.05	438	—	< .02	.03	.09	< .09	.31	.05
25...	1520	.0	—	.002	169	—	< .02	< .02	< .10	< .10	.07	.05
APR												
09...	1330	.0	—	.002	677	—	< .02	.03	.10	.10	.09	.08
09...	1615	.0	—	E.40	623	—	< .02	.04	.10	< .10	.11	.12
09...	1650	.0	—	.32	742	—	< .02	.04	< .10	< .10	.09	.11
09...	1800	.0	—	E.50	700	—	< .02	.07	< .10	< .10	.16	.10
09...	1845	.0	—	E.40	700	—	< .02	.03	< .10	< .10	.08	.10
10...	1545	.0	—	E.60	318	—	< .02	.03	< .10	< .10	.11	.12
10...	1650	.0	—	.50	335	88	< .02	.05	< .10	< .10	.12	.12
10...	1800	.0	—	E.50	347	—	< .02	.02	< .10	< .10	.10	.13
10...	1845	.0	—	E.70	352	—	< .02	.04	.10	< .10	.16	.12
10...	1945	.0	—	E1.0	365	110	< .02	.10	.10	< .10	.21	.13
10...	2135	.0	—	2.4	202	—	< .02	.05	< .10	< .10	.12	.14
11...	0025	.0	—	E3.0	122	27	< .02	.04	< .10	.10	.10	.13
11...	1305	.0	—	E.10	2,540	760	< .02	.03	< .10	< .10	.15	.14
11...	1415	.0	—	E.10	1,580	—	< .02	.04	< .10	< .10	.14	.14
17...	1445	7.0	—	E.05	307	—	< .02	.05	< .10	< .10	.08	.06
17...	1600	7.5	—	E.06	266	—	< .02	.06	.10	< .10	.09	.04
17...	1730	6.0	—	E.04	334	—	< .02	.04	< .10	< .10	.10	.06
SEP												
24...	0640	9.5	—	.22	34	1.9	< .02	.08	< .10	.10	.18	.08
24...	0805	9.5	9.5	.06	47	2.3	< .02	.07	.10	.12	.18	.18
25...	1545	12.5	—	.16	72	7.7	< .02	.12	.10	—	.19	.10
25...	1650	13.0	—	.53	40	2.5	< .02	.09	.10	< .10	.07	.08
25...	1755	13.0	13.0	.15	33	1.8	< .02	.05	.10	.11	.13	.10

TABLE 9.—*Water-quality data for site two (tributary of Edgewood Creek tributary near Tahoe Village; No. 10336757)*—Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	SEDI-MENT, TOTAL (MG/L)	SEDI-MENT, DISCH, SUSP. + BED MA-TERIAL (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV										
13...	1.6	0.13	0.62	0.06	0.05	320,000	260	53,600	5.8	10
13...	.54	.22	.31	.07	.05	390,000	1,100	48,200	364	40
DEC										
19...	.47	.41	.36	.17	.15	150,000	250	12,700	E17	22
19...	1.8	—	.24	.22	.21	78,000	100	4,660	E4.8	27
MAR										
11...	.75	.51	.41	.05	—	—	—	36,600	E20	41
11...	.70	.56	.40	.11	.06	—	—	26,100	E7.1	16
11...	.79	.39	.42	.08	.05	—	—	28,100	E3.8	15
25...	.63	.43	.15	.07	.05	58,000	540	2,020	.00	44
APR										
09...	.72	.24	.67	.02	.04	23,000	190	2,150	.01	18
09...	.49	—	.12	<.01	.03	480,000	250	35,700	E39	30
09...	.62	.34	.13	—	.04	140,000	230	6,650	5.7	43
09...	.60	.34	.39	.02	.05	280,000	630	40,300	E54	6
09...	.75	.32	.24	.02	.04	180,000	520	21,700	E23	8
10...	.57	.56	.69	.09	.10	610,000	650	90,000	E146	6
10...	3.0	.78	.59	.08	.10	590,000	340	79,000	107	6
10...	9.9	.58	1.6	.07	.09	620,000	410	133,000	E179	6
10...	5.4	.59	.62	.08	.09	—	200	59,400	E112	8
10...	1.2	.65	.34	.07	.08	—	470	93,000	E251	4
10...	.57	.59	.56	.12	.13	390,000	1,100	27,700	179	45
11...	2.6	.51	.54	.11	.14	630,000	550	95,200	E771	10
11...	.95	.20	.21	—	.04	320,000	50	37,900	E10	7
11...	2.3	.32	.28	<.01	.03	350,000	150	51,700	E14	9
17...	2.1	.76	—	.05	.08	75,000	100	4,190	E .57	34
17...	1.6	.44	.35	.06	.09	87,000	150	5,160	E .84	16
17...	1.3	.45	.11	.05	.08	33,000	210	1,790	E .19	26
SEP										
24...	2.1	.52	.44	.17	.16	39,000	140	1,470	.87	82
24...	1.6	.62	1.1	.18	.17	39,000	30	1,420	.23	81
25...	1.5	.40	.72	.15	.14	110,000	150	4,500	1.9	80
25...	1.6	.42	.69	.16	.15	71,000	60	3,000	4.3	66
25...	1.7	.50	.82	.19	.15	51,000	50	1,800	.73	80

TABLE 9.--*Water-quality data for site two (tributary of Edgewood Creek tributary near Tahoe Village; No. 10336757)*--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE, AIR (DEG C)	STREAM-FLOW, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (μS)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT												
25...	0630	2.5	4.5	0.12	23	<0.1	--	0.10	<0.10	<0.10	0.36	<0.01
25...	0800	5.0	5.0	.10	39	1.7	<0.02	.12	< .10	< .10	.38	< .01
25...	0935	5.0	5.5	.06	66	1.8	< .02	.06	< .10	< .10	.26	< .01
APR												
19...	1040	3.0	--	.01	800	270	< .02	.02	.20	.23	.03	.03
19...	1250	2.5	5.0	.16	305	79	< .02	.04	.10	< .10	.08	.08
19...	1445	2.0	6.5	.17	146	33	< .02	.05	< .10	< .10	.07	.09
19...	1705	2.0	6.5	.20	144	32	< .02	.04	< .10	< .10	.05	.05
19...	1825	2.0	1.5	E.10	189	45	< .02	.05	< .10	< .10	.11	.08
MAY												
06...	1025	1.5	4.5	.07	1,120	330	< .02	.03	.80	.78	.04	.03
06...	1445	4.5	5.5	.10	633	180	< .02	.05	.50	.52	.06	.06
06...	1630	4.5	6.0	.20	386	110	.02	.05	.40	.39	.06	.06
06...	1810	4.0	6.0	.22	332	90	< .02	.05	.30	.31	.06	.06
06...	1910	3.5	--	E.24	342	96	< .02	.05	.30	.32	.06	.06
07...	1245	4.0	8.0	.08	884	250	< .02	.04	.70	.68	.05	.06
16...	1240	9.0	5.5	.14	945	260	< .02	.03	1.1	1.1	.05	.06
16...	1455	12.0	9.0	.25	650	180	< .02	.03	.80	.82	.06	.06
16...	1640	12.0	12.5	.36	443	120	< .02	.06	.60	.60	.09	.05
16...	1800	10.0	11.0	E.38	420	110	< .02	.04	.60	.63	.08	.07
16...	1930	7.5	7.0	E.34	467	130	< .02	.03	.70	.68	.06	.06
17...	0930	3.0	5.0	.14	990	270	< .02	.02	1.3	1.3	.04	.05
23...	1100	11.0	16.0	.22	763	200	< .02	.02	2.5	2.6	.08	.10
23...	1305	16.0	19.0	E.30	635	170	< .02	.02	2.2	2.2	.13	.08
23...	1425	17.5	19.5	E.45	526	140	< .02	.02	1.8	1.8	.09	.10
23...	1555	17.5	19.5	.51	455	120	< .02	.02	1.6	1.6	.08	.08
23...	1740	15.0	19.0	E.54	426	110	< .02	.02	1.5	1.5	.07	.10
23...	1905	13.5	17.0	E.56	444	120	< .02	.02	1.6	1.6	.08	.11
24...	0835	6.0	11.5	.22	741	200	< .02	.02	2.5	2.6	.12	.11

TABLE 9.—*Water-quality data for site two (Tributary of Edgewood Creek tributary near Tahoe Village; No. 10336757)*—Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	SEDI-MENT, TOTAL (MG/L)	SEDI-MENT, DISCH, SUSP. + BED MA-TERIAL (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT										
25...	0.74	0.70	0.11	0.11	0.09	23,000	20	860	0.28	66
25...	.72	—	.10	.11	.09	21,000	10	1,090	.29	60
25...	.74	.30	.10	.10	.09	1,700	< 10	589	.10	88
APR										
19...	.67	.37	.16	.08	.08	3,400	40	134	.00	37
19...	.62	.42	.27	.12	.12	22,000	40	923	.40	80
19...	.53	.41	.25	.16	.13	15,000	30	542	.25	76
19...	.85	.35	.13	.13	.09	11,000	60	359	.19	76
19...	1.3	.62	.31	.16	.16	14,000	80	1,030	E.28	31
MAY										
06...	.56	.57	.08	.04	.03	2,100	60	56	.01	70
06...	.54	.24	.12	.05	.04	12,000	120	589	.16	66
06...	.84	.24	.15	.06	.06	17,000	90	569	.31	55
06...	.64	.14	.17	.07	.06	14,000	60	1,200	.71	17
06...	.44	.44	.19	.06	.06	9,600	70	404	E.26	46
07...	.85	.44	.15	.04	.03	5,900	60	178	.04	84
16...	.65	.44	.11	.05	.05	1,800	30	58	.02	84
16...	1.1	.84	.26	.06	.05	8,500	50	426	.29	60
16...	.71	.45	.35	.06	.06	10,000	30	744	.72	36
16...	.82	.43	.22	.08	.07	4,500	50	192	E.26	66
16...	.94	.74	.19	.05	.06	4,700	50	228	E.21	48
17...	.76	.65	.13	.08	.04	2,000	50	51	.02	58
23...	.82	.60	.11	.05	.04	1,700	60	54	.03	70
23...	.47	.42	.15	.05	.04	4,900	70	163	E.13	74
23...	.91	.60	.19	.06	.05	7,700	60	549	E.67	36
23...	1.0	.52	.42	.07	.04	16,000	70	942	1.3	25
23...	1.2	.80	.23	.06	.06	6,400	60	245	E.36	56
23...	.92	.69	.22	.06	.06	4,900	80	153	E.23	68
24...	.58	.59	.09	.05	.04	2,900	60	25	.01	—

E, estimated.

TABLE 10.--*Water-quality data for site three (Edgewood Creek tributary at Highland Drive, near Tahoe Village; No. 10336758)*

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE, AIR (DEG C)	STREAM-FLOW, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (μS)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
FEB											
12...	1620	1.5	11.0	0.19	342	0.00	0.01	0.00	0.01	0.07	0.08
16...	2145	1.0	—	.87	250	.02	.02	—	.05	.04	.05
MAR											
11...	1540	3.5	—	.24	259	.00	.00	.01	.02	.00	.01
13...	1615	—	—	.20	295	.00	.00	.04	.00	.05	.07
21...	1540	4.5	—	.30	320	.00	.00	.00	.02	.09	.00
25...	1435	3.5	—	.49	674	.02	.09	.09	.04	.14	.10
APR											
20...	1630	7.0	15.0	.47	—	.00	.00	.03	.03	.06	.08
JUN											
05...	1355	7.0	23.0	.01	—	.00	.00	—	.02	.08	.08

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	SEDI-MENT, TOTAL (MG/L)	SEDI-MENT, DISCH, SUSP. + BED MA-TERIAL (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
FEB										
12...	0.29	0.30	0.05	0.07	0.01	—	140	6	0.00	—
16...	—	.41	.19	.06	.01	7,400	190	114	.27	—
MAR										
11...	—	.41	.04	.02	.00	1,400	270	7	.00	—
13...	.40	.35	.05	.05	.02	1,800	190	17	.00	—
21...	—	.51	.18	.03	.01	7,600	260	221	.18	90
25...	1.4	.45	.72	.06	.03	30,000	170	1,340	1.8	90
APR										
20...	.72	.40	.15	.03	.02	4,700	370	58	.07	—
JUN										
05...	.57	.52	.02	.02	.00	1,400	640	6	.00	—

TABLE 10.--*Water-quality data for site three (Edgewood Creek tributary at Highland Drive, near Tahoe Village; No. 10336758)*--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE, AIR (DEG C)	STREAM-FLOW, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (µS)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT												
28...	1510	—	—	0.04	—	—	0.09	0.14	0.50	0.46	0.49	0.47
NOV												
12...	1615	—	—	.15	542	—	.10	.17	.59	.55	.38	.32
13...	1315	0.5	3.0	.21	1,750	—	.06	.13	.37	.33	.46	.39
13...	1505	1.0	—	1.1	806	—	.04	.12	—	.26	.43	.33
13...	1545	—	—	1.8	976	—	.04	.13	—	.25	.45	.32
23...	1610	5.0	6.0	.47	276	—	< .02	< .02	—	< .10	.05	.07
DEC												
19...	1530	—	—	1.7	499	—	< .02	< .02	.10	< .09	—	.11
19...	1700	—	—	1.6	397	—	< .02	< .02	< .09	< .09	—	.11
FEB												
16...	1500	—	—	3.0	280	—	< .02	.04	—	< .10	.08	.04
MAR												
11...	1005	2.0	—	.78	342	—	< .02	.02	< .09	< .09	.10	.02
11...	1055	3.0	—	.94	—	—	< .02	.09	< .09	< .09	.24	<.01
11...	1225	4.0	—	.94	500	—	< .02	.06	< .09	< .09	.14	.04
11...	1400	3.5	—	1.2	410	—	< .02	.08	< .09	< .09	.19	.01
11...	1530	—	—	1.0	344	—	< .02	.03	< .09	< .09	.08	.03
12...	0945	2.0	—	.59	341	—	< .02	< .02	< .09	< .09	.01	.02
25...	1410	4.5	—	.45	314	—	< .02	< .02	< .10	< .10	.05	.03
APR												
09...	1145	1.0	3.5	.41	356	—	< .02	< .02	.11	< .10	.07	.06
09...	1250	.5	4.5	.73	362	—	< .02	.04	< .10	< .10	.12	.08
09...	1410	.5	7.0	.73	333	—	< .02	.04	< .10	< .10	—	.05
09...	1600	.5	7.5	.73	348	—	< .02	.03	< .10	< .10	.10	.07
09...	1745	.0	—	.73	339	—	< .02	< .02	< .10	< .10	.08	.06
10...	1555	.0	7.5	1.9	323	—	< .02	.03	< .10	< .10	.08	.10
10...	1705	.0	6.5	1.7	307	68	< .02	.05	< .10	< .10	.15	.08
10...	1815	.0	5.0	1.9	300	—	< .02	.04	< .10	< .10	.14	.09
10...	1910	.0	—	2.1	300	—	< .02	.02	< .10	< .10	.18	.12
10...	2115	.0	—	2.5	340	—	< .02	.07	< .10	< .10	.16	.13
10...	2340	.0	—	4.9	482	130	< .02	.02	< .10	< .10	.10	.12
11...	0055	.0	—	7.1	328	86	< .02	.03	.10	< .10	.12	.11
11...	1245	.0	—	5.4	265	—	< .02	.03	< .10	< .10	.11	.11
11...	1400	.0	—	5.2	420	—	< .02	.03	.10	< .10	.12	.10
17...	1415	7.0	—	1.3	297	—	< .02	.02	< .10	< .10	.08	.08
17...	1530	6.0	—	1.6	281	—	< .02	.03	< .10	< .10	.08	.07
17...	1710	4.0	—	2.1	248	—	< .02	.02	< .10	< .10	.08	.06
SEP												
16...	0945	6.5	—	.37	393	—	< .02	< .02	< .10	< .10	.05	.01

TABLE 10.—*Water-quality data for site three (Edgewood Creek tributary at Highland Drive, near Tahoe Village; No. 10336758)*—Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	SEDI-MENT, TOTAL (MG/L)	SEDI-MENT, DISCH, SUSP. + BED MA-TERIAL (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT										
28...	2.3	1.3	0.47	0.40	0.36	70,000	400	5,980	0.65	--
NOV										
12...	1.8	1.4	.93	.62	.52	12,000	280	173	.07	92
13...	1.2	.71	.78	.58	.57	110,000	270	4,930	2.8	78
13...	.97	.46	.74	.52	.54	180,000	250	10,400	31	77
13...	1.8	.42	.75	.52	.43	280,000	--	16,400	80	69
23...	--	.61	.07	.07	.06	8,700	150	322	.41	--
DEC										
19...	--	.51	.15	.08	.08	30,000	150	1,180	5.4	63
19...	--	.47	.12	.08	.07	22,000	180	693	3.0	62
FEB										
16...	.58	.45	.11	.06	.04	12,000	200	524	4.2	42
MAR										
11...	.65	.47	.08	.02	< .02	--	--	852	1.8	64
11...	.54	.44	.29	.03	< .02	--	--	7,670	19	71
11...	.53	.39	.13	.02	< .02	--	--	996	2.5	74
11...	.66	.53	.21	.02	< .02	--	--	2,100	6.8	63
11...	.42	.53	.11	.03	< .02	--	--	544	1.5	38
12...	.47	.38	.02	.01	< .02	--	--	16	.03	--
25...	.55	.33	< .01	.02	< .01	1,100	280	10	.01	--
APR										
09...	.66	.17	.04	< .01	.02	8,000	190	186	.21	82
09...	2.1	.54	.14	< .01	.03	39,000	230	2,500	4.9	79
09...	--	.31	.20	< .01	.03	77,000	200	3,010	5.9	58
09...	.70	.34	.10	< .01	.02	34,000	240	1,300	2.6	11
09...	.65	.30	.05	< .01	.02	16,000	230	3,560	7.0	18
10...	1.3	.45	.32	< .01	.03	82,000	110	5,300	27	26
10...	.50	.20	.16	< .01	.02	50,000	100	2,350	11	26
10...	.54	.21	.16	< .01	.02	40,000	100	5,070	26	8
10...	1.4	.56	.20	< .01	.02	44,000	130	1,550	8.8	32
10...	1.9	.35	--	.02	.04	92,000	170	9,220	62	25
10...	.55	.36	.36	.04	.06	150,000	480	22,200	294	20
11...	.41	.34	.49	.04	.06	99,000	130	5,560	107	34
11...	.52	.30	.13	.02	.04	57,000	200	2,040	30	38
11...	.55	.37	.17	.02	.04	36,000	210	2,270	32	22
17...	.89	.39	.08	< .01	.01	68,000	160	3,370	12	8
17...	1.2	.54	.23	.06	.03	100,000	100	4,950	21	80
17...	1.0	.58	.12	< .01	.01	71,000	140	2,440	14	17
SEP										
16...	.65	.49	.12	< .01	.02	5,900	790	130	.13	36

TABLE 10.--*Water-quality data for site three (Edgewood Creek tributary at Highland Drive, near Tahoe Village; No. 10336758)*—Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE, AIR (DEG C)	STREAM-FLOW, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (µS)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
SEP												
16...	1155	7.0	—	0.39	376	—	<0.02	<0.02	<0.10	<0.10	0.07	0.01
16...	1440	7.5	—	.49	322	—	< .02	< .02	< .10	< .10	.06	.01
24...	0600	9.0	—	5.4	179	31	< .02	—	.10	.13	.14	.14
24...	0745	9.0	—	2.4	198	25	< .02	.04	< .10	.10	—	.06
24...	0920	8.5	—	1.2	212	28	< .02	.04	< .10	< .10	—	.05
25...	1625	11.0	—	.88	217	34	< .02	.09	< .10	< .10	—	.09
25...	1725	11.0	—	.74	271	43	< .02	—	< .10	< .10	.11	.13
25...	1820	11.0	11.5	E.60	312	54	< .02	—	< .10	< .10	.06	.11

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	SEDI-MENT, TOTAL (MG/L)	SEDI-MENT, DISCH, SUSP. + BED MA-TERIAL (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
SEP										
16...	1.2	0.89	0.11	0.02	0.03	6,700	960	78	0.08	—
16...	1.8	1.1	.27	< .01	.02	12,000	530	146	.19	—
24...	4.2	.66	1.2	.05	.06	57,000	110	1,410	21	89
24...	—	.64	—	.05	.04	18,000	430	349	2.3	96
24...	—	.55	.37	.03	.03	11,000	300	194	.65	95
25...	—	.41	.61	.05	.05	15,000	240	326	.77	90
25...	1.6	.87	.74	.07	.05	19,000	120	336	.67	100
25...	1.7	.79	.67	.05	.04	16,000	110	303	E.49	96

TABLE 10.--*Water-quality data for site three (Edgewood Creek tributary at Highland Drive, near Tahoe Village; No. 10336758)*--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE, AIR (DEG C)	STREAM-FLOW, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (μS)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT												
25...	0555	4.5	6.5	1.6	208	28	<0.02	0.06	<0.10	<0.10	0.27	0.19
25...	0735	5.0	5.0	2.0	212	27	< .02	.04	< .10	< .10	.14	.10
25...	1015	5.5	5.5	1.9	212	--	< .02	.03	< .10	< .10	.15	<.01
26...	0635	3.0	1.0	1.7	219	29	< .02	< .02	< .10	< .10	.16	<.01
JAN												
03...	0820	.5	-3.5	.19	333	65	< .02	< .02	< .10	< .10	.09	.08
FEB												
16...	1030	.5	.0	.36	373	76	< .02	< .02	< .10	< .10	< .01	.02
APR												
19...	1220	4.5	7.5	.74	433	100	< .02	.02	< .10	< .10	.02	.02
19...	1420	4.0	4.5	1.0	397	92	< .02	.03	< .10	< .10	.04	.04
19...	1550	2.5	6.0	1.3	359	80	< .02	.02	< .10	< .10	.03	.03
19...	1740	1.5	3.0	1.6	319	70	< .02	.02	< .10	< .10	.03	.03
19...	1855	1.0	3.0	1.6	359	87	< .02	.02	< .10	< .10	.02	.02
20...	0650	.5	2.0	.81	335	68	< .02	< .02	< .10	< .10	.03	.03
MAY												
06...	1100	2.5	3.5	1.2	333	100	< .02	< .02	< .10	< .10	.04	.04
06...	1555	6.5	5.0	1.8	313	67	< .02	.02	< .10	< .10	--	.09
06...	1725	5.0	5.5	2.0	286	58	< .02	.02	< .10	< .10	.06	.06
06...	1850	3.5	4.5	2.3	258	51	< .02	.03	< .10	< .10	.07	.05
06...	1940	2.5	2.5	2.4	255	50	< .02	.02	< .10	< .10	--	.08
07...	1145	5.5	7.5	1.3	325	68	< .02	< .02	< .10	< .10	.03	.02
16...	1205	7.0	6.0	2.3	307	65	< .02	< .02	< .10	.11	.03	.06
16...	1425	10.0	11.0	2.7	300	65	< .02	< .02	< .10	.11	.04	.03
16...	1600	8.5	7.5	3.7	273	57	< .02	.02	< .10	.10	.04	.04
16...	1725	7.0	9.5	5.3	241	48	< .02	.05	< .10	.11	.07	.06
16...	1855	5.0	6.0	5.4	223	45	< .02	.02	< .10	.11	.04	.07
16...	2010	4.0	3.0	5.2	228	45	< .02	.02	< .10	.11	.04	.04
17...	1000	2.0	5.0	2.4	296	72	< .02	< .02	< .10	--	--	.06
23...	1030	7.0	16.5	3.9	200	41	< .02	< .02	.20	.21	.07	.07
23...	1245	11.5	19.0	4.3	232	47	< .02	< .02	.20	.18	.07	.10
23...	1350	13.0	19.0	7.0	223	46	< .02	.02	.20	.17	.03	.05
23...	1535	12.5	21.0	8.9	179	34	< .02	.02	.20	.14	.06	.06
23...	1720	10.5	19.0	11	159	33	< .02	.02	.20	.13	.05	.05
23...	1840	8.5	15.5	12	147	25	< .02	.03	.20	.15	.08	.10
23...	2000	7.0	9.0	9.4	152	25	< .02	.03	.20	.16	.09	.10
24...	0925	12.5	5.5	6.0	208	39	< .02	< .02	.20	.20	.06	.06

TABLE 10.--*Water-quality data for site three (Edgewood Creek tributary at Highland Drive, near Tahoe Village; No. 10336758)*--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	SEDI-MENT, TOTAL (MG/L)	SEDI-MENT, DISCH, SUSP. + BED MA-TERIAL (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT										
25...	1.4	0.61	0.88	0.05	0.04	2,000	270	1,680	7.3	32
25...	1.2	.70	.04	.05	.05	10,000	460	219	1.2	52
25...	1.1	.80	.06	.05	.02	5,100	480	412	2.1	26
26...	.84	.60	.60	.04	.03	9,500	540	930	4.2	6
JAN										
03...	.31	.32	.03	.04	.01	1,200	490	11	.00	—
FEB										
16...	<.70	.58	.04	.04	.02	1,700	620	10	.00	—
APR										
19...	.58	.58	.17	< .01	.01	6,600	170	106	.21	98
19...	.86	.36	.20	< .01	.01	630	130	95	.26	98
19...	.77	.37	.27	< .01	< .01	11,000	120	189	.66	96
19...	.87	.37	.26	< .01	.01	12,000	120	190	.82	91
19...	.78	.48	.25	—	.04	10,000	140	154	.67	90
20...	.47	.47	.09	< .01	.02	2,200	420	22	.05	—
MAY										
06...	.36	.26	.05	.01	.04	1,900	420	34	.11	24
06...	—	.21	.11	.01	.02	4,500	340	71	.35	96
06...	.54	.14	.20	.01	.02	6,100	240	100	.54	95
06...	.63	.55	.15	.01	.01	6,300	230	102	.63	90
06...	—	.32	.13	.02	.02	5,800	210	112	.73	76
07...	.37	.28	.04	.03	.02	1,500	450	18	.06	92
16...	.77	.34	.10	.04	.02	25,000	340	395	2.5	12
16...	.76	.37	.14	.03	.02	5,100	300	109	.79	70
16...	.96	.56	.23	.03	.02	8,600	230	220	2.2	74
16...	.83	.14	.37	.02	.02	13,000	140	400	5.7	64
16...	.76	.73	.20	.01	.02	6,500	190	340	5.0	43
16...	.76	.66	.15	.01	.02	5,600	180	122	1.7	68
17...	—	.34	.06	.05	.02	2,000	350	78	.51	33
23...	.33	—	.13	.01	.03	7,900	260	210	2.2	28
23...	1.2	1.0	.17	.01	.02	9,600	140	236	2.7	50
23...	.67	.55	.34	.01	.02	12,000	120	473	8.9	44
23...	1.2	.34	.35	.01	.03	18,000	90	1,060	25	37
23...	.55	.55	.59	.02	.03	20,000	110	524	16	76
23...	1.2	.70	.73	.02	.02	21,000	80	632	20	64
23...	1.0	.20	.44	.01	.02	13,000	100	387	9.8	64
24...	.44	.24	.12	.01	.02	3,800	230	88	1.4	66

E, estimated.

page 65 follows

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