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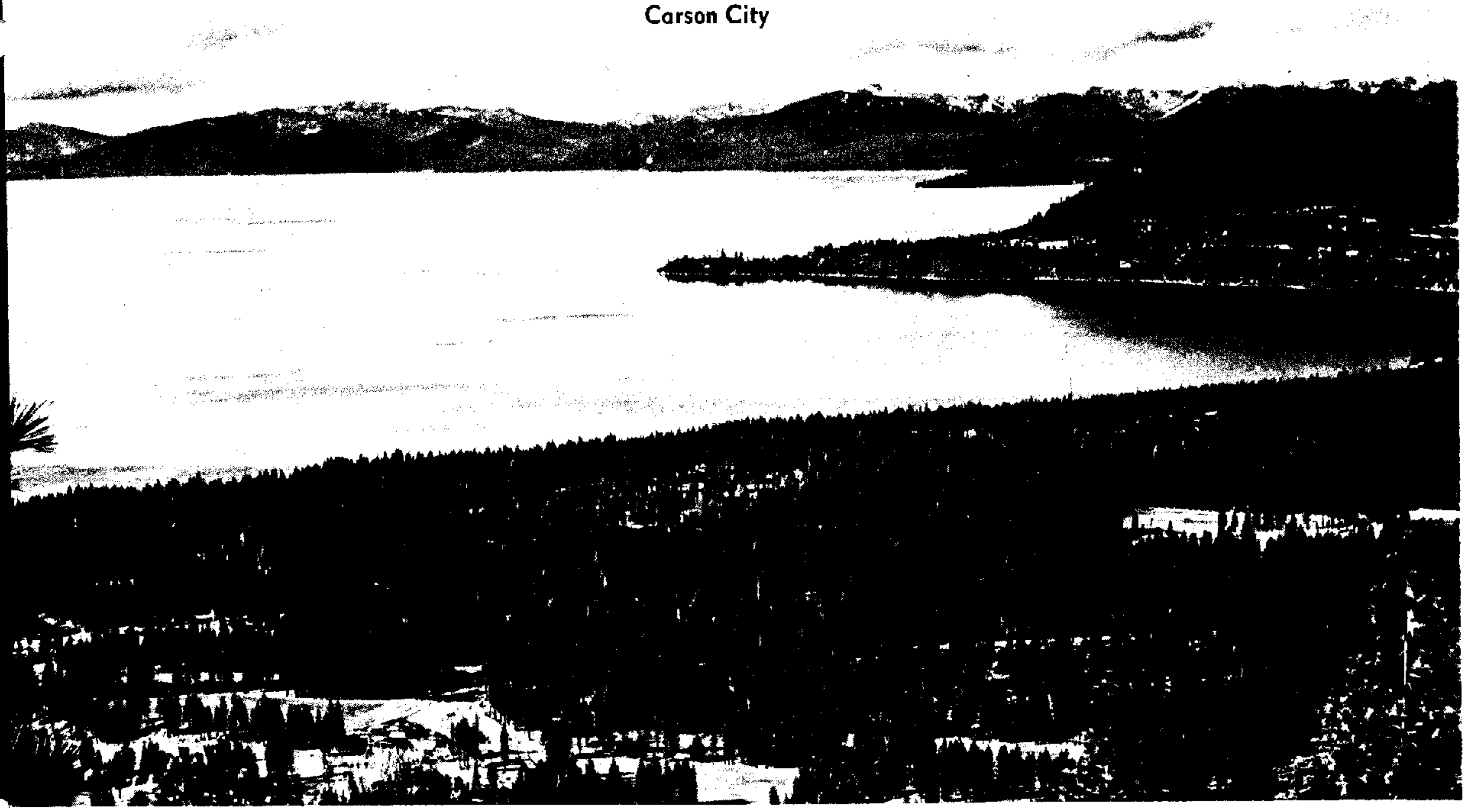

Incline Village area and Crystal Bay, Lake Tahoe, viewed from Nevada State Highway 27.

WATER RESOURCES—INFORMATION SERIES

REPORT 19

A RECONNAISSANCE OF STREAMFLOW AND FLUVIAL SEDIMENT TRANSPORT, INCLINE VILLAGE AREA, LAKE TAHOE, NEVADA

Second Progress Report, 1971

By

Patrick A. Glancy

Prepared cooperatively by the Geological Survey,

U.S. Department of the Interior

1973

Western part of Incline Village area and Northshore-Stateline area viewed from Nevada State Highway 27.

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A RECONNAISSANCE OF STREAMFLOW AND FLUVIAL SEDMENT TRANSPORT, INCLINE VILLAGE AREA, LAKE TAHOE, NEVADA

By Patrick A. Glancy

ABSTRACT

Runoff during the 1971 water year of the five major streams in the Incline Village area was about 17,600 acre-feet. About three-fourths of the runoff was from Incline and Third Creeks. Sediment transported to Lake Tahoe by the major streams was estimated to be about 11,000 tons, of which about 60 percent was from Incline and Third Creeks. About 90 percent of the sediment was delivered to the lake during the snowmelt runoff period. The annual sediment load was estimated to be about 78 percent sand and gravel, 13 percent silt, and 9 percent clay. Sediment transported by streams during periods of rainfall runoff generally contained greater percentages of silt and clay than that transported by snowmelt runoff. Estimated annual sediment yields ranged from 60 to 930 tons per square mile from undeveloped areas, and 620 to 7,600 tons per square mile from developed areas. Estimates suggest that about 78 percent of the 11,000 tons of sediment transported to Lake Tahoe during the year came from the developed areas and about 22 percent came from the undeveloped area. The resultant yield estimates (in tons per square mile) suggest that the estimated annual yield from the developed area was about 13 times that from the undeveloped area.

Although cumulative runoff and cumulative sediment loads from the five major Incline Village streams during 1971 were nearly identical to those of 1970, runoff and sediment-transport characteristics of individual streams varied considerably from year to year.

The highest measured concentrations of nitrogen transported by streams to the lake during periods of heavy sediment transport were of dissolved ammonia and occurred during periods dominated by low-altitude runoff. Organic nitrogen apparently made up the bulk of the nitrogen load during high-altitude snowmelt periods. The magnitude of total phosphorous transport appeared to correlate better with sediment-load magnitude than did total nitrogen loads.

INTRODUCTION

Purpose and Scope

The U.S. Geological Survey, in cooperation with the Nevada Department of Conservation, initiated a 5-year reconnaissance of streamflow and sediment transport in the Incline Village area, Lake Tahoe, Nev., during the 1970 water year. Five years is believed to be the shortest period that might represent the natural variability in annual runoff and sediment movement. It is likewise believed to be the minimum time during which the hydrologic changes caused by urbanization within the area can be viewed in a reasonable perspective. This report is the second in a planned series of annual progress reports designed to show results of the study. It includes summaries and *preliminary* analyses of the data collected during the second year (1971 water year). A water year extends from October 1 to September 30. This second report, like the first, is intentionally brief, because in-depth interpretations require data obtained during several consecutive years, as described above. A detailed interpretive report is scheduled for preparation after conclusion of the planned 5-year study period.

A generalized sketch of the study area is shown in figure 1. Table 1 gives a preliminary breakdown of principal Incline Village drainages by area and altitude increments.

Major objectives of the study are to: (1) quantify runoff from the major drainage basins by determining streamflow quantities, (2) characterize the timing of runoff with respect to seasons and climate, (3) accumulate data regarding peak-flow and low-flow conditions, (4) quantify as accurately as possible, using reconnaissance techniques, fluvial-sediment transport with emphasis on (a) determining the annual sediment transport from the study area to Lake Tahoe, (b) evaluating the relative amounts of sediment derived from "urban" developed versus non-developed areas, and (c) characterizing sediment loads transported to Lake Tahoe with respect to particle-size distribution (proportionate amounts of gravel, sand, silt, and clay), and (5) provide preliminary data on the nutrients (nitrogen and phosphorous compounds) transported to the lake by the water-sediment mixture of streams, particularly during times of moderate to high rates of sediment transport.

Data Collection and Analysis

Streamflows of Incline and Third Creeks are monitored near their mouths by continuous recorders (fig. 1). Streamflow data for these creeks are presented in "Water Resources Data for Nevada - 1971," (U.S. Geol. Survey, 1972). Streamflows of Wood, Second, and First Creeks near their mouths were

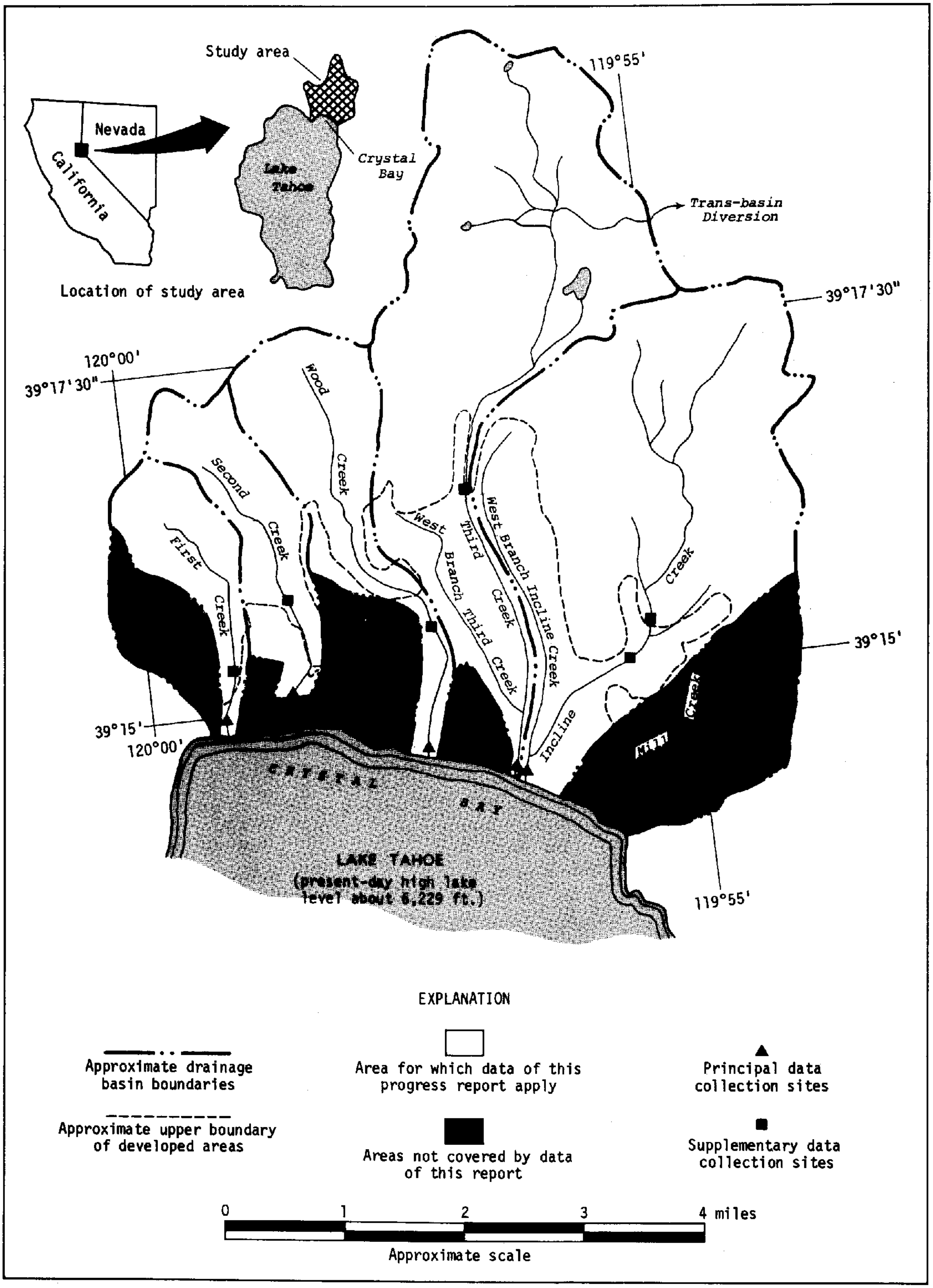

Figure 1.- Sketch map of Incline Village area, Lake Tahoe, Nevada

Table 1.--Approximate natural drainage areas and areal altitude distribution[1]

Drainage	Area (sq mi)	Approximate percentage of drainage area within various altitude zones: Below 7,000 feet	7,000-8,000 feet	8,000-9,000 feet	9,000-10,000 feet	Above 10,000 feet
Unnamed tributary west of First Creek[2]	0.67	26	63	11	--	--
First Creek	1.09	17	35	40	8	--
Second Creek	a 1.81	32	30	23	15	--
Unnamed ephemeral tributaries[2]	1.00	84	16	--	--	--
Wood Creek	2.03	19	33	34	14	--
Unnamed tributaries[2]	0.28	100	--	--	--	--
Third Creek	6.03	17	13	35	34	1
Incline Creek	6.98	21	43	35	1	--
Mill Creek[2]	2.02	42	42	16	--	--
Total (rounded)	21.9					

1. Hydrologic data in this report involve about 17.6 square miles, or approximately 80 percent of the total area.

2. These drainages are not represented in the data summary of this progress report; data collected and interpretations for the 1971 water year in these areas require further analysis and may be included in a later publication.

a. Drainage area above hydrologic measuring site is about 1.43 square miles.

synthesized using instantaneous flow data collected on these streams, and correlating those data with the continuously recorded streamflow of Incline and Third Creeks.

More than 1,000 sediment samples were collected and analyzed according to standard U.S. Geological Survey methods during 1971. About 650 of the sediment samples were collected at the principal hydrologic data sites described above; the instantaneous sediment-transport data derived from these samples, as well as data for about 70 samples collected at the miscellaneous site upstream on Third Creek, are included in the appendix of this report. About 300 additional sediment samples were collected at numerous other sites in the study area and are on file with the U.S. Geological Survey, in Carson City, Nev.

The principal hydrologic data collection sites are shown in figure 1. Some, but not all, of the supplementary data collection sites upon which the data summaries of this report are based, are also shown in figure 1.

Sediment data were collected to obtain as broad a range of transport conditions as possible. A relatively small number of samples were collected to define generally the sediment-transport characteristics during periods of low streamflow, but the most frequent and intensive sampling was done during periods of high streamflow when the greatest fluvial sediment transport was occurring.

Sediment discharges of Incline and Third Creeks near their mouths were computed on a daily, and even on an hourly basis when necessary, according to standard U.S. Geological Survey methods. Daily sediment discharges for periods when no sediment data were collected were estimated by interpolating between days on which data were collected, with attention to streamflow and weather conditions as a means of improving interpolation accuracy. Sediment loads of Wood, Second, and First Creeks were estimated using several sediment-transport rating curves which were developed from available sample data, daily water discharges of the synthesized hydrographs, and personal observation of erosion and streamflow conditions. This method of estimating sediment loads is patterned after techniques described by Colby (1956).

A total of 13 samples were collected during the year for nutrient (nitrogen and phosphorous compounds) analysis. After collection, the unfiltered samples were immediately chilled to temperatures lower than 4°C and held at the low temperature until analyzed. These samples were collected during periods of snowmelt or rainfall runoff. Nutrient data collection sites in 1971 were near the mouths of Third and Incline Creeks. Sampling was done when prevailing erosion conditions were severe to hopefully verify if nutrient transport is higher than average during heavy erosional periods and if nutrient yields are proportional to erosion rate as hypothesized by many persons concerned about eutrophication processes at Lake Tahoe. In other words, sampling was intentionally biased, hopefully to disclose some of the highest suspected nutrient concentrations of the streams' water-sediment mixtures.

Qualifications Regarding the Use of These Preliminary Data

Users of data summarized in this progress report are cautioned to bear in mind that these data only represent reconnaissance estimates of hydrogeologic conditions in the Incline Village area during the 1971 water year.

The data of this report may not be representative of past or future hydrogeologic conditions, because of their short-term nature and because of the dynamic development changes currently taking place in the area. Also, these data should not be extrapolated to other parts of the Tahoe basin, because hydrogeologic conditions throughout the basin probably varied greatly from place to place during the 1971 water year. Hydrogeologic variability is to be expected, because of differences in natural hydrogeologic parameters as well as differences in man's activities throughout the Tahoe basin.

Acknowledgement

The author gratefully acknowledges the assistance of T. L. Katzer, Hydrologist, for extensive checking of calculations, manuscript review, and help in the collection of field data.

RUNOFF

Runoff from the study area during the 1971 water year is summarized in table 2. As in 1970, about three-fourths of the total estimated runoff from the study area to Lake Tahoe was contributed by the combined flows of Incline and Third Creeks.

Runoff events of the 1971 water year are chronologically summarized as follows:

a. Seasonal low flows from October 1 through October 19;

b. A series of small storm fronts generally characterized by light rainfall and (or) snowfall interspersed with pleasant autumn weather occurred between October 20 and November 26; heavier rainstorms occurred during November 4, 5 and November 24, 25; therefore, this period was characterized by low to moderate runoff from the numerous small storms interspersed with returns to base-flow conditions between storm-affected intervals;

c. November 26 to March 14 was characterized by general snowpack ground cover resulting from numerous storms of varying intensity, interspersed with short intervals of generally minor, very low-altitude melting, all of which caused generally static streamflow conditions dominated by seasonal base flow;

d. During March 15 to April 13, several intervals of low-altitude snowpack melting and associated increased streamflow occurred, interspersed with several colder and stormy intervals that caused streamflow to periodically recede to base-flow magnitude;

e. April 14 to May 9 was a period characterized by several intervals dominated by snowmelt from middle-altitude snowpack, but which were frequently interrupted by snowflurries that tended to sustain the middle-altitude snowpack and also temporarily rejuvenated low-altitude melt for short intervals.

f. The period May 10 to May 25 experienced generally sustained melting that essentially dissipated the middle-altitude snowpack, but was interrupted briefly by renewed storms which temporarily pulsed renewed low-altitude runoff; high-altitude snowpack melt and runoff also began in some drainages during this period;

g. May 26 to June 3 was a period dominated by mixed rain and snowflurries that renewed weak pulsations of middle- and low-altitude runoff;

Table 2.--Summary of runoff estimates for 1971 water year

(Runoff in acre-feet)

	First Creek	Second Creek	Wood Creek	Third Creek[1/]	Incline Creek	Total (rounded)
October	45	51	68	168	285	620
November	32	66	67	278	340	780
December	28	47	51	279	305	710
January	35	57	69	322	378	860
February	49	69	89	329	349	890
March	68	90	84	337	428	1,000
April	140	180	150	516	739	1,700
May	180	330	360	907	1,120	2,900
June	180	370	410	2,440	1,150	4,600
July	90	100	180	1,090	670	2,100
August	42	67	87	230	384	810
September	21	46	48	171	292	580
Annual total (rounded)	910	1,500	1,700	7,070	6,450	17,600

	Annual runoff yield (acre-feet per square mile)	Maximum instantaneous discharge	Minimum instantaneous discharge
First Creek	760	About 10 cfs, late April or early May	About 0.2 cfs, Sept. 21, 22, 23
Second Creek	1,000	About 15 cfs, June 17	About 0.5 cfs, Jan. 3
Wood Creek	840	About 11 cfs, May 25	About 0.6 cfs, Jan. 3
Third Creek	1,200	110 cfs, June 26	1.1 cfs, Oct. 8 and Sept. 22
Incline Creek	920	38 cfs, May 27	2.1 cfs, Jan. 8

1. Transbasin diversion shown in figure 1 was indirectly estimated by Rush (1967, p. 18) to average about 2,000 acre-feet per year. However, no known records of diversion are available to substantiate the estimate.

h. Dominant warm to hot temperatures during June 4 to 24 necessarily climaxed the high-altitude snowpack melt in a manner generally unaffected by minor weather variations;

i. June 25 to 28 was a short period of renewed storm activity dominated by heavy rain on the 26th that caused significant low- and middle-altitude runoff which, superposed on the receding high-altitude snowmelt, resulted in the annual peak water discharge of Third Creek near the lakeshore;

j. Gradual recession of high-altitude snowmelt runoff occurred during June 29 to mid-July with a general return to summer base-flow conditions in most streams by mid-July; and

k. Mid-July through September was characterized by summer low (base) flow interrupted infrequently (July 17 and August 26) by mild to moderate thundershower runoff.

Cumulative runoff quantities from the several creeks of the study area during the 1970 and 1971 water years were the same (17,600 acre-feet each). However, annual flows of individual creeks differed from year to year, and several distinctive differences occurred in the runoff characteristics between the 2 years. The moderately heavy rains of December and January of the 1970 water year did not recur during 1971, and therefore, the man-made developments and developing landscapes did not suffer recurrent rain-runoff flushing that characterized autumn and early winter of 1970. The snowmelt runoff of 1971 was continually interrupted by persistently recurring storm fronts that attenuated the maturation of intense high-altitude runoff until nearly mid-June, several weeks later than that of spring, 1970. When the melt-retarding storm fronts finally diminished, the ensuing very warm temperatures typical of mid-June quickly melted the remaining snowpack. The bulk of the remaining pack was at altitudes above 8,500 feet, and therefore, the ensuing flush of water was most noticeable on Third Creek (35 percent of drainage area above 9,000 ft) where peak discharges for several days were above 100 cfs (cubic feet per second). The nature of this late-season flush had different effects on Incline and Third Creeks, as shown by a comparison of the peak, high-altitude snowmelt flows of those creeks for the 1970 and 1971 water years. Peak, high-altitude snowmelt flows of Incline Creek near Lakeshore during 1970 and 1971 water years were 33 and 38 cfs, respectively; those of Third Creek were 65 and about 100 cfs for several days, respectively. The effects of these amplified peak flows on sediment discharge of Third Creek to Lake Tahoe are discussed in a later section of this report.

SEDIMENT TRANSPORT

1971 Water Year

A summary of estimated sediment transport to Lake Tahoe during the 1971 water year by the major streams of the study area is given in table 3. Sediment-load estimates represent the total sediment discharge (suspended load plus bedload). Data of table 3 indicate that about 60 percent of the estimated total sediment load of about 11,000 tons (10,900) reaching Lake Tahoe from all five drainages came from the combined loads of Third and Incline Creeks. The data also indicate that the bulk of the annual sediment loads from each individual drainage (85-95 percent), as well as the combined loads from all drainages (90 percent) reached the lake during the snowmelt period. The yields given in table 3 are a means of expressing sediment-transport rates with regard to the size of the drainage area from which they were derived. They allow annual net erosion- or transport-rate comparisons of the individual drainages, or drainage components, with each other, and with the composite rate of the total study area, irrespective of the sizes of the areas being compared. The expression of sediment transport as yield rates is not intended to imply that erosion and sediment transport from a specific yield area were uniformly distributed throughout the area. In fact, throughout most of this study area, the bulk of erosion furnishing the sediment transported to the lake seems to be related to numerous point sources within the different drainage areas.

Table 4 shows the load estimates prorated among areas of "urbanizing" development and undeveloped areas. Developed areas are those that contain homes, businesses, highways, recreational facilities, subdivision roads and construction, cleared utility rights of way, and recently constructed roadways; therefore, they include the areas mainly encompassing man's works and urbanizing efforts of the last several decades. These urbanizing efforts have been greatly accelerated during this last decade. The undeveloped areas make up the balance of the study area; however, these areas are not preserved in a naturally virgin state, because most of the so-called undeveloped areas were man-affected to some degree by the logging operations associated with the Comstock Lode mining operations during the last half of the 19th century, and by intermittent livestock grazing throughout the last hundred years.

It should be noted that the developed-area loads include loads derived as a result of the effects of development as well as those derived within the developed area because of natural erosion. No acceptable techniques are available to separate natural erosion from man-caused erosion within a given development area, except in situations where adequate

Table 3.--Estimates of fluvial-sediment transport (total load) into Lake Tahoe during 1971 water year

	First Creek	Second Creek	Wood Creek	Third Creek	Incline Creek	Total (rounded)
			Total-sediment loads (tons)			
October	--	--	--	10	5	--
November	--	--	--	99	77	--
December	--	--	--	21	17	--
January	--	--	--	40	43	--
February	--	--	--	27	26	--
March	--	--	--	110	110	--
April	--	--	--	280	400	--
May	--	--	--	510	530	--
June	--	--	--	3,900	200	--
July	--	--	--	150	24	--
August	--	--	--	6	21	--
September	--	--	--	3	4	--
Annual total (rounded)	780	3,000	390	5,200	1,500	11,000
Annual (1971) sediment yield (total drainage area--includes sum of developed and undeveloped areas)						
(Tons per square mile)	650	2,100	190	860	210	620
Approximate distribution of annual loads according to main types of runoff (percent)1/						
Snowmelt period	95	90	95	90	85	90
Rainfall and low-flow period	5	10	5	10	15	10

1. Rounded to nearest 5 percent.

Table 4.--Estimates of total sediment loads and yields to Lake Tahoe from developed and undeveloped areas during 1971 water year

(All load estimates rounded to not more than two significant figures)

	First Creek	Second Creek	Wood Creek	Third Creek	Incline Creek	Total (rounded)
Approximate total area (square miles)	a 1.20	b 1.43	2.03	6.03	6.98	17.7
Approximate developed area						
Approximate percentage of total area	15	17	23	21	24	21
Square miles	.18	.25	.47	1.24	1.71	3.8
Estimated sediment loads (tons)						
Developed area1/	680	1,900	290	4,300	1,300	8,500
Undeveloped area	100	1,100	100	900	200	2,400
Approximate 1971 yields (tons per square mile)						
Developed area1/	3,800	7,600	620	3,500	760	c 2,200
Undeveloped area	100	930	60	190	40	c 170

a. Natural drainage area is about 1.09 square miles (table 1), but 1971 water-year area, as modified by man, is about 1.20 square miles.

b. Total drainage area is about 1.81 square miles, but area draining to creek above hydrologic data site was about 1.43 square miles during 1971 water year.

c. Areally weighted average.

1. Developed area loads and yield rates include naturally (unaffected by man's activities) eroded sediment from within the developed areas.

data were collected prior to the start of development. No known predevelopment hydrologic data are available for the Incline Village area. However, the differences in yields between developed and undeveloped areas, as shown in table 4, are believed to provide a reasonable perspective regarding effects of development on sediment transport during the 1971 water year. The estimated sediment loads in table 4 suggest that about 78 percent of the 11,000 tons of sediment reaching Lake Tahoe during the year came from the developed area and about 22 percent came from the undeveloped area. The data also suggest that average sediment yield (prorating the cumulative annual load on an areal basis) from the developed areas to the lake during the 1971 water year was about 13 times greater than that of the undeveloped areas.

The sediment-yield estimate from the undeveloped part of the Third Creek drainage probably is low, because an unknown amount of sediment was diverted from the upper part of the basin via the transbasin diversion route shown in figure 1. Some limited data are being collected at the point of transbasin diversion and preliminary analyses of these limited data suggest transbasin sediment movement probably is minor.

The data in table 4 suggest less variation from stream to stream between developed-area yields than between undeveloped-area yields. The extreme yield values for developed areas (620 and 7,600 tons per square mile) differ by a factor of about 12, whereas those for undeveloped areas (40 and 930 tons per square mile) differ by a factor of about 23. With regard to the undeveloped-area yields, those of Second and Third Creeks, particularly Second Creek, continue to be greater than those of First, Wood, and Incline Creeks. This probably is the result of continuing instability and nonequilibrium landscape conditions in the Third and Second Creek drainages, which were caused by intense thundershower flooding during the summers of 1965 and 1967, respectively (Glancy, 1969, p. C195-C200).

Maximum and minimum measured sediment concentrations and loads at the principal lake-inflow hydrologic sites of each stream are shown in table 5. Great fluctuations occurred in the concentrations and loads, and, as might be expected, these fluctuations for any given stream generally were closely related to the magnitude of streamflow. In other words, the highest measured sediment concentrations and loads were generally associated with high streamflows; conversely, minimum sediment concentrations and loads were generally measured during low-flow periods.

The approximate particle-size distributions of estimated sediment loads reaching Lake Tahoe are listed in table 6. These data were developed as a part of this study because the effects of fluvial-sediment transport on a stream's environment and on the lake environment are dependent on not only

Table 5.--Maximum and minimum sediment transport during 1971 water year as measured at sites of principal inflow to Lake Tahoe [1/]

Drainage	MAXIMUM Date	Concentration (mg/l)	Date	Load (tons/day)
First Creek	Nov. 5	13,200	Nov. 5	103
Second Creek	Nov. 5	10,200	Jan. 17	158
Wood Creek	May 25	1,360	May 25	35
Third Creek	June 17	5,660	June 19	1,420
Incline Creek	Aug. 26	4,400	Aug. 26	178
	MINIMUM			
First Creek	Oct. 24	4	Several days Oct., Aug., and Sept.	0.01
Second Creek	Nov. 24	5	Oct. 24, Nov. 24, and Dec. 30	.01
Wood Creek	Nov. 24, Feb. 4	3	Several days in autumn and summer	.01
Third Creek	July 29, Aug. 11	7	Aug. 11	.07
Incline Creek	Sept. 29	9	Sept. 29	.14

1. These data describe the extreme instantaneous sediment-transport conditions measured during the year. Higher and lower concentrations and loads may have occurred at times when no measurements were made; however, these measured extremes are believed to generally depict the degree of variation in sediment-transport conditions that actually occurred because sampling was intentionally scheduled to obtain data during periods of radically differing sediment movement. The periods of sediment-transport extremes do not necessarily coincide exactly with periods of water-discharge extremes as shown by a comparison of tables 2 and 5.

the quantity but also the character of the sediment. For example, the concentration of suspended silt- and clay-size particles strongly affects the turbidity of the water, whereas sand-size particles, aside from forming good beaches, commonly clog streambed gravels and therefore, generally affect the stream biota adversely. The particle-size characteristics of the sediment loads also influence the chemistry of the water-sediment mixtures. Table 6 indicates that sediment loads derived during rainfall-runoff conditions generally contain much greater percentages of fine-grained material than those associated with the snowmelt runoff. However, the total annual five-stream composite load reaching the lake during 1971 was dominantly composed (about 78 percent) of coarse-grained sediment (sand and gravel).

Comparisons Between 1970 and 1971 Water Years

Sediment transport data obtained in the study area during the 1970 water year were published in the first progress report of this study (Glancy, 1971). The results of both 1970 and 1971 are more meaningful if they are compared on the basis of current knowledge and understanding. The comparisons and discussion that follow are preliminary and therefore subject to change on the basis of additional data and analyses. They are nonetheless included in this second progress report, even though imperfect, to provide a timely interpretation and assessment of apparent sediment-transport changes and the evolution of factors affecting sediment movement to Lake Tahoe in the Incline Village area.

The unusual coincidental duplication of runoff (17,600 acre-feet both years) and the probably more unusual coincidence of nearly identical cumulative sediment loads (10,400 tons of 1970 and 10,900 tons of 1971) tend to create a misimpression of hydrologic stability within the study area that is uncharacteristic of either nature or man's effects on the natural hydrologic system from year to year. Therefore, a more penetrating comparison of annual sediment yields of the several individual drainage components shows a great dissimilarity in sediment transport characteristics between the two years.

A sharp decrease in sediment yield occurred in the Wood Creek drainage (960 tons, 1970 versus 390 tons, 1971). This decrease is believed mainly the results of sealing the roadways and completing the roadway storm-drainage system of development Unit 2 in the middle-altitude areas of the drainage basin. Unit 2 is not shown in figure 1, but its location and those of several other units mentioned below are shown in up-to-date street maps distributed by Incline Village, Inc. During 1970, Unit 2 was in the midst of street and lot development and remained bare, raw, and subject to heavy erosion during all

Table 6.--Estimates of the particle-size distribution of sediment loads reaching Lake Tahoe during 1971 water year

(All values rounded to not more than two significant figures)

Drainage	Sand and gravel Tons	Sand and gravel Percentage	Silt Tons	Silt Percentage	Clay Tons	Clay Percentage
	ANNUAL TOTAL					
First Creek	410	53	190	24	180	23
Second Creek	2,300	76	440	14	300	10
Wood Creek	250	64	90	23	50	13
Third Creek	4,500	86	440	9	270	5
Incline Creek	990	66	290	19	220	15
Total	8,400	78	1,400	13	1,000	9
	SNOWMELT RUNOFF PERIOD					
First Creek	400	55	170	23	160	22
Second Creek	2,100	78	370	14	230	8
Wood Creek	240	66	84	23	41	11
Third Creek	4,200	90	310	7	140	3
Incline Creek	900	70	230	18	160	12
Total	7,800	80	1,200	12	730	8
	RAINFALL AND LOW-FLOW RUNOFF PERIODS					
First Creek	6	13	20	43	20	44
Second Creek	160	54	70	23	70	23
Wood Creek	5	24	7	33	9	43
Third Creek	260	50	130	25	130	25
Incline Creek	90	42	60	29	60	29
Total	520	48	290	26	290	26

of the heavy runoff events.

Incline Creek also experienced sharp reductions in sediment yield (2,900 to 1,500 tons) between 1970 and 1971. A comparison of monthly loads for the 2 years shows the major difference was between January 1970 (1,300 tons) and January 1971 (43 tons). This difference in monthly sediment loads caused by differences in the quantity and character of runoff imposed on essentiallly the same landscape situation as a result of sharply contrasting natural climatic events; January 1971 was mainly a period of heavy snowpack accumulation, whereas mid-January 1970 experienced heavy rain on a moderately heavy snowpack at low and middle altitudes. The 1970 rain flushed off the snowpack, landscape, and stream channels with the peak flows of the year in Incline Creek and caused the comparatively high sediment yields. It is interesting to note that the rain-on-snowpack event had negligible effect on the runoff in the other drainages of the study area, apparently, because of differences in drainage characteristics. The character of the storm and its effect on Incline Creek are substantiated by weather and streamflow records, as well as reports of similar heavy runoff and erosion in the South Lake Tahoe area.

Major increases in sediment yields occurred in both First and Second Creek drainages, as shown by a comparison of 1970 and 1971 results. The cumulative annual sediment loads of First Creek increased from 200 tons (1970) to 780 tons (1971), and those of Second Creek from 1,400 tons (1970) to 3,000 tons (1971). These increases are believed to be mainly the result of development in the Unit 4 area. That unit was opened up in the summer (low-flow period) of 1970 and remained in a raw, erosion-prone condition throughout the heavy runoff period of 1971. Therefore, the erosive situation and subsequent results of First and Second Creeks are in direct contrast with those of Wood Creek and the effective healing measures that occurred in Unit 2 between the high-runoff periods of the 2 years.

Third Creek had a slightly greater sediment yield in 1971 (5,200 tons) than in 1970 (4,900 tons). However, the main erosive influences affecting this creek for both years were the quantity of timing of runoff and their relation to channel erosion. Comparison of monthly sediment yields of Third Creek shows most sediment transport occurred as a result of middle-and high-altitude snowpack melt during May and June of both years. Most of this sediment pickup within the developed areas was therefore through main-channel flushing and erosion. Therefore, the healing effects of completed roadways and road-drainage systems that occurred in development Units 1, 1A, 1B, and 3 between high-runoff periods of 1970 and 1971 were essentially obscured and overridden by the effects of much higher rates of streamflow in Third Creek during 1971 (peak discharge, 110 cfs) compared to those of 1970 (peak discharge, 65 cfs). The degree to which urban development has affected channel erosion of Third Creek both during 1970 and 1971, and thereby influenced the high-flow sediment loads, is unknown because of a lack of sediment-transport and streamflow data prior to the beginning of development. This uncertainty strongly emphasizes the urgent need for the collection of these data prior to changes initiated by man in order to efficiently and justly assess man's development effects on these critical hydrologic and environmental factors.

The character of the sediment loads from the several drainages and from the study area as a whole for both years shows 1971 yielded a generally coarser-caliber load than that of 1970. In other words, a greater proportion of sand and gravel was delivered to the lake than silt and clay. This probably resulted from a greater proportion of the 1971 cumulative load originating from snowmelt runoff (90 percent) rather than from rainfall (10 percent), which contrasts with 85 percent and 15 percent, respectively, during 1970 (Glancy, 1971, table 3). When comparing data for all drainages for both years, snowmelt runoff appears to furnish the coarser-caliber load. This characteristic of the sediment load (caliber, or relative coarseness) is important when evaluating the degree of turbidity as a detrimental factor. Turbidity is closely related to the quantity of fine-grained (silt and clay) sediment but is generally poorly related to the coarse-grained (sand and gravel) components. The characteristics of sediment grain size may also be related to nutrient transport of the streams and disposition of the nutrients within the lake, but data are too scanty and incomplete at this time to accurately determine such relations.

Comparisons of 1970-1971 Data with Other Available Sediment Transport Data

The sediment-transport data summarized in this second progress report and the first report (Glancy, 1971) may be more meaningful if considered in relation to the only other currently available erosion data for the Incline Village area--that of the 1967 mudflow in the Second Creek drainage (Glancy, 1967, p. C195-C200). That mudflow yielded an estimated 25,000 cubic yards of sediment, or more than 50,000 tons. The material moved as a result of a cloudburst on the upper drainage slopes and the downward rush of runoff from the undeveloped area into the developed area in probably not more than 1 hour's time. The estimated resultant sediment yield, prorated equally over the entire Second Creek drainage, amounts to about 28,000 tons per square mile per hour. That rate is impressive, even if the hour was lengthened to a year. The total load amounted to more than twice the estimated combined 1970 and 1971 total loads of the five major streams in the Incline Village area.

The effects of that mudflow and flooding probably are still influencing erosion in the Second Creek drainage. Therefore, nature must be considered as a currently active, although somewhat unpredictable, participant in the picture of Lake Tahoe basin erosion.

The limited sediment-transport data summarized in these first two progress reports, and in the above-mentioned report of the 1967 mudflow on Second Creek, provide the bulk of all directly measured fluvial sediment data thus far published for the Lake Tahoe basin. Collectively, they show that both man and nature have strong influences on erosion and the effects of erosion at Lake Tahoe. Therefore, neither entity can be overlooked when trying to understand, describe, predict, or plan for the future of the lake basin. Unfortunately, these limited studies allow but a brief glimpse into the complexities of runoff, erosion, sediment transport, and nutrient movement in an area that apparently contributes only about 5 percent of the mean-annual runoff to the lake. These serious time and space limitations of the data and interpretations require that neither the specific data nor the interpretations be indiscriminately transferred to any or all other areas of the basin. Rather, they should be used to provide perspective on the general nature of hydrologic problems at Lake Tahoe. The obvious complexities of the data and the apparent subtle interrelationships of sediment, nutrients, water, nature, and man that the data appear to depict should hopefully stimulate increased investigation into these types of hydrologic matters in other parts of the basin, and also in other areas of the rapidly developing mountainous Western United States.

NUTRIENTS

The Incline Village investigation is also a preliminary effort to assess the magnitude of nutrients (mainly nitrogen and phosphorous compounds) transported into Lake Tahoe by streamflow. Nutrient transport to the lake is allegedly being accelerated because of erosion caused by man's development activities.

The interrelationships of water-sediment mixtures with regard to the derivation, transport, and ultimate disposition of nutrients are not well understood. This complex problem was summarized by Lee (1970). Because of the complexity of the problem, this preliminary investigation was designed to merely identify the magnitude of the problem in the Incline Village area. The nutrient-evaluation phase represents only a small percentage of the total study effort of the investigation; the philosophy being that because of the current lack of scientific knowledge and techniques, an intensive study at this time might not yield results acceptable enough to justify the high costs that would be involved in a more intensive study. Hopefully, this preliminary reconnaissance will provide the necessary information to design a more intensive study.

Table 7 gives the results of reconnaissance-nutrient sampling during the 1971 water year. Sediment and water-discharge data collected concurrently with the nutrient data are also included in the table to depict concurrent runoff and sediment-transport conditions. Nutrient data collection was modified somewhat from the scheme used in 1970 (Glancy, 1971, table 7) in that during 1971 samples were collected only near the mouths of Incline and Third Creeks. Twelve samples were collected during 1970 at nine different sites, whereas 13 samples were collected in 1971 at only two sites. Sampling during 1970 attempted to document nutrient movement during some of the most severe erosion (sediment transport) conditions in an attempt to provide quantitative perspective on nutrient movement accompanying the intense sediment movement. Sediment measurements during 1970 disclosed that Incline and Third Creeks furnished about 75 percent of the sediment delivered to Lake Tahoe from the main five-stream study area. Therefore, nutrient sampling during 1971 was relegated to the near-lakeshore sites of those two drainages in an attempt to obtain more nutrient transport data where most of the apparent sediment-transport activity is concentrated. Also, more frequent data collection at the restricted number of sampling sites allowed documentation of nutrient transport for a greater variety of intense sediment-transport and streamflow conditions (rainfall runoff, low-, medium, and high-altitude snowmelt runoff).

Table 7.--Summary of nutrient and concurrent streamflow and sediment-transport data for 1971 water year

Date	Time	Discharge (cfs)	Temperature (°C)	Dissolved ammonia nitrogen (N) (mg/1)	Dissolved nitrite (N) (mg/1)	Dissolved nitrate (N) (mg/1)	Dissolved organic nitrogen (N) (mg/1)	Dissolved nitrogen (N) (mg/1)	Total organic nitrogen (N) (mg/1)	Total nitrogen (N) (mg/1)	Dissolved ortho. phosphorus (P) (mg/1)	Total phosphorus (P) (mg/1)	Dissolved silica (SiO_2) (mg/1)	Specific conductance (micromhos)	Sediment concentration (mg/1)	Sediment load (tons per day)	Approximate particle-size distribution of sediment load (percent): Gravel	Sand	Silt	Clay	Runoff character
									10336700 INCLINE CREEK NEAR CRYSTAL BAY, NEVADA												
Nov.																					
24	2300	12	5.5	.21	.020	.03	--	--	.72	.98	.30	.50	--	61	1,860	60	0	38	25	37	Rainfall
Mar.																					
19	1715	8.4	5.0	.84	.010	.12	--	--	.38	1.4	.15	.30	21	84	806	18	9	39	28	24	Low-altitude snowmelt
23	1040	9.8	2.0	1.2	.010	.15	--	--	.40	1.8	.15	.25	21	99	424	11	5	41	28	26	Low-altitude mixed rain
25	1445	14	3.5	.95	.040	.08	--	--	.38	1.1	.35	.40	18	81	1,300	49	5	26	33	36	and snowmelt
May																					
07	1245	19	8.0	.09	.000	.08	--	--	.65	.82	.07	--	--	64	812	42	0	44	30	26	Do.
14	1830	31	9.0	.08	.000	.09	.19	.36	.60	.77	.04	.52	--	45	1,440	121	6	74	14	6	Middle- to high-altitude snowmelt
									10336698 THIRD CREEK NEAR CRYSTAL BAY, NEVADA												
Mar.																					
19	1740	6.5	5.0	.70	.000	.10	--	--	.42	1.2	.04	.25	17	74	404	7.1	0	68	16	16	Low-altitude snowmelt
23	1100	6.8	2.0	1.1	.000	.05	--	--	.38	1.5	.10	.15	18	83	191	3.5	0	79	21		Low-altitude mixed rain and snowmelt
25	1500	9.8	3.5	.58	.020	.20	--	--	.30	1.1	.20	.65	15	75	1,400	37	7	39	30	24	Do.
May																					
07	1315	11	9.0	.09	.000	.04	--	--	.65	.78	.10	.30	--	69	600	18	0	76	14	10	Do.
14	1810	19	9.5	.12	.000	.07	.21	.40	.36	--	.05	.40	--	47	1,680	86	0	78	16	6	Middle- to high-altitude snowmelt
June																					
12	1830	57	8.0	.11	.000	.04	--	--	.21	.36	.02	.35	--	30	2,040	314	19	75	5	1	High-altitude snowmelt
20	1840	81	11.5	.01	.000	.07	.20	.28	.36	.44	.03	.35	--	33	3,790	829	38	58	4	0	Do.

The collection scheme was further modified to provide data on a greater variety of nutrient parameters during 1971. Some data on dissolved silica were obtained during 1971; silica can be important with regard to eutrophication processes.

Several nutrient-transport trends are suggested by the 1971 data. Concentrations of dissolved ammonia nitrogen seem to be highest during the periods of lower water discharge, as shown by the data of table 7. The transport rates for ammonia (pounds per day) during these lower flow periods are also about the same order of magnitude as those during high-flow periods, suggesting ammonia movement is not proportional to water discharge. The higher ammonia concentrations and transport rates seem to occur when low-altitude runoff is most influential, rather than during the periods of highest water discharge caused by high-altitude snowmelt. If so, runoff originating at low altitudes, where most development has taken place, may be the source of a disproportionately large share of the ammonia load to the lake.

The organic nitrogen fraction made up a major part of the total nitrogen load (pounds per day) for highest streamflow rates recorded in table 7. Conversely, organic nitrogen was generally a minor part of the total nitrogen load for the lower streamflow rates listed in table 7. The greatest transport rates (pounds per day) for both total nitrogen and total phosphorous occurred at the highest streamflow rates in the data of table 7; the magnitude of total phosphorous transport appears to be more closely related than total nitrogen to the rate of sediment-load movement.

Further discussion or interpretation of nutrient movement will be attempted after more data have accumulated during the course of the study. However, fluctuations in the magnitudes of concentrations and transport rates of various nutrient constituents, as indicated by the data in table 7 of these first two progress reports, are believed to support the notion that nutrient transport by water-sediment mixtures is indeed a complex problem.

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Periodic determinations of suspended sediment discharge and particle-size analyses, water year October 1970 to September 1971
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date	Time (24-hour)	Water temperature °F	Water temperature °C	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Sediment concentration (mg/l)	Total sediment discharge (tons/day)	Percent finer than the size (in millimeters) indicated .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	Method of analysis
10336688 FIRST CREEK NEAR CRYSTAL BAY, NEV. (LAT 39°15'00", LONG 119°59'18")																			
Oct. 6, 1970	1300	48	9.0	0.62	88	5	0.01	--	--	--	--	--	--	--	--	--	--	--	
Oct. 20	0930	42	5.5	.84	93	14	.03	--	--	--	--	--	--	--	--	--	--	--	
Oct. 24	1130	38	3.5	.84	89	4	.01	--	--	--	--	--	--	--	--	--	--	--	
Nov. 4	1230	42	5.5	1.3	80	3,920	14	60	74	86	96	99	100	--	--	--	--	--	VPWC
Nov. 4	1515	42	5.5	.76	86	622	1.3	--	--	--	--	--	--	--	--	--	--	--	
Nov. 5	1010	42	5.5	2.9	53	13,200	103	55	66	78	91	97	99	99	99	100	--	--	SPWC
Nov. 5	1415	43	6.0	.94	79	562	1.4	--	--	--	--	--	--	--	--	--	--	--	
Nov. 7	1400	42	5.5	.48	79	720	.93	--	--	--	--	--	--	--	--	--	--	--	
Nov. 10	0920	39	4.0	.41	89	66	.07	--	--	--	--	--	--	--	--	--	--	--	
Nov. 11	1605	44	6.5	.48	88	160	.21	--	--	--	--	--	--	--	--	--	--	--	
Nov. 11	1725	42	5.5	.66	74	3,220	5.7	--	--	--	--	--	--	--	--	--	--	--	
Nov. 11	1845	43	6.0	.61	76	1,440	2.4	--	--	--	--	--	--	--	--	--	--	--	
Nov. 17	1720	40	4.5	.35	92	40	.32	--	--	--	--	--	--	--	--	--	--	--	
Nov. 24	1030	39	4.0	.35	90	428	.40	--	--	--	--	--	--	--	--	--	--	--	
Nov. 24	2220	42	5.5	.76	64	6,720	14	--	--	--	--	--	--	--	--	--	--	--	
Nov. 25	0010	43	6.0	.66	70	2,640	4.7	--	--	--	--	--	--	--	--	--	--	--	
Nov. 25	0900	41	5.0	.94	58	4,010	10	--	--	--	--	--	--	--	--	--	--	--	
Nov. 27	1145	37	3.0	.44	88	1,720	2.0	--	--	--	--	--	--	--	--	--	--	--	
Dec. 6	1500	38	3.5	.52	90	364	.51	--	--	--	--	--	--	--	--	--	--	--	
Dec. 30	1610	36	2.0	.41	94	119	.13	--	--	--	--	--	--	--	--	--	--	--	
Jan. 9, 1971	1500	38	3.5	.52	196	406	.57	--	--	--	--	--	--	--	--	--	--	--	
Jan. 16	1430	38	3.5	.48	98	246	.32	--	--	--	--	--	--	--	--	--	--	--	
Jan. 18	1200	38	3.5	1.0	72	1,340	3.6	--	--	--	--	--	--	--	--	--	--	--	
Jan. 21	1645	36	2.0	.71	74	180	.35	--	--	--	--	--	--	--	--	--	--	--	
Jan. 28	1550	39	4.0	.82	74	324	.72	--	--	--	--	--	--	--	--	--	--	--	
Feb. 4	1320	36	2.5	.61	79	324	.53	--	--	--	--	--	--	--	--	--	--	--	
Feb. 11	1705	39	4.0	1.2	66	1,150	3.7	--	--	--	--	--	--	--	--	--	--	--	
Feb. 14	1240	40	4.5	1.2	69	651	2.1	--	--	--	--	--	--	--	--	--	--	--	
Feb. 24	1115	37	3.0	.76	104	145	.30	--	--	--	--	--	--	--	--	--	--	--	
Mar. 9	0840	34	1.0	.71	81	40	.08	--	--	--	--	--	--	--	--	--	--	--	
Mar. 16	1440	39	4.0	.94	81	613	1.6	--	--	--	--	--	--	--	--	--	--	--	
Mar. 19	1530	40	4.5	1.1	72	672	2.0	--	--	--	--	--	--	--	--	--	--	--	
Mar. 20	0850	36	2.0	.88	79	203	.48	--	--	--	--	--	--	--	--	--	--	--	
Mar. 23	0950	38	3.5	1.4	79	832	3.1	--	--	--	--	--	--	--	--	--	--	--	
Mar. 25	1600	38	3.5	2.2	51	5,560	33	32	34	48	60	69	74	76	82	91	93	96	SPWC
Mar. 26	1100	35	1.5	1.6	72	2,090	9.0	--	--	--	--	--	--	--	--	--	--	--	
Mar. 27	1410	40	4.5	2.2	62	2,960	18	--	--	--	--	--	--	--	--	--	--	--	
Mar. 27	1650	39	4.0	1.8	66	2,060	10	--	--	--	--	--	--	--	--	--	--	--	
Mar. 28	0705	35	1.5	1.4	84	2,920	11	--	--	--	--	--	--	--	--	--	--	--	
Mar. 28	1635	41	5.0	1.8	67	2,780	14	--	--	--	--	--	--	--	--	--	--	--	
Apr. 2	0710	36	2.0	1.8	71	1,290	6.3	--	--	--	--	--	--	--	--	--	--	--	
Apr. 2	1455	44	6.5	2.2	65	1,340	8.0	--	--	--	--	--	--	--	--	--	--	--	
Apr. 2	1700	41	5.0	2.2	63	1,660	9.9	4	6	9	11	13	15	18	36	54	90	100	VBWC
Apr. 9	1635	41	5.0	2.6	55	1,180	8.3	--	--	--	--	--	--	--	--	--	--	--	
Apr. 11	1735	40	4.5	2.8	75	560	4.2	--	--	--	--	--	--	--	--	--	--	--	
Apr. 12	1410	43	6.0	2.8	57	706	5.3	--	--	--	--	--	--	--	--	--	--	--	
Apr. 14	1735	42	5.5	2.8	60	1,140	8.6	--	--	--	--	--	--	--	--	--	--	--	
Apr. 16	1550	42	5.5	2.9	54	965	7.6	--	--	--	--	--	--	--	--	--	--	--	
Apr. 17	0730	36	2.0	2.9	60	669	5.2	--	--	--	--	--	--	--	--	--	--	--	
Apr. 22	1130	40	4.5	2.3	63	238	1.5	--	--	--	--	--	--	--	--	--	--	--	
Apr. 23	1355	42	5.5	1.8	69	448	2.2	--	--	--	--	--	--	--	--	--	--	--	
Apr. 28	1015	39	4.0	1.4	69	247	.93	--	--	--	--	--	--	--	--	--	--	--	
Apr. 28	1610	43	6.0	2.0	58	910	4.9	--	--	--	--	--	--	--	--	--	--	--	
May 2	1420	43	6.0	2.9	57	1,220	9.6	23	28	36	39	42	43	44	50	62	77	92	SPWC
May 2	1645	43	6.0	2.9	62	1,030	8.1	--	--	--	--	--	--	--	--	--	--	--	
May 4	1800	40	4.5	2.2	66	1,040	6.2	--	--	--	--	--	--	--	--	--	--	--	
May 7	1500	46	8.0	2.8	60	762	5.8	--	--	--	--	--	--	--	--	--	--	--	
May 10	1110	41	5.0	2.8	61	964	7.3	--	--	--	--	--	--	--	--	--	--	--	
May 11	1515	44	6.5	3.4	54	826	7.6	--	--	--	--	--	--	--	--	--	--	--	
May 11	1705	42	5.5	3.4	54	742	6.8	--	--	--	--	--	--	--	--	--	--	--	
May 12	0650	39	4.0	3.0	58	485	3.9	--	--	--	--	--	--	--	--	--	--	--	
May 14	1545	50	10.0	3.4	52	513	4.7	--	--	--	--	--	--	--	--	--	--	--	
May 14	1755	46	8.0	3.9	53	515	5.4	--	--	--	--	--	--	--	--	--	--	--	
May 15	1210	48	9.0	3.2	55	451	3.9	--	--	--	--	--	--	--	--	--	--	--	
May 15	1810	44	6.5	3.9	50	686	7.2	--	--	--	--	--	--	--	--	--	--	--	
May 16	1935	40	4.5	3.0	56	308	2.5	--	--	--	--	--	--	--	--	--	--	--	
May 18	1930	43	6.0	2.9	52	156	1.2	--	--	--	--	--	--	--	--	--	--	--	
May 19	1905	44	6.5	3.0	51	114	.92	--	--	--	--	--	--	--	--	--	--	--	
May 22	1310	46	8.0	3.0	54	168	1.4	--	--	--	--	--	--	--	--	--	--	--	
May 23	1715	48	9.0	3.0	53	156	1.3	--	--	--	--	--	--	--	--	--	--	--	
May 25	1500	50	10.0	3.0	51	142	1.2	--	--	--	--	--	--	--	--	--	--	--	
May 25	1845	45	7.0	3.0	53	131	1.1	--	--	--	--	--	--	--	--	--	--	--	
May 26	0720	41	5.0	3.0	51	125	1.0	--	--	--	--	--	--	--	--	--	--	--	
May 27	1015	40	4.5	3.0	52	116	.94	--	--	--	--	--	--	--	--	--	--	--	
May 27	1215	38	3.5	3.4	47	1,360	12	--	--	--	--	--	--	--	--	--	--	--	
May 27	1505	43	6.0	3.0	50	346	2.8	--	--	--	--	--	--	--	--	--	--	--	
June 1	1755	40	4.5	2.4	58	65	.42	--	--	--	--	--	--	--	--	--	--	--	
June 3	1625	46	8.0	2.3	59	39	.24	--	--	--	--	--	--	--	--	--	--	--	
June 6	1755	50	10.0	2.4	56	248	1.6	--	--	--	--	--	--	--	--	--	--	--	
June 7	1110	47	8.5	2.3	57	81	.50	--	--	--	--	--	--	--	--	--	--	--	
June 7	1400	51	10.5	2.4	53	180	1.2	--	--	--	--	--	--	--	--	--	--	--	
June 9	1820	46	8.0	2.4	53	162	1.0	--	--	--	--	--	--	--	--	--	--	--	
June 12	1425	52	11.0	2.9	52	246	1.9	--	--	--	--	--	--	--	--	--	--	--	
June 12	1705	50	10.0	3.0	50	158	1.3	--	--	--	--	--	--	--	--	--	--	--	
June 13	1240	50	10.0	3.0	51	100	.81	--	--	--	--	--	--	--	--	--	--	--	
June 14	1855	49	9.5	3.2	48	130	1.1	--	--	--	--	--	--	--	--	--	--	--	
June 15	1115	48	9.0	3.2	52	102	.88	--	--	--	--	--	--	--	--	--	--	--	
June 16	1700	50	10.0	3.6	50	128	1.2	--	--	--	--	--	--	--	--	--	--	--	
June 17	1610	54	12.0	3.6	49	212	2.1	--	--	--	--	--	--	--	--	--	--	--	
June 17	1930	48	9.0	3.6	48	128	1.2	--	--	--	--	--	20	24	45	72	100	--	V
June 18	1000	47	8.5	3.6	49	632	6.1	--	--	--	--	--	--	--	--	--	--	--	
June 19	1730	54	12.0	3.6	48	184	1.8	--	--	--	--	--	--	--	--	--	--	--	
June 20	1055	50	10.0	3.6	49	98	.95	--	--	--	--	--	--	--	--	--	--	--	
June 20	1750	53	11.5	3.6	59	111	1.1	--	--	--	--	--	--	--	--	--	--	--	
June 22	1730	54	12.0	3.2	50	184	1.6	--	--	--	--	--	--	--	--	--	--	--	
June 23	0715	44	6.5	3.4	49	116	1.1	--	--	--	--	--	--	--	--	--	--	--	
June 25	1810	51	10.5	3.2	50	136	1.2	--	--	--	--	--	--	--	--	--	--	--	
June 26	1300	48	9.0	3.2	49	59	.51	--	--	--	--	--	--	--	--	--	--	--	
June 29	1640	53	11.5	2.9	50	78	.61	--	--	--	--	--	--	--	--	--	--	--	
July 2	1520	56	13.5	2.3	53	28	.17	--	--	--	--	--	--	--	--	--	--	--	
July 7	1800	54	12.0	2.0	53	24	.13	--	--	--	--	--	--	--	--	--	--	--	
July 10	1525	54	12.0	1.8	55	26	.13	--	--	--	--	--	--	--	--	--	--	--	
July 13	1330	52	11.0	1.6	85	37	.16	--	--	--	--	--	--	--	--	--	--	--	
July 22	1505	58	14.5	1.0	38	10	.03	--	--	--	--	--	--	--	--	--	--	--	
July 29	0940	54	12.0	1.0	69	6	.02	--	--	--	--	--	--	--	--	--	--	--	
Aug. 11	1205	54	12.0	.82	92	11	.02	--	--	--	--	--	--	--	--	--	--	--	
Aug. 24	1830	58	14.5	.41	84	11	.01	--	--	--	--	--	--	--	--	--	--	--	
Aug. 26	1940	57	14.0	1.1	72	1,300	3.9	33	51	69	88	93	98	98	99	99	100	--	SBWC
Sep. 10	1445	54	12.5	.35	89	12	.01	--	--	--	--	--	--	--	--	--	--	--	
Sep. 29	1650	42	5.5	.44	86	6	.01	--	--	--	--	--	--	--	--	--	--	--	

Date	Time (24-hour)	Water temperature °F	Water temperature °C	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Sediment concentration (mg/l)	Total sediment discharge (tons/day)	Percent finer than the size (in millimeters) indicated .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	Method of analysis
					10336690 SECOND CREEK NEAR CRYSTAL BAY, NEV. (LAT 39°15'10", LONG 119°58'35")														
Oct. 6, 1970	1220	46	8.0	0.84	78	7	0.02	—	—	—	—	—	—	—	—	—	—	—	
Oct. 20	0915	39	4.0	.84	77	19	.04	—	—	—	—	—	—	—	—	—	—	—	
Oct. 24	1125	36	2.0	.84	77	5	.01	—	—	—	—	—	—	—	—	—	—	—	
Nov. 4	1220	41	5.0	1.3	60	4,560	16	67	80	93	96	98	98	98	98	99	99	100	SPWC
Nov. 4	1405	42	5.5	.73	70	457	.90	—	—	—	—	—	—	—	—	—	—	—	
Nov. 5	1000	41	5.0	4.3	41	10,200	118	53	62	77	85	88	89	90	91	93	99	100	VPWC
Nov. 5	1430	44	6.5	1.3	71	200	.70	—	—	—	—	—	—	—	—	—	—	—	
Nov. 7	1350	42	5.5	.63	75	178	.30	—	—	—	—	—	—	—	—	—	—	—	
Nov. 10	0915	37	3.0	.73	77	23	.05	—	—	—	—	—	—	—	—	—	—	—	
Nov. 11	1600	44	6.5	.97	79	59	.15	—	—	—	—	—	—	—	—	—	—	—	
Nov. 11	1700	43	6.0	1.5	69	886	3.6	—	—	—	—	—	—	—	—	—	—	—	
Nov. 11	1830	42	5.5	1.1	67	669	2.0	—	—	—	—	—	—	—	—	—	—	—	
Nov. 17	1715	41	5.0	.84	76	10	.02	—	—	—	—	—	—	—	—	—	—	—	
Nov. 24	1105	38	3.5	.73	75	5	.01	—	—	—	—	—	—	—	—	—	—	—	
Nov. 24	2210	42	5.5	1.9	54	2,820	14	—	—	—	—	—	—	—	—	—	—	—	
Nov. 25	0005	42	5.5	1.7	59	1,880	8.6	—	—	—	—	—	—	—	—	—	—	—	
Nov. 25	0845	39	4.0	1.9	47	2,260	12	—	—	—	—	—	—	—	—	—	—	—	
Nov. 27	1140	34	1.0	1.7	74	310	1.4	—	—	—	—	—	—	—	—	—	—	—	
Dec. 6	1445	38	3.5	.97	77	54	.14	—	—	—	—	—	—	—	—	—	—	—	
Dec. 30	1600	36	2.0	.63	76	8	.01	—	—	—	—	—	—	—	—	—	—	—	
Jan. 9, 1971	1450	37	3.0	.63	86	25	.04	—	—	—	—	—	—	—	—	—	—	—	
Jan. 18	1210	39	4.0	2.2	54	88	.52	—	—	—	—	—	—	—	—	—	—	—	
Jan. 21	1630	36	2.0	1.3	67	18	.06	—	—	—	—	—	—	—	—	—	—	—	
Jan. 28	1540	39	4.0	1.1	69	30	.09	—	—	—	—	—	—	—	—	—	—	—	
Feb. 4	1415	36	2.5	.97	70	8	.02	—	—	—	—	—	—	—	—	—	—	—	
Feb. 11	1700	39	4.0	2.8	57	180	1.4	—	—	—	—	—	—	—	—	—	—	—	
Feb. 14	1230	40	4.5	2.2	62	34	.20	—	—	—	—	—	—	—	—	—	—	—	
Feb. 24	1100	38	3.5	.84	76	14	.03	—	—	—	—	—	—	—	—	—	—	—	
Mar. 9	0930	34	1.0	.84	73	12	.03	—	—	—	—	—	—	—	—	—	—	—	
Mar. 16	1430	40	4.5	1.1	68	286	.85	—	—	—	—	—	—	—	—	—	—	—	
Mar. 19	1525	41	5.0	1.3	62	282	.99	—	—	—	—	—	—	—	—	—	—	—	
Mar. 20	0840	36	2.0	.63	71	45	.08	—	—	—	—	—	—	—	—	—	—	—	
Mar. 23	0945	36	2.0	1.8	65	650	3.2	—	—	—	—	—	—	—	—	—	—	—	
Mar. 25	1540	36	2.0	3.7	46	2,120	21	27	30	45	52	60	68	73	82	87	92	96	SPWC
Mar. 26	1050	34	1.0	2.1	63	758	4.3	—	—	—	—	—	—	—	—	—	—	—	
Mar. 27	1345	45	7.0	3.1	56	934	7.8	—	—	—	—	—	—	—	—	—	—	—	
Mar. 27	1645	39	4.0	3.3	54	494	4.4	—	—	—	—	—	—	—	—	—	—	—	
Mar. 28	0700	34	1.0	1.7	68	298	1.4	—	—	—	—	—	—	—	—	—	—	—	
Mar. 28	1630	40	4.5	1.8	55	592	2.9	—	—	—	—	—	—	—	—	—	—	—	
Apr. 2	0700	34	1.0	1.7	65	318	1.5	—	—	—	—	—	—	—	—	—	—	—	
Apr. 2	1440	46	8.0	3.5	51	750	7.1	—	—	—	—	—	—	—	—	—	—	—	
Apr. 2	1655	41	5.0	3.5	74	402	3.8	—	—	—	—	—	—	—	—	—	—	—	
Apr. 9	1615	41	5.0	4.4	46	2,440	29	7	11	16	21	28	34	45	60	78	96	100	VPWC
Apr. 11	1720	41	5.0	4.2	50	3,080	35	—	—	—	—	—	—	—	—	—	—	—	
Apr. 12	1315	46	8.0	4.8	48	1,690	22	—	—	—	—	—	—	—	—	—	—	—	
Apr. 12	1325	47	8.5	4.8	53	3,150	41	—	—	—	—	—	—	—	—	—	—	—	
Apr. 14	1720	41	5.0	4.0	54	5,140	56	—	—	—	—	—	—	—	—	—	—	—	
Apr. 16	1620	42	5.5	7.3	48	3,500	69	—	—	—	—	—	—	—	—	—	—	—	
Apr. 17	0720	34	1.0	4.6	56	2,880	36	—	—	—	—	—	—	—	—	—	—	—	
Apr. 22	1100	41	5.0	2.0	62	3,070	17	—	—	—	—	—	—	—	—	—	—	—	
Apr. 23	1400	44	6.5	2.1	53	674	3.8	—	—	—	—	—	—	—	—	—	—	—	
Apr. 28	1030	39	4.0	.89	69	157	.38	—	—	—	—	—	—	—	—	—	—	—	
Apr. 28	1615	46	8.0	1.6	60	288	1.2	—	—	—	—	—	—	—	—	—	—	—	
May 2	1410	47	8.5	3.7	53	6,180	62	—	—	—	—	—	—	—	—	—	—	—	
May 2	1630	45	7.0	3.7	52	7,150	71	—	—	—	—	—	—	—	—	—	—	—	
May 4	1745	40	4.5	2.4	57	6,220	40	—	—	—	—	—	—	—	—	—	—	—	
May 7	1435	51	10.5	3.2	61	5,000	43	2	3	5	7	8	10	12	22	45	75	94	SPWC
May 10	1225	51	10.5	3.6	56	416	4.0	—	—	—	—	—	—	—	—	—	—	—	
May 11	1505	47	8.5	4.9	52	3,100	41	—	—	—	—	—	—	—	—	—	—	—	
May 11	1700	44	6.5	5.8	52	3,240	51	—	—	—	—	—	—	—	—	—	—	—	
May 12	0700	39	4.0	4.4	59	2,700	32	—	—	—	—	—	—	—	—	—	—	—	
May 14	1525	54	12.0	6.5	51	3,520	62	—	—	—	—	—	—	—	—	—	—	—	
May 14	1745	46	8.0	9.5	48	2,960	76	—	—	—	—	—	—	—	—	—	—	—	
May 15	1200	52	11.0	5.8	55	1,440	23	—	—	—	—	—	—	—	—	—	—	—	
May 15	1800	46	8.0	12	45	2,930	95	3	5	8	11	15	18	22	33	43	55	66	SPWC
May 16	1930	39	4.0	7.6	55	2,570	53	—	—	—	—	—	—	—	—	—	—	—	
May 18	1935	43	6.0	6.7	52	1,560	28	—	—	—	—	—	—	—	—	—	—	—	
May 19	1900	44	6.5	6.7	49	864	16	—	—	—	—	—	—	—	—	—	—	—	
May 22	1300	53	11.5	5.5	54	1,400	21	—	—	—	—	—	—	—	—	—	—	—	
May 22	1600	51	10.5	5.5	53	1,960	29	—	—	—	—	—	—	—	—	—	—	—	
May 23	1705	50	10.0	5.4	51	1,780	26	—	—	—	—	—	—	—	—	—	—	—	
May 25	1455	54	12.0	7.3	48	1,130	22	—	—	—	—	—	—	—	—	—	—	—	
May 25	1830	45	7.0	9.7	40	1,620	42	7	12	18	25	34	40	46	60	74	98	100	VPWC
May 26	0715	40	4.5	5.3	48	1,590	23	—	—	—	—	—	—	—	—	—	—	—	
May 27	1000	40	4.5	4.8	52	2,150	28	—	—	—	—	—	—	—	—	—	—	—	
May 27	1200	37	3.0	8.5	36	5,190	119	—	—	—	—	—	—	—	—	—	—	—	
May 27	1510	44	6.5	6.3	46	3,960	67	—	—	—	—	—	—	—	—	—	—	—	
June 1	1745	42	5.5	2.6	58	712	5.0	—	—	—	—	—	—	—	—	—	—	—	
June 3	1625	48	9.0	2.1	55	1,430	8.1	—	—	—	—	—	—	—	—	—	—	—	
June 6	1745	51	10.5	6.6	46	1,890	34	—	—	—	—	—	—	—	—	—	—	—	
June 7	1050	47	8.5	3.5	53	896	8.5	—	—	—	—	—	—	—	—	—	—	—	
June 7	1455	55	13.0	5.9	48	622	9.9	—	—	—	—	—	—	—	—	—	—	—	
June 9	1815	45	7.0	7.9	45	3,520	75	—	—	—	—	—	—	—	—	—	—	—	
June 12	1415	55	13.0	7.9	57	2,360	50	—	—	—	—	—	—	—	—	—	—	—	
June 12	1650	50	10.0	10	38	2,480	67	2	4	6	8	10	15	20	33	49	96	100	VBWC
June 12	1855	45	7.0	10	46	1,980	53	—	—	—	—	—	—	—	—	—	—	—	
June 13	1230	55	13.0	7.2	44	700	14	—	—	—	—	—	—	—	—	—	—	—	
June 14	1850	47	8.5	14	37	2,130	81	—	—	—	—	—	—	—	—	—	—	—	
June 15	1105	50	10.0	7.2	54	1,130	22	—	—	—	—	—	—	—	—	—	—	—	
June 16	1515	48	9.0	12	33	1,480	48	—	—	—	—	—	—	—	—	—	—	—	
June 17	1605	55	13.0	14	35	5,180	158	—	—	—	—	—	—	—	—	—	—	—	
June 17	1730	50	10.0	14	32	2,620	99	3	4	6	9	11	14	16	25	40	55	75	SPWC
June 17	2035	45	7.0	8.7	35	2,160	51	—	—	—	—	—	—	—	—	—	—	—	
June 18	0945	45	7.0	5.3	41	2,380	34	—	—	—	—	—	—	—	—	—	—	—	
June 19	1715	51	10.5	12	33	1,560	51	5	8	11	15	20	24	27	41	57	88	100	VBWC
June 19	2020	27	7.0	7.9	35	1,360	29	—	—	—	—	—	—	—	—	—	—	—	
June 20	1045	50	10.0	4.3	41	4,080	47	—	—	—	—	—	2	2	4	10	27	59	S
June 20	1745	52	11.0	10	35	3,260	88	—	—	—	—	—	—	—	—	—	—	—	
June 20	1950	50	10.0	7.2	36	3,640	71	—	—	—	—	—	—	—	—	—	—	—	
June 22	1715	54	12.0	7.2	36	1,930	38	—	—	—	—	—	—	—	—	—	—	—	
June 23	0710	42	5.5	3.9	43	1,400	15	—	—	—	—	—	—	—	—	—	—	—	
June 25	1800	51	10.5	4.8	40	1,370	18	—	—	—	—	—	—	—	—	—	—	—	
June 26	1255	49	9.5	4.8	42	736	9.5	—	—	—	—	—	—	—	—	—	—	—	
June 29	1630	56	13.5	2.8	45	736	5.6	—	—	—	—	—	—	—	—	—	—	—	
July 2	1515	64	18.0	2.8	49	618	4.7	—	—	—	—	—	—	—	—	—	—	—	
July 7	1750	58	14.5	2.2	52	347	2.1	—	—	—	—	—	—	—	—	—	—	—	
July 10	1520	63	17.0	1.7	52	242	1.1	—	—	—	—	—	—	—	—	—	—	—	
July 13	1415	64	18.0	1.7	73	46	.21	—	—	—	—	—	—	—	—	—	—	—	
July 22	1515	69	20.5	1.3	59	20	.07	—	—	—	—	—	—	—	—	—	—	—	
July 29	0950	54	12.0	1.1	63	19	.06	—	—	—	—	—	—	—	—	—	—	—	
Aug. 11	1320	64	18.0	1.1	68	192	.57	—	—	—	—	—	—	—	—	—	—	—	
Aug. 24	1820	62	16.5	.73	72	24	.05	—	—	—	—	—	—	—	—	—	—	—	
Aug. 26	1930	59	15.0	2.2	67	1,100	6.5	—	—	—	—	—	—	—	—	—	—	—	
Sep. 10	1410	63	17.5	.84	76	62	.14	—	—	—	—	—	—	—	—	—	—	—	
Sep. 29	1640	42	5.5	.73	77	11	.02	—	—	—	—	—	—	—	—	—	—	—	

Date	Time (24-hour)	Water temperature °F	Water temperature °C	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Sediment concentration (mg/l)	Total sediment discharge (tons/day)	Percent finer than the size (in millimeters) indicated .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	Method of analysis
10336693 WOOD CREEK NEAR CRYSTAL BAY, NEV. (LAT 39°15'40", LONG 119°57'25")																			
Nov. 5, 1970	1145	40	4.5	2.3	58	96	0.60	--	--	--	--	--	--	--	--	--	--	--	
Feb. 4, 1971	1600	36	2.5	2.0	59	6	.03	--	--	--	--	--	--	--	--	--	--	--	
Mar. 9	1120	35	1.5	1.6	62	8	.03	--	--	--	--	--	--	--	--	--	--	--	
Mar. 27	1640	39	4.0	1.8	57	20	.10	--	--	--	--	--	--	--	--	--	--	--	
Apr. 12	1620	40	4.5	4.8	47	268	3.5	--	--	--	--	--	--	--	--	--	--	--	
Apr. 14	1715	41	5.0	2.9	51	39	.31	--	--	--	--	--	--	--	--	--	--	--	
Apr. 28	1035	37	3.0	1.6	63	8	.03	--	--	--	--	--	--	--	--	--	--	--	
Apr. 28	1625	45	7.0	2.7	51	64	.47	--	--	--	--	--	--	--	--	--	--	--	
May 10	1430	48	9.0	3.2	48	150	1.3	--	--	--	--	--	--	--	--	--	--	--	
May 11	1500	44	6.5	5.1	46	86	1.2	--	--	--	--	--	--	--	--	--	--	--	
May 25	1555	50	10.0	9.6	43	391	10	--	--	--	--	--	--	--	--	--	--	--	
June 7	1540	62	16.5	6.6	45	56	1.0	--	--	--	--	--	--	--	--	--	--	--	
June 16	1915	45	7.0	10	36	118	3.2	--	--	--	--	--	--	--	--	--	--	--	
June 17	1620	53	11.5	12	42	190	6.2	--	--	--	--	--	--	--	--	--	--	--	
June 19	1735	50	10.0	10	36	156	4.2	--	--	--	--	--	--	--	--	--	--	--	
Aug. 6	1115	54	12.0	2.3	68	9	.06	--	--	--	--	--	--	--	--	--	--	--	
Aug. 24	1840	60	15.5	1.5	60	12	.05	--	--	--	--	--	--	--	--	--	--	--	
Sep. 10	1325	54	12.0	1.4	60	8	.03	--	--	--	--	--	--	--	--	--	--	--	
10336694 WOOD CREEK AT MOUTH, NEAR CRYSTAL BAY, NEV. (LAT 39°14'35", LONG 119°57'30")																			
Oct. 6, 1970	1210	48	9.0	1.0	66	5	.01	--	--	--	--	--	--	--	--	--	--	--	
Oct. 20	0910	40	4.5	1.2	72	14	.05	--	--	--	--	--	--	--	--	--	--	--	
Oct. 24	1140	36	2.0	1.3	66	9	.03	--	--	--	--	--	--	--	--	--	--	--	
Nov. 4	1150	41	5.0	2.0	65	368	2.0	--	--	--	--	--	--	--	--	--	--	--	
Nov. 4	1400	41	5.0	1.3	63	346	1.2	--	--	--	--	--	--	--	--	--	--	--	
Nov. 5	0930	40	4.5	5.6	54	1,180	18	38	50	63	82	88	92	93	95	97	100	--	VPWC
Nov. 5	1545	43	6.0	1.5	59	40	.16	--	--	--	--	--	--	--	--	--	--	--	
Nov. 7	1345	42	5.5	1.2	63	51	.17	--	--	--	--	--	--	--	--	--	--	--	
Nov. 10	0905	37	3.0	.92	65	5	.01	--	--	--	--	--	--	--	--	--	--	--	
Nov. 11	1545	43	6.0	.92	65	9	.02	--	--	--	--	--	--	--	--	--	--	--	
Nov. 11	1645	43	6.0	1.0	66	20	.05	--	--	--	--	--	--	--	--	--	--	--	
Nov. 11	1820	42	5.5	1.3	66	85	.30	--	--	--	--	--	--	--	--	--	--	--	
Nov. 17	1705	40	4.5	.84	64	4	.01	--	--	--	--	--	--	--	--	--	--	--	
Nov. 24	1150	41	5.0	.92	63	3	.01	--	--	--	--	--	--	--	--	--	--	--	
Nov. 24	2200	42	5.5	2.3	55	358	2.2	--	--	--	--	--	--	--	--	--	--	--	
Nov. 24	2330	42	5.5	2.7	55	566	4.1	--	--	--	--	--	--	--	--	--	--	--	
Nov. 25	0830	38	3.5	2.5	54	123	.83	--	--	--	--	--	--	--	--	--	--	--	
Nov. 27	1130	34	1.0	1.2	65	89	.29	--	--	--	--	--	--	--	--	--	--	--	
Dec. 6	1430	35	1.5	.92	60	44	.11	--	--	--	--	--	--	--	--	--	--	--	
Dec. 30	1545	34	1.0	.68	63	6	.01	--	--	--	--	--	--	--	--	--	--	--	
Jan. 9, 1971	1440	36	2.0	.92	72	17	.04	--	--	--	--	--	--	--	--	--	--	--	
Jan. 16	1400	35	1.5	.60	63	20	.03	--	--	--	--	--	--	--	--	--	--	--	
Jan. 18	1130	37	3.0	2.3	51	55	.34	--	--	--	--	--	--	--	--	--	--	--	
Jan. 21	1620	36	2.0	1.5	59	7	.03	--	--	--	--	--	--	--	--	--	--	--	
Jan. 28	1530	38	3.5	1.4	61	15	.06	--	--	--	--	--	--	--	--	--	--	--	
Feb. 4	1225	35	1.5	1.3	60	3	.01	--	--	--	--	--	--	--	--	--	--	--	
Feb. 11	1645	40	4.5	2.7	55	44	.32	--	--	--	--	--	--	--	--	--	--	--	
Feb. 14	1210	40	4.5	2.1	55	12	.07	--	--	--	--	--	--	--	--	--	--	--	
Feb. 24	1050	36	2.0	1.3	62	18	.06	--	--	--	--	--	--	--	--	--	--	--	
Mar. 9	1230	37	3.0	1.1	60	12	.04	--	--	--	--	--	--	--	--	--	--	--	
Mar. 16	1345	41	5.0	1.1	62	50	.15	--	--	--	--	--	--	--	--	--	--	--	
Mar. 19	1500	42	5.5	1.4	59	41	.15	--	--	--	--	--	--	--	--	--	--	--	
Mar. 20	0830	34	1.0	1.1	61	8	.02	--	--	--	--	--	--	--	--	--	--	--	
Mar. 23	0935	36	2.0	1.4	65	52	.20	--	--	--	--	--	--	--	--	--	--	--	
Mar. 25	1530	37	3.0	3.0	53	268	2.2	--	--	--	--	--	--	--	--	--	--	--	
Mar. 26	1040	33	.5	1.3	58	38	.13	--	--	--	--	--	--	--	--	--	--	--	
Mar. 27	1320	44	6.5	1.8	69	270	1.3	--	--	--	--	--	--	--	--	--	--	--	
Mar. 27	1705	40	4.5	2.1	58	144	.82	--	--	--	--	--	--	--	--	--	--	--	
Mar. 28	0645	33	.5	1.2	64	10	.03	--	--	--	--	--	--	--	--	--	--	--	
Mar. 28	1655	42	5.5	1.7	58	44	.20	--	--	--	--	--	--	--	--	--	--	--	
Apr. 2	0645	33	.5	1.7	62	15	.07	--	--	--	--	--	--	--	--	--	--	--	
Apr. 2	1420	47	8.5	1.7	58	24	.11	--	--	--	--	--	--	--	--	--	--	--	
Apr. 2	1715	42	5.5	2.0	58	33	.18	--	--	--	--	--	--	--	--	--	--	--	
Apr. 9	1555	46	8.0	3.4	54	74	.68	--	--	--	--	--	--	--	--	--	--	--	
Apr. 11	1710	44	6.5	3.4	55	52	.48	--	--	--	--	--	--	--	--	--	--	--	
Apr. 12	1200	45	7.0	2.7	55	21	.15	--	--	--	--	--	--	--	--	--	--	--	
Apr. 14	1755	43	6.0	3.4	55	43	.39	--	--	--	--	--	--	--	--	--	--	--	
Apr. 16	1630	44	6.5	4.7	50	108	1.4	--	--	--	--	--	--	--	--	--	--	--	
Apr. 17	0715	33	.5	3.8	52	38	.39	--	--	--	--	--	--	--	--	--	--	--	
Apr. 22	1140	41	5.0	2.0	57	19	.10	--	--	--	--	--	--	--	--	--	--	--	
Apr. 23	1425	44	6.5	1.8	69	20	.10	--	--	--	--	--	--	--	--	--	--	--	
Apr. 28	0945	38	3.5	1.4	63	11	.04	--	--	--	--	--	--	--	--	--	--	--	
Apr. 28	1550	48	9.0	2.0	58	72	.39	--	--	--	--	--	--	--	--	--	--	--	
May 2	1400	47	8.5	3.2	54	15	.13	--	--	--	--	--	--	--	--	--	--	--	
May 2	1615	46	8.0	4.3	55	331	3.8	--	--	--	--	--	--	--	--	--	--	--	
May 4	1825	40	4.5	3.4	51	96	.88	--	--	--	--	--	--	--	--	--	--	--	
May 7	1340	46	8.0	3.6	54	46	.45	--	--	--	--	--	--	--	--	--	--	--	
May 10	1110	45	7.0	3.2	54	27	.23	--	--	--	--	--	--	--	--	--	--	--	
May 11	1405	50	10.0	6.3	51	172	2.9	--	--	--	--	--	--	--	--	--	--	--	
May 11	1535	47	8.5	6.7	49	186	3.4	--	--	--	--	--	--	--	--	--	--	--	
May 12	0645	38	3.5	5.4	52	64	.93	--	--	--	--	--	--	--	--	--	--	--	
May 14	1425	54	12.0	6.5	50	136	2.4	--	--	--	--	--	--	--	--	--	--	--	
May 14	1800	49	9.5	9.6	44	955	25	--	--	--	--	--	--	--	--	--	--	--	
May 15	1150	48	9.0	6.7	49	188	3.4	--	--	--	--	--	--	--	--	--	--	--	
May 15	1925	44	6.5	10	42	868	23	--	--	--	--	--	--	--	--	--	--	--	
May 16	1945	40	4.5	7.6	50	260	5.3	--	--	--	--	--	--	--	--	--	--	--	
May 18	1940	44	6.5	7.4	46	146	2.9	--	--	--	--	--	--	--	--	--	--	--	
May 19	1820	48	9.0	7.8	45	500	11	--	--	--	--	--	--	--	--	--	--	--	
May 22	1255	49	9.5	6.5	50	76	1.3	--	--	--	--	--	--	--	--	--	--	--	
May 23	1700	52	11.0	7.4	47	314	6.3	--	--	--	--	--	--	--	--	--	--	--	
May 25	1445	54	12.0	7.4	48	245	4.9	--	--	--	--	--	--	--	--	--	--	--	
May 25	1820	48	9.0	9.6	40	1,360	35	9	15	23	31	38	43	46	56	76	100	--	VPWC
May 26	0705	40	4.5	7.1	47	206	3.9	--	--	--	--	--	--	--	--	--	--	--	
May 27	0950	40	4.5	6.7	50	246	4.5	--	--	--	--	--	--	--	--	--	--	--	
May 27	1225	38	3.5	8.5	41	1,170	27	--	--	--	--	--	--	--	--	--	--	--	
May 27	1530	41	5.0	6.9	48	226	4.2	--	--	--	--	--	--	--	--	--	--	--	
June 1	1740	41	5.0	4.5	55	37	.45	--	--	--	--	--	--	--	--	--	--	--	
June 3	1615	49	9.5	3.4	55	32	.29	--	--	--	--	--	--	--	--	--	--	--	
June 6	1740	56	13.5	6.9	48	504	9.4	--	--	--	--	--	--	--	--	--	--	--	
June 7	1040	46	8.0	4.7	51	92	1.2	--	--	--	--	--	--	--	--	--	--	--	
June 7	1350	54	12.5	5.2	51	86	1.2	--	--	--	--	--	--	--	--	--	--	--	
June 9	1805	49	9.5	6.3	48	148	2.5	--	--	--	--	--	--	--	--	--	--	--	
June 12	1410	55	13.0	6.5	46	300	5.3	--	--	--	--	--	--	--	--	--	--	--	
June 12	1645	54	12.0	7.4	42	396	7.9	--	--	--	--	--	--	--	--	--	--	--	
June 12	1845	49	9.5	8.0	42	459	9.9	--	--	--	--	--	--	--	--	--	--	--	
June 13	1225	52	11.0	6.9	44	291	5.4	--	--	--	--	--	--	--	--	--	--	--	

Date	Time (24-hour)	Water temperature °F	Water temperature °C	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Sediment concentration (mg/l)	Total sediment discharge (tons/day)	Percent finer than the size (in millimeters) indicated .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	Method of analysis
10336694 WOOD CREEK AT MOUTH, NEAR CRYSTAL BAY, NEV. (LAT 39°14'35", LONG 119°57'30")--Continued																			
June 14, 1971	1840	53	11.5	8.9	40	504	12	--	--	--	--	--	--	--	--	--	--	--	
June 15	1100	50	10.0	7.6	57	186	3.8	--	--	--	--	--	--	--	--	--	--	--	
June 16	1840	51	10.5	9.8	43	464	12	--	--	--	--	--	--	--	--	--	--	--	
June 17	1600	58	14.5	9.6	42	816	21	--	--	--	--	--	--	--	--	--	--	--	
June 17	1800	53	11.5	9.8	37	740	20	6	9	13	18	23	26	29	40	60	99	100	VBWC
June 17	2030	47	8.5	9.3	37	441	11	--	--	--	--	--	--	--	--	--	--	--	
June 18	0930	46	8.0	8.0	41	434	9.4	--	--	--	--	--	--	--	--	--	--	--	
June 19	1710	56	13.5	10	37	652	18	--	--	--	--	--	--	--	--	--	--	--	
June 19	2015	49	9.5	9.1	39	290	7.1	--	--	--	--	--	--	--	--	--	--	--	
June 20	1040	50	10.0	7.1	43	338	6.5	--	--	--	--	--	--	--	--	--	--	--	
June 20	1740	57	14.0	9.3	45	540	14	--	--	--	--	--	--	--	--	--	--	--	
June 20	1940	52	11.0	8.9	39	342	8.2	--	--	--	--	--	--	--	--	--	--	--	
June 22	1700	58	14.5	9.1	37	267	6.6	--	--	--	--	--	--	--	--	--	--	--	
June 23	0705	42	5.5	7.4	41	212	4.2	--	--	--	--	--	--	--	--	--	--	--	
June 25	1755	54	12.0	7.4	40	132	2.6	--	--	--	--	--	--	--	--	--	--	--	
June 26	1250	49	9.5	6.9	40	130	2.4	--	--	--	--	--	--	--	--	--	--	--	
June 29	1625	58	14.5	6.3	42	67	1.1	--	--	--	--	--	--	--	--	--	--	--	
July 2	1530	62	16.5	4.9	51	36	.48	--	--	--	--	--	--	--	--	--	--	--	
July 7	1745	61	16.0	4.3	48	93	1.1	--	--	--	--	--	--	--	--	--	--	--	
July 10	1545	60	15.5	3.6	50	38	.37	--	--	--	--	--	--	--	--	--	--	--	
July 13	1505	62	16.5	2.7	69	28	.20	--	--	--	--	--	--	--	--	--	--	--	
July 22	1430	64	18.0	2.0	54	13	.07	--	--	--	--	--	--	--	--	--	--	--	
July 29	0935	55	13.0	1.5	56	14	.06	--	--	--	--	--	--	--	--	--	--	--	
Aug. 11	1510	76	24.5	1.2	63	24	.08	--	--	--	--	--	--	--	--	--	--	--	
Aug. 24	1810	62	16.5	1.2	73	16	.05	--	--	--	--	--	--	--	--	--	--	--	
Aug. 26	1920	60	15.5	3.8	71	647	6.6	--	--	--	--	--	--	--	--	--	--	--	
Sep. 10	1305	59	15.0	.68	66	18	.03	--	--	--	--	--	--	--	--	--	--	--	
Sep. 29	1635	42	5.5	.92	66	5	.01	--	--	--	--	--	--	--	--	--	--	--	
10336696 THIRD CREEK AT INCLINE VILLAGE, NEV. (LAT 39°16'25", LONG 119°56'50")																			
Oct. 6, 1970	1330	50	10.0	2.2	57	4	0.02	--	--	--	--	--	--	--	--	--	--	--	
Oct. 20	1010	38	3.5	2.5	58	6	.04	--	--	--	--	--	--	--	--	--	--	--	
Nov. 4	1300	38	3.5	3.1	53	5	.04	--	--	--	--	--	--	--	--	--	--	--	
Nov. 5	1130	41	5.0	4.5	47	26	.32	--	--	--	--	--	--	--	--	--	--	--	
Nov. 24	2245	39	4.0	5.7	46	133	2.0	--	--	--	--	--	--	--	--	--	--	--	
Nov. 25	0910	36	2.0	5.9	47	20	.32	--	--	--	--	--	--	--	--	--	--	--	
Feb. 4, 1971	1500	37	3.0	3.8	49	2	.02	--	--	--	--	--	--	--	--	--	--	--	
Feb. 11	1715	38	3.5	4.1	47	7	.08	--	--	--	--	--	--	--	--	--	--	--	
Feb. 14	1330	40	4.5	4.5	47	4	.05	--	--	--	--	--	--	--	--	--	--	--	
Mar. 9	1025	36	2.5	2.6	52	2	.01	--	--	--	--	--	--	--	--	--	--	--	
Mar. 16	1745	38	3.5	3.5	51	3	.03	--	--	--	--	--	--	--	--	--	--	--	
Mar. 19	1640	39	4.0	3.7	49	98	.98	--	--	--	--	--	--	--	--	--	--	--	
Mar. 25	1615	35	1.5	4.1	48	68	.75	--	--	--	--	--	--	--	--	--	--	--	
Mar. 27	1430	40	4.5	4.1	49	13	.14	--	--	--	--	--	--	--	--	--	--	--	
Apr. 2	1515	43	6.0	4.3	51	5	.06	--	--	--	--	--	--	--	--	--	--	--	
Apr. 9	1700	38	3.5	5.4	46	25	.36	--	--	--	--	--	--	--	--	--	--	--	
Apr. 11	1630	40	4.5	5.7	53	13	.20	--	--	--	--	--	--	--	--	--	--	--	
Apr. 12	1525	39	4.0	5.9	43	135	2.2	--	--	--	--	--	--	--	--	--	--	--	
Apr. 14	1705	40	4.5	5.9	49	45	.72	--	--	--	--	--	--	--	--	--	--	--	
Apr. 16	1730	37	3.0	8.0	45	54	1.2	--	--	--	--	--	--	--	--	--	--	--	
Apr. 23	1410	39	4.0	5.0	46	15	.20	--	--	--	--	--	--	--	--	--	--	--	
Apr. 28	1045	39	4.0	5.2	50	16	.22	--	--	--	--	--	--	--	--	--	--	--	
Apr. 28	1635	40	4.5	5.9	42	64	1.0	--	--	--	--	--	--	--	--	--	--	--	
May 2	1540	40	4.5	8.3	42	62	1.4	--	--	--	--	--	--	--	--	--	--	--	
May 4	1815	36	2.5	6.8	48	30	.55	--	--	--	--	--	--	--	--	--	--	--	
May 7	1430	42	5.5	7.2	45	32	.62	--	--	--	--	--	--	--	--	--	--	--	
May 10	1330	45	7.0	9.4	47	65	1.6	--	--	--	--	--	--	--	--	--	--	--	
May 11	1445	42	5.5	12	40	121	3.9	--	--	--	--	--	--	--	--	--	--	--	
May 11	1650	40	4.5	13	39	250	8.8	--	--	--	--	--	--	--	--	--	--	--	
May 12	0710	37	3.0	11	40	146	4.3	--	--	--	--	--	--	--	--	--	--	--	
May 14	1510	46	8.0	17	35	148	6.8	--	--	--	--	--	--	--	--	--	--	--	
May 14	1735	41	5.0	19	34	328	17	--	--	--	--	--	--	--	--	--	--	--	
May 15	1220	44	6.5	17	36	78	3.6	--	--	--	--	--	--	--	--	--	--	--	
May 15	1830	39	4.0	28	33	540	41	--	--	--	--	--	--	--	--	--	--	--	
May 16	1920	36	2.0	21	34	155	8.8	--	--	--	--	--	--	--	--	--	--	--	
May 19	1850	40	4.5	24	47	160	10	--	--	--	--	--	--	--	--	--	--	--	
May 22	1325	44	6.5	14	52	38	1.4	--	--	--	--	--	--	--	--	--	--	--	
May 23	1730	42	5.5	19	36	120	6.1	--	--	--	--	--	--	--	--	--	--	--	
May 25	1600	43	6.0	27	34	350	26	--	--	--	--	--	--	--	--	--	--	--	
May 25	1900	38	3.5	31	29	384	32	--	--	--	--	--	--	--	--	--	--	--	
May 26	0725	38	3.5	27	31	194	14	--	--	--	--	--	--	--	--	--	--	--	
May 27	1300	34	1.0	18	32	38	1.8	--	--	--	--	--	--	--	--	--	--	--	
June 3	1650	42	5.5	10	44	10	.27	--	--	--	--	--	--	--	--	--	--	--	
June 6	1945	40	4.5	31	31	112	9.4	--	--	--	--	--	--	--	--	--	--	--	
June 7	1130	45	7.0	20	37	45	2.4	--	--	--	--	--	--	--	--	--	--	--	
June 7	1540	43	6.0	30	33	235	19	--	--	--	--	--	--	--	--	--	--	--	
June 9	1835	40	4.5	33	29	161	14	--	--	--	--	--	--	--	--	--	--	--	
June 12	1445	46	8.0	49	27	210	28	--	--	--	--	--	--	--	--	--	--	--	
June 12	1720	42	5.5	54	25	384	56	2	5	7	10	13	18	23	41	74	100	--	VBWC
June 13	1300	46	8.0	42	31	130	15	--	--	--	--	--	--	--	--	--	--	--	
June 14	1910	41	5.0	66	27	708	126	--	--	--	--	--	--	--	--	--	--	--	
June 16	1925	39	4.0	80	22	906	196	--	--	--	--	--	--	--	--	--	--	--	
June 17	1630	48	9.0	83	25	778	174	--	--	--	--	--	--	--	--	--	--	--	
June 17	1825	43	6.0	93	22	728	183	2	4	5	7	9	11	13	22	43	99	100	VBWC
June 19	1745	43	6.0	121	24	1,390	454	3	4	7	10	12	18	22	38	64	94	100	VBWC
June 19	2030	42	5.5	72	24	1,160	226	--	--	--	--	--	--	--	--	--	--	--	
June 20	1100	48	9.0	52	27	188	26	--	--	--	--	--	--	--	--	--	--	--	
June 20	1810	47	8.5	66	21	624	111	--	--	--	--	--	--	--	--	--	--	--	
June 20	2000	44	6.5	75	22	538	109	--	--	--	--	--	--	--	--	--	--	--	
June 22	1820	47	8.5	75	22	322	65	--	--	--	--	--	--	--	--	--	--	--	
June 23	0725	41	5.0	49	27	120	16	--	--	--	--	--	--	--	--	--	--	--	
June 25	1825	47	8.5	56	23	163	25	--	--	--	--	--	--	--	--	--	--	--	
June 26	1310	44	6.5	66	24	120	21	--	--	--	--	--	--	--	--	--	--	--	
June 29	1700	53	11.5	52	28	70	9.8	--	--	--	--	--	--	--	--	--	--	--	
July 2	1600	55	13.0	48	25	86	11	--	--	--	--	--	--	--	--	--	--	--	
July 7	1815	54	12.0	34	28	38	3.5	--	--	--	--	--	--	--	--	--	--	--	
July 10	1420	56	13.5	22	29	30	1.8	--	--	--	--	--	--	--	--	--	--	--	
July 22	1530	61	16.0	7.5	39	7	.14	--	--	--	--	--	--	--	--	--	--	--	
July 29	1000	52	11.0	5.0	45	2	.03	--	--	--	--	--	--	--	--	--	--	--	
Aug. 6	1005	52	11.0	3.4	64	19	.17	--	--	--	--	--	--	--	--	--	--	--	
Aug. 24	1845	56	13.5	2.8	54	7	.05	--	--	--	--	--	--	--	--	--	--	--	
Aug. 26	2030	53	11.5	4.5	51	28	.34	--	--	--	--	--	--	--	--	--	--	--	
Sep. 10	1220	55	13.0	2.5	71	1	.01	--	--	--	--	--	--	--	--	--	--	--	

Date	Time (24-hour)	Water temperature °F	Water temperature °C	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Sediment concentration (mg/l)	Total sediment discharge (tons/day)	Percent finer than the size (in millimeters) indicated .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	Method of analysis
10336698 THIRD CREEK NEAR CRYSTAL BAY, NEV. (LAT 39°14'26", LONG 119°56'44")																			
Oct. 6, 1970	1200	47	8.5	1.9	82	46	0.24	--	--	--	--	--	--	--	--	--	--	--	
Oct. 20	0900	41	5.0	2.7	76	30	.22	--	--	--	--	--	--	--	--	--	--	--	
Oct. 20	1035	42	5.5	3.2	77	33	.29	--	--	--	--	--	--	--	--	--	--	--	
Oct. 20	1135	44	6.5	3.2	81	62	.54	--	--	--	--	--	--	--	--	--	--	--	
Oct. 20	1235	44	6.5	3.4	78	72	.66	--	--	--	--	--	--	--	--	--	--	--	
Oct. 24	1150	38	3.5	3.7	69	64	.64	--	--	--	--	--	--	--	--	--	--	--	
Nov. 4	1140	41	5.0	4.4	71	952	11	--	--	--	--	--	--	--	--	--	--	--	
Nov. 4	1345	41	5.0	5.9	72	1,100	18	27	37	47	53	54	55	55	57	69	93	100	VPWC
Nov. 4	1530	42	5.5	5.7	98	709	11	--	--	--	--	--	--	--	--	--	--	--	
Nov. 5	0915	41	5.0	12	83	2,960	96	14	18	24	32	36	39	41	46	55	95	100	VPWC
Nov. 5	1100	42	5.5	13	80	3,040	107	--	--	--	--	--	--	--	--	--	--	--	
Nov. 5	1245	43	6.0	8.9	78	1,160	28	--	--	--	--	--	--	--	--	--	--	--	
Nov. 5	1600	44	6.5	7.1	70	353	6.8	--	--	--	--	--	--	--	--	--	--	--	
Nov. 7	1335	44	6.5	4.6	71	212	2.6	--	--	--	--	--	--	--	--	--	--	--	
Nov. 10	0900	39	4.0	3.9	70	148	1.6	--	--	--	--	--	--	--	--	--	--	--	
Nov. 11	1530	45	7.0	4.1	66	44	.49	--	--	--	--	--	--	--	--	--	--	--	
Nov. 11	1640	44	6.5	4.6	66	100	1.2	--	--	--	--	--	--	--	--	--	--	--	
Nov. 11	1815	43	6.0	5.7	73	219	3.4	--	--	--	--	--	--	--	--	--	--	--	
Nov. 11	1910	42	5.5	5.7	68	228	3.5	--	--	--	--	--	--	--	--	--	--	--	
Nov. 17	1700	43	6.0	4.1	65	156	1.7	--	--	--	--	--	--	--	--	--	--	--	
Nov. 24	1225	42	5.5	4.1	62	127	1.4	--	--	--	--	--	--	--	--	--	--	--	
Nov. 24	2150	42	5.5	7.9	59	856	18	--	--	--	--	--	--	--	--	--	--	--	
Nov. 24	2315	42	5.5	8.5	62	1,420	33	21	30	37	43	46	48	50	58	78	100	--	VBWC
Nov. 25	0110	42	5.5	7.6	65	870	18	--	--	--	--	--	--	--	--	--	--	--	
Nov. 25	0820	39	4.0	9.8	68	1,480	39	--	--	--	--	--	--	--	--	--	--	--	
Nov. 27	1120	36	2.0	5.4	68	72	1.0	--	--	--	--	--	--	--	--	--	--	--	
Dec. 6	1420	39	4.0	4.9	66	220	2.9	--	--	--	--	--	--	--	--	--	--	--	
Dec. 30	1520	36	2.0	4.1	67	32	.35	--	--	--	--	--	--	--	--	--	--	--	
Jan. 9, 1971	1430	37	3.0	3.9	74	125	1.3	--	--	--	--	--	--	--	--	--	--	--	
Jan. 16	1330	35	1.5	5.5	67	42	.62	--	--	--	--	--	--	--	--	--	--	--	
Jan. 18	1100	37	3.0	7.5	56	410	8.3	--	--	--	--	--	--	--	--	--	--	--	
Jan. 19	1445	37	3.0	11	57	48	1.4	--	--	--	--	--	--	--	--	--	--	--	
Jan. 21	1610	38	3.5	7.3	62	120	2.4	--	--	--	--	--	--	--	--	--	--	--	
Jan. 28	1520	40	4.5	5.9	68	103	1.6	--	--	--	--	--	--	--	--	--	--	--	
Feb. 4	1045	33	0.5	5.1	68	26	.36	--	--	--	--	--	--	--	--	--	--	--	
Feb. 11	1630	41	5.0	7.6	67	290	6.0	--	--	--	--	--	--	--	--	--	--	--	
Feb. 12	0745	34	1.0	6.2	74	45	.75	--	--	--	--	--	--	--	--	--	--	--	
Feb. 14	1200	40	4.5	7.1	72	116	2.2	--	--	--	--	--	--	--	--	--	--	--	
Feb. 14	1450	43	6.0	7.3	73	83	1.6	--	--	--	--	--	--	--	--	--	--	--	
Feb. 24	0915	33	0.5	5.7	74	220	3.4	--	--	--	--	--	--	--	--	--	--	--	
Feb. 24	1415	40	4.5	5.7	77	106	1.6	--	--	--	--	--	--	--	--	--	--	--	
Mar. 9	1315	39	4.0	4.1	77	112	1.2	--	--	--	--	--	--	--	--	--	--	--	
Mar. 16	1330	42	5.5	4.6	80	172	2.1	--	--	--	--	--	--	--	--	--	--	--	
Mar. 16	1830	39	4.0	5.1	83	232	3.2	--	--	--	--	--	--	--	--	--	--	--	
Mar. 19	1450	43	6.0	5.7	75	260	4.0	--	--	--	--	--	--	--	--	--	--	--	
Mar. 19	1740	41	5.0	6.5	74	404	7.1	11	16	21	26	30	32	33	50	78	100	--	VBWC
Mar. 20	0825	34	1.0	5.1	81	298	4.1	--	--	--	--	--	--	--	--	--	--	--	
Mar. 23	0920	36	2.0	6.5	84	262	4.6	--	--	--	--	--	--	--	--	--	--	--	
Mar. 23	1100	36	2.0	6.8	83	191	3.5	--	--	--	--	--	21	22	30	58	100	--	V
Mar. 25	1500	38	3.5	9.8	75	1,400	37	18	24	32	40	48	54	56	63	75	84	93	SPWC
Mar. 25	1700	36	2.0	11	68	2,140	64	--	--	--	--	--	--	--	--	--	--	--	
Mar. 26	1030	34	1.0	8.2	78	908	20	--	--	--	--	--	--	--	--	--	--	--	
Mar. 27	1305	46	8.0	7.9	84	616	13	--	--	--	--	--	--	--	--	--	--	--	
Mar. 27	1520	45	7.0	9.8	80	622	16	--	--	--	--	--	--	--	--	--	--	--	
Mar. 27	1720	42	5.5	9.2	78	462	11	--	--	--	--	--	--	--	--	--	--	--	
Mar. 28	0640	33	.0.5	6.8	89	292	5.4	--	--	--	--	--	--	--	--	--	--	--	
Mar. 28	1710	45	7.0	8.5	80	532	12	--	--	--	--	--	--	--	--	--	--	--	
Apr. 2	0630	33	0.5	7.6	88	214	4.4	--	--	--	--	--	--	--	--	--	--	--	
Apr. 2	1410	50	10.0	8.2	82	639	14	--	--	--	--	--	--	--	--	--	--	--	
Apr. 2	1555	48	9.0	9.8	78	1,890	50	3	5	6	8	10	13	14	31	60	95	100	VBWC
Apr. 2	1720	44	6.5	10	77	661	18	--	--	--	--	--	--	--	--	--	--	--	
Apr. 9	1540	48	9.0	12	68	1,580	51	--	--	--	--	--	--	--	--	--	--	--	
Apr. 9	1740	42	5.5	12	72	1,360	44	--	--	--	--	--	--	--	--	--	--	--	
Apr. 11	1700	46	8.0	11	72	997	30	--	--	--	--	--	--	--	--	--	--	--	
Apr. 12	1025	41	5.0	8.2	81	516	11	--	--	--	--	--	--	--	--	--	--	--	
Apr. 12	1455	51	10.5	12	72	1,160	38	--	--	--	--	--	--	--	--	--	--	--	
Apr. 14	1800	45	7.0	11	70	476	14	--	--	--	--	--	--	--	--	--	--	--	
Apr. 16	1640	46	8.0	12	62	1,560	51	--	--	--	--	--	--	--	--	--	--	--	
Apr. 17	0700	33	0.5	11	71	592	18	--	--	--	--	--	--	--	--	--	--	--	
Apr. 22	0945	38	3.5	7.6	73	114	2.3	--	--	--	--	--	--	--	--	--	--	--	
Apr. 23	1435	48	9.0	8.5	84	324	7.4	--	--	--	--	--	--	--	--	--	--	--	
Apr. 27	1640	46	8.0	9.5	72	450	12	--	--	--	--	--	--	--	--	--	--	--	
Apr. 28	0940	39	4.0	7.3	85	132	2.6	--	--	--	--	--	--	--	--	--	--	--	
Apr. 28	1545	51	10.5	9.2	73	420	10	--	--	--	--	--	--	--	--	--	--	--	
May 2	1345	49	9.5	9.5	66	358	9.2	--	--	--	--	--	--	--	--	--	--	--	
May 2	1600	48	9.0	11	65	349	10	--	--	--	--	--	--	--	--	--	--	--	
May 2	1830	42	5.5	11	63	756	22	--	--	--	--	--	--	--	--	--	--	--	
May 4	1830	44	6.5	12	68	1,320	43	--	--	--	--	--	--	--	--	--	--	--	
May 7	1315	48	9.0	11	69	600	18	7	10	13	16	19	24	28	40	62	98	100	VBWC
May 7	1515	50	10.0	9.8	82	580	15	--	--	--	--	--	--	--	--	--	--	--	
May 10	0910	39	4.0	10	71	302	8.2	--	--	--	--	--	--	--	--	--	--	--	
May 10	1450	55	13.0	12	65	499	16	--	--	--	--	--	--	--	--	--	--	--	
May 11	1400	54	12.0	12	66	549	18	--	--	--	--	--	--	--	--	--	--	--	
May 11	1540	48	9.0	13	58	884	31	--	--	--	--	--	--	--	--	--	--	--	
May 11	1750	45	7.0	14	59	1,200	45	--	--	--	--	--	--	--	--	--	--	--	
May 12	0640	38	3.5	13	59	326	11	--	--	--	--	--	--	--	--	--	--	--	
May 14	1415	56	13.5	15	53	355	14	--	--	--	--	--	--	--	--	--	--	--	
May 14	1625	54	12.0	18	50	623	30	--	--	--	--	--	--	--	--	--	--	--	
May 14	1810	49	9.5	19	47	1,680	86	4	6	9	12	16	22	30	53	74	98	100	VBWC
May 15	1140	47	8.5	16	49	319	14	--	--	--	--	--	--	--	--	--	--	--	
May 15	1445	54	12.0	18	48	352	17	--	--	--	--	--	--	--	--	--	--	--	
May 15	1915	44	6.5	22	41	1,160	69	--	--	--	--	--	--	--	--	--	--	--	
May 16	1950	39	4.0	20	45	350	19	--	--	--	--	--	--	--	--	--	--	--	
May 18	0800	36	2.0	16	48	209	9.0	--	--	--	--	--	--	--	--	--	--	--	
May 18	1945	43	6.0	19	45	690	35	--	--	--	--	--	--	--	--	--	--	--	
May 19	1815	48	9.0	20	44	500	27	--	--	--	--	--	--	--	--	--	--	--	
May 19	1925	44	6.5	22	46	750	45	--	--	--	--	--	--	--	--	--	--	--	
May 22	1245	50	10.0	16	52	129	5.6	--	--	--	--	--	--	--	--	--	--	--	
May 22	1610	50	10.0	16	48	325	14	--	--	--	--	--	--	--	--	--	--	--	
May 23	1650	52	11.0	17	47	334	15	--	--	--	--	--	--	--	--	--	--	--	
May 25	1435	53	11.5	20	44	128	6.9	--	--	--	--	--	--	--	--	--	--	--	
May 25	1815	45	7.0	28	35	940	71	--	--	--	--	--	--	--	--	--	--	--	
May 25	1940	43	6.0	29	48	1,030	81	--	--	--	--	--	--	--	--	--	--	--	
May 26	0655	38	3.5	26	38	928	65	--	--	--	--	--	--	--	--	--	--	--	
May 27	0940	39	4.0	20	43	188	10	--	--	--	--	--	--	--	--	--	--	--	
May 27	1230	36	2.0	29	45	1,420	111	--	--	--	--	--	--	--	--	--	--	--	
May 27	1545	43	6.0	23	45	1,070	66	--	--	--	--	--	--	--	--	--	--	--	

Date	Time (24-hour)	Water temperature °F	Water temperature °C	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Sediment concentration (mg/l)	Total sediment discharge (tons/day)	Percent finer than the size (in millimeters) indicated											Method of analysis
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	
10336698 THIRD CREEK NEAR CRYSTAL BAY, NEV. (LAT 39°14'26", LONG 119°56'44")--Continued																			
June 1, 1971	1730	41	5.0	14	59	94	3.6	--	--	--	--	--	--	--	--	--	--	--	
Hune 3	1610	50	10.0	13	54	46	1.6	--	--	--	--	--	--	--	--	--	--	--	
June 6	1730	53	11.5	25	43	1,280	86	--	--	--	--	--	--	--	--	--	--	--	
June 6	2025	44	6.5	31	36	812	68	--	--	--	--	--	--	--	--	--	--	--	
June 7	1030	45	7.0	22	39	251	15	--	--	--	--	--	--	--	--	--	--	--	
June 7	1325	51	10.5	21	42	440	25	--	--	--	--	--	--	--	--	--	--	--	
June 7	1810	46	8.0	35	35	1,640	155	--	--	--	--	--	--	--	--	--	--	--	
June 9	1800	46	8.0	32	36	268	23	--	--	--	--	--	--	--	--	--	--	--	
June 9	1915	44	6.5	34	35	278	26	--	--	--	--	--	--	--	--	--	--	--	
June 12	1400	52	11.0	32	36	446	39	--	--	--	--	--	--	--	--	--	--	--	
June 12	1630	50	10.0	46	31	674	84	--	--	--	--	--	--	--	--	--	--	--	
June 12	1830	46	8.0	57	30	2,040	314	1	1	2	3	4	6	8	16	30	60	81	SBWC
June 12	2010	42	5.5	57	28	1,176	181	--	--	--	--	--	--	--	--	--	--	--	
June 13	1215	49	9.5	34	34	608	56	--	--	--	--	--	--	--	--	--	--	--	
June 14	1830	49	9.5	60	29	1,640	266	--	--	--	--	--	--	--	--	--	--	--	
June 14	1945	44	6.5	62	27	3,220	539	--	--	--	--	--	--	--	--	--	--	--	
June 15	1040	46	8.0	38	43	472	48	--	--	--	--	--	--	--	--	--	--	--	
June 16	1530	50	10.0	53	28	1,380	197	--	--	--	--	--	--	--	--	--	--	--	
June 16	1730	47	8.5	83	25	2,120	475	--	--	--	--	--	--	--	--	--	--	--	
June 16	1945	42	5.5	73	23	2,400	473	--	--	--	--	--	--	--	--	--	--	--	
June 17	1530	53	11.5	51	47	3,080	424	0	0	0	1	1	2	3	7	18	37	87	SBWC
June 17	1645	52	11.0	62	25	5,660	947	--	--	--	--	--	--	--	--	--	--	--	
June 17	1745	49	9.5	66	25	4,780	832	--	--	--	--	--	--	--	--	--	--	--	
June 17	1845	45	7.0	65	24	6,020	706	0	0	1	1	2	3	4	8	19	44	73	SBWC
June 17	1945	44	6.5	61	26	4,770	786	--	--	--	--	--	--	--	--	--	--	--	
June 17	2045	47	8.5	60	27	7,840	1,270	--	--	--	--	--	--	--	--	--	--	--	
June 18	0925	44	6.5	38	32	1,300	133	--	--	--	--	--	--	--	--	--	--	--	
June 19	1700	52	11.0	106	26	2,930	839	--	--	--	--	--	--	--	--	--	--	--	
June 19	1800	48	9.0	100	23	3,530	953	3	6	8	11	16	20	24	38	57	74	86	SPWC
June 19	1930	47	8.5	96	24	5,460	1,415	--	--	--	--	--	--	--	--	--	--	--	
June 19	2045	45	7.0	98	24	3,800	1,010	--	--	--	--	--	--	--	--	--	--	--	
June 20	1030	47	8.5	51	29	4,580	631	--	--	--	--	--	1	2	4	14	41	66	S
June 20	1730	53	11.5	73	24	4,820	950	--	--	--	--	--	--	--	--	--	--	--	
June 20	1840	53	11.5	81	33	3,790	829	0	0	1	2	3	4	5	10	23	42	62	SBWC
June 20	1930	49	9.5	86	23	4,310	1,001	--	--	--	--	--	--	--	--	--	--	--	
June 20	2015	44	6.5	75	24	3,950	800	--	--	--	--	--	--	--	--	--	--	--	
June 22	1650	55	13.0	102	25	1,230	339	--	--	--	--	--	--	--	--	--	--	--	
June 22	1750	54	12.0	98	24	1,480	392	--	--	--	--	--	--	--	--	--	--	--	
June 22	1915	50	10.0	96	24	1,500	389	--	--	--	--	--	--	--	--	--	--	--	
June 23	0700	42	5.5	60	28	1,300	211	--	--	--	--	--	--	--	--	--	--	--	
June 25	1730	52	11.0	73	27	556	110	--	--	--	--	--	4	4	12	33	88	100	V
June 25	1830	51	10.5	71	26	832	159	--	--	--	--	--	--	--	--	--	--	--	
June 26	1240	47	8.5	77	27	747	155	--	--	--	--	--	--	--	--	--	--	--	
June 29	1600	57	14.0	43	31	294	34	--	--	--	--	--	--	--	--	--	--	--	
June 29	1800	54	12.0	51	28	527	73	--	--	--	--	--	--	--	--	--	--	--	
June 29	1915	52	11.0	52	31	560	79	--	--	--	--	--	--	--	--	--	--	--	
July 2	1540	59	15.0	41	31	348	39	--	--	--	--	--	--	--	--	--	--	--	
July 7	1730	60	15.5	27	32	138	10	--	--	--	--	--	--	--	--	--	--	--	
July 10	1550	58	14.5	20	34	45	2.4	--	--	--	--	--	--	--	--	--	--	--	
July 13	1055	48	9.0	17	52	12	.55	--	--	--	--	--	--	--	--	--	--	--	
July 22	1415	66	19.0	9.2	30	16	.40	--	--	--	--	--	--	--	--	--	--	--	
July 29	0920	56	13.5	4.9	55	7	.09	--	--	--	--	--	--	--	--	--	--	--	
Aug. 6	1320	64	18.0	4.6	62	9	.11	--	--	--	--	--	--	--	--	--	--	--	
Aug. 11	1145	73	23.0	3.5	66	7	.07	--	--	--	--	--	--	--	--	--	--	--	
Aug. 24	1800	66	19.0	3.2	75	11	.10	--	--	--	--	--	--	--	--	--	--	--	
Aug. 26	1910	61	16.0	5.4	65	34	.50	--	--	--	--	--	--	--	--	--	--	--	
Aug. 26	2000	60	15.5	10	85	403	11	--	--	--	--	--	--	--	--	--	--	--	
Aug. 26	2100	60	15.5	11	113	918	27	--	--	--	--	--	--	--	--	--	--	--	
Sep. 10	1040	51	10.5	3.5	69	8	.08	--	--	--	--	--	--	--	--	--	--	--	
Sep. 29	1620	42	5.5	2.9	72	11	.09	--	--	--	--	--	--	--	--	--	--	--	

Date	Time (24-hour)	Water temperature °F	Water temperature °C	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Sediment concentration (mg/l)	Total sediment discharge (tons/day)	Percent finer than the size (in millimeters) indicated: .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	Method of analysis
10336700 INCLINE CREEK NEAR CRYSTAL BAY, NEV. (LAT 39°14'25", LONG 119°56'40")																			
Oct. 6, 1970	1150	46	8.0	5.2	72	13	.18	--	--	--	--	--	--	--	--	--	--	--	
Oct. 20	0845	40	4.5	4.3	76	13	.15	--	--	--	--	--	--	--	--	--	--	--	
Oct. 20	1020	41	5.0	5.2	71	28	.39	--	--	--	--	--	--	--	--	--	--	--	
Oct. 20	1125	42	5.5	5.6	74	26	.39	--	--	--	--	--	--	--	--	--	--	--	
Oct. 20	1225	44	6.5	4.3	70	30	.35	--	--	--	--	--	--	--	--	--	--	--	
Oct. 24	1100	37	3.0	5.2	74	18	.25	--	--	--	--	--	--	--	--	--	--	--	
Nov. 4	1130	42	5.5	6.6	71	278	5.0	--	--	--	--	--	--	--	--	--	--	--	
Nov. 4	1330	41	5.0	9.0	75	878	21	30	42	59	71	78	81	82	85	89	98	100	VPWC
Nov. 4	1535	42	5.5	9.4	139	572	15	--	--	--	--	--	--	--	--	--	--	--	
Nov. 5	0900	42	5.5	20	95	2,240	121	23	29	42	51	60	67	73	84	90	96	100	VPWC
Nov. 5	1045	42	5.5	20	89	1,840	99	--	--	--	--	--	--	--	--	--	--	--	
Nov. 5	1240	44	6.5	14	101	958	36	--	--	--	--	--	--	--	--	--	--	--	
Nov. 5	1610	42	5.5	8.7	67	223	5.2	--	--	--	--	--	--	--	--	--	--	--	
Nov. 7	1330	42	5.5	5.9	70	112	1.8	--	--	--	--	--	--	--	--	--	--	--	
Nov. 10	0845	37	3.0	5.6	65	22	.33	--	--	--	--	--	--	--	--	--	--	--	
Nov. 11	1520	43	6.0	5.2	66	25	.35	--	--	--	--	--	--	--	--	--	--	--	
Nov. 11	1620	42	5.5	5.6	65	75	1.1	--	--	--	--	--	--	--	--	--	--	--	
Nov. 11	1800	42	5.5	7.0	73	102	1.9	--	--	--	--	--	--	--	--	--	--	--	
Nov. 11	1900	43	6.0	7.3	78	156	3.1	--	--	--	--	--	--	--	--	--	--	--	
Nov. 17	1645	42	5.5	4.9	66	19	.25	--	--	--	--	--	--	--	--	--	--	--	
Nov. 24	1350	60	15.5	4.6	64	22	.27	--	--	--	--	--	--	--	--	--	--	--	
Nov. 24	2145	42	5.5	9.8	66	1,160	31	--	--	--	--	--	--	--	--	--	--	--	
Nov. 24	2300	42	5.5	12	65	1,860	60	25	37	48	55	60	62	63	64	68	80	100	VPWC
Nov. 25	0120	42	5.5	11	57	1,080	32	--	--	--	--	--	--	--	--	--	--	--	
Nov. 25	0815	38	3.5	12	62	386	13	--	--	--	--	--	--	--	--	--	--	--	
Nov. 27	1115	36	2.0	5.9	71	40	.64	--	--	--	--	--	--	--	--	--	--	--	
Dec. 6	1405	38	3.5	5.6	72	52	.79	--	--	--	--	--	--	--	--	--	--	--	
Dec. 30	1500	38	3.5	4.3	80	34	.39	--	--	--	--	--	--	--	--	--	--	--	
Jan. 9, 1971	1415	38	3.5	4.0	120	125	1.4	--	--	--	--	--	--	--	--	--	--	--	
Jan. 16	1320	35	1.5	7.3	152	364	7.2	--	--	--	--	--	--	--	--	--	--	--	
Jan. 18	1115	37	3.0	12	107	142	4.6	--	--	--	--	--	--	--	--	--	--	--	
Jan. 19	1300	37	3.0	10	127	81	2.2	--	--	--	--	--	--	--	--	--	--	--	
Jan. 21	1600	38	3.5	7.3	76	38	.75	--	--	--	--	--	--	--	--	--	--	--	
Jan. 28	1500	40	4.5	4.0	80	30	.32	--	--	--	--	--	--	--	--	--	--	--	
Feb. 4	0905	35	1.5	5.9	79	18	.29	--	--	--	--	--	--	--	--	--	--	--	
Feb. 11	1615	41	5.0	8.7	70	206	4.8	--	--	--	--	--	--	--	--	--	--	--	
Feb. 12	0730	36	2.0	7.3	73	62	1.2	--	--	--	--	--	--	--	--	--	--	--	
Feb. 14	1130	40	4.5	8.0	76	64	1.4	--	--	--	--	--	--	--	--	--	--	--	
Feb. 14	1430	42	5.5	8.7	74	93	2.2	--	--	--	--	--	--	--	--	--	--	--	
Feb. 24	0900	35	1.5	3.5	83	16	.15	--	--	--	--	--	--	--	--	--	--	--	
Feb. 24	1420	40	4.5	6.2	84	114	1.9	--	--	--	--	--	--	--	--	--	--	--	
Mar. 9	1450	38	3.5	6.6	74	84	1.5	--	--	--	--	--	--	--	--	--	--	--	
Mar. 16	1325	42	5.5	6.6	85	89	1.6	--	--	--	--	--	--	--	--	--	--	--	
Mar. 16	1820	39	4.0	7.6	81	127	2.6	--	--	--	--	--	--	--	--	--	--	--	
Mar. 19	1445	43	6.0	8.4	74	326	7.4	--	--	--	--	--	--	--	--	--	--	--	
Mar. 19	1715	41	5.0	8.4	75	806	18	16	24	31	39	45	52	57	74	83	87	91	SPWC
Mar. 20	0815	36	2.0	5.2	80	76	1.1	--	--	--	--	--	--	--	--	--	--	--	
Mar. 23	0910	36	2.0	8.7	85	198	4.7	--	--	--	--	--	--	--	--	--	--	--	
Mar. 23	1040	36	2.0	9.8	93	424	11	18	26	33	41	47	54	56	64	77	86	95	SBWC
Mar. 25	1445	38	3.5	14	75	1,300	49	28	36	50	59	65	69	71	78	84	86	95	SPWC
Mar. 25	1655	36	2.0	15	68	941	38	--	--	--	--	--	--	--	--	--	--	--	
Mar. 26	1020	34	1.0	9.4	79	318	8.1	--	--	--	--	--	--	--	--	--	--	--	
Mar. 27	1300	44	6.5	11	90	983	29	--	--	--	--	--	--	--	--	--	--	--	
Mar. 27	1515	44	6.5	13	81	552	19	--	--	--	--	--	--	--	--	--	--	--	
Mar. 27	1715	42	5.5	12	76	528	17	--	--	--	--	--	--	--	--	--	--	--	
Mar. 28	0630	34	1.0	8.4	86	172	3.9	--	--	--	--	--	--	--	--	--	--	--	
Mar. 28	1700	44	6.5	12	77	476	15	--	--	--	--	--	--	--	--	--	--	--	
Apr. 2	0625	33	0.5	10	83	883	24	--	--	--	--	--	--	--	--	--	--	--	
Apr. 2	1400	48	9.0	12	78	704	23	--	--	--	--	--	--	--	--	--	--	--	
Apr. 2	1610	46	8.0	12	74	774	25	4	7	10	12	15	18	20	28	44	94	100	VBWC
Apr. 2	1730	43	6.0	12	74	774	25	--	--	--	--	--	--	--	--	--	--	--	
Apr. 9	1530	48	9.0	18	69	1,050	51	--	--	--	--	--	--	--	--	--	--	--	
Apr. 9	1730	42	5.5	18	66	788	38	--	--	--	--	--	--	--	--	--	--	--	
Apr. 11	1655	46	8.0	17	81	775	36	--	--	--	--	--	--	--	--	--	--	--	
Apr. 12	0835	36	2.5	12	75	456	15	--	--	--	--	--	--	--	--	--	--	--	
Apr. 12	1505	48	9.0	15	70	442	18	--	--	--	--	--	--	--	--	--	--	--	
Apr. 14	1810	45	7.0	16	67	689	30	--	--	--	--	--	--	--	--	--	--	--	
Apr. 16	1645	44	6.5	22	60	1,040	62	4	8	11	15	18	23	27	46	70	96	100	VBWC
Apr. 17	0650	33	0.5	16	68	528	23	--	--	--	--	--	--	--	--	--	--	--	
Apr. 22	0930	38	3.5	11	70	120	3.6	--	--	--	--	--	--	--	--	--	--	--	
Apr. 23	1445	--	--	12	78	333	11	--	--	--	--	--	--	--	--	--	--	--	
Apr. 27	1650	44	6.5	12	119	452	15	--	--	--	--	--	--	--	--	--	--	--	
Apr. 28	0935	38	3.5	9.4	76	400	10	--	--	--	--	--	--	--	--	--	--	--	
Apr. 28	1540	49	9.5	14	71	422	16	--	--	--	--	--	--	--	--	--	--	--	
May 2	1330	47	8.5	14	66	852	32	--	--	--	--	--	--	--	--	--	--	--	
May 2	1550	47	8.5	18	62	434	21	--	--	--	--	--	--	--	--	--	--	--	
May 2	1820	41	5.0	18	63	746	36	--	--	--	--	--	--	--	--	--	--	--	
May 4	1835	42	5.5	17	70	610	28	--	--	--	--	--	--	--	--	--	--	--	
May 7	1245	46	8.0	19	64	812	42	17	26	36	43	51	56	61	74	88	100	--	VPWC
May 7	1520	48	9.0	16	66	458	20	--	--	--	--	--	--	--	--	--	--	--	
May 10	0915	40	4.5	14	68	204	7.7	--	--	--	--	--	--	--	--	--	--	--	
May 10	1450	51	10.5	18	62	752	37	--	--	--	--	--	--	--	--	--	--	--	
May 11	1345	45	7.0	18	62	332	16	--	--	--	--	--	--	--	--	--	--	--	
May 11	1545	48	9.0	22	56	612	36	--	--	--	--	--	--	--	--	--	--	--	
May 11	1800	44	6.5	24	56	870	56	--	--	--	--	--	--	--	--	--	--	--	
May 12	0630	38	3.5	18	62	302	15	--	--	--	--	--	--	--	--	--	--	--	
May 14	1400	54	12.0	20	58	355	19	--	--	--	--	--	--	--	--	--	--	--	
May 14	1630	53	11.5	26	50	942	66	--	--	--	--	--	--	--	--	--	--	--	
May 14	1830	48	9.0	31	45	1,440	121	4	6	8	11	14	20	24	39	59	77	94	SBWC
May 15	1130	48	9.0	20	55	460	25	--	--	--	--	--	--	--	--	--	--	--	
May 15	1430	52	11.0	23	53	470	29	--	--	--	--	--	--	--	--	--	--	--	
May 15	1905	46	8.0	33	44	918	82	--	--	--	--	--	--	--	--	--	--	--	
May 16	2000	41	5.0	25	49	526	36	--	--	--	--	--	--	--	--	--	--	--	
May 18	0745	37	3.0	20	54	137	7.4	--	--	--	--	--	--	--	--	--	--	--	
May 18	1955	44	6.5	25	47	374	25	--	--	--	--	--	--	--	--	--	--	--	
May 19	1800	46	8.0	26	51	482	34	--	--	--	--	--	--	--	--	--	--	--	
May 19	1930	45	7.0	26	45	440	31	--	--	--	--	--	--	--	--	--	--	--	
May 22	1230	48	9.0	18	56	130	6.3	--	--	--	--	--	--	--	--	--	--	--	
May 22	1615	50	10.0	20	51	267	14	--	--	--	--	--	--	--	--	--	--	--	
May 23	1640	51	10.5	20	50	180	9.7	--	--	--	--	--	--	--	--	--	--	--	
May 25	1430	52	11.0	20	49	88	4.8	--	--	--	--	--	--	--	--	--	--	--	
May 25	1810	50	10.0	28	40	525	40	--	--	--	--	--	--	--	--	--	--	--	
May 25	1935	46	8.0	26	41	635	45	--	--	--	--	--	--	--	--	--	--	--	
May 26	0645	41	5.0	20	47	189	10	--	--	--	--	--	--	--	--	--	--	--	
May 27	0930	40	4.5	20	50	140	7.6	--	--	--	--	--	--	--	--	--	--	--	
May 27	1235	38	3.5	29	49	1,270	99	--	--	--	--	--	--	--	--	--	--	--	
May 27	1555	43	6.0	24	51	722	47	--	--	--	--	--	--	--	--	--	--	--	

Date	Time (24-hour)	Water temperature °F	Water temperature °C	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Sediment concentration (mg/l)	Total sediment discharge (tons/day)	Percent finer than the size (in millimeters) indicated .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	Method of analysis
10336700 INCLINE CREEK NEAR CRYSTAL BAY, NEV. (LAT 39°14'25", LONG 119°56'40")--Continued																			
June 1, 1971	1720	42	5.5	15	61	70	2.8	--	--	--	--	--	--	--	--	--	--	--	
June 3	1600	50	10.0	14	53	391	15	--	--	--	--	--	--	--	--	--	--	--	
June 3	1725	48	9.0	14	51	142	5.4	--	--	--	--	--	--	--	--	--	--	--	
June 6	1720	55	13.0	26	50	200	14	--	--	--	--	--	--	--	--	--	--	--	
June 6	2015	49	9.5	22	43	368	22	--	--	--	--	--	--	--	--	--	--	--	
June 7	1020	46	8.0	14	48	63	2.4	--	--	--	--	--	--	--	--	--	--	--	
June 7	1335	51	10.5	15	49	99	4.0	--	--	--	--	--	--	--	--	--	--	--	
June 7	1800	51	10.5	23	43	510	32	--	--	--	--	--	--	--	--	--	--	--	
June 9	1750	50	10.0	20	46	450	24	--	--	--	--	--	--	--	--	--	--	--	
June 9	1905	48	9.0	22	44	271	16	--	--	--	--	--	--	--	--	--	--	--	
June 12	1350	53	11.5	18	61	115	5.6	--	--	--	--	--	--	--	--	--	--	--	
June 12	1620	54	12.0	24	40	214	14	--	--	--	--	--	--	--	--	--	--	--	
June 12	1800	51	10.5	25	38	261	18	--	--	--	--	--	--	--	--	--	--	--	
June 12	2000	48	9.0	25	40	370	25	--	--	--	--	--	--	--	--	--	--	--	
June 13	1200	50	10.0	20	42	160	8.6	--	--	--	--	--	--	--	--	--	--	--	
June 14	1815	54	12.0	25	42	167	11	--	--	--	--	--	--	--	--	--	--	--	
June 14	1940	52	11.0	25	37	242	16	--	--	--	--	--	--	--	--	--	--	--	
June 15	1050	47	8.5	20	53	186	10	--	--	--	--	--	--	--	--	--	--	--	
June 16	1830	53	11.5	25	37	159	11	--	--	--	--	--	--	--	--	--	--	--	
June 17	1500	56	13.5	24	43	292	19	--	--	--	--	--	--	--	--	--	--	--	
June 17	2000	44	6.5	26	37	160	11	--	--	--	--	--	--	--	--	--	--	--	
June 18	0910	45	7.0	23	39	48	3.0	--	--	--	--	--	--	--	--	--	--	--	
June 19	2000	52	11.0	26	38	125	8.8	--	--	--	--	--	--	--	--	--	--	--	
June 20	1015	47	8.5	22	39	77	4.6	--	--	--	--	--	--	--	--	--	--	--	
June 20	1815	56	13.5	25	38	106	7.2	--	--	--	--	--	--	--	--	--	--	--	
June 22	1800	56	13.5	23	38	120	7.5	--	--	--	--	--	--	--	--	--	--	--	
June 23	0640	43	6.0	22	41	42	2.5	--	--	--	--	--	--	--	--	--	--	--	
June 25	1745	54	12.0	20	39	112	6.0	--	--	--	--	--	--	--	--	--	--	--	
June 26	1230	49	9.5	22	41	62	3.7	--	--	--	--	--	--	--	--	--	--	--	
June 29	1615	57	14.0	18	41	46	2.2	--	--	--	--	--	--	--	--	--	--	--	
July 2	1550	60	15.5	16	46	70	3.0	--	--	--	--	--	--	--	--	--	--	--	
July 7	1725	60	15.5	14	48	20	.76	--	--	--	--	--	--	--	--	--	--	--	
July 10	1600	59	15.0	12	60	22	.71	--	--	--	--	--	--	--	--	--	--	--	
July 13	0840	45	7.5	12	51	15	.49	--	--	--	--	--	--	--	--	--	--	--	
July 22	1410	62	16.5	9.0	53	32	.78	--	--	--	--	--	--	--	--	--	--	--	
July 29	0910	54	12.0	8.0	61	19	.41	--	--	--	--	--	--	--	--	--	--	--	
Aug. 6	1330	61	16.0	7.6	63	49	1.0	--	--	--	--	--	--	--	--	--	--	--	
Aug. 11	1010	55	13.0	7.0	60	12	.23	--	--	--	--	--	--	--	--	--	--	--	
Aug. 24	1800	62	16.5	5.6	75	38	.58	--	--	--	--	--	--	--	--	--	--	--	
Aug. 26	1900	59	15.0	12	78	1,400	45	18	29	38	48	53	57	58	70	85	100	--	VPWC
Aug. 26	2010	58	14.5	15	93	4,400	178	--	--	--	--	--	--	--	--	--	--	--	
Aug. 26	2105	58	14.5	11	91	1,200	36	--	--	--	--	--	--	--	--	--	--	--	
Sep. 10	1040	51	10.5	5.2	74	11	.15	--	--	--	--	--	--	--	--	--	--	--	
Sep. 29	1610	41	5.0	5.9	75	9	.14	--	--	--	--	--	--	--	--	--	--	--	