SEDIMENT TRANSPORT IN STREAMS IN THE UMPQUA RIVER BASIN, OREGON

GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

IN COOPERATION WITH
DOUGLAS COUNTY

OPEN-FILE REPORT · · 1969

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Water Resources Division

SEDIMENT TRANSPORT IN STREAMS IN THE UMPQUA RIVER BASIN, OREGON

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By C. A. Onions

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ABSTRACT

This report presents tables of suspended-sediment data collected from 1956 to 1967 at 10 sites in the Umpqua River basin. Computations based on these data indicate that average annual suspended-sediment yields at these sites range from 137 to 822 tons per square mile. Because available data for the Umpqua River basin are generally inadequate for accurate determinations of sediment yield and for the definition of characteristics of fluvial sediments, recommendations are made for the collection and analysis of additional sediment data.

INTRODUCTION

The Umpqua River basin is noted for its beautiful, rugged scenery and streams of fresh, clear water. In the past, there has been little concern for the occasional turbidity of the normally clear streams of the basin. In recent years, however, because of the increased use of the basin for recreational and industrial purposes, the following questions have arisen: Does the turbidity represent a significant quantity of sediment and is this quantity increasing? Have the effects of logging, agriculture, forest fires, and recent floods increased erosion in the basin and thus increased the turbidity and sediment discharge of the streams? Are spawning areas of anadromous fish being endangered by sediment deposition? Will expected increase in population and industry introduce new sedimentation problems? Could sedimentation adversely affect existing and proposed engineering structures? It is with these questions in mind that the data and results of computations in this report are presented.

Sediment data are vital in water- and land-use planning and in the design of related engineering structures. For example, knowledge of the sediment characteristics of streams, principally the quantity and particle size of sediment in transport, is necessary to estimate the space needed for deposition of sediment in proposed reservoirs. Concentration of suspended sediment is a major factor in the design and operation of water-supply treatment plants.

Recognizing the need for fluvial-sediment data, the Douglas County Water Resources Survey, under the direction of Ben B. Irving, succeeded by Charles S. Collins, conducted a sediment investigation in the Umpqua River basin from 1956 to 1967. The investigation included the collection of suspended-sediment samples one to four times per month at 10 gaging stations in the basin. The samples were collected with a U.S. D-43 suspended-sediment sampler by personnel of Douglas County. Analysis of samples for sediment concentration was performed for the county at Oregon State University. Discharges at the gaging stations at the time of sampling were computed and furnished by the Douglas County Water Resources Survey.

The purpose of this report is to present the results of sediment-discharge measurements obtained by the county during the investigation and to summarize the results of computed sediment yields. This report was prepared by the Geological Survey at the request of Douglas County Water Resources Survey, using data available as stated above.

DATA AVAILABLE

Published data on sediment transport of Umpqua River basin streams are almost nonexistent. The data obtained by the Douglas County Water Resources Survey consist of periodic suspended-sediment discharge measurements at 10 gaging stations from 1956 to 1967 (fig. 1). Sediment discharges were computed from suspended-sediment concentrations and water discharge for the time of sampling. All these data are tabulated in table 1. The maximum and minimum observed suspended-sediment concentrations and discharges for each station listed in table 1 are given in table 2.

COMPUTATIONS

Suspended-Sediment Discharge and Yield

Data presented in table 1 provide a basis from which to estimate the quantity of suspended sediment transported by the streams and the relative sediment yield from the subbasins within the Umpqua River basin. Results of computations of average annual suspended-sediment discharge and yield for each sampling site are given in table 2.

The procedure used to compute annual suspended-sediment discharge consisted of: (1) relating observed suspended-sediment discharge to water discharge by correlation methods suggested by Colby (1956), and (2) relating sediment discharge to streamflow duration as suggested by Miller (1951).

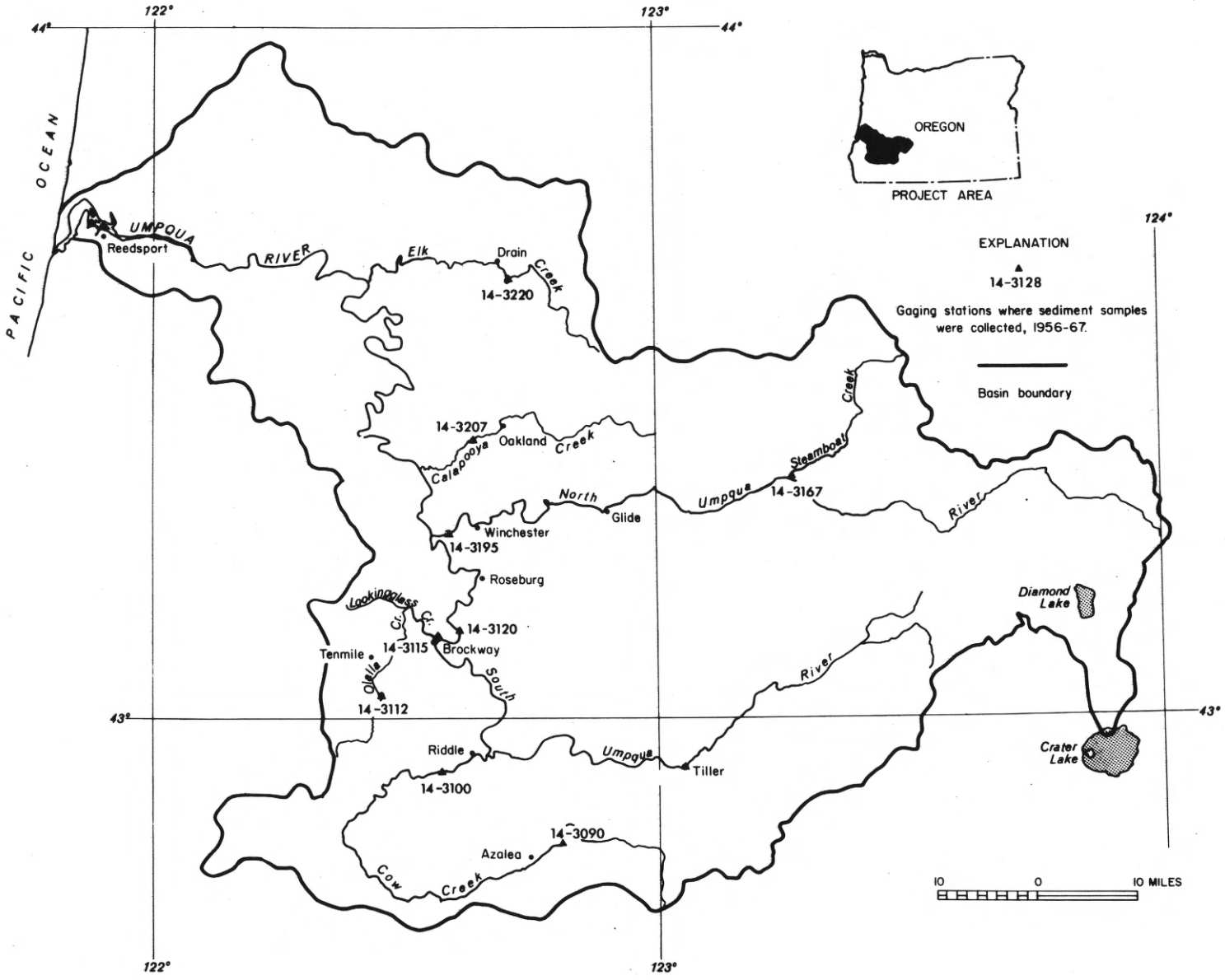

Figure 1.--Suspended-sediment sampling sites in the Umpqua River basin.

The reliability of the computed mean annual suspended-sediment discharge depends on how well the relationship of sediment discharge to water discharge is defined for the full range of flow. Definition for high flows is of particular importance, as demonstrated by sediment records for Flynn Creek, a small stream in the nearby Alsea River basin. For this stream, 85 percent of the annual sediment discharge occurred in a 5-day high-flow period during the winter of 1965. Because of the large sediment yield during this 5-day period, the annual sediment discharge for Flynn Creek in 1965 was greater than that for the 6 previous years combined.

As no special effort was made to obtain sediment-discharge measurements in the Umpqua River basin during periods of high flow, the high-flow end of many of the water-sediment discharge relationship curves is poorly defined. Accuracy of the annual suspended-sediment discharge for South Umpqua River at Tiller and Olalla Creek near Tenmile is considered to be fair because relationship curves for these two stations are well defined at low and medium flows and fairly well defined at high flows. The relationships for the other stations are well defined for low and medium flows but are poorly defined for high flows.

Weighted-Mean Concentration

As a means of comparing the suspended-sediment concentration at the 10 sites, the annual weighted-mean suspended-sediment concentration was computed and is shown in table 2. The weighted-mean concentration values shown were computed by dividing the mean annual suspended-sediment discharge by the mean annual water discharge and multiplying the result by a conversion factor to convert the units to milligrams per liter. The computed values ranged from 44 mg/l (milligrams per liter) for Steamboat Creek near Glide to 397 mg/l for Cow Creek near Riddle. The weighted-mean concentrations are, of course, no more reliable than are the computed average annual suspended-sediment discharge and annual water discharge from which they were derived. However, they do indicate the streams that on the average carry the highest and lowest concentrations of suspended sediment.

SUMMARY AND RECOMMENDATIONS

The results of computations indicate that mean annual sediment yields of 10 subbasins in Douglas County ranged from 137 to 822 tons per square mile. However, the observed suspended-sediment data were insufficient to define accurately the water-sediment-discharge relationships needed for reliable computation of sediment yields. For this reason, the yields indicated in table 2 should not be considered as accurate measures of the relative sediment yield of each subbasin.

In the future, at some sites it may be desirable to collect data at more frequent intervals and of greater variety. Refinement of suspended-sediment yields will require additional sediment-discharge measurements, particularly during high flows. At some sites, bedload discharge, which was not considered in the computations, could be a sizable portion of the total sediment discharge. Data should be obtained from which computations can be made to determine the significance of bedload at the sampling sites. Because of its importance in sediment transport and deposition, data on particle-size distribution of suspended and bed material should be obtained.

REFERENCES

Colby, B. R., 1956, Relationship of sediment discharge to streamflow: U.S. Geol. Survey open-file rept. 170 p.

Miller, C. R., 1951, Analysis of flow-duration, sediment rating curve method of computing sediment yield: U.S. Bur. Reclamation, Denver, Colo., 55 p.

GLOSSARY OF TERMS

The sediment terms used in this report are defined as follows:

Bedload is the sediment (1) that moves by sliding, rolling, or skipping on or very near the streambed, or (2) that is moved by tractive or gravitational forces, or both, but at velocities less than those of the adjacent flow.

Discharge-weighted mean concentration is the theoretical sediment concentration if all the water and sediment passing a section during a time interval were mixed. Concentrations are expressed in milligrams per liter.

Particle size is the diameter, in millimeters, of suspended sediment or bed sediment. A classification recommended by the Subcommittee on Sediment Terminology of the American Geophysical Union defines a particle having a diameter of less than 0.004 mm (millimeter) as clay, between 0.004 and 0.062 mm as silt, and between 0.062 and 2.0 mm as sand.

Sediment discharge is the quantity of sediment that is carried past any cross section of a stream in a unit of time. Basically, sediment discharge is made up of two components, suspended-sediment discharge and bedload discharge.

Sediment yield is the sediment discharge from a unit of drainage area, generally expressed in tons per square mile.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Table 1.--Water and suspended-sediment discharge data for streams in the Umpqua River basin

Date	Water discharge (cfs)	Observed suspended-sediment		Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)			Concentration (mg/l)	Discharge (tons per day)
14-3080. South Umpqua River near Tiller, Oreg.							
1956				1957			
Feb. 14	886	2	4.8	Dec. 2	241	2	1.3
Mar. 20	12,590	16	544	Dec. 23	2,740	18	133
Apr. 18	1,790	8	39	1958			
Apr. 30	1,020	6	17				
May 15	1,380	8	30				
May 28	690	2	3.7	Jan. 8	1,200	<1	T
June 15	620	20	33	Jan. 23	1,280	4	14
June 28	350	14	13	Feb. 10	2,430	8	52
Sept. 27	55	14	2.1	Mar. 5	1,410	10	38
Oct. 13	60	4	.6	Mar. 19	800	4	8.6
Nov. 13	378	6	6.1	Apr. 7	1,260	2	6.8
Nov. 30	193	4	2.1	Apr. 22	2,800	22	166
Dec. 13	12,620	198	6,750	May 6	1,020	18	50
Dec. 27	655	8	14	May 19	1,020	109	300
				June 4	2,070	120	671
1957				June 24	436	49	58
				July 10	246	64	43
Jan. 15	936	14	35	July 22	193	15	7.8
Jan. 29	370	8	8.0	Aug. 11	146	48	19
Feb. 13	1,030	18	50	Aug. 26	120	41	13
Feb. 25	8,020	146	3,160	Sept. 8	115	32	9.9
Mar. 13	3,880	30	314	Sept. 22	128	59	20
Mar. 27	2,180	16	94	Oct. 7	105	30	8.5
Apr. 15	996	12	32	Oct. 28	51	36	5.0
Apr. 29	635	8	14	Nov. 4	360	52	51
May 14	1,070	12	35	Nov. 18	690	17	32
June 4	358	16	15	Dec. 13	1,190	20	64
June 24	190	4	2.1	Dec. 29	1,720	24	111
July 8	150	<1	T				
July 23	110	6	1.8	1959			
Aug. 5	90	<1	T				
Aug. 19	73	<1	T	Jan. 14	2,400	2	13
Sept. 4	66	2	.4	Jan. 27	5,060	74	1,010
Sept. 16	66	<1	T	Feb. 9	872	18	42
Oct. 2	315	72	61	Feb. 24	1,620	20	87
Oct. 16	257	4	2.8	Mar. 11	800	2	4.3
Oct. 30	108	<1	T	Mar. 24	1,710	27	125
Nov. 18	2,400	114	739	Apr. 8	1,370	6	22

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1959			
May 14	1,020	39	107
May 27	688	25	46
June 9	472	22	28
June 24	262	16	11
July 8	211	19	11
July 24	89	18	4.3
Aug. 11	61	18	3.0
Sept. 8	56	19	2.9
Sept. 22	94	23	5.8
Oct. 12	310	2	1.7
Oct. 27	175	35	17
Nov. 12	100	5	1.4
Nov. 24	398	21	23
Dec. 8	103	12	3.3
Dec. 22	186	15	7.5
1960			
Jan. 7	488	51	67
Jan. 18	990	45	120
Feb. 2	2,230	39	235
Feb. 17	1,680	15	68
Mar. 2	446	17	20
Mar. 15	2,150	26	151
Apr. 7	2,030	19	104
Apr. 27	906	21	51
May 11	1,240	16	54
May 24	2,120	25	143
June 8	665	24	43
June 21	382	31	32
July 11	149	25	10
July 27	103	24	6.7
Aug. 9	71	11	2.1
Sept. 21	49	15	2.0
Oct. 7	124	25	8.4
Oct. 19	57	5	.8
Nov. 9	103	25	7.0
Nov. 29	960	15	39
Dec. 14	570	16	25
Dec. 28	635	27	46

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1961			
Jan. 11	414	21	23
Jan. 25	390	18	19
Feb. 8	1,500	17	69
Feb. 22	2,930	27	214
Mar. 8	2,400	29	188
Mar. 22	2,670	8	58
Apr. 5	1,850	14	70
Apr. 19	978	13	34
May 3	930	29	73
May 17	1,090	11	32
May 31	665	12	22
June 14	462	13	16
June 28	218	3	1.8
July 13	130	2	.7
July 26	97	16	4.2
Aug. 9	71	3	.6
Aug. 30	53	2	.3
Sept. 13	53	6	.9
Sept. 27	53	4	.6
Oct. 11	378	23	23
Oct. 25	200	4	2.2
Nov. 8	322	4	3.5
Nov. 22	19,130	1,260	65,100
Dec. 6	1,240	2	6.7
Dec. 20	6,870	124	2,300
1962			
Jan. 3	1,670	9	41
Jan. 17	605	65	106
Jan. 31	1,320	7	25
Feb. 14	1,510	5	20
Feb. 28	479	2	2.6
Mar. 7	1,560	72	303
Mar. 14	1,010	35	95
Mar. 28	2,730	16	118
Apr. 11	1,390	53	199
Apr. 25	650	9	16
May 9	954	6	15
May 23	826	11	25

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1962			
June 6	446	3	3.6
June 20	262	1	.7
July 3	130	2	.7
July 18	69	2	.4
Aug. 1	43	3	.3
Aug. 22	42	1	.1
Sept. 5	55	4	.6
Sept. 19	55	1	.2
Oct. 3	155	11	4.6
Oct. 9	975	111	292
Oct. 23	270	2	1.5
Nov. 20	869	7	16
Dec. 19	840	10	23
Dec. 24	548	57	84
1963			
Jan. 2	306	15	12
Jan. 18	240	2	1.3
Jan. 30	250	65	44
Feb. 13	810	6	13
Feb. 27	720	7	14
Mar. 13	480	5	6.5
Mar. 27	670	3	5.4
Apr. 10	2,000	8	43
Apr. 24	1,850	9	45
May 6	7,100	179	3,430
May 22	1,100	13	39
June 5	450	3	3.6
June 19	217	2	1.2
July 10	205	3	1.7
July 24	140	1	.4
Aug. 7	102	4	1.1
Aug. 21	73	7	1.4
Sept. 4	62	1	.2
Sept. 18	108	3	.9
Oct. 2	68	6	1.1
Oct. 16	79	8	1.7
Oct. 30	130	9	3.2
Nov. 13	709	4	7.7
Nov. 27	1,400	8	30
Dec. 11	601	7	11

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1964			
Jan. 8	2,750	22	163
Jan. 22	2,590	39	273
Feb. 10	1,490	17	68
Feb. 19	1,350	8	29
Mar. 3	940	13	33
Mar. 18	2,790	22	166
Apr. 1	2,770	30	224
Apr. 15	1,870	5	25
Apr. 29	1,380	18	67
May 13	1,350	5	18
May 27	964	1	2.6
June 10	1,170	39	123
July 8	254	2	1.4
July 22	152	<1	T
Aug. 5	120	<1	T
Aug. 19	81	3	.7
Sept. 2	94	<1	T
Sept. 16	55	4	.6
Sept. 30	52	5	.7
Oct. 14	48	1	.1
Oct. 28	55	1	.1
Nov. 10	161	46	20
Nov. 24	1,020	3	8.3
Dec. 2	7,640	102	2,100
Dec. 16	2,210	10	60
Dec. 30	2,660	69	496
1965			
Jan. 14	3,450	58	540
Jan. 27	3,570	61	588
Feb. 9	1,270	9	31
Feb. 24	862	4	9.3
Mar. 9	718	5	9.7
Mar. 24	340	5	4.6
Apr. 7	573	12	19
Apr. 20	2,370	28	179
May 5	523	3	4.2
May 19	405	1	1.1
June 2	255	4	2.8
June 15	303	14	11
June 30	79	7	1.5

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment		Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)			Concentration (mg/l)	Discharge (tons per day)
1965				1966			
July 14	40	1	0.1	Apr. 5	2,200	9	53
Aug. 3	52	2	.3	Apr. 20	920	7	17
Aug. 25	54	3	.4	May 4	890	8	19
Sept. 9	43	5	.6	May 18	385	5	5.2
Sept. 24	39	3	.3	June 1	250	2	1.4
Oct. 6	62	8	1.3	June 15	168	4	1.8
Oct. 19	123	6	2.0	June 29	111	1	.3
Nov. 3	47	2	.3	July 12	71	4	.8
Nov. 17	160	3	1.3	July 27	52	7	1.0
Nov. 30	300	1	.8	Aug. 24	43	7	.8
Dec. 15	165	2	.9	Sept. 8	38	2	.2
Dec. 30	888	13	31	Sept. 21	59	2	.3
				Oct. 6	66	4	.7
1966				Oct. 21	265	13	9.3
				Nov. 17	2,260	31	189
Jan. 12	1,320	18	64	Dec. 21	994	1	2.7
Jan. 25	1,250	16	54				
Feb. 9	1,230	12	40	1967			
Feb. 23	1,660	17	76				
Mar. 9	2,910	48	377	Jan. 5	482	7	9.1
Mar. 22	1,520	6	25	Jan. 19	1,070	8	23

14-3090. Cow Creek near Azalea, Oreg.

1956				1956			
Feb. 14	125	30	10	Nov. 13	19	<1	T
Apr. 18	270	108	.79	Nov. 30	23	10	.6
Apr. 30	330	118	105	Dec. 27	24	12	.8
May 15	224	32	19				
June 15	68	6	1.1	1957			
June 28	46	16	2.0				
July 13	47	20	2.5	Jan. 15	146	16	6.3
July 25	12	18	.6	Jan. 29	54	4	.6
Sept. 11	14	4	.2	Feb. 14	152	44	18
Sept. 27	16	24	1.0	Feb. 25	1,030	146	406
Oct. 13	18	2	.1	Mar. 13	543	44	65
Oct. 30	336	158	143	Mar. 27	217	16	9.4

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1957			
Apr. 15	98	8	2.1
Apr. 29	79	10	2.1
May 14	75	10	2.0
June 4	57	20	3.1
June 24	15	6	.2
July 8	21	<1	T
July 23	16	4	.2
Aug. 5	14	2	.1
Aug. 19	13	<1	T
Sept. 4	11	8	.2
Sept. 16	11	18	.5
Oct. 3	41	44	4.9
Oct. 16	23	2	.1
Oct. 30	20	<1	T
Nov. 18	69	14	2.3
Dec. 5	25	<1	T
Dec. 23	265	18	13
1958			
Jan. 8	106	< 1	T
Jan. 21	144	12	4.7
Feb. 10	430	62	72
Mar. 6	201	18	9.8
Mar. 19	99	24	6.4
Apr. 7	221	6	3.6
Apr. 22	178	20	9.6
May 6	74	32	6.4
May 19	49	79	10
June 5	95	93	24
June 24	32	77	6.7
July 10	26	50	3.5
July 22	20	35	1.9
Aug. 11	16	67	2.9
Aug. 26	16	43	1.9
Sept. 8	17	32	1.5
Sept. 22	16	70	3.0
Oct. 7	13	21	.7
Oct. 20	53	69	9.9
Nov. 6	26	34	2.4
Nov. 18	34	22	2.0
Dec. 13	28	21	1.6
Dec. 29	107	39	11
1959			
Jan. 15	203	8	4.4
Jan. 27	325	62	54
Feb. 9	26	26	1.8
Feb. 24	245	56	37
Mar. 11	118	23	7.3
Mar. 24	146	30	12
Apr. 8	122	14	4.6
May 14	60	50	8.1
May 27	44	17	2.0
June 9	35	29	2.7
June 24	23	22	1.4
July 8	19	10	.5
July 24	14	23	.9
Aug. 11	12	25	.8
Sept. 10	12	27	.9
Sept. 22	18	27	1.3
Oct. 12	19	8	.4
Oct. 27	17	33	1.5
Nov. 12	15	8	.3
Nov. 24	19	25	1.3
Dec. 8	15	17	.7
Dec. 22	18	28	1.4
1960			
Jan. 7	28	28	2.1
Jan. 18	80	66	14
Feb. 2	277	71	53
Feb. 17	141	22	8.4
Mar. 2	55	27	4.0

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment		Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)			Concentration (mg/l)	Discharge (tons per day)
1960				1961			
Mar. 15	230	41	25	Nov. 8	33	4	0.4
Apr. 7	143	27	10	Nov. 22	224	314	190
Apr. 27	73	20	3.9	Dec. 6	116	3	.9
May 11	57	21	3.2	Dec. 20	518	47	66
May 24	113	29	8.8				
June 8	50	26	3.5	1962			
June 21	29	32	2.5				
July 11	15	26	1.1	Jan. 3	113	8	2.4
July 27	12	16	.5	Jan. 17	77	11	2.3
Aug. 9	10	24	.6	Jan. 31	135	11	4.0
Aug. 31	11	29	.9	Feb. 14	320	23	20
Sept. 21	9.0	29	.7	Feb. 28	100	5	1.4
Oct. 7	26	21	1.5	Mar. 14	167	9	4.1
Oct. 19	25	9	.6	Mar. 28	320	18	16
Nov. 9	50	23	3.1	Apr. 11	103	6	1.7
Nov. 29	85	20	4.6	Apr. 25	67	3	.5
Dec. 14	59	23	3.7	May 9	56	4	.6
Dec. 28	73	21	4.1	May 23	181	68	33
				June 6	64	5	.9
1961				June 20	44	3	.4
				July 3	32	2	.2
Jan. 11	54	27	3.9	July 18	28	2	.2
Jan. 25	46	19	2.4	Aug. 1	22	3	.2
Feb. 8	106	20	5.7	Aug. 22	11	1	T
Feb. 22	255	11	7.6	Sept. 5	8.2	3	.1
Mar. 8	340	21	19	Sept. 19	18	2	.1
Mar. 22	424	25	29	Oct. 3	34	3	.3
Apr. 5	171	20	9.2	Oct. 9	124	87	29
Apr. 19	83	20	4.5	Oct. 23	25	23	1.6
May 3	79	29	6.2	Nov. 7	18	1	T
May 17	94	12	3.0	Nov. 20	60	4	.6
May 31	61	16	2.6	Dec. 19	115	5	1.6
June 14	42	14	1.6				
June 28	30	10	.8	1963			
July 12	26	24	1.7				
July 26	22	11	.6	Jan. 2	51	13	1.8
Aug. 9	16	27	1.2	Jan. 18	34	2	.2
Aug. 30	18	3	.1	Jan. 30	39	3	.3
Sept. 13	19	6	.3	Feb. 27	506	23	31
Sept. 27	22	2	.1	Mar. 13	62	3	.5
Oct. 11	63	161	27	Mar. 27	92	2	.5
Oct. 25	29	5	.4	Apr. 10	235	8	5.1

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1963			
Apr. 24	260	4	2.8
May 6	1,680	798	3,620
May 22	122	7	2.3
June 5	83	6	1.3
June 13	153	8	3.3
June 19	43	4	.5
July 10	40	3	.3
July 24	30	2	.2
Aug. 7	30	7	.6
Aug. 21	23	5	.3
Sept. 4	12	3	.1
Oct. 2	13	2	.1
Oct. 30	18	2	.1
Nov. 13	35	4	.4
Nov. 27	95	10	2.6
Dec. 11	36	8	.8
Dec. 24	33	7	.6
1964			
Jan. 7	140	48	18
Jan. 22	394	30	32
Feb. 4	268	10	7.2
Feb. 19	139	12	4.5
Mar. 4	179	16	7.7
Mar. 18	275	17	13
Apr. 1	335	27	24
Apr. 15	163	7	3.1
Apr. 29	108	2	.6
May 12	117	7	2.2
May 27	50	1	.1
June 10	45	4	.5
July 8	27	7	.5
July 22	19	1	.1
Aug. 19	14	2	.1
Sept. 16	18	4	.2
Sept. 30	11	6	.2
Oct. 14	13	5	.2
Oct. 28	13	2	.1
Nov. 10	36	1	.1
Nov. 24	44	2	.2
Dec. 2	241	27	18
Dec. 16	120	9	2.9
Dec. 30	325	39	34

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1965			
Jan. 27	497	105	141
Feb. 9	177	10	4.8
Feb. 24	109	3	.9
Mar. 9	97	4	1.0
Mar. 24	51	2	.3
Apr. 7	44	13	1.6
Apr. 20	1,300	68	239
May 5	52	2	.3
May 19	32	3	.3
June 2	19	1	.1
June 15	44	6	.7
June 30	22	8	.5
July 14	13	3	.1
Aug. 3	9.2	4	.1
Aug. 25	15	13	.5
Sept. 9	6.0	18	.3
Sept. 24	9.3	4	.1
Oct. 6	18	12	.6
Oct. 19	31	6	.5
Nov. 3	47	2	.3
Nov. 17	26	2	.1
Nov. 30	37	2	.2
Dec. 15	18	3	.1
Dec. 28	1,130	433	1,320
1966			
Jan. 12	167	6	2.7
Jan. 25	90	20	4.9
Feb. 9	127	5	1.7
Feb. 23	168	22	10
Mar. 9	640	104	180
Mar. 22	194	22	12
Apr. 6	310	300	251
Apr. 20	125	22	7.4
May 4	76	22	4.5
May 18	48	6	.8
June 1	29	9	.7
June 15	23	4	.2
June 29	20	1	.5
July 11	20	7	.4
July 27	9.2	9	.2
Aug. 24	11	4	.1
Sept. 8	12	2	.1

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment		Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)			Concentration (mg/l)	Discharge (tons per day)
1966				1966			
Sept. 21	25	2	0.1	Dec. 21	142	1	0.4
Oct. 4	26	9	.6				
Oct. 21	66	18	3.2	1967			
Nov. 17	188	36	18				
Dec. 7	308	48	40	Jan. 5	111	6	1.8
				Jan. 19	104	4	1.1

14-3100. Cow Creek near Riddle, Oreg.

1956				1957			
Feb. 15	778	28	59	July 8	88	<1	T
Mar. 20	3,610	36	351	July 23	61	4	.7
May 15	741	22	44	Aug. 5	37	4	.4
June 15	260	24	17	Aug. 19	32	<1	T
June 28	170	22	10	Sept. 4	30	14	1.1
July 13	103	52	14	Sept. 16	27	6	.4
July 25	59	32	5.1	Oct. 3	86	4	.9
Sept. 27	47	52	6.6	Oct. 16	229	2	1.2
Oct. 13	75	30	6.1	Oct. 31	150	<1	T
Nov. 13	175	20	9.4	Nov. 18	188	12	6.1
Nov. 30	128	16	5.5	Dec. 5	141	20	7.6
Dec. 14	2,270	56	343	Dec. 23	3,720	72	723
Dec. 27	365	<1	T				
1957				1958			
				Jan. 8	760	2	4.1
Jan. 15	2,340	94	594	Jan. 23	1,150	20	62
Jan. 28	508	10	14	Feb. 10	5,480	128	1,890
Feb. 14	1,140	10	31	Mar. 6	1,380	14	52
Feb. 25	940	200	508	Mar. 19	680	52	95
Mar. 13	6,110	130	2,140	Apr. 7	2,040	8	44
Mar. 27	1,510	26	106	Apr. 22	860	12	28
Apr. 11	672	12	22	May 6	415	146	164
Apr. 29	396	12	13	May 19	290	101	79
May 14	980	8	21	June 4	695	156	293
June 4	270	16	12	June 24	167	62	28
June 24	11	8	.2	July 10	112	38	11

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment Concentration (mg/l)	Observed suspended-sediment Discharge (tons per day)
1958			
July 22	74	30	6.0
Aug. 11	45	53	6.4
Aug. 26	34	40	3.7
Sept. 9	39	28	2.9
Sept. 22	50	51	6.9
Oct. 7	33	13	1.2
Oct. 20	189	52	27
Nov. 6	225	32	19
Nov. 18	1,100	15	45
Dec. 13	176	14	6.7
Dec. 29	1,830	48	237
1959			
Jan. 15	2,160	11	64
Jan. 27	1,580	32	137
Feb. 9	680	11	20
Feb. 24	2,120	22	126
Mar. 11	715	19	37
Mar. 24	1,700	52	239
Apr. 8	700	8	15
Apr. 28	300	21	17
May 14	216	44	26
May 27	178	17	8.2
June 9	142	31	12
June 24	79	17	3.6
July 8	63	18	3.1
July 24	33	25	2.2
Aug. 11	22	22	1.3
Sept. 10	22	28	1.7
Sept. 22	77	21	4.4
Oct. 12	84	12	2.7
Oct. 27	68	29	5.3
Nov. 12	52	12	1.7
Nov. 24	124	21	7.0
Dec. 8	59	20	3.2
Dec. 22	94	16	4.1
1960			
Jan. 7	121	22	7.2
1960			
Jan. 18	743	37	74
Feb. 4	3,310	75	670
Feb. 17	990	37	99
Mar. 2	330	25	67
Mar. 15	1,720	36	167
Apr. 7	910	31	76
Apr. 27	508	19	26
May 11	290	12	9.4
May 24	653	29	51
June 8	50	26	3.5
June 21	153	26	11
July 11	68	26	4.8
July 27	49	15	2.0
Aug. 9	34	16	1.5
Aug. 31	34	25	2.3
Sept. 21	30	23	1.9
Oct. 7	61	27	4.4
Oct. 19	47	7	.9
Nov. 9	49	28	3.7
Nov. 29	725	21	41
Dec. 15	271	47	34
Dec. 28	370	29	29
1961			
Jan. 11	385	78	81
Jan. 25	241	41	27
Feb. 8	667	36	65
Feb. 22	1,480	57	228
Mar. 8	3,140	69	585
Mar. 22	3,500	55	520
Apr. 5	850	25	57
Apr. 19	83	20	4.5
May 3	412	39	43
May 17	524	7	9.9
May 31	275	27	20
June 14	169	15	6.8
June 28	91	10	2.5
July 12	61	9	1.5
July 26	42	1	.1
Aug. 9	34	1	.1

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1961			
Aug. 30	27	2	0.1
Sept. 13	28	4	.3
Sept. 27	37	2	.2
Oct. 11	249	21	14
Oct. 25	102	32	8.8
Nov. 8	131	5	1.8
Nov. 22	241	32	21
Dec. 6	1,020	6	17
Dec. 20	4,140	179	2,000
1962			
Jan. 3	548	4	5.9
Jan. 17	412	8	8.9
Jan. 31	918	10	25
Feb. 14	3,060	78	644
Feb. 19	1,790	196	947
Feb. 28	667	6	11
Mar. 7	3,410	40	368
Mar. 14	1,560	13	55
Mar. 28	2,660	18	129
Apr. 11	500	5	6.8
Apr. 25	283	3	2.3
May 9	302	4	3.3
May 23	241	4	2.6
June 6	192	7	3.6
June 20	108	3	.9
July 3	66	5	.9
July 18	44	3	.4
Aug. 1	30	1	.1
Aug. 22	33	1	.1
Sept. 5	24	3	.2
Sept. 20	25	<1	T
Oct. 4	54	1	.1
Oct. 9	786	177	376
Oct. 23	189	5	2.6
Nov. 20	536	4	5.8
Dec. 19	677	8	15
Dec. 24	465	130	163

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1963			
Jan. 2	260	8	5.6
Jan. 18	175	2	.9
Jan. 30	175	3	1.4
Feb. 13	1,020	10	28
Feb. 27	506	23	31
Mar. 13	281	2	1.5
Mar. 27	434	5	5.9
Apr. 10	2,600	45	316
Apr. 24	1,920	11	57
May 6	16,600	1,210	54,200
May 22	620	4	6.7
June 5	348	2	1.9
June 19	168	3	1.4
July 10	40	3	.3
July 24	84	1	.2
Aug. 7	57	3	.5
Aug. 21	47	2	.3
Sept. 4	38	<1	T
Sept. 18	60	<1	T
Oct. 2	50	1	.1
Oct. 16	68	3	.6
Oct. 30	84	2	.5
Nov. 13	290	8	6.3
Nov. 27	710	8	15
Dec. 11	380	6	6.2
Dec. 24	250	3	2.0
1964			
Jan. 8	2,160	608	3,550
Feb. 10	740	24	48
Feb. 19	802	9	19
Mar. 4	1,210	22	72
Mar. 13	3,080	46	383
Mar. 18	1,980	23	123
Apr. 1	858	10	23
Apr. 15	410	4	4.4
Apr. 29	272	<1	T
May 12	471	6	7.6

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1964			
May 27	216	3	1.7
June 10	199	2	1.1
June 24	123	<1	T
July 8	95	1	.3
July 22	59	1	.2
Aug. 5	48	<1	T
Aug. 19	33	1	.1
Sept. 2	33	1	.1
Sept. 16	27	3	.2
Sept. 30	32	2	.2
Oct. 14	41	5	.6
Oct. 28	55	2	.3
Nov. 10	108	10	2.9
Nov. 24	453	1	1.2
Dec. 2	2,980	156	1,260
Dec. 16	958	20	52
1965			
Jan. 21	4,220	80	912
Jan. 27	4,050	146	1,600
Feb. 9	1,120	17	51
Feb. 24	557	3	4.5
Mar. 9	504	4	5.4
Mar. 24	278	12	9.0
Apr. 7	241	13	8.5
Apr. 20	1,810	63	308
May 5	289	2	1.6
May 19	177	3	1.4
June 2	127	3	1.0
June 15	119	6	1.9
June 30	78	9	1.9
July 14	46	1	.1
Aug. 3	32	2	.2
Aug. 25	34	10	.9
Sept. 9	32	4	.3
Sept. 24	29	3	.2

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1965			
Oct. 6	40	2	0.2
Oct. 19	90	4	1.0
Nov. 3	43	2	.2
Nov. 17	172	5	2.3
Nov. 30	270	11	8.0
Dec. 15	149	3	1.2
Dec. 29	2,320	103	645
1966			
Jan. 12	1,690	658	3,000
Jan. 25	774	20	42
Feb. 9	1,200	16	52
Feb. 23	1,190	31	100
Mar. 9	9,680	1,120	29,300
Mar. 22	1,230	57	189
Apr. 6	982	31	82
Apr. 20	445	13	16
May 4	255	28	19
May 18	162	15	6.6
June 1	115	5	1.6
June 15	89	4	1.2
June 29	61	1	.2
July 12	69	3	.6
July 27	42	9	1.0
Aug. 24	27	4	.3
Sept. 8	30	4	.3
Sept. 21	66	2	.4
Oct. 6	35	3	.3
Oct. 21	88	14	3.3
Nov. 17	1,810	301	1,470
Dec. 7	3,890	184	1,930
Dec. 21	820	4	8.9
1967			
Jan. 5	680	20	37
Jan. 19	570	65	100

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment		Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)			Concentration (mg/l)	Discharge (tons per day)
14-3112. Olalla Creek near Tenmile, Oreg.							
1956				1958			
Oct. 17	1.2	6	T	June 24	5.5	124	1.8
Oct. 31	375	100	101	July 10	2.7	40	.3
Nov. 14	14	10	.4	July 22	.9	40	.1
Nov. 30	14	6	.2	Aug. 11	.2	58	T
Dec. 12	1,030	118	328	Aug. 26	.2	56	T
				Sept. 9	.9	44	.1
1957				Sept. 23	.6	67	.1
				Oct. 8	48	130	17
Jan. 14	318	20	17	Oct. 20	7.6	36	.7
Jan. 29	81	6	1.3	Nov. 5	11	39	1.2
Feb. 15	168	4	1.8	Nov. 20	84	25	5.7
Feb. 25	2,120	330	1,890	Dec. 13	10	17	.5
Mar. 14	540	26	38	Dec. 29	152	56	23
Mar. 27	146	14	5.5				
Apr. 11	92	12	3.0	1959			
Apr. 29	23	2	.1				
May 16	18	8	.4	Jan. 16	100	25	6.8
June 5	18	16	.8	Jan. 27	410	282	312
June 24	5.0	6	.1	Feb. 9	50	33	4.4
July 23	2.7	20	.1	Feb. 25	69	13	2.4
Aug. 5	1.0	2	T	Mar. 11	10	23	.6
Aug. 19	1.0	4	T	Mar. 24	93	28	7.0
Sept. 5	.5	6	T	Apr. 8	39	12	1.3
Oct. 2	4.3	10	.1	Apr. 28	7.4	10	.2
Oct. 16	15	6	.2	May 14	3.7	41	.4
Nov. 18	110	12	3.6	May 27	2.6	16	.1
Dec. 5	16	8	.4	June 10	.7	26	T
Dec. 20	1,550	160	670	June 25	2.0	12	T
				July 9	1.3	15	T
1958				July 27	.8	18	T
				Aug. 12	.1	23	T
Jan. 7	145	4	1.6	Sept. 10	1.5	32	.1
Jan. 23	210	22	12	Sept. 23	2.4	26	.2
Feb. 10	575	42	65	Oct. 14	2.1	21	.1
Mar. 6	108	14	4.1	Oct. 27	2.8	26	.2
Mar. 19	190	8	4.1	Nov. 13	1.8	7	T
Apr. 7	137	12	4.4	Nov. 23	14	28	1.1
Apr. 22	90	10	2.4	Dec. 8	3.2	16	.1
May 7	14	28	1.1	Dec. 22	2.9	16	.1
May 19	8.0	90	1.9				
June 9	16	68	2.9				

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1960			
Jan. 7	21	26	1.5
Jan. 20	65	29	5.1
Feb. 2	298	53	43
Feb. 19	75	19	3.8
Mar. 4	53	71	10
Mar. 17	185	25	12
Apr. 7	69	50	9.4
Apr. 27	43	418	49
May 11	20	27	1.5
May 26	540	369	538
June 23	6.0	32	.5
July 13	1.8	16	.1
July 25	1.2	9	T
Aug. 10	1.0	26	.1
Aug. 30	1.0	23	.1
Sept. 21	.7	16	T
Oct. 10	2.3	22	.1
Oct. 21	1.5	13	.1
Nov. 10	1.9	27	.1
Nov. 30	57	20	3.1
Dec. 15	19	22	1.2
Dec. 29	27	45	3.3
1961			
Jan. 12	32	53	4.6
Jan. 26	21	27	1.6
Feb. 9	78	44	9.2
Feb. 23	129	11	3.8
Mar. 9	326	65	57
Mar. 23	264	31	22
Apr. 6	39	18	1.9
Apr. 20	18	17	.8
May 4	12	34	1.1
May 18	20	9	.5
June 1	12	41	1.3
June 13	7.0	12	.2
June 28	3.3	4	T
July 13	1.7	5	T
July 26	.8	1	T
Aug. 10	.5	3	T
Aug. 31	.6	2	T
1961			
Sept. 14	0.6	4	T
Sept. 28	.8	11	T
Oct. 12	5.3	11	.2
Oct. 26	6.5	4	.1
Nov. 9	6.3	4	.1
Nov. 26	282	26	20
Dec. 7	109	9	2.6
Dec. 22	451	54	66
1962			
Jan. 4	84	9	2.0
Jan. 18	58	31	4.9
Feb. 2	87	11	2.6
Feb. 16	183	14	6.9
Mar. 3	148	9	3.6
Mar. 15	241	7	4.6
Mar. 29	191	16	8.3
Apr. 12	31	6	.5
Apr. 27	31	17	1.4
May 10	26	4	.3
May 24	16	4	.2
June 7	11	4	.1
June 20	4.9	2	T
July 5	2.4	3	T
July 20	.9	1	T
Aug. 2	.3	4	T
Aug. 23	.3	1	T
Sept. 6	.7	3	T
Sept. 20	.2	2	T
Oct. 10	107	124	36
Oct. 24	12	5	.2
Nov. 21	86	10	2.3
Dec. 20	92	9	2.2
Dec. 25	46	19	2.4
1963			
Jan. 3	30	8	.6
Jan. 23	16	3	.1
Jan. 31	66	36	6.4
Feb. 14	59	7	1.1

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1963			
Feb. 28	62	5	0.8
Mar. 14	34	5	.5
Mar. 28	163	45	20
Apr. 11	165	17	7.6
Apr. 25	159	6	2.6
May 8	674	160	291
May 24	37	5	.5
June 6	22	4	.2
June 20	15	7	.3
July 11	13	3	.1
July 24	8.7	2	T
Aug. 9	5.9	5	.1
Aug. 22	4.3	5	.1
Sept. 6	3.9	8	.1
Sept. 19	6.7	1	T
Oct. 3	4.4	3	T
Oct. 18	6.0	2	T
Nov. 1	3.5	2	T
Nov. 15	321	103	89
Nov. 29	41	6	.7
Dec. 12	45	14	1.7
Dec. 27	87	20	4.7
1964			
Jan. 8	290	28	22
Jan. 24	334	59	53
Feb. 6	98	13	3.4
Feb. 21	96	16	4.1
Mar. 6	539	56	81
Mar. 20	120	15	4.9
Apr. 3	50	3	.4
Apr. 17	33	5	.4
May 1	27	1	.1
May 18	26	7	.5
June 2	18	<1	T
June 12	18	4	.2
July 10	14	<1	T
July 23	.9	1	T
Aug. 7	.7	3	T
Aug. 21	.5	2	T
Sept. 4	.6	1	T

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1964			
Sept. 18	112	8	2.4
Oct. 2	.9	2	T
Oct. 16	3.0	4	T
Oct. 29	8.4	1	T
Nov. 12	17	20	.9
Nov. 24	79	9	2.0
Dec. 4	185	10	5.0
Dec. 18	98	10	2.6
1965			
Jan. 21	450	24	29
Jan. 29	680	40	73
Feb. 11	68	5	.9
Feb. 26	64	1	.2
Mar. 10	55	5	.7
Mar. 26	58	4	.6
Apr. 12	69	147	27
Apr. 22	92	8	2.0
May 7	28	12	.9
May 21	17	1	T
June 4	15	4	.2
June 15	4.8	10	.1
June 30	3.5	10	.1
July 16	1.0	4	T
Aug. 4	.3	12	T
Aug. 27	.6	4	T
Sept. 11	.2	3	T
Sept. 27	.7	3	T
Oct. 8	1.2	6	T
Oct. 20	7.2	6	T
Nov. 5	4.1	2	T
Nov. 19	5.1	1	T
Dec. 1	11	2	.1
Dec. 17	5.4	1	T
1966			
Jan. 7	1,200	696	2,260
Jan. 21	41	5	.6
Jan. 27	26	7	.5
Feb. 11	158	9	3.8

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1966			
Feb. 25	39	4	0.4
Mar. 10	728	321	631
Mar. 24	239	6	3.9
Apr. 7	2.5	6	T
Apr. 22	.6	4	T
May 6	14	5	.2
May 20	5.0	2	T
June 3	5.7	2	T
June 17	1.5	4	T
July 1	1.9	2	T
July 13	1.7	1	T
July 29	1.0	9	T
Oct. 27	2.7	6	T
Nov. 22	434	34	40
Dec. 12	2.7	18	.1
Dec. 23	67	4	.7
1967			
Jan. 6	38	12	1.2
Jan. 20	298	186	150

14-3115. Lookingglass Creek near Brockway, Oreg.

1956			
Feb. 15	164	20	8.9
Mar. 16	445	28	34
Apr. 19	92	12	3.0
May 15	70	18	3.4
June 15	24	6	.4
June 28	9.8	42	1.1
July 13	10	2	.1
Oct. 31	1,010	130	355
Nov. 30	11	12	.3
Dec. 12	2,510	370	2,510
Dec. 27	176	2	1.0
1957			
Jan. 14	748	40	81
Jan. 28	250	16	11
Feb. 15	397	20	21
Feb. 28	1,490	372	1,500
Mar. 14	1,420	88	337
Mar. 27	293	12	9.5
Apr. 11	178	8	3.8
Apr. 29	75	16	3.2
May 16	50	8	1.1
1957			
June 4	26	18	1.3
June 24	15	18	.8
July 8	5.0	8	.1
Oct. 16	33	20	1.8
Nov. 19	266	22	16
Dec. 20	4,460	602	7,250
1958			
Jan. 7	205	34	19
Jan. 23	420	24	27
Feb. 11	830	56	126
Mar. 6	276	54	40
Mar. 19	174	6	2.8
Apr. 7	334	24	22
Apr. 22	244	26	17
May 7	60	22	3.6
May 19	37	12	1.2
June 9	105	122	35
June 24	23	68	4.2
July 10	12	44	1.4
July 22	4.1	40	.4
Oct. 8	1.0	70	.2

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1958			
Oct. 20	22	39	2.3
Nov. 5	60	48	7.9
Nov. 20	425	74	85
Dec. 13	71	28	5.4
Dec. 29	611	113	186
1959			
Jan. 16	438	61	72
Jan. 27	2,530	465	3,180
Feb. 9	282	45	34
Feb. 25	302	21	17
Mar. 11	85	22	5.0
Mar. 24	153	30	12
Apr. 10	125	14	4.7
Apr. 28	45	12	1.5
May 14	29	34	2.7
May 27	23	17	1.1
June 10	138	25	9.3
June 25	4.7	21	.3
Oct. 14	8.0	27	.6
Oct. 27	13	32	1.1
Nov. 13	7.0	13	.3
Nov. 23	59	53	8.4
Dec. 8	10	21	.6
Dec. 22	19	12	.6
1960			
Jan. 8	418	205	231
Jan. 20	192	40	21
Feb. 4	511	101	139
Feb. 19	271	40	29
Mar. 4	510	101	139
Mar. 17	482	35	46
Apr. 7	211	47	27
Apr. 27	141	55	21
May 11	60	21	3.4
May 26	1,220	903	2,970
June 8	59	29	4.6
June 23	17	29	1.3
1960			
July 13	2.5	20	0.1
Oct. 21	6.0	5	.1
Nov. 10	7.8	30	.6
Nov. 30	176	31	15
Dec. 15	64	29	5.0
Dec. 29	97	29	7.6
1961			
Jan. 12	97	42	11
Jan. 26	79	31	6.6
Feb. 9	230	26	16
Feb. 23	372	31	31
Mar. 9	713	72	139
Mar. 23	611	55	91
Apr. 6	141	19	7.2
Apr. 20	73	21	4.1
May 4	46	28	3.5
May 18	65	13	2.3
June 1	27	16	1.2
June 15	13	24	.8
June 28	2.9	9	.1
Oct 26	13	5	.2
Nov. 9	16	3	.2
Nov. 25	1,240	516	1,730
Dec. 7	320	28	24
Dec. 22	1,580	360	1,540
1962			
Jan. 4	315	24	20
Jan. 18	144	17	6.6
Jan. 30	294	20	16
Feb. 16	470	43	55
Mar. 3	570	41	63
Mar. 15	490	13	17
Mar. 29	525	29	41
Apr. 12	100	6	1.6
Apr. 17	71	7	1.3
May 11	75	6	1.2
May 24	43	5	.6

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment		Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)			Concentration (mg/l)	Discharge (tons per day)
1962				**1964**			
June 6	27	3	0.2	Apr. 17	60	8	1.3
June 21	10	3	.1	May 1	48	3	.4
Oct. 10	112	25	7.6	May 18	42	10	1.1
Oct. 24	36	9	.9	June 2	19	5	.3
Nov. 21	308	22	18	June 12	17	6	.3
Dec. 20	254	11	7.5	Nov. 12	31	186	16
Dec. 25	578	54	84	Nov. 25	211	11	6.3
				Dec. 4	590	28	45
1963				Dec. 17	315	15	13
Jan. 3	55	9	1.3	**1965**			
Jan. 23	29	7	.5				
Jan. 31	78	47	9.9	Jan. 21	879	55	131
Feb. 14	150	12	4.9	Jan. 29	2,090	135	762
Feb. 28	172	9	4.2	Feb. 11	150	9	3.6
Mar. 14	94	18	4.6	Feb. 24	74	5	1.0
Mar. 28	410	65	72	Mar. 10	103	7	1.9
Apr. 11	480	32	41	Mar. 26	61	6	1.0
Apr. 25	415	21	24	Apr. 8	54	4	.6
May 7	4,960	488	6,540	Apr. 22	159	19	8.2
May 23	92	8	2.0	May 7	82	11	2.4
June 6	32	3	.3	May 21	34	2	.2
June 20	10	4	.1	June 4	11	3	.1
July 11	6.6	4	.1	June 15	8.6	14	.3
July 24	27	3	.2	June 30	2.0	12	.1
Oct. 18	8.5	8	.2	Nov. 5	20	28	1.5
Nov. 1	6.6	3	.1	Nov. 19	73	13	2.6
Nov. 15	750	103	209	Dec. 1	32	20	1.7
Nov. 29	122	11	3.6	Dec. 16	20	22	1.2
Dec. 12	137	19	7.0				
Dec. 27	220	33	20	**1966**			
1964				Jan. 7	3,720	997	10,000
				Jan. 12	550	113	168
Jan. 8	870	327	768	Jan. 27	140	330	125
Jan. 24	992	158	423	Feb. 11	520	114	160
Feb. 5	341	27	25	Feb. 25	124	11	3.7
Feb. 21	265	19	14	Mar. 10	2,230	565	3,400
Mar. 6	1,570	593	2,510	Mar. 22	1,250	166	560
Mar. 20	309	38	32	Apr. 7	61	8	1.3
Apr. 3	118	8	2.5	Apr. 22	54	6	.9

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment		Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)			Concentration (mg/l)	Discharge (tons per day)
1966				**1966**			
May 6	25	4	0.3	Dec. 23	153	5	2.1
May 20	13	4	.1				
Oct. 27	5.0	88	1.2	**1967**			
Nov. 22	945	311	794				
Dec. 12	766	110	228	Jan. 6	330	27	24
				Jan. 18	565	238	363

14-3120. South Umpqua River near Brockway, Oreg.

1956				**1957**			
Feb. 15	2,640	15	107	Apr. 29	1,430	10	39
Mar. 20	9,150	46	1,140	May 16	1,380	9	34
Apr. 18	3,720	34	341	June 6	685	25	46
Apr. 30	2,210	23	137	June 26	335	8	7.2
May 29	1,410	19	110	July 10	230	6	3.7
June 15	1,280	9	31	July 23	185	3	1.5
June 28	710	8	15	Aug. 19	114	7	2.2
July 13	390	10	11	Sept. 7	83	5	1.2
July 26	210	8	4.5	Sept. 18	87	5	1.2
Sept. 12	142	3	1.2	Oct. 2	332	19	17
Sept. 28	146	16	6.3	Oct. 16	680	13	24
Oct. 19	241	7	4.6	Nov. 19	728	50	98
Oct. 31	8,350	80	1,800	Dec. 5	1,230	5	17
Nov. 15	740	4	80	Dec. 20	26,160	420	29,700
Nov. 28	630	11	19				
Dec. 13	25,300	337	23,000	**1958**			
Dec. 28	1,560	3	13				
				Jan. 7	3,070	18	149
1957				Jan. 22	4,120	16	178
				Feb. 11	8,350	47	1,060
Jan. 14	4,620	38	474	Mar. 6	4,150	17	190
Jan. 28	1,880	9	46	Mar. 19	2,250	4	24
Feb. 15	5,700	52	800	Apr. 8	4,320	15	175
Feb. 28	13,770	172	6,390	Apr. 23	4,800	18	233
Mar. 14	12,570	97	3,290	May 7	1,710	24	111
Mar. 27	5,820	33	519	May 19	1,540	52	216
Apr. 11	2,950	15	119	June 9	4,000	120	1,300

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1958			
June 23	700	94	178
July 10	381	50	51
July 22	234	46	29
Aug. 11	178	54	26
Aug. 26	140	37	14
Sept. 10	120	26	8.4
Sept. 23	146	58	23
Oct. 8	113	22	6.7
Oct. 20	518	37	52
Nov. 5	813	32	70
Nov. 19	4,730	80	1,020
Dec. 13	1,800	27	131
Dec. 29	5,220	60	846
1959			
Jan. 16	5,030	7	95
Jan. 27	10,000	288	7,780
Feb. 10	3,710	38	380
Feb. 24	5,490	30	445
Feb. 12	1,880	29	147
Mar. 25	4,050	27	295
Apr. 10	2,340	8	51
Apr. 28	1,480	32	128
May 13	1,250	38	128
May 29	918	15	37
June 11	630	20	34
June 25	309	17	14
July 9	210	24	14
July 27	112	18	5.4
Aug. 12	70	23	4.3
Sept. 11	79	24	5.1
Sept. 23	240	26	17
Oct. 14	373	27	27
Oct. 28	286	29	22
Nov. 13	190	26	13
Nov. 23	491	28	37
Dec. 9	202	14	7.6
Dec. 23	345	11	10

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1960			
Jan. 8	2,180	52	306
Jan. 18	3,980	284	3,050
Feb. 2	9,380	185	4,690
Feb. 17	4,180	34	384
Mar. 4	1,850	38	190
Mar. 17	6,000	35	567
Apr. 8	3,810	26	267
Apr. 27	2,100	13	74
May 12	1,980	20	107
May 26	6,240	88	1,480
June 9	1,170	16	51
June 23	509	25	34
July 13	202	20	11
July 27	134	16	5.8
Aug. 10	79	12	2.6
Aug. 30	112	34	10
Sept. 21	83	18	4.0
Oct. 6	89	20	4.8
Oct. 21	136	13	4.8
Nov. 10	156	24	10
Nov. 30	2,540	28	192
Dec. 16	1,210	28	91
Dec. 29	1,430	18	69
1961			
Jan. 12	1,100	43	128
Jan. 27	834	31	70
Feb. 9	3,540	18	172
Feb. 23	5,960	35	563
Mar. 10	9,100	66	1,620
Mar. 23	9,550	64	1,650
Apr. 6	3,420	20	185
Apr. 21	1,780	17	82
May 5	1,690	30	137
May 19	2,060	12	67
June 5	1,190	12	39
June 16	660	10	18
June 28	325	6	5.3

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment Concentration (mg/l)	Observed suspended-sediment Discharge (tons per day)
1961			
July 14	178	4	1.9
July 26	120	3	1.0
Aug. 10	89	4	1.0
Aug. 31	73	4	.8
Sept. 14	80	5	1.1
Sept. 28	108	3	.9
Oct. 13	469	20	25
Oct. 26	394	6	6.4
Nov. 10	505	4	5.5
Nov. 27	11,000	149	4,430
Dec. 8	3,260	10	88
Dec. 21	23,300	327	20,600
1962			
Jan. 5	2,720	10	73
Jan. 19	1,930	132	688
Jan. 30	4,110	30	333
Feb. 8	13,200	480	17,100
Feb. 15	6,220	34	571
Mar. 3	3,000	20	162
Mar. 8	7,400	49	979
Mar. 16	4,980	21	282
Mar. 26	14,600	242	954
Apr. 10	3,400	10	92
Apr. 27	1,360	4	15
May 11	1,880	8	41
May 22	1,060	8	23
June 8	818	6	13
June 22	432	3	3.5
July 5	248	2	1.3
July 20	149	1	.4
Aug. 2	97	4	1.0
Aug. 23	106	4	1.1
Sept. 6	75	4	.8
Sept. 20	89	2	.5
Oct. 4	195	4	2.1
Oct. 9	1,020	44	121
Oct. 23	758	4	8.2
Nov. 20	2,740	12	89
Dec. 4	15,100	636	25,900
Dec. 19	2,950	11	88
1963			
Jan. 3	990	4	11
Jan. 18	679	4	7.3
Jan. 31	1,020	9	25
Feb. 15	2,150	10	58
Mar. 1	2,710	7	51
Mar. 15	1,470	4	16
Mar. 27	1,830	6	30
Mar. 29	17,330	1,030	48,200
Apr. 11	6,210	23	386
Apr. 24	6,020	4	65
May 7	38,540	226	23,500
May 23	2,350	6	38
June 7	1,090	5	15
June 21	550	3	4.5
July 12	416	12	13
July 26	242	2	1.3
Aug. 9	169	6	2.7
Aug. 22	131	2	.7
Sept. 5	107	1	.3
Sept. 20	212	1	.6
Oct. 3	137	4	1.5
Oct. 17	167	2	.9
Nov. 1	285	6	4.6
Nov. 15	7,870	83	1,760
Nov. 29	2,070	5	28
Dec. 13	1,200	6	19
Dec. 27	2,120	16	92
1964			
Jan. 10	7,450	45	905
Jan. 24	8,020	80	1,730
Feb. 5	5,890	22	350
Feb. 19	3,530	18	172
Mar. 5	12,700	183	6,280
Mar. 13	11,300	90	2,750
Mar. 19	6,420	51	884
Apr. 2	5,150	24	334
Apr. 16	2,970	10	80
Apr. 30	2,090	14	79
May 14	2,170	8	47
May 28	1,330	6	22

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1964			
June 11	1,580	6	26
June 26	729	6	12
July 9	372	2	2.0
July 23	215	1	.6
Aug. 7	161	2	.7
Aug. 21	115	2	.6
Sept. 3	133	1	.4
Sept. 18	108	5	1.5
Oct. 2	112	3	.9
Oct. 16	121	14	.8
Oct. 29	153	2	.8
Nov. 12	580	325	509
Nov. 25	6,590	20	356
Dec. 4	6,470	43	751
Dec. 17	4,130	16	178
1965			
Jan. 15	14,100	195	7,420
Jan. 28	18,920	504	25,700
Feb. 9	3,820	24	248
Feb. 24	2,146	22	127
Mar. 10	1,860	8	40
Mar. 25	948	12	31
Apr. 8	1,210	16	52
Apr. 20	7,090	177	3,390
May 6	1,360	18	66
May 20	860	4	9.3
June 3	540	6	8.7
June 17	400	7	7.6
July 6	173	8	3.7
July 16	137	4	1.5
Aug. 4	94	5	1.3
Aug. 27	133	4	1.4
Sept. 11	80	15	3.2
Sept. 27	85	4	.9
Oct. 8	128	4	1.4

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1965			
Oct. 20	290	10	7.8
Nov. 5	432	91	106
Nov. 17	420	8	9.1
Nov. 30	735	5	9.9
Dec. 16	460	6	7.4
Dec. 30	9,620	308	8,000
1966			
Jan. 11	7,190	112	2,170
Jan. 25	2,630	21	149
Feb. 9	3,250	20	176
Feb. 23	3,550	33	316
Mar. 10	25,800	1,400	97,500
Mar. 22	8,080	94	2,050
Apr. 6	4,490	49	594
Apr. 20	1,970	6	32
May 4	1,270	7	24
May 18	718	6	12
June 3	550	50	74
June 17	346	5	4.7
July 1	182	8	3.9
July 13	200	8	4.3
July 29	120	12	3.9
Aug. 26	68	8	1.5
Sept. 7	51	5	.7
Sept. 23	175	8	3.8
Oct. 10	103	4	1.1
Oct. 27	325	204	179
Nov. 22	12,300	108	3,590
Dec. 7	12,800	249	8,610
Dec. 21	3,040	6	49
1967			
Jan. 5	2,950	44	350
Jan. 19	2,740	11	81

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment		Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)			Concentration (mg/l)	Discharge (tons per day)
14-3167. Steamboat Creek near Glide, Oreg.							
1956				1958			
Mar. 21	2,000	22	119	Apr. 8	620	4	6.7
May 14	1,040	14	39	Apr 23	1,990	26	140
May 28	312	12	10	May 8	364	12	12
June 14	312	4	3.4	May 20	230	48	30
July 12	86	4	.9	June 9	737	92	183
July 25	65	20	3.5	June 25	175	66	31
Oct. 17	54	4	.6	July 8	86	46	11
Dec. 12	6,000	58	940	July 23	53	31	4.4
Dec. 26	546	10	15	Aug. 12	35	26	2.5
				Aug. 27	30	36	2.9
1957				Sept. 11	30	23	1.8
				Sept. 24	29	41	3.2
Jan. 16	1,110	12	36	Oct. 9	26	28	2.0
Jan. 30	284	2	1.5	Oct. 21	61	22	3.6
Feb. 15	1,740	1	4.7	Nov. 5	685	30	55
Mar. 1	1,520	6	25	Nov. 20	2,360	9	57
Mar. 15	2,110	8	46	Dec. 12	1,800	12	58
Mar. 28	1,350	4	15	Dec. 30	1,830	23	114
Apr. 15	537	4	5.8				
May 13	325	6	5.3	1959			
June 3	196	16	8.5				
June 25	145	4	1.6	Jan. 15	890	7	17
July 9	90	4	.9	Jan. 28	4,530	15	183
July 22	82	12	2.7	Feb. 11	379	9	9.2
Aug. 20	56	2	.3	Feb. 25	790	8	17
Sept. 17	51	2	.3	Mar. 12	404	19	21
Oct. 1	140	14	5.3	Mar. 25	835	18	41
Oct. 17	81	6	1.3	Apr. 9	507	8	11
Nov. 20	625	2	3.4	Apr. 27	430	44	51
Dec. 4	190	4	2.1	May 15	349	42	40
Dec. 24	2,280	10	62	May 28	182	10	4.9
				June 11	136	19	7.0
1958				June 23	112	14	4.2
				July 7	82	13	2.9
Jan. 6	885	14	33	July 23	65	7	1.2
Jan. 23	665	10	18	Aug. 10	48	13	1.7
Feb. 11	1,840	6	30	Sept. 9	47	19	2.4
Mar. 4	737	2	4.0	Sept. 21	130	16	5.6

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1959			
Oct. 13	204	7	3.9
Oct. 28	120	22	7.1
Nov. 10	80	10	2.2
Nov. 23	1,170	14	44
Dec. 9	84	11	2.5
Dec. 21	158	6	2.6
1960			
Jan. 6	152	20	8.2
Jan. 19	580	31	49
Feb. 3	1,340	15	54
Feb. 18	1,030	27	75
Mar. 3	444	17	20
Mar. 16	1,810	9	44
Apr. 6	1,520	17	70
Apr. 26	908	5	12
May 12	1,030	16	44
May 25	1,250	14	47
June 7	389	31	33
June 22	175	20	9.5
July 12	92	21	5.2
July 28	70	16	3.0
Aug. 8	56	9	1.4
Sept. 1	58	37	5.8
Sept. 19	46	17	2.1
Oct. 5	38	11	1.1
Oct. 20	46	16	2.0
Nov. 7	56	21	3.2
Nov. 28	854	15	35
Dec. 16	425	19	22
Dec. 30	320	23	20
1961			
Jan. 13	406	33	36
Jan. 24	264	14	10
Feb. 10	10,300	301	8,370
Feb. 24	1,250	15	51
Mar. 9	1,620	15	66
Mar. 24	2,150	22	128
1961			
Apr. 4	1,370	9	33
Apr. 20	496	13	17
May 2	627	25	42
May 19	694	4	7.5
June 1	303	11	9.0
June 16	204	16	8.8
June 28	108	1	.3
July 14	71	3	.6
July 28	52	6	.8
Aug. 10	46	2	.3
Sept. 1	49	7	.9
Sept. 15	36	9	.9
Sept. 29	34	2	.2
Oct. 13	248	6	4.0
Oct. 26	140	14	5.3
Nov. 9	152	3	1.2
Nov. 24	2,750	24	178
Dec. 5	1,420	17	65
Dec. 22	2,830	17	130
1962			
Jan. 5	932	2	5.0
Jan. 18	446	6	7.2
Feb. 2	794	3	6.4
Feb. 16	818	4	8.8
Mar. 16	788	3	6.4
Mar. 30	1,560	6	25
Apr. 10	1,240	4	13
Apr. 26	351	2	1.9
May 10	848	5	11
May 24	509	7	9.6
June 7	307	2	1.7
June 21	171	1	.5
July 5	95	1	.3
July 19	67	1	.2
Aug. 2	47	7	.9
Aug. 23	44	2	.2
Sept. 6	31	3	.3
Oct. 4	69	1	.2
Oct. 10	1,660	19	85

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1962			
Oct. 24	135	2	0.7
Nov. 21	2,170	15	88
Dec. 5	1,970	6	32
Dec. 20	441	3	3.6
1963			
Jan. 3	408	6	6.6
Jan. 17	164	14	6.2
Jan. 31	540	13	19
Feb. 14	392	2	2.1
Feb. 28	800	6	13
Mar. 14	325	2	1.8
Mar. 28	669	1	1.8
Apr. 11	1,180	2	6.4
Apr. 25	1,250	1	3.4
May 9	1,740	8	38
May 23	492	5	6.6
June 6	320	4	3.5
June 20	132	2	.7
July 12	116	3	.9
Aug. 7	61	3	.5
Aug. 23	54	5	.7
Sept. 6	42	1	.1
Sept. 20	64	3	.5
Oct. 4	42	2	.2
Oct. 17	44	6	.7
Nov. 1	76	1	.2
Nov. 15	1,870	9	45
Nov. 26	923	2	5.0
Dec. 12	470	3	3.8
Dec. 26	824	17	38
1964			
Jan. 9	1,400	9	34
Jan. 23	1,040	7	20
Feb. 12	923	5	12
Feb. 21	989	10	27
Mar. 5	2,750	16	119
Mar. 19	1,470	6	24

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1964			
Apr. 2	1,710	5	23
Apr. 16	1,180	2	6.4
Apr. 30	826	4	8.9
May 13	971	2	5.2
July 23	104	1	.3
Oct. 2	60	2	.3
Nov. 12	339	27	25
Nov. 25	2,440	22	145
Dec. 3	2,840	18	138
Dec. 17	1,120	10	30
1965			
Jan. 28	10,190	3,870	106,000
Feb. 10	921	9	22
Feb. 25	572	11	17
Mar. 9	490	9	12
Mar. 25	213	7	4.0
Apr. 8	358	2	1.9
Apr. 21	1,350	17	62
May 6	1,020	2	5.5
May 20	1,080	3	8.7
June 3	769	1	2.1
June 17	625	1	1.7
July 1	545	8	12
July 15	83	2	.4
Aug. 4	53	2	.3
Aug. 26	67	3	.5
Sept. 10	46	2	.2
Sept. 22	44	4	.5
Oct. 7	53	2	.3
Oct. 21	81	5	1.1
Nov. 2	66	3	.5
Nov. 18	245	26	17
Dec. 1	490	38	50
Dec. 16	107	3	.9
Dec. 27	670	4	7.2
1966			
Jan. 11	992	19	51

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment		Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)			Concentration (mg/l)	Discharge (tons per day)
1966				1966			
Jan. 26	500	5	6.8	July 28	60	6	1.0
Feb. 10	490	6	7.9	Aug. 25	40	4	.4
Feb. 24	970	4	10	Sept. 7	46	2	.2
Mar. 10	4,480	172	2,080	Oct. 5	34	6	.6
Mar. 23	800	2	4.3	Oct. 19	51	2	.3
Apr. 4	1,370	9	33	Nov. 14	5,560	607	9,110
Apr. 21	360	5	4.9	Dec. 9	845	5	11
May 5	540	7	10	Dec. 23	505	1	1.4
May 19	265	4	2.9				
June 2	100	1	.3	1967			
June 16	165	3	1.3				
June 30	74	1	.2	Jan. 4	901	9	22
July 14	88	25	5.9	Jan. 18	696	9	17

14-3195. North Umpqua River at Winchester, Oreg.

1956				1957			
Feb. 16	3,270	24	212	Jan. 14	3,670	14	139
Mar. 21	7,100	6	115	Jan. 28	2,390	4	26
Apr. 16	6,740	20	364	Feb. 14	7,340	64	1,270
Apr. 27	5,470	17	251	Feb. 28	15,310	67	2,770
May 28	4,450	13	156	Mar. 14	10,400	24	674
June 14	3,370	20	182	Mar. 28	6,110	7	115
June 29	2,720	3	22	Apr. 12	4,420	10	119
July 14	1,840	3	15	Apr. 29	3,130	4	34
July 26	1,550	10	42	May 16	3,240	8	70
Sept. 12	1,170	2	6.3	June 6	2,450	10	66
Sept. 28	1,050	4	11	June 26	1,590	2	8.6
Oct. 19	1,560	6	25	July 10	1,380	6	22
Oct. 29	2,540	12	82	July 24	1,160	7	22
Nov. 14	2,040	7	39	Aug. 20	824	10	22
Nov. 28	1,610	9	39	Sept. 7	1,000	14	38
Dec. 17	7,500	33	668	Sept. 18	1,000	2	5.4
Dec. 28	2,970	4	32	Oct. 1	1,270	4	14

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1957			
Oct. 18	1,300	6	21
Oct. 31	944	10	25
Nov. 19	5,760	15	233
Dec. 6	1,460	14	55
Dec. 20	39,200	220	23,300
1958			
Jan. 8	3,960	11	118
Jan. 22	5,210	9	127
Feb. 11	7,550	10	204
Mar. 7	3,940	4	43
Apr. 8	3,710	5	50
Apr. 23	9,440	15	382
May 7	3,220	36	313
May 20	3,820	49	505
June 9	6,550	103	1,820
June 23	2,020	88	480
July 11	1,520	26	106
July 23	1,270	42	144
Aug. 12	1,120	33	98
Aug. 26	1,210	32	105
Sept. 10	971	22	58
Sept. 23	998	49	132
Oct. 6	1,200	26	84
Oct. 21	1,280	16	55
Nov. 5	2,480	38	254
Nov. 19	19,100	244	12,600
Dec. 12	8,940	46	1,110
Dec. 30	7,110	30	576
1959			
Jan. 16	5,080	7	96
Jan. 28	25,400	124	8,500
Feb. 10	4,400	30	356
Feb. 25	4,120	14	156
Mar. 12	2,710	12	88
Mar. 25	4,750	31	398
Apr. 9	3,670	8	79
Apr. 29	2,830	18	138

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1959			
May 13	2,680	30	217
May 29	1,990	12	64
June 11	2,030	22	121
June 25	1,290	18	63
July 9	1,240	28	94
July 23	627	13	22
Aug. 12	920	18	45
Sept. 10	810	14	31
Sept. 25	864	17	40
Oct. 14	1,410	14	53
Oct. 28	1,310	23	81
Nov. 13	828	8	18
Nov. 23	4,100	40	443
Dec. 9	990	18	48
Dec. 23	1,280	23	79
1960			
Jan. 8	3,900	44	463
Jan. 20	3,840	37	384
Feb. 4	6,360	38	653
Feb. 19	4,520	22	268
Mar. 4	5,480	52	769
Mar. 16	8,280	12	268
Apr. 7	7,000	23	435
Apr. 26	4,640	6	75
May 13	5,390	20	291
May 25	6,780	18	330
June 9	3,110	31	260
June 23	1,940	22	115
July 14	1,170	25	79
July 25	825	26	58
Aug. 10	1,010	16	44
Aug. 29	780	28	59
Sept. 21	780	18	38
Oct. 10	1,050	16	45
Oct. 21	880	13	31
Nov. 10	2,270	28	172
Nov. 28	4,640	23	288
Dec. 16	2,180	22	129
Dec. 29	2,500	15	101

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1961			
Jan. 12	2,140	27	156
Jan. 27	1,820	20	98
Feb. 9	6,220	16	269
Feb. 24	6,620	15	268
Mar. 10	7,140	24	463
Mar. 24	9,740	20	526
Apr. 6	5,100	12	165
Apr. 21	3,620	16	156
May 5	3,620	23	225
May 19	3,940	14	149
June 5	3,240	20	175
June 16	2,070	15	84
June 28	1,560	15	63
July 14	1,070	9	26
July 28	1,100	6	18
Aug. 11	860	6	14
Sept. 1	990	4	11
Sept. 15	807	32	70
Sept. 29	717	2	3.9
Oct. 13	2,180	16	94
Oct. 26	1,150	6	19
Nov. 11	1,51	1	4.1
Nov. 25	11,060	95	2,840
Dec. 8	4,440	6	72
Dec. 21	27,300	184	13,600
1962			
Jan. 4	5,760	11	171
Jan. 18	3,010	13	106
Jan. 30	4,480	9	109
Feb. 9	4,200	76	862
Feb. 15	6,180	16	267
Mar. 3	3,140	18	153
Mar. 16	4,160	4	45
Mar. 26	17,300	102	4,760
Apr. 12	5,260	8	114
Apr. 27	3,860	10	104
May 11	5,390	12	175
May 22	2,740	4	30
June 8	2,380	4	26
June 22	2,040	4	22
1962			
July 6	1,470	2	7.9
July 20	1,270	1	3.4
Aug. 6	1,130	3	9.2
Aug. 24	1,040	4	11
Sept. 7	852	4	9.2
Sept. 21	900	2	4.9
Oct. 5	1,220	6	20
Oct. 10	9,440	138	3,520
Oct. 23	1,830	4	20
Nov. 21	11,200	106	3,210
Dec. 5	9,330	32	806
Dec. 20	3,340	4	36
1963			
Jan. 4	2,710	6	44
Jan. 18	1,480	1	4.0
Jan. 31	3,340	112	1,010
Feb. 14	2,890	6	47
Mar. 1	4,580	4	49
Mar. 15	2,700	2	15
Mar. 28	3,600	10	97
Mar. 29	5,830	30	472
Apr. 12	7,200	50	972
Apr. 25	5,380	14	203
May 7	28,710	844	65,400
May 23	4,120	20	222
June 7	2,460	4	27
June 21	1,570	4	17
July 12	1,580	4	17
July 26	1,340	4	14
Aug. 8	1,070	6	17
Aug. 22	850	10	23
Sept. 9	930	4	10
Sept. 20	980	6	16
Oct. 4	1,050	16	45
Oct. 18	796	4	8.6
Nov. 1	1,060	3	8.6
Nov. 14	4,340	40	469
Nov. 26	4,620	6	75
Dec. 12	2,920	6	47

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment		Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)			Concentration (mg/l)	Discharge (tons per day)
1964				1965			
Jan. 9	7,340	22	436	Sept. 10	1,070	2	5.8
Feb. 12	4,440	10	120	Sept. 23	981	3	7.9
Feb. 20	4,140	12	134	Oct. 7	1,100	2	5.9
Mar. 6	8,000	54	1,170	Oct. 21	824	4	8.9
Mar. 13	6,480	29	507	Nov. 18	1,140	15	46
Mar. 19	6,190	9	150	Nov. 30	1,990	2	11
Apr. 2	7,400	8	160	Dec. 16	1,540	3	12
Apr. 16	5,350	6	87	Dec. 30	5,520	20	298
Apr. 30	4,400	8	95				
May 14	4,950	10	134	1966			
May 28	3,780	5	51				
June 11	4,710	4	51	Jan. 11	5,880	25	397
June 26	2,710	9	66	Jan. 25	3,640	9	88
July 10	1,840	1	5.0	Feb. 9	3,280	8	71
July 24	1,480	5	20	Feb. 23	5,060	18	246
Aug. 6	1,340	2	7.2	Mar. 10	18,900	414	21,100
Aug. 20	1,270	2	6.9	Mar. 22	6,570	20	355
Sept. 3	1,030	6	17	Apr. 6	7,480	19	384
Sept. 18	1,100	4	12	Apr. 20	3,860	6	62
Oct. 1	904	26	64	May 4	3,730	11	111
Oct. 16	922	3	7.5	May 18	2,280	6	37
Oct. 30	1,140	2	6.2	June 3	2,020	1	5.5
Nov. 13	2,060	409	2,270	June 17	1,800	3	15
Nov. 25	16,300	17	748	July 1	1,560	1	4.2
Dec. 4	9,680	32	836	July 18	1,050	4	11
Dec. 17	6,430	11	191	Aug. 4	970	13	34
				Aug. 25	572	4	6.2
1965				Sept. 9	769	3	6.2
				Sept. 23	796	1	2.1
Apr. 8	2,820	9	69	Oct. 10	752	8	16
Apr. 21	7,400	39	779	Oct. 20	980	3	7.9
May 6	1,360	6	22	Nov. 18	5,590	119	1,800
May 20	2,440	6	40	Dec. 9	6,670	37	666
June 3	1,750	17	80	Dec. 22	3,730	5	50
June 18	1,900	12	62				
July 1	1,560	12	51	1967			
July 15	1,400	3	11				
Aug. 4	1,260	2	6.8	Jan. 4	3,960	13	139
Aug. 27	842	4	9.1	Jan. 19	4,120	3	33

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment		Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)			Concentration (mg/l)	Discharge (tons per day)
14-3207. Calapooya Creek near Oakland, Oreg.							
1956				1957			
Feb. 13	600	30	49	Oct. 1	35	12	1.1
Mar. 21	870	50	117	Oct. 17	87	24	5.6
Apr. 16	498	10	13	Oct. 31	27	4	.3
Apr. 27	233	8	5.0	Nov. 19	301	24	20
May 14	730	30	59	Dec. 6	102	18	5.0
May 28	276	18	13	Dec. 20	9,610	366	9,500
June 14	181	26	13				
June 29	176	10	4.8	1958			
July 12	13	12	.4				
July 26	27	14	1.0	Jan. 7	475	30	38
Sept. 10	17	8	.4	Jan. 22	914	30	74
Sept. 25	11	22	.6	Feb. 11	1,130	36	110
Oct. 17	17	22	1.0	Mar. 7	538	20	29
Oct. 29	790	38	81	Mar. 20	385	2	2.1
Nov. 14	181	26	13	Apr. 8	510	8	11
Nov. 28	145	2	.8	Apr. 23	1,330	64	230
Dec. 17	1,220	72	237	May 7	343	36	33
Dec. 26	408	32	35	May 20	60	46	7.5
				June 9	870	149	350
1957				June 23	56	87	13
				July 11	37	35	3.5
Jan. 16	646	38	66	July 23	22	39	2.3
Jan. 28	269	8	5.8	Aug. 12	15	36	1.5
Feb. 14	674	48	87	Aug. 25	14	34	1.3
Feb. 28	1,850	150	749	Sept. 10	17	33	1.5
Mar. 14	2,160	92	537	Sept. 23	19	48	2.5
Mar. 27	610	136	224	Oct. 6	16	22	1.0
Apr. 12	398	40	43	Oct. 21	34	76	7.0
Apr. 30	138	12	4.5	Nov. 6	153	57	24
May 13	123	16	5.3	Nov. 19	3,380	590	5,380
June 3	263	40	28	Dec. 12	738	116	231
June 25	38	8	.8	Dec. 30	985	41	109
July 9	22	4	.2				
July 22	16	6	.3	1959			
Aug. 6	10	2	.1				
Aug. 20	15	14	.6	Jan. 16	1,020	49	135
Sept. 6	20	14	.8	Jan. 28	3,550	243	2,330
Sept. 17	14	8	.3	Feb. 10	1,700	63	289

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment Concentration (mg/l)	Observed suspended-sediment Discharge (tons per day)
1959			
Feb. 25	750	20	40
Mar. 12	284	19	15
Mar. 25	730	66	130
Apr. 9	278	18	14
Apr. 27	177	42	20
May 13	130	36	13
May 28	170	14	6.4
June 10	107	37	11
June 23	49	30	4.0
July 7	29	27	2.1
July 23	10	24	6.7
Aug. 10	4.2	18	.2
Sept. 9	7.0	25	.5
Sept. 21	49	23	3.0
Oct. 13	71	19	3.6
Oct. 26	56	30	4.5
Nov. 10	28	11	.8
Nov. 23	196	25	13
Dec. 9	32	17	1.5
Dec. 21	57	14	2.2
1960			
Jan. 6	27	22	1.6
Jan. 19	1,100	69	205
Feb. 3	1,140	71	219
Feb. 18	835	35	79
Mar. 3	356	28	27
Mar. 16	1,340	64	232
Apr. 6	560	42	64
Apr. 26	540	25	36
May 13	380	44	45
May 25	1,060	37	106
June 7	150	36	15
June 22	57	10	1.5
July 13	24	29	1.9
July 28	12	18	.6
Aug. 8	9.2	16	.4
Sept. 1	12	33	1.1
Sept. 19	11	25	.7
Oct. 6	12	19	.6
Nov. 7	21	33	1.9
Nov. 28	762	67	138
Dec. 16	172	39	18
Dec. 29	168	27	12
1961			
Jan. 12	158	39	17
Jan. 26	117	34	11
Feb. 9	732	29	57
Feb. 23	1,320	63	225
Mar. 9	1,460	93	367
Apr. 6	175	21	9.9
Apr. 20	185	18	9.0
May 4	218	24	14
May 18	250	13	8.8
June 1	97	17	4.4
June 15	70	11	2.1
June 28	46	3	.4
July 13	20	8	.4
July 27	13	5	.2
Aug. 11	10	4	.1
Aug. 31	7.5	7	.1
Sept. 14	9.8	6	.2
Sept. 28	14	6	.2
Oct. 12	64	83	14
Oct. 27	193	73	38
Nov. 9	74	5	1.0
Nov. 24	4,110	635	7,050
Dec. 7	602	27	44
Dec. 21	3,910	308	3,250
1962			
Jan. 4	415	22	25
Jan. 30	349	40	38
Feb. 15	1,020	63	174
Feb. 27	285	8	6.2
Mar. 15	767	24	50
Mar. 29	1,570	130	551
Apr. 13	233	12	7.5

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1962			
Apr. 26	114	3	0.9
May 10	444	35	42
May 25	190	9	4.6
June 8	31	18	1.5
June 22	49	32	4.2
July 19	16	38	1.6
Aug. 3	13	12	.4
Aug. 24	9.5	11	.3
Sept. 7	6.1	9	.1
Sept. 21	10	7	.2
Oct. 5	25	14	.9
Oct. 11	367	104	103
Oct. 24	42	3	.3
Nov. 23	603	19	31
Dec. 6	942	64	163
Dec. 20	329	24	21
1963			
Jan. 4	173	15	7.0
Jan. 17	94	16	4.1
Jan. 31	504	78	106
Feb. 14	275	17	13
Feb. 28	563	23	35
Mar. 14	201	16	8.7
Mar. 28	497	9,090	12,200
Apr. 12	1,580	313	1,340
Apr. 25	814	19	42
May 7	5,450	548	8,060
May 23	178	17	8.2
June 6	117	9	2.8
June 20	46	14	1.7
July 11	68	9	1.7
July 25	30	6	.5
Aug. 8	18	6	.3
Aug. 22	12	5	.2
Sept. 5	9.2	10	.3
Sept. 19	37	17	1.7
Oct. 3	15	6	.2
Oct. 17	16	8	.3
Oct. 31	52	2	.3
1963			
Nov. 14	1,480	292	1,170
Nov. 29	285	11	8.5
Dec. 12	780	15	32
Dec. 26	285	14	11
1964			
Jan. 9	1,310	84	297
Feb. 6	546	81	119
Feb. 20	492	23	31
Mar. 5	2,250	351	2,130
Mar. 19	798	34	73
Apr. 2	450	14	17
Apr. 16	294	6	4.8
Apr. 30	170	8	3.7
May 14	174	7	3.3
May 28	89	6	1.4
June 11	164	17	7.5
July 24	24	8	.5
Aug. 6	22	1	.1
Aug. 20	14	2	.7
Sept. 3	16	14	.6
Oct. 1	16	5	.2
Oct. 15	15	13	.5
Oct. 29	26	5	.3
Nov. 13	282	516	393
Nov. 25	1,380	53	197
Dec. 3	2,010	140	760
Dec. 17	790	35	75
1965			
Jan. 15	1,260	102	347
Jan. 29	3,630	430	4,210
Feb. 10	348	20	19
Feb. 25	202	146	80
Mar. 11	178	7	3.4
Mar. 25	88	14	3.3
Apr. 9	460	64	79
Apr. 21	870	78	183
May 5	245	13	8.6

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment		Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)			Concentration (mg/l)	Discharge (tons per day)
1965				1966			
May 20	147	8	3.2	Mar. 10	3,000	586	4,750
June 3	65	6	1.1	Mar. 23	1,250	894	3,020
June 16	66	13	2.3	Apr. 7	288	8	6.2
July 1	22	11	.6	Apr. 21	150	6	2.4
July 15	10	2	.1	May 5	78	9	1.9
Aug. 4	6.5	4	.1	May 19	49	6	.8
Aug. 26	9.0	8	.2	June 2	34	2	.2
Sept. 10	4.0	2	T	June 17	16	4	.2
Sept. 23	5.6	4	.1	June 30	12	4	.1
Oct. 7	53	5	.7	July 14	14	3	.1
Oct. 21	34	8	.7	July 28	4.0	9	.1
Nov. 4	318	98	84	Aug. 25	5.0	8	.1
Nov. 18	100	11	3.0	Sept. 7	4.5	5	.1
Nov. 30	135	6	2.2	Sept. 22	9.4	5	.1
Dec. 17	50	5	.7	Oct. 8	4.7	10	.1
Dec. 29	2,220	714	4,280	Oct. 26	48	20	2.6
				Nov. 18	770	295	613
1966				Dec. 9	660	106	189
				Dec. 22	396	11	12
Jan. 15	1,810	531	2,590				
Jan. 26	380	169	173	1967			
Feb. 10	1,320	370	1,320				
Feb. 24	360	7	6.8	Jan. 4	431	34	40
				Jan. 18	562	10	15

14-3220. Elk Creek near Drain, Oreg.

1956				1956			
Feb. 14	125	22	7.4	July 26	7.9	20	0.4
Mar. 21	202	8	4.4	Sept. 10	3.5	8	.1
Apr. 16	146	2	.8	Sept. 25	5.2	28	.4
Apr. 27	60	8	1.3	Oct. 17	7.4	2	T
May 14	209	24	14	Oct. 29	122	10	4.6
May 28	52	<1	T	Nov. 14	53	18	2.6
June 14	63	22	3.7	Nov. 28	420	4	4.5
June 29	78	14	2.9	Dec. 17	484	42	55
July 12	3.4	10	.1	Dec. 26	155	<1	T

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1957			
Jan. 16	252	30	20
Jan. 28	415	8	9.0
Feb. 14	165	34	15
Feb. 28	810	98	214
Mar. 14	1,160	70	219
Mar. 28	208	58	33
Apr. 12	157	24	10
Apr. 30	66	8	1.4
May 13	55	6	.9
June 3	50	16	2.2
June 25	25	8	.5
July 9	10	6	.2
July 22	8.0	20	.4
Aug. 6	8.0	4	.1
Aug. 20	3.9	6	.1
Sept. 6	2.0	4	T
Sept. 17	2.0	18	.1
Oct. 1	26	22	1.5
Oct. 17	12	6	.2
Oct. 31	10	8	.2
Nov. 19	47	12	1.5
Dec. 6	34	20	1.8
Dec. 24	767	58	120
1958			
Jan. 7	160	14	6.0
Jan. 22	356	18	17
Feb. 11	530	30	43
Mar. 7	176	10	4.8
Mar. 20	306	12	9.9
Apr. 8	225	6	3.6
Apr. 23	443	32	38
May 7	69	26	4.8
May 20	30	30	2.4
June 9	135	130	47
June 23	19	75	3.8
July 11	18	45	2.2
July 23	8.0	49	1.1
Aug. 12	3.1	57	.5
Aug. 26	3.0	42	.3
Sept. 10	3.0	74	0.6
Sept. 23	5.0	51	.7
Oct. 6	5.0	22	.3
Oct. 21	15	60	2.4
Nov. 6	36	25	2.4
Nov. 19	1,600	426	1,840
Dec. 12	377	53	54
Dec. 30	315	38	32
1959			
Jan. 16	442	8	9.5
Jan. 28	1,930	136	709
Feb. 10	1,040	71	199
Feb. 25	235	26	16
Mar. 12	78	19	4.0
Mar. 25	280	68	51
Apr. 9	115	14	4.3
Apr. 27	53	32	4.6
May 13	50	37	5.0
May 28	58	9	1.4
June 10	35	28	2.6
June 23	18	33	1.6
July 7	12	26	.8
July 23	3.2	37	.3
Aug. 10	2.0	28	.2
Sept. 9	3.0	37	.3
Sept. 21	11	34	1.0
Oct. 13	10	25	.7
Oct. 26	12	48	1.6
Nov. 10	14	22	.8
Nov. 23	34	42	3.9
Dec. 9	12	31	1.0
Dec. 21	17	21	1.0
1960			
Jan. 6	26	24	1.7
Jan. 19	301	74	60
Feb. 3	467	72	91
Feb. 18	336	33	30

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)
1960			
Mar. 3	166	35	16
Mar. 16	545	56	82
Apr. 6	225	27	16
Apr. 26	221	31	18
May 13	152	25	10
May 25	359	29	28
June 7	72	41	8.0
June 22	28	31	2.3
July 13	14	40	1.5
July 28	4.2	33	.4
Aug. 8	2.2	30	.2
Sept. 1	3.7	63	.6
Sept. 19	4.3	39	.5
Oct. 6	6.6	21	.4
Oct. 20	8.5	23	.5
Nov. 7	14	24	.9
Nov. 28	354	50	48
Dec. 16	84	39	8.8
Dec. 29	92	30	7.5
1961			
Jan. 12	92	49	12
Jan. 26	67	22	4.0
Feb. 9	416	41	46
Feb. 23	480	47	61
Mar. 9	602	79	128
Mar. 23	550	71	105
Apr. 6	112	18	5.4
Apr. 21	70	23	4.4
May 4	70	36	6.8
May 18	106	17	4.8
June 1	38	19	2.0
June 15	32	10	.9
June 28	17	3	.2
July 13	5.0	6	.1
July 27	3.3	6	.1
Aug. 11	.9	5	T
Aug. 31	.7	4	T
Sept. 14	2.2	5	T
Sept. 28	4.3	1	T
1961			
Oct. 12	18	12	0.6
Oct. 27	52	39	5.4
Nov. 10	21	5	.3
Nov. 24	2,480	481	3,220
Dec. 7	206	18	10
Dec. 21	1,940	159	833
1962			
Jan. 4	158	16	6.8
Jan. 30	119	34	11
Feb. 15	435	40	47
Feb. 27	137	16	5.9
Mar. 15	300	17	14
Mar. 29	686	91	169
Apr. 11	98	15	4.0
Apr. 26	48	12	1.6
May 11	208	29	16
May 25	73	12	2.4
June 8	47	7	.9
June 22	23	5	.3
July 6	11	3	.1
July 19	6.2	4	.1
Aug. 3	2.0	1	T
Aug. 24	2.0	2	T
Sept. 21	2.2	3	T
Oct. 5	7.0	3	T
Oct. 11	123	80	27
Oct. 24	20	7	.4
Nov. 23	427	21	24
Dec. 6	398	41	44
Dec. 20	183	6	3.0
1963			
Jan. 4	100	10	2.7
Jan. 17	48	17	2.2
Feb. 4	1,020	129	355
Feb. 15	122	15	4.9
Feb. 26	288	27	21
Mar. 14	102	9	2.5

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment		Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)			Concentration (mg/l)	Discharge (tons per day)
1963				1964			
Mar. 29	1,030	347	965	Oct. 29	17	2	0.1
Apr. 12	800	237	512	Nov. 13	177	120	57
Apr. 26	269	17	12	Nov. 27	737	72	143
May 7	2,800	258	1,950	Dec. 3	800	103	222
May 24	73	12	2.4	Dec. 15	544	274	402
June 7	36	9	.9				
June 20	20	5	.3	1965			
July 11	24	4	.3				
July 25	13	1	T	Jan. 15	445	46	55
Aug. 8	8.3	4	.1	Jan. 29	1,640	249	1,100
Aug. 22	6.3	11	.2	Feb. 10	149	10	4.0
Sept. 5	2.0	9	T	Feb. 25	73	3	.6
Sept. 19	13	7	.2	Mar. 11	74	6	1.2
Oct. 7	10	8	.2	Mar. 25	43	7	.8
Oct. 17	13	2	.1	Apr. 9	123	32	11
Oct. 31	21	10	.6	Apr. 21	513	66	91
Nov. 14	581	266	417	May 7	69	7	1.3
Nov. 29	123	57	19	May 20	49	4	.5
Dec. 13	165	22	9.8	June 4	22	5	.3
				June 16	15	15	6.1
1964				July 1	7.6	7	.1
				July 15	4.3	2	T
Jan. 9	682	72	133	Aug. 5	3.0	8	.1
Jan. 23	964	154	401	Aug. 26	4.5	3	T
Feb. 6	225	24	15	Sept. 10	.1	6	T
Feb. 20	197	18	9.6	Sept. 23	.7	6	T
Mar. 6	970	130	340	Oct. 7	3.8	4	T
Apr. 3	107	20	5.8	Oct. 21	7.5	5	.1
Apr. 17	72	8	1.6	Nov. 4	33	21	1.9
May 1	70	8	1.5	Nov. 18	35	11	1.0
May 18	51	19	2.6	Nov. 30	53	6	.9
May 28	36	4	.4	Dec. 17	30	5	.4
June 11	34	29	2.7	Dec. 29	1,230	2,930	9,730
June 25	23	15	.9				
July 24	8.3	1	T	1966			
Aug. 6	9.8	1	T				
Aug. 20	5.3	3	T	Jan. 15	411	58	64
Sept. 4	8.3	<1	T	Jan. 26	132	13	4.6
Sept. 19	13	7	.2	Feb. 10	401	85	92
Oct. 1	10	3	.1	Feb. 24	87	6	1.4
Oct. 15	12	2	.1	Mar. 12	600	1,660	2,690

Table 1.--Water and suspended-sediment discharge data--Continued

Date	Water discharge (cfs)	Observed suspended-sediment		Date	Water discharge (cfs)	Observed suspended-sediment	
		Concentration (mg/l)	Discharge (tons per day)			Concentration (mg/l)	Discharge (tons per day)
1966				1966			
Mar. 23	558	112	169	Oct. 8	5.0	4	0.1
Apr. 7	61	10	1.6	Oct. 21	4.5	5	.1
Apr. 21	45	8	1.0	Nov. 18	280	37	28
May 5	27	9	.7	Dec. 9	730	69	136
May 19	14	4	.2	Dec. 22	146	11	4.3
June 2	10	2	.1				
June 17	2.6	4	T	1967			
June 30	1.0	1	T				
July 14	2.5	5	T	Jan. 4	130	14	4.9
July 28	.4	6	T	Jan. 18	178	8	3.8

Table 2.--Summary of water and suspended-sediment discharge data for 10 sites in the Umpqua River basin, 1956-66 water years

/T, trace or less than 0.05 ton per day/

Station	Mean annual runoff (acre-ft)	Mean annual suspended sediment			Observed suspended sediment			
		Discharge (tons per yr)1/	Discharge weighted mean concentration (mg/l)1/	Yield (tons per sq mi)1/	Concentration (mg/l)		Discharge (tons per day)	
					Max	Min	Max	Min
South Umpqua River at Tiller, Oreg. (14-3080.00)	785,800	158,000	148	352	1,260	<1	65,300	T
Cow Creek near Azalea, Oreg. (14-3090.00)	88,580	26,500	219	340	798	<1	3,620	T
Cow Creek near Riddle Oreg. (14-3100.00)	693,400	375,000	397	822	1,210	<1	54,400	T
Olalla Creek near Tenmile, Oreg. (14-3112.00)	2/76,020	13,700	133	227	696	<1	2,260	T
Lookingglass Creek near Brockway, Oreg. (14-3115.00)	228,800	120,000	386	761	997	1	10,000	0.1
South Umpqua River near Brockway, Oreg. (14-3120.00)	2,296,000	849,000	272	508	1,400	1	97,500	.3
Steamboat Creek near Glide, Oreg. (14-3167.00)	2/521,300	31,000	44	137	3,870	1	106,000	.2
North Umpqua River at Winchester, Oreg. (14-3195.00)	2,962,000	664,000	165	494	844	1	65,400	2.1
Calapooya Creek near Oakland, Oreg. (14-3207.00)	375,700	105,000	206	501	9,090	1	12,200	T
Elk Creek near Drain, Oreg. (14-3220.00)	170,100	65,400	282	629	2,930	<1	9,740	T

1/ Estimated.

2/ For 1957-66 water years.