Data on Surface-Water Quality and Quantity, Lower Edgewood Creek Basin, Douglas County, Nevada, 1984-85

By Richard J. La Camera and Sherwood B. Browning

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CONVERSION FACTORS AND ABBREVIATIONS

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

Multiply	*By*	*To obtain*
Cubic foot per second (ft^3/s, CFS)	0.02832	Cubic meter per second (m^3/s)
Foot (ft)	0.3048	Meter (m)
Mile (mi)	1.609	Kilometer (km)
Square mile (mi^2)	2.590	Square kilometer (km^2)

For temperature, degrees Fahrenheit (F°) can be converted to degrees Celsius (C°) by using the formula °C = 0.5556 (°F - 32).

Abbreviations for metric water-quality units used in tables 1 and 2 are as follows:

DEG C, °C	Degrees Celsius
UG/L, µg/L	Micrograms per liter
US/CM, µS/cm	Microsiemens per centimeter at 25°C
MG/L, mg/L	Milligrams per liter
MM OF HG	Millimeters of mercury

DATA ON SURFACE-WATER QUALITY AND QUANTITY, LOWER EDGEWOOD CREEK BASIN, DOUGLAS COUNTY, NEVADA, 1984-85

By Richard J. La Camera and Sherwood B. Browning

ABSTRACT

Selected hydrologic data were collected from August 1984 through July 1985 at three sites on the lower part of Edgewood Creek, and at a recently constructed sediment-catchment basin that captures and retains runoff from developed areas in the lower Edgewood Creek drainage.

The data were collected to quantify the discharge of selected constituents (1) downstream from recent and planned watershed-restoration projects and (2) to Lake Tahoe. Contained in this report are the results of quantitative analyses of 39 water samples for: total and dissolved ammonium, organic nitrogen, nitrite, nitrate, phosphorus, and orthophosphorus; suspended sediment; total iron, manganese, and zinc; and dissolved solids. Also included are: field measurements of streamflow, water temperature, specific conductance, pH, and dissolved oxygen; summary statistics (means and standard deviations), and computations of instantaneous loads.

INTRODUCTION

The U.S. Geological Survey, in cooperation with the U.S. Forest Service and the Tahoe Regional Planning Agency, collected and analyzed selected water-quality and water-quantity data in the lower part of the Edgewood Creek drainage basin (figure 1) between August 1984 and July 1985.

The Edgewood Creek basin is near State Highway 207 and Stateline, Nev., and encompasses approximately 6 square miles of the Lake Tahoe basin. The lands have a slight to moderate erosion potential where soil is exposed, slow to very slow infiltration rates when thoroughly wetted, and moderately high to high runoff potential within the study area (Bailey, 1974).

Purpose and Scope

The purposes of this report are to: (1) present selected hydrologic data collected from August 1984 through July 1985 at three sites on the lower part of Edgewood Creek and at a recently constructed sediment-catchment basin, which captures and retains runoff from developed areas in the lower Edgewood Creek Basin; (2) describe conditions under which the data were collected; and (3) summarize the collected data by using basic statistical techniques.

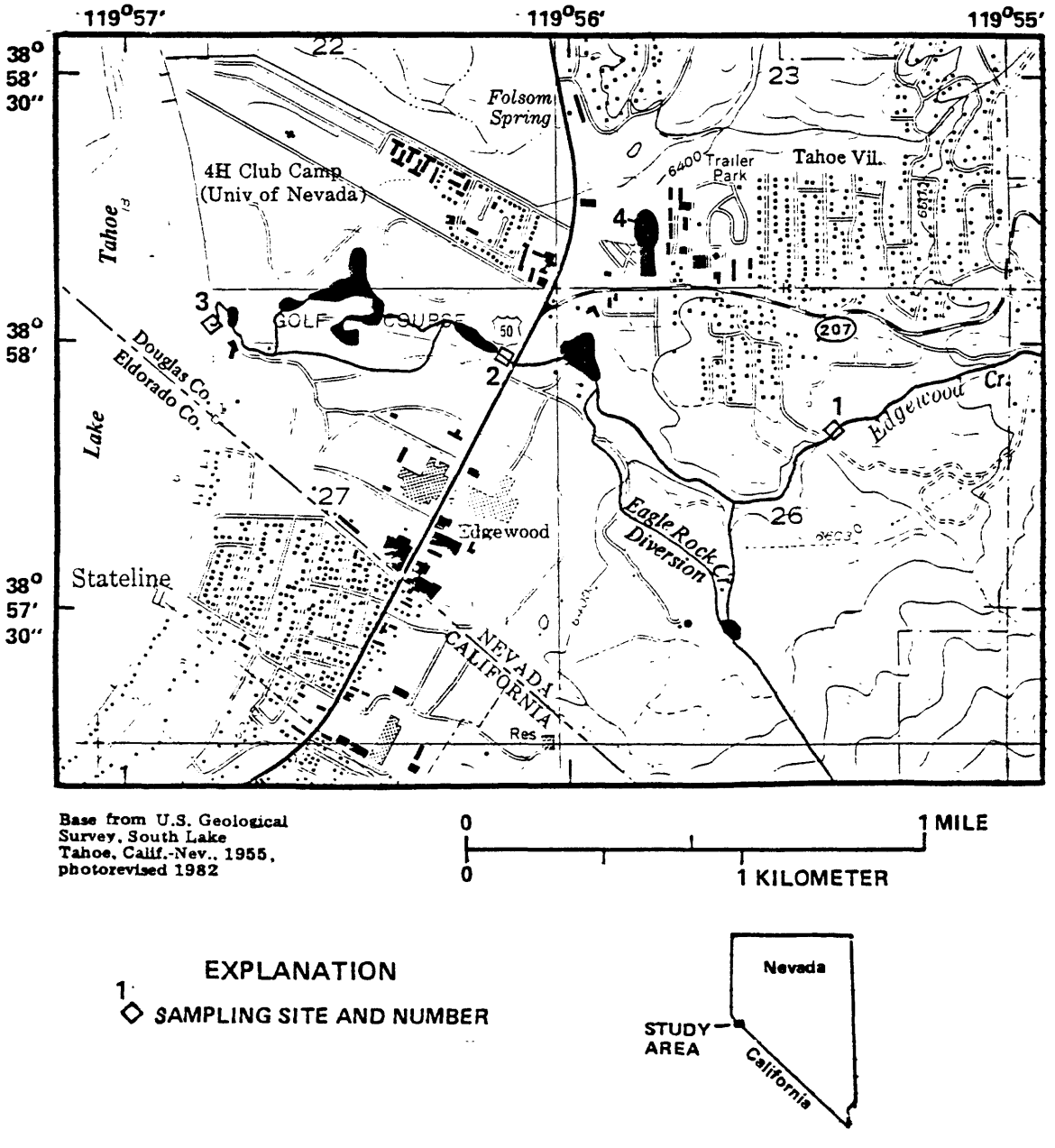

FIGURE 1.—Water-quality sampling sites.

Water samples were analyzed for: total and dissolved ammonium[1], ammonium plus organic nitrogen, nitrite, nitrite plus nitrate, phosphorus, and orthophosphorus; suspended sediment; total iron, manganese, and zinc; and dissolved solids. Field measurements included streamflow, water temperature, specific conductance, pH, and dissolved oxygen.

Standard suspended-sediment sampling techniques were used (Guy and Norman, 1970). Sampling frequency at most sites was approximately weekly during the spring, when the greatest quantities of the constituents of interest were expected to be mobilized because of high flows, and occasionally at other times of the year. A total of 39 data sets were collected during the sampling period.

Acknowledgment

The cooperation of Steve Seibel, Superintendent of the Edgewood Tahoe Golf Course, who allowed access to private property, is greatly appreciated.

DESCRIPTION OF THE WATER-QUALITY SAMPLING SITES

Locations of the sampling sites are shown in figure 1.

Site 1 (station 10336759), Edgewood Creek near Stateline, Nev., is a Survey stream-gaging station currently operated for streamflow, fluvial-sediment, and nutrient information. This site indicates stream quality, including the quantity of transported material, downstream from recent and planned watershed-restoration projects. Samples at site 1 were collected from a footbridge at the gaging station. Any comparisons between data from this site and sites 2 or 3 should also consider (1) the inflow from the Eagle Rock Creek diversion (fig. 1), for which discharge was only slightly less than that of Edgewood Creek during much of the study period; (2) the intermittent inflow of several small tributaries observed between sites 1 and 2; and (3) the frequent regulation of streamflow by the small reservoir just upstream from U.S. Highway 50.

Site 2 (station 10336761), Edgewood Creek below U.S. Highway 50 near Stateline, Nev., is immediately upstream from all golf-course ponds and diversions and about 75 feet downstream from U.S. Highway 50. Although the data at this site are extremely limited, comparisons with data from site 3 may provide some insight into possible effects of the golf-course impoundments and diversions on the nature and quantity of materials through that reach of Edgewood Creek. Such comparisons, as well as more frequent sampling to allow more definitive conclusions, were beyond the scope of this study.

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[1] Throughout the text and in tables 2 and 3, the term "ammonium" is used to signify the combined concentration of ammonia (the dissolved gas NH_3) plus ammonium (the ion NH_4^+), expressed as nitrogen (the element N). In table 1, the terms "ammonia" and "NH_4" signify the same combined concentration.

Site 3 (station 10336765), Edgewood Creek at Lake Tahoe near Stateline, Nev., is at the mouth of Edgewood Creek, immediately upstream from the shoreline of Lake Tahoe on the Edgewood Golf Course. This site indicates stream quality at the mouth of Edgewood Creek and the quantity of material delivered to Lake Tahoe from the entire Edgewood Creek drainage. Water samples were collected at the mouth of a culvert that carries outflow from the lowermost golf-course pond.

Site 4 (station 103367595), Sediment-catchment basin near Tahoe Village, is a large manmade basin completed in the summer of 1984 approximately ¼ mile east of U.S. Highway 50 and just north of State Highway 207. No outflow from the basin to Edgewood Creek is anticipated; on rare, extreme runoff events, however, the catchment basin could discharge water through an underground catchment drain that crosses underneath State Highway 207 and empties into a small tributary of Edgewood Creek.

Except for the period from March 30 through April 6, 1985, samples were collected at the mouth of the underground storm drain that empties into the catchment basin. During the period March 30-April 6, when access to the storm drain was not possible, the samples were collected from the banks of the catchment basin about 15 feet downstream from the mouth of the storm drain.

The data collected at site 4 must be qualified. Except for samples obtained in July 1985, which were collected in flowing water at the mouth of the storm drain and represent runoff following a thundershower, the data probably represent the quality of water being retained in the catchment basin, rather than that of actual runoff into the catchment basin.

The design of the catchment basin is such that when runoff begins, water flows into the catchment basin from the storm drain. As runoff continues, the water level in the catchment basin rises and water begins to back up into the mouth of the storm drain. During periods of prolonged runoff, such as spring snowmelt, the water level in the catchment basin continues to rise until the mouth of the storm drain is completely submerged. This causes water to back up farther into the storm drain, and results in a greatly reduced velocity of runoff entering the catchment basin.

When samples were collected at the storm-drain mouth, much of the suspended material contained in the actual runoff probably had been deposited in the storm drain due to the reduced velocity there. Additionally, the banks of the newly constructed catchment basin had not yet stabilized, and as the water level in the basin rose, large mats of straw from the bank cover (used to reduce surficial bank erosion) entered the water. The effects of straw on water chemistry in the catchment basin, as well as the effects of localized snowmelt and its associated runoff from the banks of the catchment basin itself, could not be isolated from the urban runoff when standing water was sampled.

CLIMATOLOGIC AND HYDROLOGIC CONDITIONS DURING THE STUDY PERIOD

Precipitation during the study period was approximately 80 percent of normal (National Weather Service, oral commun., 1985). As a result, streamflow was somewhat lower than previously measured. In addition, streamflow associated with spring snowmelt occurred earlier than normal and remained high for a shorter period of time than usual, due to a rapid warming in early April.

A brief, generalized summary of weather conditions during the study period is presented below. Air temperatures and snowfall amounts are approximations based on observations made by the authors at lake level near Edgewood Creek.

Major storms deposited 1 to 2 feet of snow in the area on December 15, 1984, February 7-8, February 28 to March 7, and March 24-28, 1985. Following the stormy period in late March, maximum air temperatures increased from about 55 °F to about 75 °F, and much of the snow melted from the higher altitudes by mid-April. In mid-April, a period of unsettled weather brought cooler temperatures (highs ranging from about 40 °F to about 55 °F) until the end of the month, followed by maximum air temperatures of about 60-70 °F through the month of May. During this period, minor amounts of precipitation fell on about April 17, April 20, and May 10, and the remainder of the snowpack gradually melted. A minor storm deposited about an inch of wet snow June 1 and 2, which melted rapidly; no further precipitation fell in June, and temperatures were unseasonably warm, ranging from about 75 °F to about 85 °F. Heavy thundershowers occurred on July 21, 26, and 27. More detailed information concerning site-specific sampling conditions are listed below.

Site 1

On August 21, 1984, water samples were collected during stable flow conditions (at 1100 hours) and just following the peak of a slight rise in streamflow resulting from a thundershower (at 1200). Relatively large diurnal fluctuations in streamflow occurred during the first half of April 1985. Samples on April 4 were collected near the minimum flow for the day. On April 15, samples were collected during a rise in streamflow (at 1445), and at the time of maximum discharge for that day (at 1830). Samples collected on June 4 followed a slight increase in streamflow which occurred 2 days earlier as a result of a minor storm, and some foam was visible on the water surface. The streamflow was relatively stable during times of sample collection for all other dates.

Site 2

Conditions at times of sample collection were largely unknown at site 2, due to frequent regulation of outflow by the small reservoir above U.S. Highway 50 and the lack of detailed records pertaining to storage or release of water in the reservoir.

Streamflow had recently been greater prior to sample collection on April 29, 1985, but no obvious sign of large fluctuation in streamflow was apparent at other times of sample collection.

Site 3

Irrigation on the golf course was observed for the first time on April 15, 1985, and was noted on every visit thereafter. The golf course was fertilized for the first time in 1985 on April 23, but subsequent dates of application are unknown. Storage of water in the small golf-course impoundments was first noticed on April 29, and also continued for the duration of the study. On May 23, a film of pine pollen was visible on the lake surface, and the blue-green algae, *Oscillatoria*, which thrives in warm, nutrient-rich water (R. J. Hoffman, U.S. Geological Survey, oral commun., 1985), was identified just below the mouth of the storm drain where samples were collected.

Site 4

On March 30, 1985, water samples were collected following a major snowstorm and subsequent warming. Snow covered the banks of the catchment basin, and muddy ice covered the entire water surface. When samples were collected on April 4, most of the ice had melted but snow still covered the banks of the basin. By April 6, all ice had melted from the water surface and most of the snow had melted from the banks of the catchment basin; the storm-drain mouth was completely submerged by turbid water. A large amount of straw was observed floating on the water surface on April 6 and 15. By April 23, the water level in the catchment basin had dropped to just slightly below the top of the storm-drain mouth, and by May 7, some grass had begun to establish itself on the banks of the catchment basin. On June 4 (when samples were collected following some probable inflow on June 2), the water appeared more turbid than the last few visits and some pine pollen was visible on the water surface. On July 26, a heavy thundershower lasted approximately 25 minutes, followed by a subsequent light rain for about 10 additional minutes. Samples were collected near the peak inflow to the catchment basin (at 1640 hours, which was about 40 minutes after the beginning of rainfall) and during the flow recession (at 1650). The inflow was extremely turbid, and some organic debris was visible on the water surface. The water also foamed greatly when agitated. Unfortunately, most of the samples collected at 1640 hours were inadvertently destroyed in the laboratory.

A reference point was established at the mouth of the storm drain 0.25 foot below its top. The elevation of the water surface in the catchment basin was determined relative to this point, and the measurements are tabulated below. A negative value indicates that the water surface was below the reference point and a positive value indicates that the water surface was above the reference point. A lower number, therefore, indicates a lesser amount of water retained in the basin.

Date	Feet	Date	Feet
Nov. 6, 1984	-2.8	May 7, 1985	-0.9
Jan. 28, 1985	-3.0	May 15, 1985	-1.3
March 30, 1985	-0.5 (estimated)	May 23, 1985	-1.8
April 6, 1985	+1.5 (estimated)	May 28, 1985	-2.2
April 15, 1985	+0.5	June 2, 1985	-2.3
April 23, 1985	+0.1	June 4, 1985	-2.1
April 29, 1985	-0.4		

DISCUSSION OF THE DATA TABLES

The raw data collected during the study period are tabulated in table 1. Table 2 tabulates the number of measurements, mean, standard deviation, minimum value, and maximum value for the constituent concentrations and characteristics measured. Note that for site 4, data collected on July 26 have been excluded from the calculations because they represented conditions which were distinctly different from all other conditions.

Table 3 is a tabulation of measured instantaneous and mean loads for the study period for all constituents. The values are rounded to two significant figures. Loads were not calculated for data collected at the sediment-catchment basin because of (1) the limited availability of discharge data and (2) other difficulties discussed above.

Although inconclusive because of the limited data available and short time frame of this study, some observations concerning the discharge of nitrogen and phosphorus can be made on the basis of mean loads listed in table 3. At each of the three Edgewood Creek sites (sites 1-3), about 80 percent of the total nitrogen load is in the form of organic nitrogen, 12 percent is in the form of nitrate nitrogen, 7 percent is in the form of ammonium nitrogen, and 1 percent is in the form of nitrite nitrogen. At the three stream sites, the percentage of total phosphorus load in the form of orthophosphorus varies somewhat with time, but is generally greater at downstream sites 2 and 3 than at upstream site 1. In addition, the percentage of the total phosphorus load that is present in the dissolved state generally is greater at the two downstream stations than at the upstream site.

SUMMARY

Selected hydrologic data were collected from August 1984 through July 1985 at three sites on the lower part of Edgewood Creek and at a recently constructed sediment-catchment basin that captures and retains runoff from developed areas in the lower Edgewood Creek drainage.

The data were collected to quantify the discharge of selected constituents (1) from recent and planned watershed-restoration areas and (2) to Lake Tahoe. This report contains the results of quantitative analyses of 39 water samples for: total and dissolved ammonium, organic nitrogen, nitrite, nitrate, phosphorus, and orthophosphorus; suspended sediment; total iron, manganese, and zinc; and dissolved solids. Also included are: field measurements of streamflow, water temperature, specific conductance, pH, and dissolved oxygen; summary statistics (means and standard deviations), and computations of instantaneous loads.

On the basis of mean values, about 80 percent of the total nitrogen load at each of the three Edgewood Creek sites is in the form of organic nitrogen, 12 percent is in the form of nitrate nitrogen, 7 percent is in the form of ammonium nitrogen, and 1 percent is in the form of nitrite nitrogen. The percentage of total phosphorus load in the form of orthophosphorus at the three stream sites varies somewhat with time, but is generally greater at the two downstream sites than at the upstream site. In addition, the percentage of the total phosphorus load that is present in the dissolved state generally is greater at the two downstream sites than at the upstream site.

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Data on Surface-Water Quality and Quantity

TABLE 1.—*Water-quality and water-quantity data, August 1984–July 1985*[a]

SITE 1 (EDGEWOOD CREEK NEAR STATELINE NV; STA. 10336759)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	TEMPER-ATURE (DEG C) (00010)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	SPE-CIFIC CON-DUC-TANCE LAB (US/CM) (90095)	PH (STAND-ARD UNITS) (00400)	PH LAB (STAND-ARD UNITS) (00403)	BARO-METRIC PRES-SURE (MM OF MG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
AUG , 1984												
21...	1100	1.9	8.5	135	134	7.8	8.0	605	9.1	98	<.20	<.20
21...	1200	2.0	--	--	--	--	--	--	--	--	.20	--
SEP												
06...	1430	1.6	9.5	125	128	7.8	8.0	600	8.9	99	--	<.20
APR , 1985												
04...	1115	3.6	4.0	140	150	--	8.3	--	--	--	.60	.30
15...	1445	5.0	7.5	115	123	7.8	7.9	596	9.3	99	.60	.30
15...	1830	6.2	6.0	108	116	--	8.1	595	9.8	101	.60	.50
23...	1400	3.3	7.0	122	127	8.1	8.1	603	9.7	101	.40	--
29...	1550	3.0	7.0	120	129	7.8	8.2	602	9.8	102	.50	.30
MAY												
07...	1345	2.4	7.5	--	129	8.0	8.2	602	9.2	97	.40	.30
15...	1400	2.1	8.0	125	132	8.1	8.2	600	9.3	100	.20	<.20
23...	1430	2.1	11.0	150	140	8.0	8.1	604	8.6	99	.20	.10
28...	1330	1.9	8.0	128	135	7.7	7.8	598	9.3	100	.30	.20
JUN												
04...	1400	1.8	8.5	128	134	8.0	8.1	603	9.1	99	.40	.30
JUL												
16...	1400	.93	10.0	110	118	8.0	8.3	603	8.5	95	<.20	<.20

DATE	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N) (00624)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
AUG , 1984											
21...	--	.009	.005	--	--	.04	.04	.005	.007	.04	.03
21...	--	.006	--	.19	--	.05	--	.003	--	.05	--
SEP											
06...	--	.006	.006	--	--	.04	<.01	.004	.005	.04	--
APR , 1985											
04...	.30	.024	.022	.58	.28	.09	.09	.002	.003	.08	.08
15...	.30	.038	.037	.56	.26	.11	.11	.002	.004	.10	.11
15...	.10	.043	.032	.56	.47	.12	.12	.004	.004	.12	.12
23...	--	.039	.034	.36	--	.07	.07	.004	.002	.07	.07
29...	.20	.032	.043	.47	.26	.06	.06	.003	.003	.06	.06
MAY											
07...	.10	.032	.036	.37	.26	.04	.04	.002	.001	.04	.04
15...	--	.039	--	.16	--	.02	.04	.001	--	.02	--
23...	.10	.047	.046	.15	.05	.02	.03	.003	.004	.02	.02
28...	.10	.044	.039	.26	.16	.03	.03	.001	<.001	.03	--
JUN											
04...	.10	.050	.052	.35	.25	.03	.03	.003	.008	.03	.02
JUL											
16...	--	.031	.034	--	--	.07	.07	.008	.010	.06	.06

DATE	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P) (70507)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
AUG , 1984											
21...	--	--	.015	--	.011	--	790	40	30	83	6
21...	.25	--	.034	--	--	--	--	--	--	--	13
SEP											
06...	--	--	--	.018	.008	.014	650	20	<10	76	6
APR , 1985											
04...	.69	.39	--	.013	.022	.011	1500	80	20	95	22
15...	.71	.41	.065	.015	.020	.013	2500	140	20	88	52
15...	.72	.62	.082	.016	.021	.012	4000	210	70	89	80
23...	.47	--	.040	.017	.022	.012	1300	70	10	92	14
29...	.56	.36	.031	.018	.021	.013	940	50	20	87	29
MAY											
07...	.44	.34	.025	.013	.021	--	880	60	20	81	8
15...	.22	--	.026	.013	.020	.012	940	50	20	89	10
23...	.22	.13	.069	.013	.011	.013	2500	130	<10	91	20
28...	.33	.23	.023	.008	.015	.011	910	50	<10	82	9
JUN											
04...	.43	.33	.031	.013	.017	.017	830	40	10	85	10
JUL											
16...	--	--	.033	.013	.017	.003	610	40	70	77	6

TABLE 1.—*Water-quality and water-quantity data, August 1984–July 1985*[a]—Continued

SITE 2 (EDGEWOOD CREEK BELOW HIGHWAY 50 NEAR STATELINE, NV; STA. 10336761)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	TEMPER-ATURE (DEG C) (00010)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	SPE-CIFIC CON-DUC-TANCE LAB (US/CM) (90095)	PH (STAND-ARD UNITS) (00400)	PH LAB (STAND-ARD UNITS) (00403)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
SEP , 1984												
06...	1630	4.8	11.0	90	98	8.3	8.2	603	9.3	107	--	<.20
APR , 1985												
29...	1045	7.1	5.0	100	103	8.1	8.2	605	10.4	103	.50	.30
JUN												
04...	1115	5.1	7.5	104	109	7.8	8.0	606	9.3	98	.30	.30
JUL												
16...	1045	3.3	11.0	92	98	8.1	8.3	606	8.7	100	.20	<.20

DATE	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N) (00624)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
SEP , 1984											
06...	--	.009	.008	--	--	.02	<.01	.004	.005	.01	--
APR , 1985											
29...	--	.042	.045	.46	.26	.11	.11	.003	.003	.10	.10
JUN											
04...	.00	.049	.046	.25	.25	.03	.03	.003	.007	.03	.03
JUL											
16...	--	.033	.023	.17	--	.03	.03	.007	.005	.02	.02

DATE	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P) (70507)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
SEP , 1984											
06...	--	--	--	.019	.010	.014	550	20	<10	58	4
APR , 1985											
29...	.61	.41	.021	.016	.022	.012	580	30	10	75	12
JUN											
04...	.33	.33	.027	.014	.016	.017	560	40	<10	71	4
JUL											
16...	.23	--	.023	.012	.015	.003	610	60	<10	66	4

TABLE 1.—*Water-quality and water-quantity data, August 1984–July 1985*[a]—Continued

SITE 3 (EDGEWOOD CREEK AT LAKE TAHOE NEAR STATELINE, NV; STA. 10336765)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	TEMPER-ATURE (DEG C) (00010)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	SPE-CIFIC CON-DUC-TANCE LAB (US/CM) (90095)	PH (STAND-ARD UNITS) (00400)	PH LAB (STAND-ARD UNITS) (00403)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
SEP , 1984												
06...	1800	3.8	20.0	100	106	9.3	9.1	605	10.1	141	--	<.20
APR , 1985												
04...	1245	12	7.0	127	135	--	8.0	605	10.2	106	.90	.20
15...	1115	11	9.0	105	112	7.7	8.0	602	9.7	107	1.0	.40
23...	1045	8.1	9.0	107	112	8.0	8.2	606	10.8	118	.50	.40
29...	1345	5.8	10.5	112	118	8.1	8.3	606	10.6	120	.90	.30
MAY												
07...	1030	4.0	11.5	--	115	8.4	8.5	606	9.6	111	.30	.20
15...	1100	4.8	11.0	110	116	8.4	8.5	605	10.0	115	.30	.30
23...	1130	4.5	14.5	145	134	8.7	--	606	9.1	113	.40	.40
28...	1015	5.4	12.0	125	117	8.7	8.6	603	9.0	106	.30	.30
JUN												
04...	0845	4.6	11.0	110	116	8.7	8.4	605	9.1	104	.30	.30
JUL												
16...	0915	1.2	18.0	108	119	9.3	9.3	606	8.0	107	.30	.30

DATE	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N) (00624)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
SEP , 1984											
06...	--	.088	.091	--	--	<.01	<.01	.005	.005	--	--
APR , 1985											
04...	.70	.055	.048	.85	.15	.15	.14	.007	.005	.14	.14
15...	.60	.054	.046	.95	.35	.14	.14	.004	<.001	.14	--
23...	.10	.054	.046	.45	.35	.10	.09	.005	.002	.09	.09
29...	.60	.047	.041	.85	.26	.08	.08	.004	.004	.07	.07
MAY											
07...	.10	.037	.030	.26	.17	.03	.03	.004	.002	.02	.03
15...	.00	.041	--	.26	--	.03	.03	.006	.008	.03	.02
23...	.00	.038	.024	.36	.38	.02	.01	.005	.002	.01	.01
28...	.00	.047	.046	.25	.25	.01	.01	.004	.003	.00	.01
JUN											
04...	.00	.046	.043	.25	.26	.02	.02	.004	.008	.02	.01
JUL											
16...	.00	.031	.023	.27	.28	<.01	.01	.006	.006	--	.00

DATE	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P) (70507)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
SEP , 1984											
06...	--	--	--	.082	--	.073	440	20	<10	68	4
APR , 1985											
04...	1.0	.34	.066	.027	.032	.021	1400	70	30	89	20
15...	1.1	.54	.030	.017	.022	.014	820	50	30	77	8
23...	.60	.49	.035	.020	.027	.015	670	50	10	79	4
29...	.98	.38	.031	.023	.027	.017	480	180	80	85	6
MAY											
07...	.33	.23	.031	.015	.022	.011	480	50	40	82	4
15...	.33	.33	.032	.015	.026	.012	490	40	10	86	4
23...	.42	.41	.021	.008	.015	.005	480	40	10	90	4
28...	.31	.31	.026	.009	.013	.010	520	40	<10	80	3
JUN											
04...	.32	.32	.031	.014	.017	.013	540	40	<10	77	6
JUL											
16...	--	.31	.041	.026	.032	.004	580	40	20	74	4

TABLE 1.—*Water-quality and water-quantity data, August 1984–July 1985*[a]—Continued

SITE 4 (SEDIMENT CATCHMENT BASIN NEAR TAHOE VILLAGE, NV; STA. 103367595)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	TEMPER-ATURE (DEG C) (00010)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	SPE-CIFIC CON-DUC-TANCE LAB (US/CM) (90095)	PH (STAND-ARD UNITS) (00400)	PH LAB (STAND-ARD UNITS) (00403)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
MAR , 1985												
30...	1515	--	--	192	208	--	7.5	--	--	--	.30	.20
APR												
04...	0830	--	10.0	150	164	--	7.8	600	11.4	129	1.2	.50
06...	1115	--	--	154	162	--	8.7	--	--	--	1.0	.30
15...	0930	--	14.5	185	194	9.2	8.8	598	9.9	124	.50	.30
23...	0830	--	10.5	262	269	8.0	7.7	602	8.8	100	.90	.70
29...	0830	--	12.0	308	321	8.0	7.8	603	9.5	112	.90	.30
MAY												
07...	0900	--	15.0	335	362	8.2	8.1	603	8.7	110	--	.40
JUN												
04...	1545	--	23.0	483	486	7.9	7.7	604	7.3	108	1.0	.50
JUL												
26...	1640	E.75	--	144	--	--	--	--	--	--	--	--
26...	1650	E.25	--	158	--	--	--	--	--	--	4.5	--

DATE	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N) (00624)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
MAR , 1985											
30...	.10	.085	.047	.22	.15	.03	.02	.011	.002	.02	.02
APR											
04...	.70	.073	.022	1.1	.43	.02	<.01	.016	.003	.00	--
06...	.70	.047	.032	.95	.27	<.01	<.01	.008	.003	--	--
15...	.20	.049	.026	.45	.27	<.01	<.01	.005	<.001	--	--
23...	.20	.033	--	.87	--	<.01	<.01	.004	.002	--	--
29...	.60	.030	.026	.87	.27	<.01	<.01	.003	.003	--	--
MAY											
07...	--	.034	.024	--	.38	<.01	.02	.003	.001	--	.02
JUN											
04...	.50	.111	.098	.89	.40	.15	.14	.011	.012	.14	.13
JUL											
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	1.60	--	2.9	--	1.3	--	.057	--	1.2	--

DATE	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P) (70507)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
MAR , 1985											
30...	.33	.22	.039	.013	.005	.003	1200	130	30	131	--
APR											
04...	1.2	--	.161	.028	.013	.005	5200	160	80	91	37
06...	--	--	.110	.013	.012	.002	3300	90	40	91	--
15...	--	--	.035	.008	.013	.003	600	50	20	115	12
23...	--	--	.075	.022	.014	.002	400	150	10	161	6
29...	--	--	.046	.016	.016	.004	380	170	20	188	8
MAY											
07...	--	.42	.031	.008	.011	<.001	280	130	20	221	4
JUN											
04...	1.2	.64	.083	.025	.013	.008	1300	420	40	290	13
JUL											
26...	--	--	--	--	--	--	26000	1400	810	--	802
26...	5.8	--	.990	.270	--	--	--	--	--	--	516

[a] Herein, the terms "ammonia" and "NH_4" both signify the combined concentration of ammonia nitrogen plus ammonium nitrogen (see text). Total and dissolved concentrations of "ammonia" nitrogen plus organic nitrogen, and of "ammonia" nitrogen alone, were determined analytically, and the concentrations of organic nitrogen were then calculated by difference. The same procedure was used to calculate nitrate nitrogen on the basis of analytical data for nitrite nitrogen plus nitrate nitrogen and for nitrite nitrogen alone. Values for total nitrogen (parameter code 00600) represent the calculated sum of the values for total "ammonia" nitrogen, total organic nitrogen, total nitrite nitrogen, and total nitrate nitrogen. Similarly, values for dissolved nitrogen (parameter code 00602) represent the calculated sum of the four dissolved species.

TABLE 2.—*Selected summary statistics for constituents and characteristics*

Constituents and characteristics	Site 1 (Edgewood Creek near Stateline) Number of observations	Mean	Standard deviation	Minimum	Maximum	Site 2 (Edgewood Creek below Highway 50) Number of observations	Mean	Standard deviation	Minimum	Maximum
FIELD DETERMINATIONS										
Streamflow (ft^3/s)	14	2.7	1.4	0.93	6.2	4	5.1	1.6	3.3	7.1
Water temperature (degrees Celsius)	13	8.0	2.0	4.0	11.0	4	8.5	3.0	5.0	11.0
Specific conductance (µS/cm)	12	126	12	108	150	4	96	7	90	104
pH (standard units)	11	7.9	0.1	7.7	8.1	4	8.1	0.2	7.8	8.3
Dissolved oxygen (mg/L)	12	9.2	0.4	8.5	9.8	4	9.4	0.7	8.7	10.4
Dissolved oxygen (percent saturation)	12	99	2	95	102	4	102	4	98	107
NITROGEN SPECIES (milligrams per liter as N)										
Ammonium + organic, total	13	[A]0.36	[A]0.18	<0.20	0.60	3	0.33	0.15	0.20	0.50
Ammonium + organic, dissolved	12	[A].22	[A].13	.10	.50	4	[B].20	.12	<.20	.30
Ammonium, total	14	.031	.015	.006	.050	4	.033	.018	.008	.049
Ammonium, dissolved	12	.032	.015	.005	.052	4	.031	.018	.008	.046
Organic nitrogen, total[C]	—	.33	.16	—	—	—	.30	.13	—	—
Organic nitrogen, dissolved[C]	—	.19	.12	—	—	—	.17	.10	—	—
Nitrite + nitrate, total	14	.06	.03	.02	.12	4	.05	.04	.02	.11
Nitrite + nitrate, dissolved	13	[D].06	[D].03	<.01	.12	4	[D].04	[D].05	<.01	.11
Nitrite, total	14	.003	.002	.001	.008	4	.004	.002	.003	.007
Nitrite, dissolved	12	[D].004	[D].003	<.001	.010	4	.005	.002	.003	.007
Nitrate, total[C]	—	.06	.03	—	—	—	.05	.04	—	—
Nitrate, dissolved[C]	—	.06	.03	—	—	—	.04	.05	—	—
Nitrogen, total[C]	—	.42	.21	—	—	—	.38	.19	—	—
Nitrogen, dissolved[C]	—	.28	.16	—	—	—	.24	.17	—	—
PHOSPHORUS (milligrams per liter as P)										
Phosphorus, total	12	0.040	0.021	0.015	0.082	3	0.024	0.003	0.021	0.027
Orthophosphorus, total	12	.014	.003	.008	.018	4	.015	.003	.012	.019
Phosphorus, dissolved	13	.017	.005	.008	.022	4	.016	.005	.010	.022
Orthophosphorus dissolved	11	.012	.003	.003	.017	4	.012	.006	.003	.017
OTHER DETERMINATIONS										
Iron, total (µg/L as Fe)	13	1,400	1,000	610	4,000	4	580	30	550	610
Manganese, total (µg/L as Mn)	13	80	50	20	210	4	40	20	20	60
Zinc, total (µg/L as Zn)	13	[A]20	[A]20	<10	70	4	[B]10	[B]0	<10	10
Dissolved solids, ROE at 180°C (mg/L)	13	86	6	76	95	4	68	7	58	75
Suspended sediment (mg/L)	14	20	21	6	80	4	6	4	4	12

[A] Value estimated using the "log-probability regression" method, as discussed by Gilliom and Helsel (1984) and Helsel and Gilliom (1985).

[B] Concentrations below the detection limit were assumed to be equal to one half of the detection limit for purposes of statistical calculations.

[C] See footnote *a* in table 1. The means and standard deviations for total and dissolved organic nitrogen are the calculated differences between the statistical values for ammonium + organic nitrogen and for ammonium alone. Similarly, those for total and dissolved nitrate are calculated using the values for nitrite + nitrate and for nitrite alone. Finally, the means and standard deviations for total nitrogen or dissolved nitrogen are the sums of the values for ammonium + organic nitrogen plus those for nitrite + nitrate.

TABLE 2.—*Selected summary statistics for constituents and characteristics*—Continued

Constituents and characteristics	Site 3 (Edgewood Creek at Lake Tahoe) Number of observations	Mean	Standard deviation	Minimum	Maximum	Site 4 (Sediment-catchment basin near Tahoe Village)[E] Number of observations	Mean	Standard deviation	Minimum	Maximum
FIELD DETERMINATIONS										
Streamflow (ft^3/s)	11	5.9	3.2	1.2	12	—	—	—	—	—
Water temperature (degrees Celsius)	11	12.0	4.0	7.0	20.0	6	14.0	5.0	10.0	23.0
Specific conductance (µS/cm)	10	115	14	100	145	8	259	114	150	483
pH (standard units)	10	8.5	.5	7.7	9.3	5	[F]8.0	0.5	7.9	9.2
Dissolved oxygen (mg/L)	11	9.6	.8	8.0	10.8	6	9.3	1.4	7.3	11.4
Dissolved Oxygen (percent saturation)	11	113	10	104	141	6	114	11	100	129
NITROGEN SPECIES (milligrams per liter as N)										
Ammonium + organic, total	10	0.52	0.29	0.30	1.0	7	0.83	0.32	0.30	1.2
Ammonium + organic, dissolved	11	[A].30	[A].10	<.20	.40	8	.40	.16	.20	.70
Ammonium, total	11	.049	.015	.031	.088	8	.058	.029	.030	.111
Ammonium, dissolved	10	.044	.019	.023	.091	7	.039	.027	.022	.098
Organic nitrogen, total[C]	—	.47	.28	—	—	—	.77	.29	—	—
Organic nitrogen, dissolved[C]	—	.26	.08	—	—	—	.36	.13	—	—
Nitrite + nitrate, total	11	[D].05	[D].06	<.01	.15	8	[B].03	[B].05	<.01	.15
Nitrite + nitrate, dissolved	11	[D].05	[D].05	<.01	.14	8	[B].03	[B].05	<.01	.14
Nitrite, total	11	.005	.001	.004	.007	8	.008	.005	.003	.016
Nitrite, dissolved	11	[D].004	[D].002	<.001	.008	8	[D].003	[D].004	<.001	.012
Nitrate, total[C]	—	.04	.06	—	—	—	.02	.04	—	—
Nitrate, dissolved[C]	—	.05	.05	—	—	—	.03	.05	—	—
Nitrogen, total[C]	—	.57	.35	—	—	—	.86	.37	—	—
Nitrogen, dissolved[C]	—	.35	.15	—	—	—	.43	.21	—	—
PHOSPHORUS (milligrams per liter as P)										
Phosphorus, total	10	0.034	0.012	0.021	0.066	8	0.072	0.045	0.031	0.161
Orthophosphorus, total	11	.023	.020	.008	.082	8	.017	.008	.008	.028
Phosphorus, dissolved	10	.023	.007	.013	.032	8	.012	.003	.005	.016
Orthophosphorus dissolved	11	.018	.019	.004	.073	8	[B].003	[B].002	<.001	.008
OTHER DETERMINATIONS										
Iron, total (µg/L as Fe)	11	630	280	440	1,400	8	1,600	1,800	280	5,200
Manganese, total (µg/L as Mn)	11	60	40	20	180	8	160	110	50	420
Zinc, total (µg/L as Zn)	11	[A]20	[A]20	<10	80	8	30	20	10	80
Dissolved solids, ROE at 180°C (mg/L)	11	81	7	68	90	8	161	70	91	290
Suspended sediment (mg/L)	11	6	5	3	20	6	13	12	4	37

[D] Value did not differ significantly when calculated assuming that concentrations below the detection limit (1) equaled zero and (2) equaled the detection limit.

[E] Statistical data are for samples collected during March 30-June 4, 1985, only (data for July 26, 1985, are excluded).

[F] Median value is shown. The mean was determined to be less satisfactory as a summary due to a non-normal distribution of measured pH values.

TABLE 3.--*Constituent loads*

Site 1 (Edgewood Creek near Stateline)

[Instantaneous values, expressed in pounds per day]

Date	Ammonium, total (as N)	Ammonium, dissolved (as N)	Organic nitrogen, total (as N)	Organic nitrogen, dissolved (as N)	Nitrite, total (as N)	Nitrite, dissolved (as N)	Nitrate, total (as N)	Nitrate, dissolved (as N)	Nitrogen, total (as N)	Nitrogen, dissolved (as N)
8-21-84	0.09	0.05	<1.9	<2.0	0.05	0.07	0.41	0.31	<2.4	<2.4
8-21-84	.06	--	2.0	--	.03	--	.54	--	2.6	--
9-6-84	.05	.05	--	<1.6	.04	.04	.35	<.09	--	<1.8
4-4-85	.47	.43	11	5.4	.04	.06	1.6	1.6	13	7.5
4-15-85	1.0	1.0	15	7.0	.05	.11	2.7	3.0	19	11
4-15-85	1.4	1.1	19	16	.13	.13	4.0	4.0	24	21
4-23-85	.70	.61	6.4	--	.07	.04	1.2	1.2	8.4	--
4-29-85	.52	.70	7.6	4.2	.05	.05	.97	.97	9.1	5.9
5-7-85	.42	.47	4.8	3.4	.03	.01	.52	.52	5.8	4.4
5-15-85	.44	--	1.8	--	.01	--	.23	--	2.5	<2.7
5-23-85	.53	.52	1.7	.57	.03	.04	.23	.23	2.5	1.4
5-28-85	.45	.40	2.7	1.6	.01	<.01	.31	<.31	3.5	2.3
6-4-85	.49	.50	3.4	2.4	.03	.08	.29	.19	4.2	3.2
7-16-85	.16	.17	<.85	<.85	.04	.05	.30	.30	<1.4	<1.4
Mean	0.48	0.50	[A]5.9	[A]3.8	0.04	[B]0.06	0.98	[A]1.0	[A]7.4	[A]5.0

Date	Phosphorus, total (as P)	Orthophosphorus, total (as P)	Phosphorus, dissolved (as P)	Orthophosphorus, dissolved (as P)	Iron, total (as Fe)	Manganese, total (as Mn)	Zinc, total (as Zn)	Dissolved solids	Suspended sediment
8-21-84	0.15	--	0.11	--	8.1	0.41	0.31	850	62
8-21-84	.37	--	--	--	--	--	--	--	140
9-6-84	--	0.16	.07	0.12	5.6	.17	<.09	660	52
4-4-85	--	.25	.43	.21	29	1.6	.39	1,800	430
4-15-85	1.8	.40	.54	.35	68	3.8	.54	2,400	1,400
4-15-85	2.7	.54	.70	.40	130	7.0	2.3	3,000	2,700
4-23-85	.71	.30	.39	.21	23	1.2	.18	1,600	250
4-29-85	.50	.29	.34	.21	15	.81	.32	1,400	470
5-7-85	.32	.17	.27	--	11	.78	.26	1,000	100
5-15-85	.30	.15	.23	.14	11	.57	.23	1,000	110
5-23-85	.78	.15	.12	.15	28	1.5	<.11	1,000	230
5-28-85	.24	.08	.15	.11	9.3	.51	<.10	840	92
6-4-85	.30	.13	.16	.16	8.1	.39	.10	830	97
7-16-85	.17	.06	.08	.02	3.1	.20	.35	390	30
Mean	0.70	0.22	0.28	0.19	27	1.5	[A]0.40	1,300	440

TABLE 3.--*Constituent loads*--Continued

Site 2 (Edgewood Creek below Highway 50)

[Instantaneous values, expressed in pounds per day]

Date	Ammonium, total (as N)	Ammonium, dissolved (as N)	Organic nitrogen, total (as N)	Organic nitrogen, dissolved (as N)	Nitrite, total (as N)	Nitrite, dissolved (as N)	Nitrate, total (as N)	Nitrate, dissolved (as N)	Nitrogen, total (as N)	Nitrogen, dissolved (as N)
9-6-84	0.21	0.21	--	<4.9	0.10	0.13	0.26	<0.26	--	<5.5
4-29-85	1.6	1.7	18	10	.12	.12	3.8	3.8	24	16
6-4-85	1.4	1.3	6.9	6.9	.08	.19	.83	.83	9.2	9.2
7-16-85	.59	.41	3.0	<3.2	.12	.09	.36	.36	4.1	<4.1
Mean	0.95	0.90	9.3	[C]5.2	0.10	0.13	1.3	[A]1.3	12	[C]7.5

Date	Phosphorus, total (as P)	Orthophosphorus, total (as P)	Phosphorus, dissolved (as P)	Orthophosphorus, dissolved (as P)	Iron, total (as Fe)	Manganese, total (as Mn)	Zinc, total (as Zn)	Dissolved solids	Suspended sediment
9-6-84	--	0.49	0.26	0.36	14	0.52	<0.26	1,500	100
4-29-85	0.80	.61	.84	.46	22	1.2	.38	29,000	460
6-4-85	.74	.39	.44	.47	15	1.1	<.27	2,000	110
7-16-85	.41	.21	.27	.05	11	1.1	<.18	1,200	71
Mean	0.65	0.42	0.45	0.34	16	0.98	[C]0.18	1,900	180

TABLE 3.--*Constituent loads*--Continued

Site 3 (Edgewood Creek at Lake Tahoe)

[Instantaneous values, expressed in pounds per day]

Date	Ammonium, total (as N)	Ammonium, dissolved (as N)	Organic nitrogen, total (as N)	Organic nitrogen, dissolved (as N)	Nitrite, total (as N)	Nitrite, dissolved (as N)	Nitrate, total (as N)	Nitrate, dissolved (as N)	Nitrogen, total (as N)	Nitrogen, dissolved (as N)
9-6-84	1.8	1.9	--	<2.3	0.10	0.10	<0.20	<0.20	--	<4.5
4-4-85	3.6	3.1	55	9.7	.45	.32	9.1	9.1	68	22
4-15-85	3.2	2.7	56	21	.24	<.06	8.3	<8.3	68	32
4-23-85	2.4	2.0	20	15	.22	.09	3.9	3.9	26	21
4-29-85	1.5	1.3	27	8.1	.12	.12	2.2	2.2	31	12
5-7-85	.80	.65	5.6	3.7	.09	.04	.43	.65	6.9	5.0
5-15-85	1.1	--	6.7	--	.16	.21	.78	.52	8.7	8.5
5-23-85	.92	.58	8.8	9.2	.12	.05	.24	.24	10	10
5-28-85	1.4	1.3	7.3	7.3	.12	.09	.29	.29	9.1	9.0
6-4-85	1.1	1.1	6.2	6.5	.10	.20	.50	.25	7.9	8.0
7-16-85	.20	.15	1.8	1.8	.04	.04	<.06	<.06	<2.1	2.0
Mean	1.6	1.5	19	[A]8.4	0.16	[B]0.12	[A]2.4	[A]1.6	[B]24	[B]12

Date	Phosphorus, total (as P)	Orthophosphorus, total (as P)	Phosphorus, dissolved (as P)	Orthophosphorus, dissolved (as P)	Iron, total (as Fe)	Manganese, total (as Mn)	Zinc, total (as Zn)	Dissolved solids	Suspended sediment
9-6-84	--	1.7	--	1.5	9.0	0.41	<0.20	1,400	82
4-4-85	4.3	1.8	2.1	1.4	91	4.5	1.9	5,800	1,300
4-15-85	1.8	1.0	1.3	.83	49	3.0	1.8	4,600	480
4-23-85	1.5	.88	1.2	.66	29	2.2	.44	3,500	180
4-29-85	.97	.72	.85	.53	15	5.6	2.5	2,700	190
5-7-85	.67	.32	.48	.24	10	1.1	.86	1,800	86
5-15-85	.83	.39	.67	.31	13	1.0	.26	2,200	100
5-23-85	.51	.19	.36	.12	12	.97	.24	2,200	97
5-28-85	.76	.26	.38	.29	15	1.2	<.29	2,300	88
6-4-85	.77	.35	.42	.32	13	.99	<.25	1,900	150
7-16-85	.27	.17	.21	.03	3.8	.26	.13	480	26
Mean	1.2	0.71	0.80	0.57	24	1.9	[A]0.76	2,600	250

[A] Mean estimated using the "log-probability regression" method, as discussed by Gilliom and Helsel (1984) and Helsel and Gilliom (1985).

[B] Value did not differ significantly when calculated assuming that concentrations below the detection limit (1) equaled zero and (2) equaled the detection limit.

[C] Concentrations below the detection limit were assumed to be equal to one half of the detection limit for purposes of statistical calculations.