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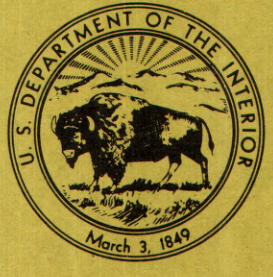
Water-Quality Data From Five Oregon Stream Basins

U.S. GEOLOGICAL SURVEY
Open-File Report 79-1535



Prepared in cooperation with the
OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

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By Timothy L. Miller

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1979

UNITED STATES DEPARTMENT OF THE INTERIOR
CECIL D. ANDRUS, Secretary
GEOLOGICAL SURVEY
H. William Menard, Director

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TABLES

Conversion factors for inch-pound system and International System Units (SI)

[For use of those readers who may prefer to use metric units rather than inch-pound units, the conversion factors for the terms used in this report are listed below:]

Multiply inch-pound units	By	To obtain metric unit
	Length	
inch (in)	25.40	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
	Area	
square inch (in^2)	6.452	square centimeter (cm^2)
square foot (ft^2)	0.09290	square meter (m^2)
	Specific combination	
cubic foot per second (ft^3/s)	0.0283	cubic meter per second (m^3/s)
	Temperature	
degree Fahrenheit (°F)	(1/)	degree Celsius (°)

1/ Temp ° C = (temp °F - 32)1.8.

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ABSTRACT

The U.S. Geological Survey collected water-quality data in five Oregon stream basins during summer low-flow conditions in 1977 and 1978. During the two sampling periods, a total of 18 different sites were sampled. Several sites were sampled twice in 1977, and some sites were sampled in both 1977 and 1978. Included in the sampling were diel trace of dissolved oxygen, temperature, specific conductance, pH, and solar radiation. In addition, periphyton and benthic invertebrate samples were collected and identified.

INTRODUCTION

The U.S. Geological Survey (USGS), in cooperation with the Oregon Department of Environmental Quality (DEQ), collected water-quality data from five Oregon stream basins (fig. 1). Data collected by the USGS provided water-quality information on drought (1977) and normal low-flow (1978) conditions. The DEQ collected data that included (1) terrain characteristics, (2) land-management practices, and (3) resultant channel quality as determined by channel morphology and fish habitat (Rickert and others, 1978, p. iii). The DEQ data for Evans Creek basin are presented in the report by Rickert and others. Data for the four other basins are contained in several additional DEQ reports.

The five basins represent different climates, geology, and land uses that are characteristic of the main geographical regions and physiographic divisions of the State. These basins encompass a broad range of conditions that influence nonpoint sources of pollution outside major urban areas.

SAMPLING

Site Selection

Locations of sampling sites for each basin are shown on figures 2 through 6 and are listed in table 1. Sampling sites were selected to represent drainage areas with different land uses or different intensities of a particular land use. All sampling sites were upstream from any known point sources, and none of the sites was downstream from reservoirs. The number of sites in each basin depended on the size of the basin and the different land uses in that basin. Data were collected at several sites in 1977 during very dry summer conditions and again in 1978 during near-normal low-flow conditions. All data were collected during low-flow steady-state conditions. Steady-state conditions were assumed, for each site, when no significant precipitation had occurred in the 10- to 14-day period prior to sampling.

Analyses and Equipment

The data collected have been grouped into four categories for each sampling period and are presented in tables 2 to 6. The four categories are (1) physical characteristics, (2) chemical and miscellaneous data, (3) periphyton, and (4) benthic invertebrates. Analyses and equipment for each category will be discussed separately.

Physical Characteristics

Field measurements of temperature, specific conductance, dissolved oxygen, and pH were made with a Martek_/ multiparameter monitor which was linked to an Elnik strip chart recorder. Solar radiation was measured with a Weathermeasure Star Pyranometer. At each site, the Martek probe was placed in a riffle area. The Martek equipment was calibrated three or more times during a 24-hour period. The pyranometer was calibrated at the time it was linked to the Elnik recorder. For this report, the continuous record for each characteristic was reduced to a time-weighted average hourly value.

Chemical and Miscellaneous Data

Samples for analysis of major ions, nutrients, and alkalinity were collected, preserved, and analyzed by methods outlined by Brown and others (1970). Discharge was measured by standard USGS techniques (Buchanan and Somers, 1969). Suspended sediment was collected and analyzed for concentration according to methods described by Guy (1969). Greeson and others (1977) provided methods for collection and analysis of algal-growth potential and fecal coliform, and for the oxygen light-dark bottle test for phytoplankton. Samples for periphyton biomass and chlorophyll were collected by the same procedure described in the section entitled "Periphyton." After collection, the

_/ The use of brand names in this report is for identification purposes only and does not imply endorsement by the U.S. Geological Survey.

biomass and water mixtures for both analyses were filtered through a Gelman glass-fiber filter type A-E. The biomass filters were air-dried, whereas the chlorophyll filters were placed on ice. The chlorophyll samples were analyzed by the USGS laboratory in Atlanta, Ga. The biomass filters were dried at 105°C to determine dry weight and were then ignited at 500°C for 1 hour to determine the dry weight less ash weight.

Periphyton

Samples were collected for periphyton identification, biomass, and chlorophyll by selecting 10 rocks from a riffle area near the Martek probe. The rocks were selected to represent the entire cross section on a flow-weighted basis because more rocks were from the deeper riffle areas than from the shallower bank areas. Where the riffle areas were small or the rocks were few, only five rocks were selected. An area 1 inch square on each rock was scraped using a glass slide. Care was taken to scrape periphyton from only the upper area of the rock which was exposed to sunlight.

Benthic Invertebrates

Benthic invertebrate samples were collected from riffle areas by using a Surber sampler covering 1 square foot. For most sites, only one sample was collected, generally from midchannel near the center of the riffle area. At some sites where the riffle area was relatively large compared to the other sites, or if the number of organisms was relatively small, more than one sample was collected and composited.

HYDROLOGIC DATA

Data collected for the study are listed in the tables that follow. Each table is organized in sequential site-number order. Table 2 contains the average hourly values of the physical characteristics. Table 3 shows the results of the chemical analyses. Table 4 includes several additional biological and miscellaneous tests. Tables 5 and 6 contain identification and abundance of periphyton and benthic invertebrates, respectively.

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Brown, Eugene, Skougstad, M. W., and Fishman, M. J., 1970, Methods for collection and analysis of water samples for dissolved minerals and gases: U.S. Geological Survey Techniques of Water-Resources Investigations, book 5, chap. A1, 160 p.

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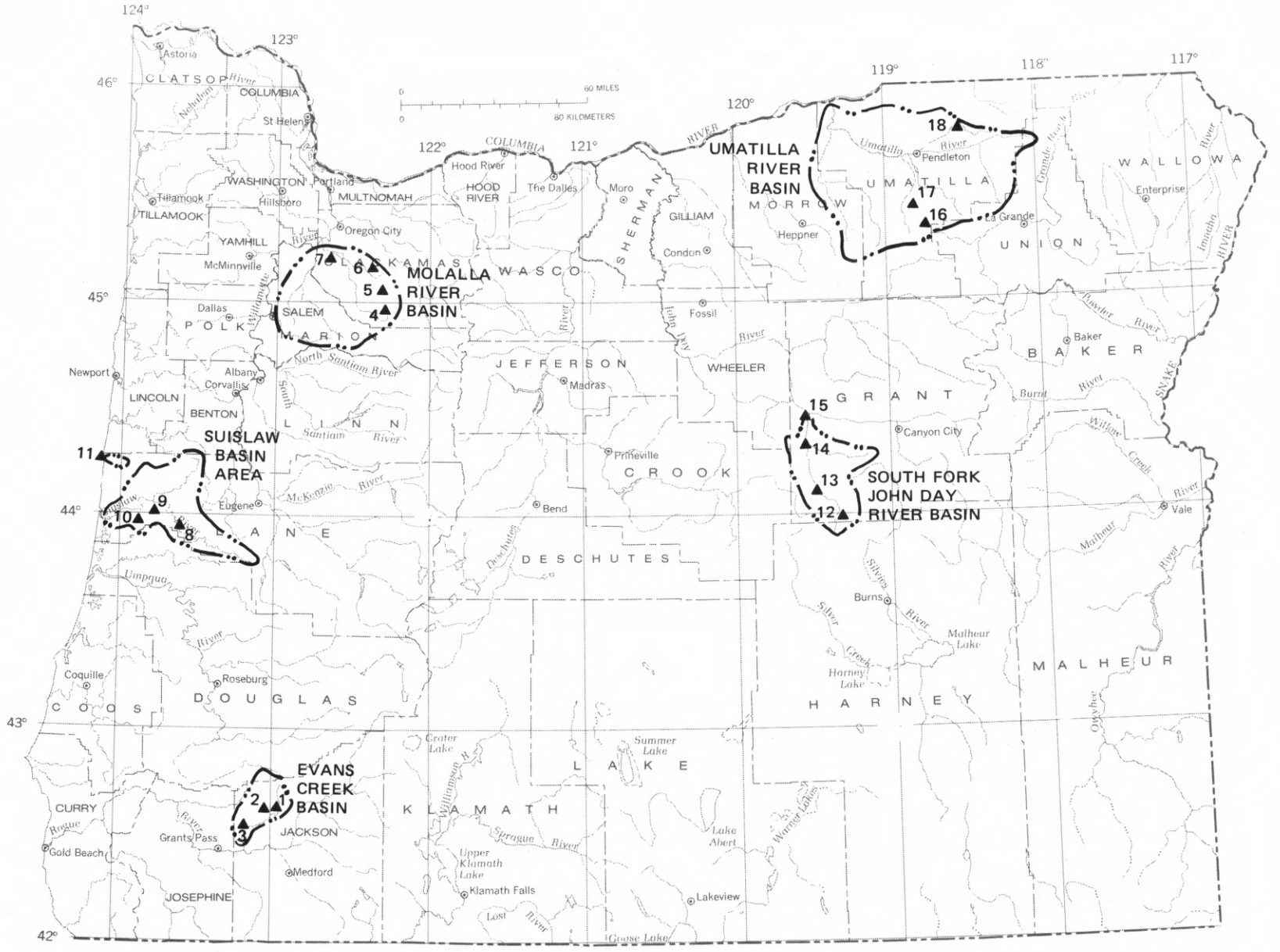
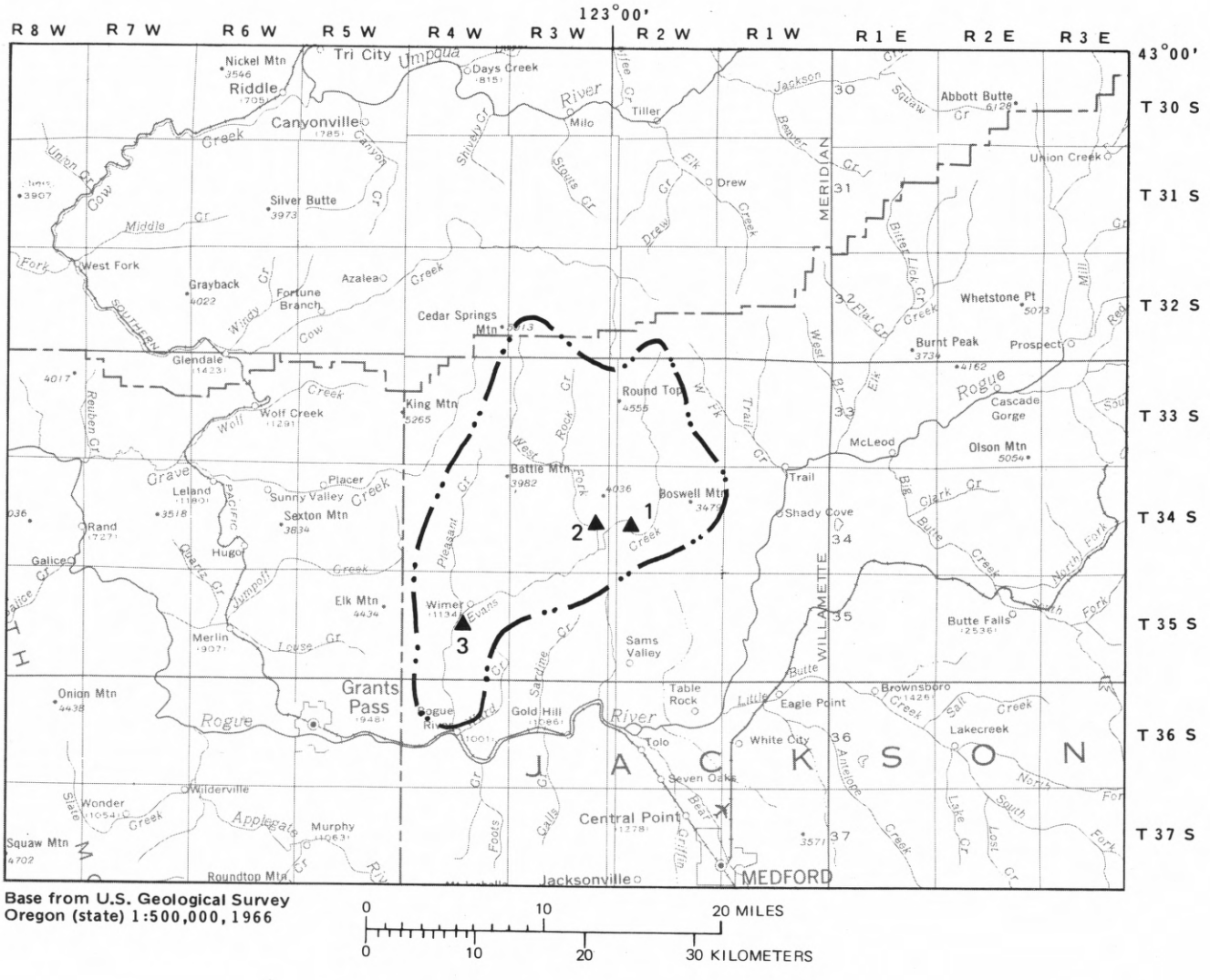


Figure 1.—Five Oregon stream basins and their sampling sites.

Table 1.--Locations of sampling sites

Site No.	Site name	Location	Land use upstream from sampling site
1A	Evans Creek above West Fork	Lat 42°35'33", long 122°57'52", in NW¼ sec.29, T.34 S., R.2 W.	Forest (active logging).
1B	Evans Creek above West Fork	Lat 42°36'11", long 122°59'30", in NW¼ sec.19, T.34 S., R.2 W.	Do.
2	West Fork Evans Creek	Lat 42°36'01", long 123°00'56", in NE¼ sec.23, T.34 S., R.3 W.	Forest (active logging), native grazing.
3	Evans Creek at Minthorne Road	Lat 42°31'13", long 123°10'11", in NE¼ sec.21, T.35 S., R.4 W.	Forest, pasture, irrigation withdrawal.
4	Lost Creek, Molalla River basin	Lat 44°59'12", long 122°15'58", in SW¼ sec.1, T.7 S., R.4 E.	Forest (active logging).
5	Dead Horse Canyon Creek, Molalla River basin	Lat 45°05'10", long 122°19'06", in SE¼ sec.33, T.5 S., R.4 E.	Do.
6	Dorn Creek, Molalla River basin	Lat 45°12'28", long 122°21'52", in SW¼ sec.19, T.4 S., R.4 E.	Forest.
7	Milk Creek, Molalla River basin	Lat 45°14'22", long 122°39'14", in NW¼ sec.11, T.4 S., R.1 E.	Forest, irrigation withdrawal, pasture.
8	Wolf Creek, Siuslaw River basin	Lat 43°57'21", long 123°37'09", in SE¼ sec.35, T.18 S., R.8 W.	Do.
9	Knowles Creek, Siuslaw River basin	Lat 44°00'51", long 123°47'10", in SW¼ sec.9, T.18 S., R.9 W.	Forest (active logging).
10	Cedar Creek, Siuslaw River basin	Lat 43°58'32", long 123°54'24", in SW¼ sec.28, T.18 S., R.10 W.	Do.
11	Bob Creek, Siuslaw Basin[1/]	Lat 44°14'43", long 124°06'36", in NE¼ sec.22, T.15 S., R.12 W.	Forest.
12	South Fork John Day River above Forest Service boundary	Lat 43°59'14", long 119°18'01", in NE¼ sec.25, T.18 S., R.28 E.	Do.
13	South Fork John Day River above Little Pine Creek	Lat 44°07'20", long 119°29'28", in SW¼ sec.4, T.17 S., R.27 E.	Forest (active logging), pasture.
14	Black Canyon Creek, South Fork John Day River basin	Lat 44°20'03", long 119°33'55", in NW¼ sec.26, T.14 S., R.26 E.	Forest, native grazing.
15	South Fork John Day River at Dayville	Lat 44°28'01", long 119°31'53", in SE¼ sec.1, T.13 S., R.26 E.	Urbanization, irrigation withdrawal, pasture, forest, native grazing.
16	Pearson Creek, Umatilla River basin	Lat 45°20'15", long 118°43'08", in SE¼ sec.4, T.3 S., R.33 E.	Forest (active logging).
17	East Fork Birch Creek, Umatilla River basin	Lat 45°25'54", long 118°49'13", in SE¼ sec.4, T.1 S., R.32 E.	Forest, pasture, native grazing.
18	Wild Horse Creek, Umatilla River basin	Lat 45°47'46", long 118°28'28", in SW¼ sec.29, T.4 N., R.35 E.	Pasture, native grazing, annual crop agriculture.

1/ Bob Creek drains directly into the Pacific Ocean.



Base from U.S. Geological Survey
Oregon (state) 1:500,000, 1966

0 10 20 MILES
0 10 20 30 KILOMETERS

Figure 2.—Sampling sites in Evans Creek basin.

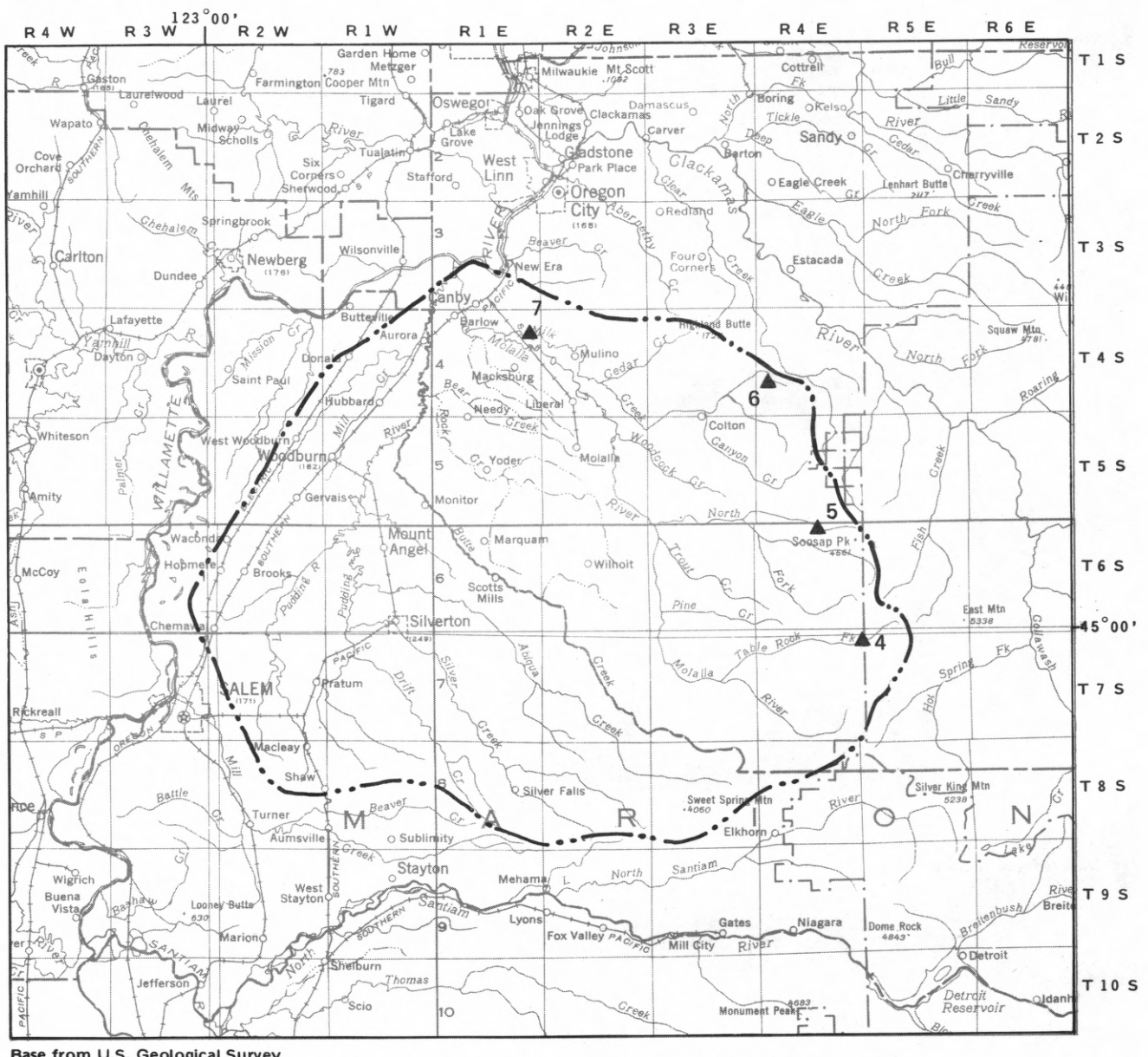
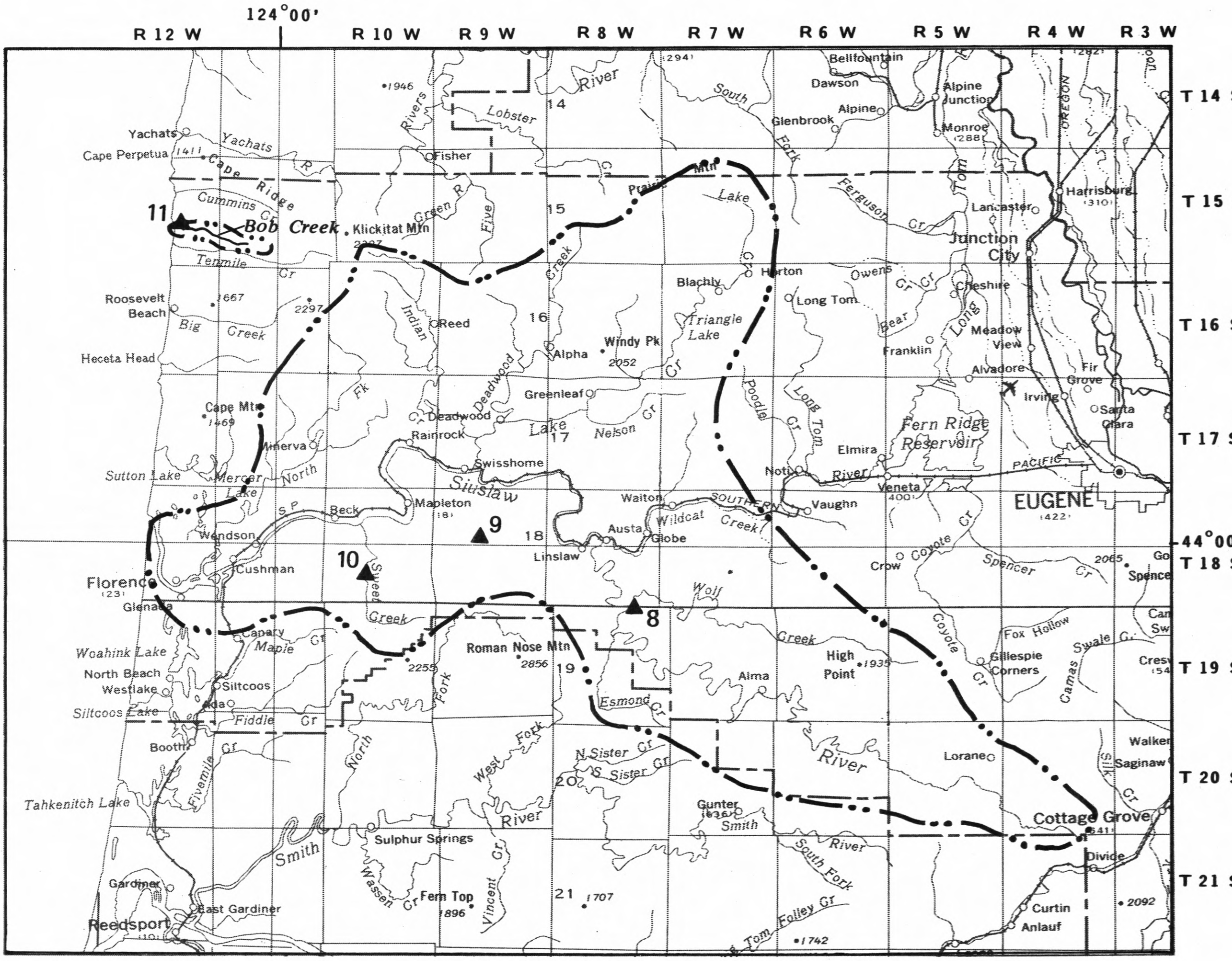


Figure 3.—Sampling sites in Molalla River basin.



Base from U.S. Geological Survey
Oregon (state) 1:500,000, 1966

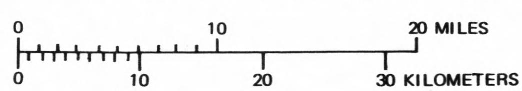


Figure 4.–Sampling sites in Siuslaw basin area .

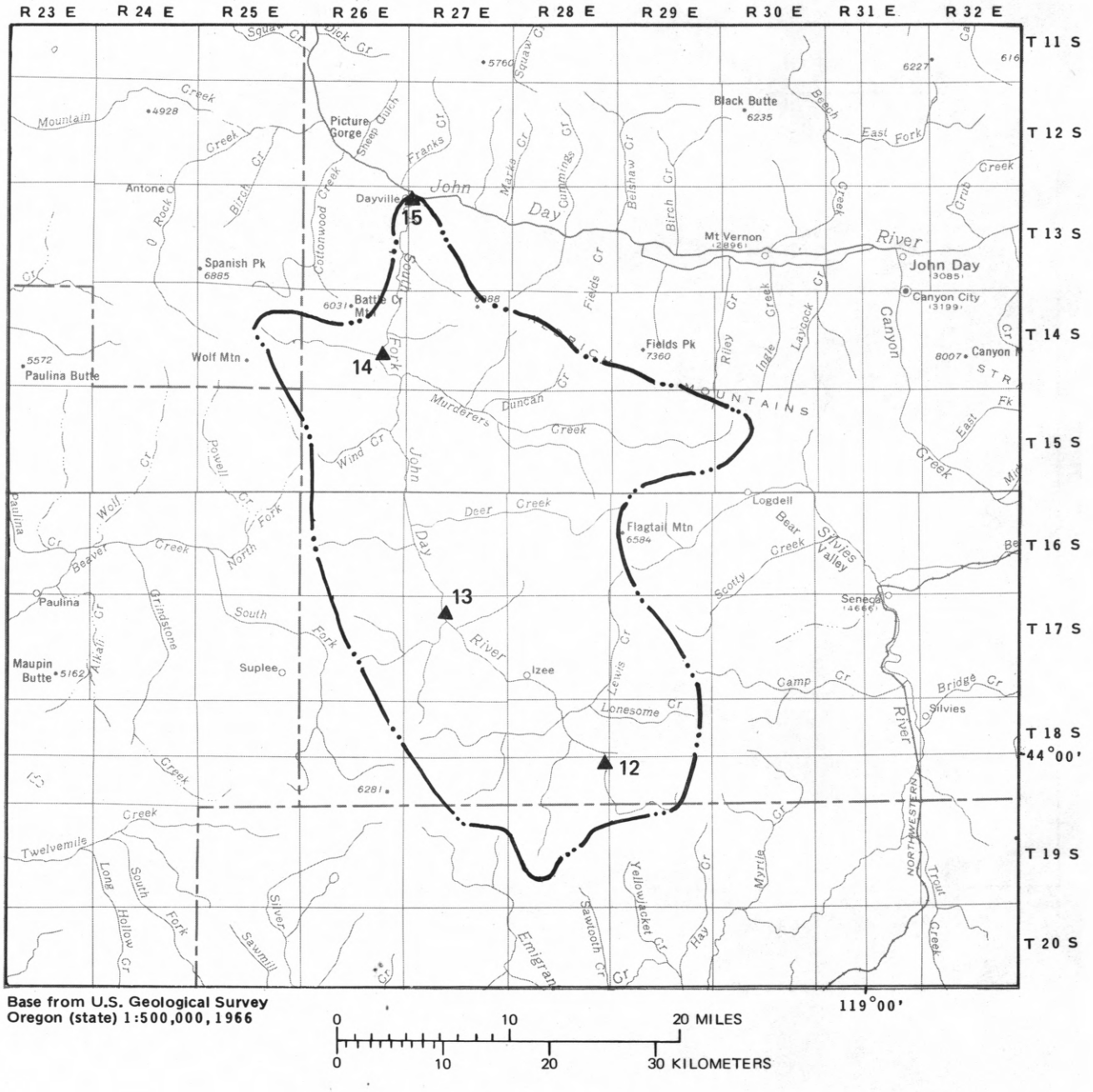


Figure 5.—Sampling sites in South Fork Day River basin.

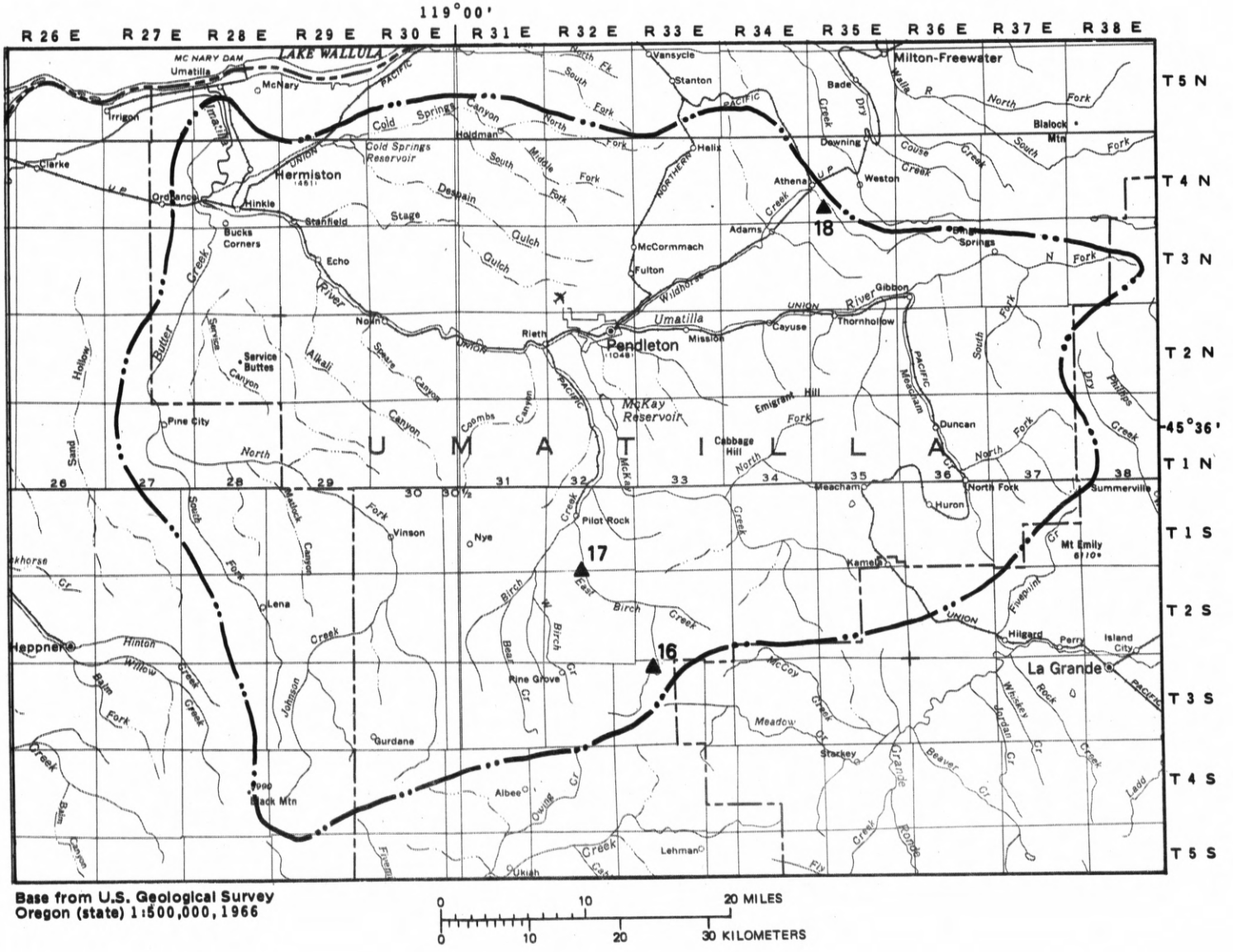


Figure 6.—Sampling sites in Umatilla River basin.

Table 2.--Physical characteristics

Site number and name: 1A - Evans Creek above West Fork

Date: August 11-12, 1977
Discharge (ft^3/s): 0.25

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
August 11						
1400	23.0	162	9.0	111	8.4	--
1500	24.5	164	8.5	109	8.6	--
1600	26.1	165	8.1	106	8.7	--
1700	30.0	154	7.8	109	8.8	--
1800	28.6	159	7.5	104	8.5	--
1900	26.6	160	7.3	97	8.2	--
2000	25.2	164	7.3	94	8.0	--
2100	24.1	163	7.3	92	7.8	--
2200	23.1	165	7.3	90	7.7	--
2300	22.2	167	7.3	89	7.6	--
2400	21.4	167	7.4	89	7.5	--
August 12						
0100	20.7	168	7.4	88	7.4	--
0200	20.2	170	7.5	88	7.4	--
0300	19.5	170	7.6	88	7.4	--
0400	19.0	170	7.6	87	7.4	--
0500	18.6	171	7.7	88	7.4	--
0600	18.3	169	7.8	89	7.4	--
0700	18.0	169	7.8	89	7.4	--
0800	17.9	168	7.9	89	7.5	--
0900	18.4	168	8.3	94	7.8	--
1000	19.3	168	8.6	100	7.9	--
1100	20.5	167	8.7	104	8.0	--
1200	22.0	165	8.8	107	8.2	--

Table 2.--Physical characteristics--Continued

Site number and name: 1B - Evans Creek above West Fork

Date: July 6-7, 1978
Discharge (ft^3/s): 5.9

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
July 6						
1500	21.2	140	9.3	104	8.0	--
1600	21.7	145	8.8	99	7.9	--
1700	21.6	147	8.7	98	7.8	--
1800	21.3	148	8.6	96	7.7	--
1900	21.1	149	8.5	95	7.6	--
2000	21.1	148	8.3	92	7.5	--
2100	21.1	147	8.1	90	7.4	--
2200	20.8	145	8.0	89	7.3	--
2300	20.3	145	8.0	88	7.3	--
2400	19.8	145	8.1	88	7.3	--
July 7						
0100	19.4	144	8.2	88	7.2	--
0200	19.0	144	8.2	88	7.1	--
0300	18.6	146	8.2	87	7.1	--
0400	18.4	147	8.2	87	7.2	--
0500	18.2	149	8.3	87	7.2	--
0600	17.9	149	8.4	88	7.2	--
0700	17.6	146	8.4	87	7.2	--
0800	17.3	139	8.5	88	7.0	--
0900	17.5	140	8.6	89	7.2	--
1000	17.9	141	8.9	93	7.6	--
1100	18.5	143	9.0	95	7.8	--
1200	19.3	143	9.2	99	8.0	--
1300	20.3	142	9.0	99	8.2	--
1400	21.4	143	9.0	101	8.3	--

Table 2.--Physical characteristics--Continued

Site number and name: 2 - West Fork Evans Creek

Date: August 11-12, 1977
Discharge (ft^3/s): 3.4

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
August 11						
1200	23.2	254	9.2	114	8.2	1.2
1300	24.8	252	9.2	116	8.5	1.2
1400	26.0	250	9.2	119	8.7	1.2
1500	27.0	249	9.2	121	8.8	1.2
1600	27.2	247	9.2	123	8.9	.80
1700	27.C	246	8.6	113	8.8	.40
1800	26.6	245	8.0	105	8.7	.18
1900	26.1	245	7.4	96	8.5	.08
2000	25.6	245	7.0	90	8.2	.04
2100	25.0	245	6.6	84	7.8	0
2200	24.4	245	6.2	78	7.7	0
2300	23.8	245	6.0	74	7.6	0
2400	23.2	246	5.9	73	7.5	0
Aug. 12						
0100	22.6	248	5.8	71	7.5	0
0200	22.0	251	5.8	70	7.5	0
0300	21.4	254	6.1	73	7.5	0
0400	20.9	258	6.4	75	7.5	0
0500	20.4	262	6.8	79	7.5	0
0600	19.8	265	7.3	85	7.5	0
0700	19.4	266	7.8	90	7.6	.04
0800	19.4	266	8.1	93	7.6	.10
0900	19.9	264	8.5	99	7.7	.16
1000	20.8	262	8.9	105	7.9	.40
1100	22.0	260	9.3	112	8.0	1.0
1200	23.2	258	9.6	118	8.1	1.1

Table 2.--Physical characteristics--Continued

Site number and name: 2 - West Fork Evans Creek

Date: September 8-9, 1977
Discharge (ft^3/s): 4.7

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Sept. 8						
1200	18.4	--	10.6	119	8.4	1.0
1300	20.0	250	10.5	122	8.4	1.2
1400	21.2	--	10.3	123	8.4	1.2
1500	21.8	260	10.1	122	8.3	1.0
1600	21.6	--	9.9	118	8.3	.56
1700	21.0	--	9.6	114	8.3	.38
1800	20.0	--	9.1	106	8.3	.08
1900	19.0	260	8.8	100	8.2	.04
2000	18.2	--	8.8	99	8.0	0
2100	17.6	--	8.9	99	7.9	0
2200	17.0	--	9.0	98	7.8	0
2300	16.6	--	9.1	99	7.8	0
2400	16.0	--	9.2	98	7.8	0
Sept. 9						
0100	15.8	--	9.4	100	7.8	0
0200	15.5	--	9.5	101	7.8	0
0300	14.8	--	9.5	100	7.8	0
0400	14.4	--	9.6	99	7.8	0
0500	14.0	--	9.6	99	7.8	0
0600	13.6	--	9.7	99	7.8	0
0700	13.2	--	9.9	100	7.8	.02
0800	13.0	--	10.4	104	7.8	.24
0900	13.2	268	10.8	109	8.0	.60
1000	14.4	--	10.9	112	8.2	.82
1100	15.6	268	10.8	115	8.3	1.0

Table 2.--Physical characteristics--Continued

Site number and name: 2 - West Fork Evans Creek

Date: July 6-7, 1978
Discharge (ft^3/s): 20

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
July 6						
1400	20.5	167	10.3	113	8.3	1.3
1500	21.3	168	9.2	103	8.2	1.2
1600	21.8	167	8.9	100	8.2	1.1
1700	22.1	167	8.8	100	8.2	.90
1800	21.9	167	8.6	97	8.1	.66
1900	21.5	168	8.5	95	8.0	.28
2000	21.1	167	8.3	92	7.9	.06
2100	20.8	166	8.2	91	7.8	0
2200	20.4	166	8.2	90	7.7	0
2300	20.1	168	8.2	90	7.6	0
2400	19.8	168	8.2	89	7.5	0
July 7						
0100	19.4	167	8.2	88	7.5	0
0200	19.0	167	8.2	88	7.4	0
0300	18.4	166	8.2	87	7.3	0
0400	18.0	165	8.2	86	7.2	0
0500	17.5	164	8.1	84	7.2	0
0600	17.2	165	8.1	84	7.2	.02
0700	16.9	165	8.2	84	7.2	.06
0800	16.6	164	8.4	86	7.2	.18
0900	16.7	164	8.7	89	7.2	.54
1000	17.2	166	9.0	93	7.3	.88
1100	18.0	165	9.2	96	7.4	1.1
1200	18.9	164	9.3	99	7.4	1.2
1300	19.8	167	9.3	101	7.4	1.3

Table 2.--Physical characteristics--Continued

Site number and name: 3 - Evans Creek at Minthorne Road

Date: September 7-8, 1977
Discharge (ft^3/s): 2.6

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Sept. 7						
1000	18.7	228	6.9	78	7.7	0.88
1100	19.3	228	7.2	84	7.6	1.0
1200	19.9	228	7.6	89	7.7	1.1
1300	21.1	228	8.1	96	7.9	1.1
1400	22.9	228	8.5	105	8.0	.14
1500	23.7	228	8.8	110	8.0	.08
1600	23.5	228	8.7	109	7.9	.08
1700	23.1	228	8.3	102	7.9	.08
1800	22.7	228	7.9	98	7.8	.06
1900	22.0	228	7.6	93	7.7	.02
2000	21.5	228	7.3	89	7.6	0
2100	21.1	228	7.1	84	7.5	0
2200	20.7	226	7.0	83	7.4	0
2300	20.3	226	6.9	81	7.4	0
2400	20.0	226	6.8	79	7.3	0
Sept. 8						
0100	19.5	226	6.6	77	7.2	0
0200	19.1	226	6.4	74	7.2	0
0300	18.5	226	6.4	73	7.1	0
0400	18.1	226	6.4	73	7.1	0
0500	17.9	226	6.4	72	7.0	0
0600	17.5	224	6.6	73	7.0	0
0700	17.3	222	6.8	76	7.0	.06
0800	17.3	220	7.0	78	7.1	.28
0900	17.5	218	8.5	94	7.1	.68

Table 2.--Physical characteristics--Continued

Site number and name: 3 - Evans Creek at Minthorne Road

Date: July 5-6, 1978
Discharge (ft^3/s): 28

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
July 5						
1300	20.8	146	10.7	118	7.9	1.3
1400	22.3	147	10.6	121	8.3	.52
1500	23.6	149	10.5	122	8.5	.28
1600	24.6	150	10.4	123	8.5	.12
1700	24.8	150	10.2	121	8.5	.18
1800	24.9	150	9.9	118	8.6	.08
1900	24.7	152	9.6	114	8.6	.08
2000	24.1	152	9.2	108	8.5	.04
2100	23.3	153	8.8	102	8.4	0
2200	22.3	154	8.4	96	8.3	0
2300	21.3	158	8.2	92	7.6	0
2400	20.6	159	8.0	88	7.1	0
July 6						
0100	20.1	160	8.0	87	7.0	0
0200	19.5	160	8.0	86	6.9	0
0300	18.9	159	8.0	85	6.9	0
0400	18.5	159	8.1	86	7.0	0
0500	18.1	161	8.0	84	7.0	0
0600	17.9	158	8.0	84	7.0	.02
0700	17.7	160	8.2	85	7.1	.16
0800	17.6	161	8.3	86	7.3	.50
0900	17.7	162	8.5	89	7.4	.76
1000	18.2	163	8.9	94	7.6	1.0
1100	19.1	162	9.4	101	7.8	1.1
1200	20.3	160	9.8	107	8.0	1.2

Table 2.--Physical characteristics--Continued

Site number and name: 4 - Lost Creek, Molalla River basin

Date: July 21-22, 1977
Discharge (ft^3/s): 5.9

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
July 21						
1200	14.4	60	9.0	87	7.4	1.3
1300	15.6	60	8.9	90	7.5	1.3
1400	16.8	60	8.7	90	7.5	1.2
1500	17.6	59	8.5	89	7.6	1.2
1600	18.2	60	8.5	89	7.6	1.0
1700	18.2	60	8.4	88	7.6	.82
1800	17.6	60	8.6	91	7.5	.35
1900	16.4	61	8.7	92	7.4	.06
2000	15.9	60	8.8	89	7.3	0
2100	15.0	62	8.9	87	7.2	0
2200	14.4	62	9.0	87	7.2	0
2300	14.0	62	9.1	88	7.2	0
2400	13.6	61	9.2	88	7.2	0
July 22						
0100	13.2	62	9.3	88	7.2	0
0200	12.8	62	9.3	88	7.2	0
0300	12.6	63	9.4	89	7.2	0
0400	12.4	62	9.4	87	7.1	0
0500	12.2	62	9.5	88	7.1	0
0600	12.0	62	9.5	88	7.0	0
0700	12.0	62	9.5	88	7.0	.04
0800	12.0	62	9.4	87	7.0	.06
0900	12.4	62	9.4	87	7.0	.10
1000	13.0	62	9.3	88	7.1	.10
1100	14.0	62	9.2	88	7.1	.12
1200	15.2	62	9.0	88	7.1	.18

Table 2.--Physical characteristics--Continued

Site number and name: 5 - Dead Horse Canyon Creek, Molalla River basin

Date: September 15-16, 1977
Discharge (ft^3/s): 3.2

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Sept. 15						
1300	11.0	47	10.7	105	7.3	0.40
1400	11.0	47	10.5	103	7.4	.40
1500	11.1	47	10.4	102	7.4	.30
1600	11.2	49	10.3	101	7.4	.20
1700	11.2	49	10.2	100	7.4	.18
1800	11.0	49	10.1	99	7.4	.06
1900	11.0	49	10.1	99	7.4	.02
2000	10.8	49	10.1	99	7.4	0
2100	10.8	49	10.2	100	7.4	0
2200	10.8	49	10.2	100	7.4	0
2300	10.6	49	10.3	101	7.5	0
2400	10.4	49	10.3	100	7.5	0
Sept. 16						
0100	10.4	49	10.4	101	7.5	0
0200	10.4	49	10.4	101	7.5	0
0300	10.4	49	10.5	101	7.5	0
0400	10.2	49	10.5	101	7.5	0
0500	10.0	50	10.6	102	7.5	0
0600	10.0	49	10.6	102	7.5	0
0700	10.0	49	10.8	104	7.5	.02
0800	10.0	49	10.9	105	7.5	.08
0900	10.0	49	11.0	106	7.5	.15
1000	10.4	48	10.8	105	7.6	.30
1100	10.4	48	10.9	106	7.6	.34
1200	10.6	48	10.9	106	7.6	.36

Table 2.--Physical characteristics--Continued

Site number and name: 6 - Dorn Creek, Molalla River basin

Date: September 14-15, 1977
Discharge (ft^3/s): 0.14

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Sept. 14						
1200	10.8	68	10.2	95	7.0	0.06
1300	11.0	68	9.9	93	6.9	.08
1400	11.0	68	9.7	92	7.0	.10
1500	11.2	70	9.5	90	7.1	.08
1600	11.2	70	9.7	92	7.1	.06
1700	11.2	70	9.6	91	7.1	.05
1800	11.2	70	9.6	91	7.1	.04
1900	11.2	70	9.3	88	7.1	0
2000	11.0	70	9.4	89	7.1	0
2100	--	--	--	--	--	--
2200	--	--	--	--	--	--
2300	--	--	--	--	--	--
2400	--	--	--	--	--	--
Sept. 15						
0100	--	--	--	--	--	--
0200	--	--	--	--	--	--
0300	--	--	--	--	--	--
0400	--	--	--	--	--	--
0500	--	--	--	--	--	--
0600	--	--	--	--	--	--
0700	--	--	--	--	--	--
0800	--	--	--	--	--	--
0900	10.0	70	10.6	98	7.1	.10
1000	10.2	70	10.4	96	7.1	.10

Table 2.--Physical characteristics--Continued

Site number and name: 7 - Milk Creek, Molalla River basin

Date: September 13-14, 1977
Discharge (ft^3/s): 19

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Sept. 13						
1100	16.0	88	10.2	102	7.7	0.86
1200	16.4	88	10.2	103	7.8	.98
1300	16.9	88	10.2	104	7.8	1.0
1400	17.6	88	10.3	107	7.8	1.0
1500	18.2	88	10.4	109	7.9	.92
1600	18.8	88	10.5	112	7.9	.76
1700	19.4	88	10.7	115	7.9	.60
1800	19.5	88	10.6	114	7.9	.28
1900	19.5	88	10.3	111	7.8	.10
2000	19.2	88	9.9	106	7.7	0
2100	18.8	88	9.4	100	7.5	0
2200	18.8	88	9.2	98	7.5	0
2300	18.8	88	8.9	95	7.4	0
2400	18.4	88	8.8	93	7.3	0
Sept. 14						
0100	18.4	88	8.8	93	7.3	0
0200	18.2	88	8.9	93	7.3	0
0300	17.8	88	8.8	92	7.3	0
0400	17.6	88	8.8	92	7.3	0
0500	17.1	88	9.0	93	7.2	0
0600	16.9	88	9.0	92	7.2	0
0700	16.6	88	9.2	94	7.2	0
0800	16.4	88	9.4	95	7.2	.02
0900	16.2	88	9.5	96	7.2	.08
1000	16.0	88	9.7	97	7.3	.16

Table 2.--Physical characteristics--Continued

Site number and name: 8 - Wolf Creek, Siuslaw River basin

Date: October 4-5, 1977
Discharge (ft^3/s): 8.5

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Oct. 4						
1000	10.5	92	12.4	111	7.6	--
1100	10.7	92	12.2	109	7.6	--
1200	11.2	90	11.9	108	7.6	--
1300	11.9	84	11.7	108	7.6	--
1400	12.1	79	11.5	106	7.6	--
1500	12.0	73	11.3	104	7.5	--
1600	11.8	69	11.2	103	7.4	--
1700	11.3	66	11.0	100	7.3	--
1800	11.1	66	10.9	99	7.2	--
1900	10.8	68	10.9	98	7.2	--
2000	10.8	70	10.8	97	7.2	--
2100	11.1	72	10.8	98	7.2	--
2200	11.3	74	10.7	97	7.2	--
2300	11.4	74	10.7	97	7.2	--
2400	11.6	74	10.7	98	7.2	--
Oct. 5						
0100	11.7	74	10.6	97	7.2	--
0200	11.7	74	10.6	97	7.2	--
0300	11.7	74	10.5	96	7.2	--
0400	11.7	74	10.4	95	7.1	--
0500	11.5	73	10.4	95	7.0	--
0600	11.5	73	10.4	95	6.9	--
0700	11.4	72	10.3	94	6.9	--
0800	11.4	72	10.4	95	6.9	--
0900	11.3	71	10.5	95	6.9	--
1000	11.1	70	10.6	96	6.9	--

Table 2.--Physical characteristics--Continued

Site number and name: 9 - Knowles Creek, Siuslaw River basin

Date: October 4-5, 1977
Discharge (ft^3/s): 2.7

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Oct. 4						
1100	9.4	65	11.7	102	6.9	0.08
1200	9.8	65	12.0	105	7.3	.08
1300	10.2	65	11.9	106	7.3	.08
1400	10.2	65	11.6	105	7.3	.10
1500	10.4	64	11.3	101	7.3	.10
1600	10.2	63	11.2	99	7.2	.10
1700	10.0	63	11.0	97	7.2	.08
1800	10.0	63	10.9	96	7.2	.06
1900	10.0	63	10.9	96	7.2	0
2000	10.0	63	10.9	96	7.2	0
2100	10.0	62	10.9	96	7.2	0
2200	10.0	62	10.9	96	7.2	0
2300	10.0	62	10.9	96	7.2	0
2400	10.0	62	10.9	96	7.3	0
Oct. 5						
0100	10.0	62	11.0	97	7.3	0
0200	9.8	62	11.0	96	7.3	0
0300	9.8	62	11.0	96	7.3	0
0400	9.8	62	11.1	97	7.3	0
0500	9.6	62	11.2	98	7.3	0
0600	9.4	61	11.2	97	7.3	0
0700	9.4	61	11.3	98	7.3	0
0800	9.4	61	11.3	98	7.3	.02
0900	9.6	61	11.4	100	7.3	.08
1000	9.8	61	11.4	100	7.3	.10

Table 2.--Physical characteristics--Continued

Site number and name: 10 - Cedar Creek, Siuslaw River basin

Date: August 8-10, 1977
Discharge (ft^3/s): 0.43

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
August 8						
2100	17.2	67	8.9	92	6.8	0
2200	16.6	67	9.0	93	6.7	0
2300	16.0	68	9.0	92	6.6	0
2400	15.6	69	9.1	91	6.6	0
August 9						
0100	15.2	69	9.1	91	6.6	0
0200	14.8	69	9.2	91	6.6	0
0300	14.4	70	9.3	91	6.6	0
0400	14.0	71	9.4	90	6.6	0
0500	13.6	71	9.5	90	6.6	0
0600	13.4	71	9.6	91	6.7	0
0700	13.2	74	9.8	92	6.8	.02
0800	13.2	77	9.9	93	6.8	.04
0900	13.6	75	10.0	94	6.9	.06
1000	14.0	74	10.0	95	7.0	.10
1100	14.4	72	9.9	96	7.0	.12
1200	15.2	71	9.7	96	7.0	.34
1300	16.4	68	9.3	94	7.0	.96
1400	17.2	65	9.2	95	6.9	.50
1500	18.0	63	9.1	96	6.9	.20
1600	18.8	63	9.1	97	6.9	.14
1700	19.2	63	9.1	98	6.8	.08
1800	18.8	64	9.2	98	6.7	.06
1900	18.2	64	9.2	98	6.7	.02
2000	17.8	66	9.2	97	6.7	0
2100	17.6	67	9.2	96	6.7	0
2200	17.2	67	9.2	95	6.7	0
2300	16.8	68	9.3	95	6.6	0
2400	16.4	68	9.3	94	6.5	0
Aug. 10						
0100	16.0	68	9.4	94	6.5	0
0200	15.6	68	9.5	95	6.5	0
0300	15.2	68	9.5	94	6.5	0
0400	14.8	68	9.6	94	6.6	0
0500	14.4	68	9.7	94	6.6	0
0600	14.0	68	9.8	94	6.6	0
0700	13.6	68	9.9	94	6.6	.02
0800	13.6	68	10.0	95	6.7	.04
0900	14.0	68	10.0	96	6.8	.06
1000	14.6	68	9.9	97	6.9	.08
1100	15.2	68	9.8	97	6.9	.12
1200	16.0	69	9.8	98	6.9	.58
1300	17.2	69	9.7	100	6.9	.84
1400	18.0	69	9.6	101	6.9	.30

Table 2.--Physical characteristics--Continued

Site number and name: 10 - Cedar Creek, Siuslaw River basin

Date: October 5-6, 1977
Discharge (ft^3/s): 2.4
Remark: Recorder did not print during night.

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Oct. 5						
1330	10.9	58	12.2	110	7.1	--
1430	11.2	58	11.5	105	7.1	--
1530	11.4	57	11.2	102	7.2	--
Oct. 6						
1030	10.9	56	11.0	99	7.1	--
1130	11.0	56	10.6	95	7.2	--
1230	11.1	56	9.8	88	7.2	--

Table 2.--Physical characteristics--Continued

Site number and name: 11 - Bob Creek, Siuslaw Basin

Date: August 8-9, 1977
Discharge (ft^3/s): 2.7

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
August 8						
1900	16.6	79	9.4	96	6.6	--
2000	16.3	77	9.0	91	6.6	--
2100	16.0	75	8.6	86	6.4	--
2200	15.6	74	8.6	86	6.3	--
2300	15.3	73	8.8	87	6.3	--
2400	15.1	74	8.9	88	6.4	--
August 9						
0100	14.8	75	9.0	88	6.5	--
0200	14.7	78	9.2	90	6.6	--
0300	14.6	80	9.3	91	6.7	--
0400	14.5	81	9.4	91	6.8	--
0500	14.3	82	9.6	93	6.9	--
0600	13.9	82	9.6	92	6.9	--
0700	13.7	81	9.6	92	6.9	--
0800	13.6	77	9.8	93	6.9	--
0900	13.5	73	10.0	95	6.9	--
1000	13.9	73	10.1	97	6.9	--
1100	14.4	73	10.1	98	6.9	--
1200	15.0	73	10.0	98	6.9	--
1300	15.7	73	9.9	99	6.8	--
1400	16.4	73	9.8	100	6.8	--
1500	17.0	73	9.6	99	6.8	--
1600	17.0	73	9.5	98	6.7	--
1700	17.0	73	9.4	97	6.7	--
1800	17.0	74	9.3	96	6.7	--

Table 2.--Physical characteristics--Continued

Site number and name: 11 - Bob Creek, Siuslaw Basin

Date: October 5-6, 1977
Discharge (ft^3/s): 9.2

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Oct. 5						
1800	11.2	58	11.0	100	7.2	0.12
1900	11.0	58	11.0	100	7.2	0
2000	10.8	58	11.0	99	7.1	0
2100	10.8	59	10.9	98	7.1	0
2200	10.6	59	10.9	97	7.1	0
2300	10.6	59	10.9	97	7.0	0
2400	10.4	59	10.9	97	7.0	0
Oct. 6						
0100	10.4	59	10.9	97	7.0	0
0200	10.4	59	10.9	97	7.0	0
0300	10.4	59	10.9	97	7.0	0
0400	10.4	59	11.0	98	7.0	0
0500	10.4	59	11.0	98	7.0	0
0600	10.4	59	11.1	99	7.0	0
0700	10.4	59	11.1	99	7.0	0
0800	10.6	59	11.2	100	7.0	0
0900	10.6	59	11.2	100	7.0	.02
1000	10.6	59	11.2	100	7.0	.04
1100	10.8	59	11.2	101	7.0	.08
1200	10.8	59	11.2	101	7.0	.12
1300	10.8	59	11.2	101	7.0	.12
1400	11.0	60	11.1	101	7.0	.12
1500	11.0	60	11.1	101	7.0	.18
1600	11.2	60	11.1	101	7.0	.50
1700	11.2	60	11.1	101	7.0	.40
1800	11.2	60	11.1	101	7.0	.08

Table 2.--Physical characteristics--Continued

Site number and name: 12 - South Fork John Day River above Forest Service boundary

Date: September 14-15, 1978
Discharge (ft^3/s): 0.5

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Sept. 14						
1900	13.0	338	9.2	87	8.2	--
2000	12.2	340	8.9	83	8.1	--
2100	11.4	340	8.9	81	8.1	--
2200	10.6	339	9.3	83	8.1	--
2300	10.1	342	9.5	84	8.2	--
2400	9.5	341	9.6	84	8.2	--
Sept. 15						
0100	9.1	343	9.9	86	8.3	--
0200	8.7	344	10.1	87	8.3	--
0300	8.2	344	10.2	86	8.3	--
0400	8.0	344	10.4	88	8.2	--
0500	7.7	345	10.5	88	8.2	--
0600	7.3	343	10.6	88	8.2	--
0700	7.3	345	10.7	89	8.2	--
0800	7.4	346	10.9	90	8.2	--
0900	8.0	350	11.4	96	8.3	--
1000	9.0	352	11.4	98	8.3	--
1100	10.4	358	10.9	97	8.2	--
1200	11.6	364	10.9	100	8.3	--
1300	13.1	343	10.7	101	8.3	--
1400	15.5	326	10.2	101	8.4	--

Table 2.--Physical characteristics--Continued

Site number and name: 13 - South Fork John Day River above Little Pine Creek

Date: September 15, 1978
Discharge (ft^3/s): 16

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Sept. 15						
1000	10.0	460	10.4	92	8.2	0.70
1100	10.8	468	10.5	94	8.3	.80
1200	11.3	472	10.7	97	8.4	.88
1300	11.9	480	10.7	99	8.4	.78
1400	12.5	485	10.5	98	8.4	.90
1500	13.5	494	10.3	98	8.4	.82
1600	13.7	494	10.0	96	8.3	.56
1700	13.7	490	9.6	92	8.3	.25
1800	13.8	490	9.3	89	8.2	.08

Table 2.--Physical characteristics--Continued

Site number and name: 14 - Black Canyon Creek, South Fork John Day River basin

Date: September 13-14, 1978
Discharge (ft^3/s): 9.1

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Sept. 13						
1400	10.6	170	10.1	90	8.1	--
1500	10.9	170	9.7	87	8.1	--
1600	11.1	170	9.4	85	8.1	--
1700	11.2	170	9.4	85	8.1	--
1800	11.3	169	9.4	85	8.1	--
1900	11.2	170	9.4	85	8.1	--
2000	11.2	169	9.5	86	8.1	--
2100	11.2	169	9.6	87	8.0	--
2200	11.2	170	9.7	88	8.0	--
2300	11.2	170	9.8	89	8.0	--
2400	11.2	170	9.9	90	8.1	--
Sept. 14						
0100	11.2	171	9.9	90	8.1	--
0200	11.1	171	10.1	91	8.1	--
0300	11.0	171	10.1	91	8.1	--
0400	10.9	171	10.2	92	8.0	--
0500	10.8	170	10.3	93	8.1	--
0600	10.8	170	10.3	93	8.1	--
0700	10.8	170	10.4	93	8.1	--
0800	10.8	168	10.4	93	8.1	--
0900	11.0	167	10.5	95	8.1	--
1000	11.4	164	10.3	94	8.1	--
1100	11.8	160	10.0	92	8.0	--
1200	12.6	162	9.7	91	8.0	--
1300	12.8	163	9.7	91	8.0	--
1400	13.0	163	9.7	92	8.0	--

Table 2.--Physical characteristics--Continued

Site number and name: 15 - South Fork John Day River at Dayville

Date: August 12-13, 1977
Discharge (ft^3/s): 1.9

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Aug. 12						
1300	24.3	445	11.0	130	8.1	--
1400	25.5	450	10.4	125	8.2	--
1500	26.1	450	10.0	122	8.2	--
1600	26.1	448	9.7	118	8.2	--
1700	25.8	440	9.2	112	8.2	--
1800	24.7	435	8.5	101	8.2	--
1900	23.3	435	7.4	86	8.1	--
2000	22.5	440	6.7	77	8.0	--
2100	21.5	444	6.2	70	7.9	--
2200	20.8	448	5.8	64	7.9	--
2300	19.9	452	5.6	61	7.9	--
2400	19.1	454	5.5	59	7.8	--
Aug. 13						
0100	18.4	455	5.4	57	7.8	--
0200	17.7	455	5.3	55	7.8	--
0300	17.0	455	5.3	54	7.8	--
0400	16.3	458	5.4	55	7.8	--
0500	15.7	460	5.4	54	7.9	--
0600	15.0	458	5.5	54	7.9	--
0700	14.6	460	6.0	59	8.0	--
0800	14.8	456	7.4	73	8.0	--
0900	15.7	455	9.2	92	8.1	--
1000	17.3	457	10.5	108	8.3	--
1100	19.7	460	11.4	124	8.4	--

Table 2.--Physical characteristics--Continued

Site number and name: 15 - South Fork John Day River at Dayville

Date: September 6-7, 1977
Discharge (ft^3/s): 2.1

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Sept. 6						
1900	22.8	376	8.2	102	8.0	--
2000	22.2	378	7.5	93	7.9	--
2100	21.7	382	6.4	78	7.8	--
2200	20.8	388	6.0	72	7.8	--
2300	20.1	395	5.7	68	7.7	--
2400	19.2	400	5.6	65	7.7	--
Sept. 7						
0100	18.7	402	5.9	68	7.7	--
0200	17.9	398	6.0	68	7.7	--
0300	17.3	398	6.1	68	7.7	--
0400	16.3	400	6.3	69	7.8	--
0500	15.6	402	6.5	71	7.8	--
0600	14.9	403	6.7	72	7.8	--
0700	14.0	403	7.0	74	7.8	--
0800	14.0	400	7.4	78	7.9	--
0900	14.7	398	8.4	89	8.0	--
1000	15.3	400	10.0	109	8.1	--
1100	17.1	393	11.5	129	8.2	--
1200	19.2	386	11.9	137	8.3	--
1300	20.2	382	11.8	140	8.3	--
1400	21.8	380	11.8	144	8.4	--
1500	22.8	378	11.6	145	8.4	--
1600	22.2	377	11.3	141	8.4	--
1700	22.0	375	10.7	134	8.4	--
1800	21.3	373	9.5	117	8.3	--

Table 2.--Physical characteristics--Continued

Site number and name: 15 - South Fork John Day River at Dayville

Date: September 13-15, 1978
Discharge (ft^3/s): 43

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Sept. 13						
1200	13.5	365	11.0	105	8.2	0.42
1300	14.1	367	10.9	105	8.5	.42
1400	14.6	367	10.9	106	8.5	.38
1500	14.8	364	10.6	104	8.6	.20
1600	14.9	359	10.7	105	8.5	.22
1700	15.0	357	10.6	104	8.4	.15
1800	15.0	356	10.3	101	8.3	.10
1900	14.8	353	10.0	98	8.2	.02
2000	14.7	348	9.4	92	8.1	0
2100	14.4	343	9.2	89	8.0	0
2200	14.2	343	9.2	89	8.0	0
2300	14.0	341	9.3	90	7.9	0
2400	13.8	341	9.4	90	7.8	0
Sept. 14						
0100	13.7	340	9.5	91	7.8	0
0200	13.6	340	9.5	91	7.8	0
0300	13.4	340	9.6	91	7.8	0
0400	13.4	340	9.6	91	7.8	0
0500	13.4	348	9.6	91	7.8	0
0600	13.2	353	9.6	91	7.8	0
0700	13.2	358	9.6	91	7.8	.02
0800	13.3	362	9.6	91	7.9	.08
0900	13.4	367	9.9	94	8.0	.22
1000	13.8	365	10.6	102	8.1	.44
1100	14.5	366	10.9	106	8.3	.84
1200	16.3	373	11.1	112	8.4	.76
1300	16.4	369	11.1	112	8.4	.52
1400	16.7	365	11.2	114	8.4	.48
1500	17.3	363	11.2	116	8.4	.68
1600	17.5	365	10.8	112	8.4	.74
1700	17.5	366	10.4	108	8.4	.46
1800	17.2	366	10.0	103	8.3	.16
1900	16.8	367	9.6	98	8.3	.02
2000	16.1	367	9.2	93	8.2	0
2100	15.6	367	9.1	91	8.1	0
2200	15.1	366	9.1	90	8.1	0
2300	14.5	367	9.3	91	8.0	0
2400	14.0	365	9.4	91	7.9	0
Sept. 15						
0100	13.6	364	9.5	91	7.8	0
0200	13.1	362	9.6	91	7.8	0
0300	12.8	362	9.7	91	7.8	0
0400	12.5	363	9.7	91	7.9	0
0500	12.4	364	9.7	90	7.9	0
0600	12.3	364	9.7	90	7.9	0
0700	12.4	366	9.7	90	7.9	.02
0800	12.5	369	10.1	94	8.0	.12

Table 2.--Physical characteristics--Continued

Site number and name: 16 - Pearson Creek, Umatilla River basin

Date: September 20-21, 1978
Discharge (ft^3/s): 1.8

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Sept. 20						
1200	7.4	99	10.9	90	7.8	0.56
1300	8.4	100	10.7	91	7.8	.56
1400	9.4	103	10.4	91	7.9	.12
1500	9.3	104	10.1	88	7.8	.12
1600	9.1	104	10.1	87	7.8	.14
1700	8.9	104	10.1	87	7.7	.08
1800	8.5	104	10.0	85	7.6	.02
1900	8.2	104	9.9	84	7.4	0
2000	8.0	104	10.0	84	7.3	0
2100	7.7	103	10.0	84	7.3	0
2200	7.5	103	10.1	84	7.2	0
2300	7.3	102	10.1	84	7.2	0
2400	7.0	102	10.2	84	7.2	0
Sept. 21						
0100	6.8	101	10.2	83	7.2	0
0200	6.6	100	10.2	83	7.2	0
0300	6.5	100	10.2	83	7.3	0
0400	6.4	100	10.4	84	7.4	0
0500	6.3	100	10.4	84	7.4	0
0600	6.3	100	10.5	85	7.4	0
0700	6.4	100	10.3	83	7.4	.02
0800	6.6	100	10.4	85	7.5	.06
0900	6.8	100	10.7	87	7.6	.12
1000	7.1	99	10.6	87	7.7	.12
1100	7.4	99	10.6	88	7.8	.18

Table 2.--Physical characteristics--Continued

Site number and name: 17 - East Fork Birch Creek, Umatilla River basin

Date: September 21-22, 1978
Discharge (ft^3/s): 5.0

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Sept. 21						
1300	13.1	183	11.0	104	7.8	0.16
1400	13.7	184	10.6	102	7.8	.34
1500	14.5	187	10.2	99	7.9	.50
1600	15.3	189	9.6	95	7.9	.22
1700	15.2	191	9.1	90	7.8	.14
1800	15.0	191	8.8	87	7.6	.04
1900	14.6	192	8.5	83	7.4	0
2000	14.2	191	8.6	83	7.4	0
2100	13.9	192	8.7	84	7.4	0
2200	13.6	191	8.9	85	7.3	0
2300	13.3	189	9.1	86	7.3	0
2400	13.1	188	9.2	87	7.3	0
Sept. 22						
0100	12.8	187	9.3	87	7.3	0
0200	12.6	186	9.5	89	7.3	0
0300	12.6	185	9.5	89	7.3	0
0400	12.4	184	9.6	89	7.3	0
0500	12.3	183	9.6	89	7.3	0
0600	12.2	183	9.7	90	7.3	0
0700	12.0	181	9.8	90	7.3	.04
0800	11.9	181	10.1	93	7.4	.12
0900	12.3	181	10.5	98	7.5	.18
1000	12.5	181	10.4	97	7.6	.20
1100	13.1	182	10.5	99	7.7	.40

Table 2.--Physical characteristics--Continued

Site number and name: 18 - Wildhorse Creek, Umatilla River basin

Date: September 22-23, 1978
Discharge (ft^3/s): 0.05

Time (2400 hours)	Water temperature (°C)	Specific conductance (micromhos/cm at 25°C)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	pH (units)	Pyrometer (calories/cm^2/min)
Sept. 22						
1500	14.3	271	12.0	117	8.3	0.14
1600	14.3	271	12.0	117	8.3	.12
1700	14.6	271	12.1	118	8.4	.08
1800	14.4	271	10.9	106	8.4	.02
1900	14.2	271	10.2	99	8.4	0
2000	13.8	271	10.2	98	8.3	0
2100	13.6	271	9.5	91	8.2	0
2200	13.3	271	9.2	87	8.2	0
2300	13.2	271	8.9	84	8.1	0
2400	12.6	267	8.7	81	8.0	0
Sept. 23						
0100	12.0	264	8.5	78	8.0	0
0200	11.7	262	8.4	77	8.0	0
0300	11.6	262	8.1	74	8.0	0
0400	11.7	262	8.5	78	8.0	0
0500	11.8	262	9.8	90	7.9	0
0600	11.8	262	9.8	90	7.9	0
0700	11.9	263	9.2	85	7.9	.02
0800	12.1	265	9.1	84	7.9	.06
0900	12.4	266	9.2	86	7.9	.32
1000	13.2	269	9.1	86	8.0	.70
1100	14.2	274	9.5	92	8.0	.68

Table 3.--Chemical data

[n.a., not analyzed. All constituents dissolved except organic carbon, nitrogen species, and total phosphorus]

	Site number[1/] (Evans Creek basin)						
	1A	1B	2	2	2	3	3
Date	8-11-77	7-6-78	8-11-77	9-8-77	7-7-78	9-7-77	7-5-78
Time	1800	1530	1630	1200	1100	1200	1350
Discharge (ft^3/s)	0.25	5.9	3.4	4.7	20	2.6	28
	Dissolved constituents (mg/L)						
Calcium	12	16	12	23	14	21	14
Carbon, organic	2.4	1.9	1.5	1.7	1.7	1.6	1.7
Chloride	2.0	2.0	28	29	13	21	8.1
Hardness (Ca, Mg)	48	65	57	85	63	86	64
Iron	70	40	70	70	50	90	40
Magnesium	4.3	6.2	6.6	6.6	6.7	8.1	7.0
Manganese	0	10	20	20	0	50	0
Nitrogen as N							
Ammonia	.01	.00	.01	.02	.00	.03	.00
Kjeldahl	.14	.14	.00	.05	.09	.17	.00
Nitrite + nitrate	.01	.01	.01	.01	.00	.04	.05
Phosphorus as P							
Total	.03	.02	.03	.02	.02	.02	.02
Orthophosphate	.01	.01	.01	.02	.06	.01	.01
Potassium	.5	.6	1.5	1.4	.9	1.6	1.0
Silica	18	18	20	21	22	23	17
Sodium	5.2	5.9	25	22	13	16	9.2
Sulfate	1.4	3.9	1.6	2.3	3.0	4.1	2.1
	Alkalinity						
Date	8-11-77	7-6-78	8-11-77	9-8-77	7-6-78	9-7-77	7-5-78
Time	0750	1445	2045	1445	1730	1400	1420
Mg/L	85	72	65	75	67	166	67
Date	8-12-77	7-6-78	8-12-77	9-8-77	7-7-78	9-7-77	7-5-78
Time	1315	1825	0720	1930	0810	1940	1650
Mg/L	85	80	73	74	71	84	67
Date	8-12-77	7-7-78	8-12-77	9-9-77	7-7-78	9-8-78	7-6-78
Time	2015	0830	1700	0745	1230	0800	0740
Mg/L	84	72	73	77	66	87	71
Date		7-7-78					
Time		1330					
Mg/L		74					

See footnote at end of table.

Table 3.--Chemical data--Continued

	Site number[1/] (Molalla River basin)			
	4	5	6	7
Date	7-21-77	9-15-77	9-14-77	9-13-77
Time	1200	1200	1200	1200
Discharge (ft^3/s)	6.0	3.2	0.14	19
Dissolved constituents (mg/L)				
Calcium	6.0	6.1	5.8	6.6
Carbon	.6	.3	.6	1.5
Chloride	1.0	2.6	3.2	3.6
Hardness (Ca, Mg)	20	20	31	30
Iron	40	20	100	370
Magnesium	1.2	1.1	3.9	3.3
Manganese	0	0	0	20
Nitrogen as N				
Ammonia	.01	.00	.00	.04
Kjeldahl	.08	.00	.37	.14
Nitrite + nitrate	.02	.11	.30	.07
Phosphorus as P				
Total	.02	.00	.00	.02
Orthophosphate	.01	.01	.01	.02
Potassium	.5	.4	.5	1.1
Silica	9.7	18	24	24
Sodium	2.6	2.8	3.1	4.5
Sulfate	19	.6	.3	1.0
Alkalinity				
Date	7-21-77	9-15-77	9-14-77	9-13-77
Time	1700	1430	1410	1430
Mg/L	1.0	23	34	37
Date	7-21-77	9-16-77	9-15-77	9-13-77
Time	2000	0825	0845	1630
Mg/L	.95	21	34	37
Date	7-22-77			9-14-78
Time	0700			815
Mg/L	1.0			36
Date	7-22-77			
Time	1300			
Mg/L	.9			

See footnote at end of table.

Table 3.--Chemical data--Continued

	Site number[1/] (Siuslaw basin area)					
	8	9	10	10	11	11
Date	10-4-77	10-4-77	8-9-77	10-5-77	8-9-77	10-5-77
Time	1000	1200	1600	1200	1130	1200
Discharge (ft^3/s)	8.5	2.7	0.43	2.4	2.7	9.2
	Dissolved constituents (mg/L)					
Calcium	3.3	5.3	5.0	2.5	6.0	4.8
Carbon	1.9	2.0	1.4	.8	.9	3.1
Chloride	5.3	6.9	3.1	7.8	.9	8.4
Hardness (Ca, Mg)	12	19	16	11	21	19
Iron	90	60	70	70	20	530
Magnesium	1.0	1.4	.9	1.1	1.4	1.6
Manganese	0	0	0	0	0	0
Nitrogen as N						
Ammonia	.01	.08	.01	.00	.01	.05
Kjeldahl	.01	.18	.09	.01	.06	.08
Nitrite + nitrate	.41	.70	.12	.59	.07	.03
Phosphorus as P						
Total	.01	.01	.02	.02	.01	.03
Orthophosphate	.00	.00	.01	.00	.01	.00
Potassium	.7	.6	.7	.4	.5	1.1
Silica	10	9.5	12	11	12	13
Sodium	4.9	5.9	5.2	5.7	7.5	5.5
Sulfate	3.0	4.3	1.6	2.1	12	2.6
	Alkalinity					
Date	10-4-77	10-4-77	8-8-77	10-5-77	8-8-77	10-5-77
Time	1600	1330	2045	0900	2210	0815
Mg/L	21	18	59	46	22	18
Date	10-5-77	10-5-77	8-9-77		8-9-77	
Time	0845	0800	0730		0852	
Mg/L	28	23	52		13	
Date			8-9-77		8-9-77	
Time			1340		1400	
Mg/L			36		11	

See footnote at end of table.

Table 3.--Chemical data--Continued

Site number[1/] (South Fork John Day River basin)	12	13	14	15	15	15
Date collected	9-15-78	9-15-78	9-14-78	8-12-77	9-7-77	9-14-78
Time	1400	1500	1130	1400	0930	1400
Discharge (ft^3/s)	0.5	16	9.1	1.9	2.1	43
Dissolved constituents (mg/L)						
Calcium	45	94	20	n.a.	n.a.	44
Carbon	1.6	1.7	1.3	n.a.	n.a.	2.6
Chloride	1.6	3.6	.9	n.a.	n.a.	3.1
Hardness (Ca, Mg)	160	320	79	n.a.	n.a.	170
Iron	20	20	20	n.a.	n.a.	20
Magnesium	12	20	7.1	n.a.	n.a.	14
Manganese	0	20	0	n.a.	n.a.	0
Nitrogen as N						
Ammonia	.01	.02	.00	n.a.	n.a.	.02
Kjeldahl	.16	.39	.15	n.a.	n.a.	.23
Nitrite + nitrate	.01	.02	.02	0.03	n.a.	.01
Phosphorus as P						
Total	.04	.02	.05	.05	n.a.	.02
Orthophosphate	.01	.02	.02	.02	n.a.	.01
Potassium	1.8	2.7	1.4	n.a.	n.a.	1.9
Silica	23	23	36	n.a.	n.a.	28
Sodium	12	32	6.6	n.a.	n.a.	17
Sulfate	11	100	2.4	n.a.	n.a.	34
Alkalinity						
Date	9-14-78	9-15-78	9-13-78	8-12-77	9-6-77	9-13-78
Time	1905	1800	1400	1400	1930	1235
Mg/L	180	260	91.8	210	196	171
Date			9-14-78	8-12-77	9-7-77	9-14-78
Time			0945	1930	0700	0900
Mg/L			89.4	210	216	166
Date				8-13-77	9-7-77	
Time				0705	1220	
Mg/L				230	207	
Date					9-7-77	
Time					1445	
Mg/L					207	

See footnote at end of table.

Table 3.--Chemical data--Continued

Site number[1/] (Umatilla River basin)	16	17	18
Date collected	9-21-78	9-21-78	9-13-78
Time	1145	1300	1000
Discharge (ft^3/s)	1.8	5.0	0.05
Dissolved constituents (mg/L)			
Calcium	9.0	17	25
Carbon	1.6	2.2	6.7
Chloride	1.2	2.6	2.8
Hardness	37	70	100
Iron	20	20	20
Magnesium	3.5	6.8	10
Manganese	0	0	10
Nitrogen as N			
Ammonia	.01	.00	.04
Kjeldahl	.13	1.3	.43
Nitrite + nitrate	.01	.05	1.4
Phosphorus as P			
Total	.04	.06	.04
Orthophosphate	.04	.04	.02
Potassium	2.0	3.5	3.4
Silica	37	40	32
Sodium	5.1	10	22
Sulfate	3.0	5.4	14

Alkalinity

Date	9-20-78	9-21-78	9-22-78
Time	1630	1500	1430
Mg/L	48	9.02	130
Date	9-21-78	9-22-78	9-23-78
Time	0900	0900	1130
Mg/L	48	9.18	130

1/ Refer to table 1 for site names.

Table 4.--Miscellaneous data

[n.a., not analyzed]

	Site number[1/] (Evans Creek basin)						
	1A	1B	2	2	2	3	3
Date collected	8-11-77	7-6-78	8-11-77	9-8-77	7-7-78	9-7-77	7-5-78
Time	1800	1530	1630	1200	1100	1200	1350
Discharge (ft^3/s)	0.25	5.9	3.4	4.7	20	2.6	28
Algal growth potential (mg/L)	2.0	n.a.	4.8	6.9	n.a.	2.4	n.a.
Periphyton							
Biomass (g/m^2)							
Dry weight	n.a.	70	n.a.	100	120	44	62
Dry weight less ash weight	n.a.	5.7	n.a.	11	5.3	1.1	13
Chlorophyll (mg/m^2)							
a	.183	1.17	.055	.001	.300	.000	.580
b	.008	1.06	.020	.002	2.43	.001	.180
Fecal coliform (colonies/100 mL)	20B	68	35	61	25	210	48
Suspended sediment (mg/L)	1	7	2	8	6	8	10
Oxygen, light-dark bottle test							
Started	8-11-77	7-6-78	--	9-8-77	7-6-78	9-7-77	7-5-78
Time	1305	1530	--	1145	1400	0930	1300
Ended	8-12-77	7-7-78	--	9-9-77	7-7-78	9-8-77	7-6-78
Time	1220	1400	--	1145	1230	0930	1230
Productivity ($mg\ O_2/m^3/hr$)							
Gross primary	43	0	n.a.	0	0	8	0
Net primary	-22	-44	n.a.	-33	-49	-21	-51
Respiration	65	44	n.a.	33	49	29	51

See footnotes at end of table.

Table 4.--Miscellaneous data--Continued

	Site number[1/] (Molalla River basin)			
	4	5	6	7
Date collected	7-21-77	9-15-77	9-14-77	9-13-77
Time	1200	1200	1200	1200
Discharge (ft^3/s)	6.0	3.2	0.14	19
Algal growth potential (mg/L)	.9	3.7	2.8	6.8
Periphyton				
Biomass (g/m^2)				
Dry weight	n.a.	91	160	160
Dry weight less ash weight	n.a.	2.6	8.9	14
Chlorophyll (mg/m^2)				
a	.363	.001	n.a.	n.a.
b	.012	.001	n.a.	n.a.
Fecal coliform (colonies/100 mL)	n.a.	n.a.	47	520B
Suspended sediment (mg/L)	2	6	5	10
Oxygen, light-dark bottle test				
Started	7-21-77	9-15-77	9-14-77	9-13-77
Time	1200	1215	1210	1025
Ended	7-22-77	9-16-77	9-15-77	9-14-77
Time	1200	1215	1010	0925
Productivity ($mg\ O_2/m^3/hr$)				
Gross primary	17	0	0	0
Net primary	-21	0	-18	-17
Respiration	38	0	18	17

See footnotes at end of table.

Table 4.--Miscellaneous data--Continued

	Site number[1/] (Siuslaw basin area)					
	8	9	10	10	11	11
Date collected	10-4-77	10-4-77	8-9-77	10-5-77	8-9-77	10-5-77
Time	1000	1200	1600	1200	1130	1200
Discharge (ft^3/s)	8.5	2.7	0.43	2.4	2.7	9.2
Algal growth potential (mg/L)	4.2	.4	3.0	1.3	.9	.3
Periphyton						
Biomass (g/m^2)						
Dry weight	100	96	n.a.	270	n.a.	56
Dry weight less ash weight	9.2	3.5	n.a.	3.4	n.a.	5.3
Chlorophyll (mg/m^2)						
a	.000	1.30	.484	n.a.	.190	11.3
b	2.10	1.30	.002	n.a.	.066	2.45
Fecal coliform (colonies/100 mL)	43	19B	33	8B	43	10
Suspended sediment (mg/L)	8	3	1	4	.6	4
Oxygen, light-dark bottle test						
Started	10-4-77	10-4-77		10-5-77		10-5-77
Time	0830	1030		1300		1700
Ended	10-5-77	10-5-77		10-6-77		10-6-77
Time	0845	1030		0900		1700
Productivity ($mg\ O_2/m^3/hr$)						
Gross primary	0	0	n.a.	5	n.a.	0
Net primary	-70	-4	n.a.	-20	n.a.	-38
Respiration	70	4	n.a.	25	n.a.	38

See footnotes at end of table.

Table 4.--Miscellaneous data--Continued

	Site number[1/] (South Fork John Day River basin)					
	12	13	14	15	15	15
Date collected	9-15-78	9-15-78	9-14-78	8-12-77	9-7-77	9-14-78
Time	1400	1500	1130	1400	0930	1400
Discharge (ft^3/s)	0.5	16	9.1	1.9	2.1	43
Algal growth potential (mg/L)	8.8	.03	5.5	n.a.	n.a.	3.2
Periphyton						
Biomass (g/m^2)						
Dry weight	180	1,200	110	n.a.	450	380
Dry weight less ash weight	16	99	6.7	n.a.	34	41
Chlorophyll (mg/m^2)						
a	36.6	88.0	37.3	1.2	.001	99.0
b	8.57	7.27	2.24	.02	.001	24.8
Fecal coliform (colonies/ 100 mL)	17	27	17	84	68	13B
Suspended sediment (mg/L)	4	53	4	9	32	3
Oxygen, light-dark bottle test						
Started	9-14-78	9-15-78		8-12-77	9-6-77	9-13-78
Time	1900	1000		1305	1830	1600
Ended	9-15-78	9-15-78		8-13-77	9-7-77	9-14-78
Time	1400	1700		1045	1825	1500
Productivity (mg $O_2/m^3/hr$)						
Gross primary	0	0	n.a.	9	21	n.a.
Net primary	-42	-230	n.a.	-37	21	n.a.
Respiration	42	230	n.a.	46	0	n.a.

See footnotes at end of table.

Table 4.--Miscellaneous data--Continued

	Site number[1] (Umatilla River basin)		
	16	17	18
Date collected	9-21-78	9-21-78	9-23-78
Time	1145	1300	1000
Discharge (ft^3/s)	1.8	5.0	0.05
Algal growth potential (mg/L)	n.a.	9.6	9.5
Periphyton			
Biomass (g/m^2)			
Dry weight	87	290	200
Dry weight less ash weight	13	28	24
Chlorophyll (mg/m^2)			
a	34.6	118	n.a.
b	.0	3.87	n.a.
Fecal coliform (colonies/100 mL)	4	25	9
Suspended sediment (mg/L)	2	10	6
Oxygen, light-dark bottle test			
Started	9-20-78	9-21-78	9-22-78
Time	1230	1245	1450
Ended	9-21-78	9-22-78	9-23-78
Time	1130	1300	1000
Productivity ($mg\ O_2/m^3/hr$)			
Gross primary	4	21	0
Net primary	4	-12	-5
Respiration	0	33	5

1/ Refer to table 1 for site names.
2/ Bacteria samples that did not have one or a combination of filters with a colony count within the ideal of 20 to 60 are reported with the remark "K."

Table 5.--Taxa and numbers of periphyton

Site number and name: 1A - Evans Creek above West Fork

Date: August 11, 1977

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Centrales	Centric diatoms		
Coscinodiscaceae			
Melosira varians		2	0.9
Pennales	Pennate diatoms		
Fragilariaceae			
Synedra ulna		13	5.9
Achnanthaceae			
Achnanthes lanceolata		4	1.8
A. linearis		2	.9
Cocconeis pediculus		2	.9
C. placentula euglypta		105	47.2
Rhoicosphenia curvata		42	18.8
Naviculaceae			
Navicula cryptocephala		2	.9
N. sp.		7	3.2
Gomphonemataceae			
Gomphonema parvulum		13	5.9
G. sp.		9	4.1
Cymbellaceae			
Cymbella minuta		2	.9
Epithemia sorex		9	4.1
Nitzschiaceae			
Nitzschia sp.		4	1.8
Misc. diatom		2	.9
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Oscillatoriaceae			
Oscillatoria agardhii		2	.9
Nostocaceae			
Anabaena sp.		2	.9
	Total	222	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 1B - Evans Creek above West Fork

Date: July 7, 1978

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHLOROPHYTA	Green algae		
CHLOROPHYCEAE			
Chlorococcales			
Oocystaceae			
Planktosphaeria gelatinosa		14	5.3
Misc. green algae		5	1.9
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Centrales	Centric diatoms		
Coscinodiscaceae			
Cyclotella meneghiniana		16	6.1
Pennales	Pennate diatoms		
Achnanthaceae			
Achnanthes lanceolata		2	.8
A. minutissima		5	1.9
Cocconeis pediculus		35	13.2
C. placentula		39	14.7
Naviculaceae			
Navicula cryptocephala		5	1.9
Gomphonemataceae			
Gomphonema olivaceum		2	.8
G. subclavatum		2	.8
G. tenellum		2	.8
G. spp.		7	2.7
Cymbellaceae			
Cymbella minuta		2	.8
C. sinuata		2	.8
Epithemia sorex		42	15.9
E. turgida		5	1.9
Nitzschiaceae			
Nitzschia acicularis		5	1.9
N. amphibia		2	.8
N. frustulum		2	.8
N. palea		2	.8
N. paleaceae		5	1.9
N. spp.		2	.8
Misc. pennate diatoms		9	3.4
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Nostocaceae			
Anabaena sp.		35	13.2
Misc. blue-green algae		16	6.1
	Total	263	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 2 - West Fork Evans Creek

Date: August 11, 1977

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHLOROPHYTA	Green algae		
CHLOROPHYCEAE			
Zygnematales			
Desmidiaceae	Placoderm desmids		
Cosmarium sp.		7	0.4
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Centrales	Centric diatoms		
Coscinodiscaceae			
Cyclotella meneghiniana		15	.9
Pennales	Pennate diatoms		
Fragilariaceae			
Synedra ulna		226	14.2
Achnanthaceae			
Achnanthes lanceolata		80	5.1
A. minutissima		66	4.1
Cocconeis pediculus		15	.9
C. placentula euglypta		29	1.8
Rhoicosphenia curvata		29	1.8
Naviculaceae			
Navicula cryptocephala		73	4.6
N. pupula		7	.4
Neidium iridis		7	.4
Gomphonemataceae			
Gomphoneis herculeana		7	.4
Cymbellaceae			
Cymbella tumida		7	.4
Epithemia sorex		730	45.6
Rhopalodia gibba		44	2.7
Nitzschiaceae			
Nitzschia dissipata		15	.9
N. frustulum		73	4.6
N. sigma		66	4.1
N. spp.		66	4.1
Surirellaceae			
Surirella robusta		7	.4
Misc. diatom		7	.4
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Oscillatoriaceae			
Oscillatoria sp.		29	1.8
	Total	1,605	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 2 - West Fork Evans Creek

Date: September 8, 1977

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHLOROPHYTA	Green algae		
CHLOROPHYCEAE			
Ulotrichales			
Coleochaetaceae			
Coleochaete soluta		35	1.5
Zygnematales			
Desmidiaceae	Placoderm desmids		
Cosmarium sp.		14	.6
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Centrales	Centric diatoms		
Coscinodiscaceae			
Cyclotella meneghiniana		28	1.2
Pennales	Pennate diatoms		
Diatomaceae			
Diatoma vulgare		35	1.5
Fragilariaceae			
Synedra ulna		182	7.9
Achnanthaceae			
Achnanthes lanceolata		21	.9
A. linearis		42	1.8
Cocconeis pediculus		7	.3
C. placentula euglypta		21	.9
Rhoicosphenia curvata		14	.6
Naviculaceae			
Navicula cryptocephala		105	4.6
Gomphonemataceae			
Gomphoneis herculeana		70	3.1
Gomphonema parvulum		7	.3
G. sp.		14	.6
Cymbellaceae			
Cymbella tumida		14	.6
Epithemia sorex		1,290	56.2
Rhopalodia gibba		14	.6
Nitzschiaceae			
Denticula elegans		7	.3
Nitzschia acicularis		28	1.2
N. frustulum		14	.6
N. sigma		7	.3
N. spp.		322	14.1
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Chroococcales			
Chroococcaceae			
Chroococcus sp.		7	.3
	Total	2,298	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 2 - West Fork Evans Creek

Date: July 7, 1978

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Pennales	Pennate diatoms		
Fragilariaceae			
Fragilaria vaucheriae		2	1.0
Achnanthaceae			
Achnanthes exigua		2	1.0
A. lanceolata		2	1.0
A. linearis		7	4.1
Cocconeis pediculus		11	7.0
C. placentula		2	1.0
Naviculaceae			
Navicula cryptocephala		3	2.0
N. cryptocephala veneta		3	2.0
Gomphonemataceae			
Gomphoneis herculeana		2	1.0
Gomphonema tenellum		2	1.0
Cymbellaceae			
Cymbella sinuata		5	3.1
Epithemia sorex		37	23.3
Nitzschiaceae			
Nitzschia amphibia		3	2.0
N. dissipata		2	1.0
N. paleaceae		13	8.0
N. spp.		7	4.1
Misc. pennate diatoms		5	3.1
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Chroococcales			
Chroococcaceae			
Anacystis sp.		2	1.0
Hormogonales			
Oscillatoriaceae			
Lyngbya sp.		15	9.1
Nostocaceae			
Anabaena sp.		16	10.1
Misc. blue-green algae		23	14.1
	Total	164	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 3 - Evans Creek at Minthorne Road

Date: September 7, 1977

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHLOROPHYTA	Green algae		
CHLOROPHYCEAE			
Ulotrichales			
Coleochaetaceae			
Coleochaete soluta		4	1.4
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Pennales	Pennate diatoms		
Achnanthaceae			
Achnanthes lanceolata		4	1.4
A. linearis		7	2.5
Cocconeis placentula euglypta		82	29.7
Rhoicosphenia curvata		57	20.7
Naviculaceae			
Navicula capitata		4	1.4
N. cryptocephala		4	1.4
Gomphonemataceae			
Gomphoneis herculeana		4	1.4
Gomphenema parvulum		36	13.1
G. tenellum		28	10.1
G. sp.		25	9.0
Cymbellaceae			
Amphora perpusilla		4	1.4
Cymbella sinuata		18	6.5
	Total	277	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 3 - Evans Creek at Minthorne Road

Date: July 5, 1978

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHLOROPHYTA	Green algae		
CHLOROPHYCEAE			
Ulotrichales			
Ulotrichaceae			
Ulothrix zonata		5	0.7
Chlorococcales			
Scenedesmaceae			
Scenedesmus abundans		5	.7
Zygnematales			
Desmidiaceae	Placoderm desmids		
Cosmarium sp.		21	3.0
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Centrales	Centric diatoms		
Coscinodiscaceae			
Melosira varians		142	20.6
Pennales	Pennate diatoms		
Diatomaceae			
Diatoma vulgare		5	.7
Fragilariaceae			
Synedra ulna		31	4.6
Achnanthaceae			
Achnanthes lanceolata		16	2.3
A. linearis		10	1.4
A. minutissima		5	.7
Cocconeis pediculus		31	4.6
C. placentula		84	12.1
Rhoicosphenia curvata		31	4.6
Naviculaceae			
Navicula cryptocephala		47	6.8
N. cryptocephala veneta		5	.7
N. minima		10	1.4
Gomphonemataceae			
Gomphoneis herculeana		5	.7
Gomphonema parvulum		37	5.3
Cymbellaceae			
Amphora perpusilla		5	.7
Epithemia sorex		74	10.8
Rhopalodia gibba		5	.7
Nitzschiaceae			
Nitzschia amphibia		10	1.4
N. dissipata		5	.7
N. frustulum		10	1.4
N. paleaceae		31	4.6
Misc. pennate diatoms		10	1.4
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Chroococcales			
Chroococcaceae			
Anacystis sp.		10	1.4
Hormogonales			
Oscillatoriaceae			
Lyngbya sp.		5	.7
Misc. blue-green algae		37	5.3
	Total	692	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 4 - Lost Creek, Molalla River basin

Date: July 21, 1977

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Centrales	Centric diatoms		
Coscinodiscaceae			
Melosira varians		1	1.4
Pennales	Pennate diatoms		
Diatomaceae			
Diatoma hiemale mesodon		1	1.4
Fragilariaceae			
Hannaea arcus		17	23.0
Achnanthaceae			
Achnanthes lanceolata		15	20.3
A. minutissima		2	2.7
Cocconeis placentula lineata		9	12.2
Naviculaceae			
Navicula cryptocephala		4	5.4
Comphonemataceae			
Gomphonema parvulum		4	5.4
G. tenellum		7	9.5
G. sp.		1	1.4
Cymbellaceae			
Amphora perpusilla		2	2.7
Cymbella minuta		4	5.4
Nitzschiaceae			
Nitzschia dissipata		1	1.4
N. sp.		2	2.7
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Chroococcales			
Chroococcaceae			
Chroococcus minutas		1	1.4
Hormogonales			
Oscillatoriaceae			
Oscillatoria agardhii		3	4.1
	Total	74	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 5 - Dead Horse Canyon Creek, Molalla River basin

Date: September 15, 1977

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoma		
Pennales	Pennate diatoms		
Diatomaceae			
Diatoma hiemale mesodon		2	1.0
Fragilariaceae			
Synedra ulna		4	2.1
Hannaea arcus		2	1.0
Achnanthaceae			
Achnanthes lanceolata		36	18.8
A. linearis		42	22.1
Cocconeis placentula euglypta		29	15.2
Naviculaceae			
Navicula cryptocephala		15	7.9
N. meniscula		7	3.7
Gomphonemataceae			
Gomphonema parvulum		11	5.8
G. sp.		2	1.0
Cymbellaceae			
Amphora perpusilla		2	1.0
Cymbella affinis		4	2.1
C. minuta		9	4.7
C. sinuata		4	2.1
Nitzschiaceae			
Nitzschia spp.		15	7.9
Misc. diatom		2	1.0
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Oscillatoriaceae			
Oscillatoria agardhii		5	2.6
	Total	191	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 6 - Dorn Creek, Molalla River basin

Date: September 14, 1977

DIVISION CLASS Order Family *Genus species*	Common name	Cell count per in^2 (in thousands)	Percent of total
CHLOROPHYTA	Green algae		
CHLOROPHYCEAE			
Ulotrichales			
Ulotrichaceae			
Ulothrix sp.		1.8	21.4
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Pennales	Pennate diatoms		
Achnanthaceae			
Achnanthes lancedata		.6	7.1
A. linearis		.3	3.6
A. minutissima		.3	3.6
Gomphonemataceae			
Gomphonema parvulum		.9	10.7
G. tenellum		3.0	35.7
Cymbellaceae			
Cymbella affinis		.6	7.1
C. minuta		.3	3.6
Nitzschiaceae			
Nitzschia sp.		.3	3.6
Misc. diatom		.3	3.6
	Total	8.4	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 7 - Milk Creek, Molalla River basin

Date: September 13, 1977

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Pennales	Pennate diatoms		
Fragilariaceae			
Synedra ulna		87	4.0
Achnanthaceae			
Achnanthes linearis		200	9.2
Cocconeis placentula euglypta		73	3.3
Rhoicosphenia curvata		20	.9
Naviculaceae			
Navicula cryptocephala		60	2.7
N. pupula		13	.6
Gomphonemataceae			
Gomphonema parvulum		387	17.8
G. tenellum		187	8.6
G. sp.		20	.9
Cymbellaceae			
Cymbella affinis		721	33.1
C. minuta		100	4.6
C. sinuata		7	.3
Nitzschiaceae			
Nitzschia sp.		27	1.2
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Oscillatoriaceae			
Oscillatoria agardhii		187	8.6
Nostocaceae			
Anabaena sp.		13	.6
Rivulariaceae			
Amphithrix janthina		73	3.3
Misc. blue-green algae		7	.3
	Total	2,182	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 8 - Wolf Creek, Siuslaw River basin

Date: October 4, 1977

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Pennales	Pennate diatoms		
Fragilariaceae			
Synedra parasitica		6	0.5
Achnanthaceae			
Achnanthes lanceolata		12	.9
A. linearis		362	28.5
Cocconeis placentula euglypta		18	1.4
Naviculaceae			
Navicula sp.		6	.5
Gomphonemataceae			
Gomphonema angustata		74	5.8
G. parvulum		18	1.4
G. subtile		55	4.3
Cymbellaceae			
Amphora perpusilla		6	.5
Cymbella affinis		184	14.5
C. minuta		6	.5
Nitzschiaceae			
Nitzschia acicularis		6	.5
N. spp.		215	16.9
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Oscillatoriaceae			
Oscillatoria agardhii		86	6.8
O. sp.		6	.5
Nostocaceae			
Anabaena sp.		43	3.4
Rivulariaceae			
Amphithrix janthina		166	13.1
	Total	1,269	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 9 - Knowles Creek, Siuslaw River basin

Date: October 4, 1977

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHLOROPHYTA	Green algae		
CHLOROPHYCEAE			
Chlorococcales			
Scenedesmaceae			
Scenedesmus quadricauda		5	0.7
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Pennales	Pennate diatoms		
Fragilariaceae			
Synedra ulna		16	2.1
Achnanthaceae			
Achnanthes linearis		652	85.4
A. minutissima		32	4.2
Cocconeis placentula		11	1.4
Naviculaceae			
Navicula cryptocephala		16	2.1
Gomphonemataceae			
Gomphonema angustata		21	2.7
Nitzschiaceae			
Nitzschia acicularis		5	.7
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Nostocaceae			
Anabaena sp.		5	.7
	Total	763	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 10 - Cedar Creek, Siuslaw River basin

Date: August 10, 1977

DIVISION CLASS Order Family *Genus species*	Common name	Cell count per in^2 (in thousands)	Percent of total
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Pennales	Pennate diatoms		
Achnanthaceae			
Achnanthes linearis		323	52.9
A. minutissima		12	2.0
Cocconeis placentula euglypta		12	2.0
Naviculaceae			
Navicula cryptocephala		12	2.0
Pinnularia sp.		6	1.0
Gomphonemataceae			
Gomphonema angustata		36	5.9
G. simus		24	4.0
Cymbellaceae			
Cymbella minuta		6	1.0
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Oscillatoriaceae			
Oscillatoria agardhii		36	5.9
Nostocaceae			
Anabaena sp.		143	23.3
	Total	610	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 10 - Cedar Creek, Siuslaw River basin

Date: October 5, 1977

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Pennales	Pennate diatoms		
Achnanthaceae			
Achnanthes lanceolata		10	1.7
A. linearis		353	59.6
A. minutissima		10	1.7
Cocconeis placentula lineata		50	8.4
Rhoicosphenia curvata		5	.8
Naviculaceae			
Navicula cryptocephala		10	1.7
Gomphonemataceae			
Gomphonema angustata		40	6.7
G. parvulum		55	9.3
G. simus		30	5.1
Cymbellaceae			
Cymbella minuta		5	.8
Nitzschiaceae			
Nitzschia frustulum		5	.8
N. spp.		10	1.7
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Nostocaceae			
Anabaena sp.		10	1.7
	Total	593	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 11 - Bob Creek, Siuslaw Basin

Date: August 9, 1977

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Pennales	Pennate diatoms		
Meridionaceae			
Meridion circulare		32	0.9
Fragilariaceae			
Fragilaria vaucheriae		1,526	41.9
Synedra rumpens		32	.9
S. ulna		65	1.8
Achnanthaceae			
Achnanthes linearis		1,591	43.7
A. minutissima		97	2.7
Naviculaceae			
Navicula biconica		32	.9
N. mutica		32	.9
N. tripunctata		65	1.8
Cymbellaceae			
Cymbella affinis		32	.9
C. minuta		65	1.8
Nitzschiaceae			
Nitzschia spp.		65	1.8
	Total	3,634	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 11 - Bob Creek, Siuslaw Basin

Date: October 5, 1977

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHLOROPHYTE	Green algae		
CHLOROPHYCEAE			
Volvocales			
Volvocaceae			
Eudorina elegans		7	0.4
CRYPTOPHYTA			
CRYPTOPHYCEAE			
Cryptomonidales			
Cryptochrysidaceae			
Rhodomonas sp.		7	.4
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Centrales	Centric diatoms		
Coscinodiscaceae			
Melosira varians		7	.4
Pennales	Pennate diatoms		
Fragilariaceae			
Fragilaria vaucheriae		229	13.0
Synedra ulna		21	1.2
Hannaea arcus		7	.4
Achnanthaceae			
Achnanthes linearis		766	43.4
A. minutissima		387	21.9
Cocconeis placentula euglypta		7	.4
Naviculaceae			
Navicula sp.		7	.4
Gomphoneis heruleana		43	2.4
Gomphonema parvulum		36	2.0
Cymbellaceae			
Cymbella affinis		29	1.6
C. minuta		115	6.5
Nitzschiaceae			
Nitzschia sp.		14	.8
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Oscillatoriaceae			
Oscillatoria limosa		36	2.0
Nostocaceae			
Anabaena sp.		50	2.8
	Total	1,768	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 12 - South Fork John Day River above Forest Service boundary

Date: September 15, 1978

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHLOROPHYTA	Green algae		
Misc. green algae		578	8.2
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Pennales	Pennate diatoms		
Fragilariaceae			
Synedra ulna		64	.9
Achnanthaceae			
Cocconeis placentula		64	.9
Rhoicosphenia curvata		128	1.8
Naviculaceae			
Navicula salinarum		193	2.7
Gomphonemataceae			
Gomphonema angustatum		257	3.6
G. parvulum		64	.9
G. tenellum		64	.9
G. spp.		193	2.7
Cymbellaceae			
Cymbella affinis		1,090	15.5
C. minuta		128	1.8
C. sinuata		64	.9
Epithemia sorex		2,120	30.1
Nitzschiaceae			
Nitzschia acicularis		64	.9
N. amphibia		1,090	15.5
N. dissipata		64	.9
N. spp.		449	6.4
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Oscillatoriaceae			
Lyngbya sp.		257	3.6
Misc. blue-green algae		128	1.8
	Total	7,059	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 13 - South Fork John Day River above Little Pine Creek

Date: September 15, 1978

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Centrales	Centric diatoms		
Coscinodiscaceae			
Cyclotella meneghiniana		150	0.6
Pennales	Pennate diatoms		
Diatomaceae			
Diatoma vulgare		1,170	4.5
Achnanthaceae			
Cocconeis pediculus		880	3.4
C. placentula		290	1.1
Naviculaceae			
Navicula cryptocephala		1,460	5.7
N. cryptocephala veneta		580	2.3
N. salinarum		2,480	9.7
N. tripunctata		8,760	34.0
Gomphonemataceae			
Gomphoneis herculeana		150	.6
Gomphonema olivaceum		150	.6
G. tenellum		440	1.7
Cymbellaceae			
Cymbella affinis		730	2.8
C. minuta		150	.6
C. sinuata		150	.6
C. tumida		150	.6
Nitzschiaceae			
Nitzschia acicularis		580	2.3
N. amphibia		1,900	7.4
N. dissipata		2,190	8.4
N. palea		580	2.3
N. tryblionella		150	.6
N. spp.		2,340	9.0
Surirellaceae			
Surirella angustata		150	.6
S. ovata		150	.6
	Total	25,730	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 14 - Black Canyon Creek, South Fork John Day River Basin

Date: September 14, 1978

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHLOROPHYTA	Green algae		
CHLOROPHYCEAE			
Zygnematales			
Desmidiaceae	Placoderm desmids		
Cosmarium sp.		16	0.9
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Pennales	Pennate diatoms		
Fragilariaceae			
Synedra mazamaensis		65	3.6
S. rumpens		16	.9
Achnanthaceae			
Achnanthes exigua		16	.9
A. lanceolata		48	2.7
A. linearis		113	6.3
A. minutissima		16	.9
Cocconeis placentula		81	4.5
Rhoicosphenia curvata		48	2.7
Naviculaceae			
Navicula cryptocephala veneta		129	7.0
N. tripunctata		65	3.6
Gomphonemataceae			
Gomphoneis herculeana		48	2.7
Gomphonema subclavatum		48	2.7
G. tenellum		32	1.8
Cymbellaceae			
Cymbella sinuata		16	.9
C. tumida		16	.9
Epithemia sorex		32	1.8
Nitzschiaceae			
Nitzschia amphibia		226	12.4
N. dissipata		81	4.5
N. recta		81	4.5
N. spp.		129	7.0
Misc. pennate diatoms		113	6.3
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Oscillatoriaceae			
Lyngbya sp.		145	7.9
Oscillatoria sp.		81	4.5
Nostocaceae			
Anabaena circinalis		32	1.8
Misc. blue-green algae		113	6.3
	Total	1,806	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 15 - South Fork John Day River at Dayville

Date: August 12, 1977

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Centrales	Centric diatoms		
Coscinodiscaceae			
Cyclotella meneghiniana		30	0.8
Pennales	Pennate diatoms		
Diatomaceae			
Diatoma vulgare		30	.8
Fragilariaceae			
Synedra ulna		30	.8
Achnanthaceae			
Achnanthes lanceolata		239	6.2
Cocconeis pediculus		149	3.8
C. placentula euglypta		149	3.8
Rhoicosphenia curvata		268	6.9
Naviculaceae			
Navicula cryptocephala		388	10.0
Gomphonemataceae			
Gomphonema parvulum		119	3.1
G. tenellum		89	2.3
Cymbellaceae			
Cymbella affinis		298	7.7
C. tumida		30	.8
Epithemia sorex		239	6.2
Nitzschiaceae			
Nitzschia dissipata		447	11.5
N. spp.		417	10.8
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Oscillatoriaceae			
Lyngbya sp.		895	23.0
Misc. blue-green algae		60	1.5
	Total	3,877	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 15 - South Fork John Day River at Dayville

Date: September 7, 1977

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHLOROPHYTA	Green algae		
CHLOROPHYCEAE			
Cladophorales			
Cladophoraceae			
Cladophora sp.		58	1.1
Chlorococcales			
Hydrodictyaceae			
Pediastrum boryanum		58	1.1
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Centrales	Centric diatoms		
Coscinodiscaceae			
Melosira varians		174	3.4
Pennales	Pennate diatoms		
Fragilariaceae			
Synedra parasitica		58	1.1
Achnanthaceae			
Achnanthes linearis		58	1.1
Cocconeis pediculus		232	4.5
C. placentula euglypta		348	6.7
Rhoicosphenia curvata		116	2.2
Naviculaceae			
Diploneis elliptica		58	1.1
Navicula cryptocephala		695	13.5
N. mutica		58	1.1
Gomphonemataceae			
Gomphonema tenellum		348	6.7
Cymbellaceae			
Amphora perpusilla		58	1.1
Epithemia sorex		985	19.2
Nitzschiaceae			
Nitzschia spp.		1,160	22.6
Surirellaceae			
Surirella angustata		58	1.1
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Oscillatoriaceae			
Oscillatoria sp.		464	9.0
Misc. blue-green algae		174	3.4
	Total	5,160	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 15 - South Fork John Day River at Dayville

Date: September 13, 1978

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHLOROPHYTA	Green algae		
Misc. green algae		158	1.3
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Centrales	Centric diatoms		
Coscinodiscaceae			
Cyclotella meneghiniana		79	.6
Pennales	Pennate diatoms		
Diatomaceae			
Diatoma vulgare		1,420	11.6
Fragilariaceae			
Synedra ulna		630	5.1
Achnanthaceae			
Achnanthes minutissima		79	.6
Cocconeis pediculus		158	1.3
C. placentula		316	2.7
Rhoicosphenia curvata		472	3.8
Naviculaceae			
Amphipleura pellucida		79	.6
Navicula cryptocephala		472	3.8
N. cryptocephala veneta		867	7.1
N. salinarum		1,100	9.0
N. tripunctata		867	7.1
Gomphonemataceae			
Gomphonema tenellum		158	1.3
G. spp.		237	1.9
Cymbellaceae			
Amphora perpusilla		79	.6
Cymbella affinis		709	5.8
C. minuta		237	1.9
C. tumida		158	1.3
Epithemia sorex		237	1.9
Nitzschiaceae			
Nitzschia amphibia		1,810	14.8
N. dissipata		630	5.1
N. frustulum subsalina		237	1.9
N. spp.		709	5.8
Misc. pennate diatoms		79	.6
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Oscillatoriaceae			
Oscillatoria sp.		79	.6
Nostocaceae			
Anabaena sp.		237	1.9
	Total	12,293	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 16 - Pearson Creek, Umatilla River basin

Date: September 20, 1978

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHLOROPHYTA	Green algae		
CHLOROPHYCEAE			
Ulotrichales			
Ulotrichaceae			
Ulothrix zonata		43	0.9
Zygnematales			
Desmidiaceae	Placoderm desmids		
Closterium sp.		43	.9
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Centrales	Centric diatoms		
Coscinodiscaceae			
Melosira varians		43	.9
Pennales	Pennate diatoms		
Meridionaceae			
Meridion circulare		43	.9
Fragilariaceae			
Synedra mazamaensis		43	.9
S. ulna		1,150	23.4
Achnanthaceae			
Achnanthes linearis		85	1.7
Cocconeis placentula		341	7.0
Rhoicosphenia curvata		85	1.7
Naviculaceae			
Amphipleua pellucida		256	5.2
Navicula cryptocephala		85	1.7
N. cryptocephala veneta		341	7.0
N. salinarum		256	5.2
N. tripunctata		43	.9
Gomphonemataceae			
Gomphoneis herculeana		43	.9
Gomphonema spp.		426	8.7
Cymbellaceae			
Cymbella affinis		85	1.7
C. minuta		128	2.6
C. sinuata		43	.9
Epithemia turgida		85	1.7
Nitzschiaceae			
Nitzschia amphibia		640	13.0
N. dissipata		85	1.7
Misc. pennate diatoms		298	6.1
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Nostocaceae			
Anabaena sp.		43	.9
Misc. blue-green algae		171	3.5
	Total	4,900	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 17 - East Fork Birch Creek, Umatilla River basin

Date: September 21, 1978

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Centrales	Centric diatoms		
Coscinodiscaceae			
Cyclotella meneghiniana		254	1.6
Melosira varians		339	2.1
Pennales	Pennate diatoms		
Diatomaceae			
Diatoma vulgare		85	.5
Fragilariaceae			
Fragilaria construents		678	4.2
Synedra ulna		85	.5
Achnanthaceae			
Cocconeis placentula		169	1.0
Rhoicosphenia curvata		1,695	10.5
Naviculaceae			
Navicula cryptocephala		254	1.6
N. salinarum		678	4.2
Gomphonemataceae			
Gomphoneis herculeana		593	3.7
Gomphonema subdavatum		932	5.8
G. tenellum		424	2.6
Cymbellaceae			
Cymbella minuta		85	.5
Nitzschiaceae			
Nitzschia amphibia		2,966	18.3
N. dissipata		4,830	29.9
N. frustulum		169	1.0
N. frustulum subsalina		339	2.1
N. spp.		339	2.1
Misc. pennate diatoms		85	.5
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Oscillatoriaceae			
Lyngbya sp.		1,017	6.3
Oscillatoria sp.		169	1.0
	Total	16,185	100.0

Table 5.--Taxa and numbers of periphyton--Continued

Site number and name: 18 - Wildhorse Creek, Umatilla River basin

Date: September 22, 1978

DIVISION CLASS Order Family Genus species	Common name	Cell count per in^2 (in thousands)	Percent of total
CHRYSOPHYTA			
BACILLARIOPHYCEAE	Diatoms		
Pennales	Pennate diatoms		
Achnanthaceae			
Achnanthes linearis		149	1.1
A. minutissima		37	.3
Cocconeis placentula		37	.3
Rhoicosphenia curvata		149	1.1
Naviculaceae			
Navicula cryptocephala veneta		37	.3
N. pupula		37	.3
N. salinarum		1,078	7.7
N. tripunctata		149	1.1
Gomphonemataceae			
Gomphoneis herculeana		111	.8
Gomphonema subclavatum		149	1.1
G. tenellum		223	1.5
Cymbellaceae			
Cymbella sinuata		37	.3
C. tumida		37	.3
Nitzschiaceae			
Nitzschia amphibia		6,208	44.6
N. dissipata		37	.3
N. frustulum subsalina		5,167	37.2
N. sp.		37	.3
Surirellaceae			
Cymatopleura solea		37	.3
CYANOPHYTA	Blue-green algae		
CYANOPHYCEAE			
Hormogonales			
Oscillatoriaceae			
Oscillatoria sp.		111	.8
Misc. blue-green algae		37	.3
	Total	13,864	100.0

Table 6.--Taxa and numbers of benthic invertebrates

Site number and name: 1A - Evans Creek above West Fork

Date: August 12, 1977

PHYLUM CLASS Order Family *Genus species*	Common name	Organism count (total/ square foot)	Percent of total
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	9	1.5
ARTHROPODA			
INSECTA			
Diptera	True flies		
Tipulidae	Crane flies		
Eriocera		1	.2
Simuliidae	Black flies	3	.5
Stratiomyiidae	Soldier flies	1	.2
Rhagionidae	Snipe flies		
Atherix		1	.2
Chironomidae	Midges	28	4.6
Trichoptera	Caddis flies	9	1.5
Hydropsychidae		126	20.5
Hydropsyche		41	6.7
Cheumatopsyche		130	21.2
Rhyacophilidae			
Rhyacophila		1	.2
Plecoptera	Stone flies	1	.2
Perlidae			
Acroneuria		2	.3
Perlodidae			
Isoperla		3	.5
Chloroperlidae		1	.2
Odonata	Dragon flies		
Coenagriionidae	Damsel flies	2	.3
Agria		4	.6
Gomphidae			
Ophiogomphus		1	.2
Coleoptera	Beetles		
Elmidae	Riffle beetles	185	30.2
Psephenidae	Water pennies		
Psephenus		5	.8
Eubrianax		4	.6
Ephemeroptera	Mayflies		
Tricorythidae			
Tricorythodes		1	.2
Leptophlebiidae			
Paraleptophlebia		3	.5
Baetidae		1	.2
Baetis		11	1.8
Heptageniidae		3	.5
Heptagenia		1	.2
ARACHNOIDEA			
Hydracarina	Water mites	2	.3
MOLLUSCA			
GASTROPODA	Snails		
Basommatophora			
Physidae	Pond snails		
Physa		31	5.1
	Total	611	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 1B - Evans Creek above West Fork

Date: July 7, 1978

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	1	0.04
ARTHROPODA			
INSECTA			
Diptera			
Ceratopogonidae	Biting midges	5	.19
Tipulidae	Crane flies		
Antocha		7	.27
Simuliidae (larvae)	Black flies	626	24.15
(pupae)		20	.77
(adults)		2	.08
Empididae	Dance flies	5	.19
Chironomidae (larvae)	Midges	146	5.63
(pupae)		2	.08
(adult)		1	.04
Dixidae	Dixa-midges		
Dixa		1	.04
Trichoptera	Caddis flies		
Hydropsychidae			
Hydropsyche		739	28.51
Cheumatopsyche		232	8.95
Parapsyche		2	.08
Rhyacohilidae			
Rhyacohila		4	.15
Hydroptilidae	Microcaddis flies		
Stactobiella		1	.04
Leptoceridae			
Oecetis		2	.08
Glossosomatidae			
Glossosoma		39	1.51
Plecoptera	Stone flies		
Nemouridae			
Nemoura		71	2.74
Perlidae			
Acroneuria (Hestperoperla)		3	.12
Calineuria		9	.34
Chloroperlidae			
Hastaperla		1	.04
Odonata	Dragonflies		
Gomphidae			
Ophiogomphus		1	.04
Coleoptera	Beetles		
Elmidae (larvae)	Riffle beetles	8	.31
(adults)		87	3.35
Unknown family (terrestrial)		1	.04
Hymenoptera	Wasps		
Scelionidae		1	.04
Ephemeroptera	May flies		
Leptophlebiidae			
Paraleptophlebia		1	.04
Baetidae			
Baetis		537	20.72
Siphlonuridae			
Isonychia		1	.04
Heptageniidae			
Ironodes		1	.04
Epeorus		29	1.11
Homoptera			
Aphidae	Aphids	1	.04
ARACHNOIDIA			
Hydracarina	Water mites	5	.19
	Total	2,592	100.00

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 2 - West Fork Evans Creek

Date: August 11, 1977

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
ARTHROPODA			
INSECTA			
Diptera			
Chironomidae	Midges	7	10.1
Odonata	Dragonflies		
Gomphidae			
Ophiogomphus		1	1.4
Coleoptera	Beetles		
Elmidae	Riffle beetles	1	1.4
Psephenidae			
Psephenus		4	5.8
Ephemeroptera	May flies		
Tricorythidae			
Tricorythodes		56	81.3
	Total	69	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name 2 - West Fork Evans Creek

Date: September 8, 1977

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
PLATYHELMINTHES	Flatworms		
TURBELLARIA			
Planariidae		1	0.2
ARTHROPODA			
CRUSTACEA			
Decapoda			
Astacidae	Crayfish		
Pacifastacus		1	.2
INSECTA			
Diptera	True flies		
Tipulidae	Crane flies		
Antocha		20	3.0
Simuliidae	Black flies	14	2.1
Chironomidae	Midges	125	19.0
Lepidoptera			
Pyralididae			
Cataclysta		14	2.1
Trichoptera	Caddis flies		
Hydropsychidae			
Hydropsyche		195	29.6
Cheumatopsyche		150	22.8
Rhyacophilidae			
Rhyacophila		1	.2
Hydroptilidae (pupae)		4	.6
Agraylea		43	6.6
Helicopsychidae			
Helicopsyche		1	.2
Odontoceridae		3	.5
Plecoptera	Stone flies		
Perlidae			
Acroneuria		3	.5
Perlodidae			
Isoperla		2	.3
Odonata	Dragonflies		
Gomphidae			
Ophiogomphus		1	.2
Coleoptera	Beetles		
Elmidae	Riffle beetles	42	6.4
Psephenidae	Water pennies		
Psephenus		12	1.8
Ephemeroptera	May flies		
Tricorythidae			
Tricorythodes		3	.5
Ephemerellidae			
Ephemerella		1	.2
Baetidae			
Baetis		18	2.7
Heptageniidae			
Epeorus		2	.3
	Total	656	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 2 - West Fork Evans Creek

Date: July 6, 1978

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
PLATYHELMINTHES	Flatworms		
TURBELLARIA			
Planariidae		27	1.63
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	606	36.55
ARTHROPODA			
INSECTA			
Diptera	True flies		
Ceratopogonidae	Biting midges	1	.06
Tipulidae	Crane flies		
Antocha		88	5.31
(pupae)		1	.06
Simuliidae	Black flies	42	2.53
(pupae)		1	.06
Blepharoceridae		1	.06
Chironomidae	Midges	182	10.98
(pupae)		13	.79
(imagoes)		4	.24
Trichoptera	Caddis flies		
Hydropsychidae			
Hydropsyche		88	5.31
Cheumatopsyche		92	5.55
Hydroptilidae	Microcaddis flies		
Hydroptila		4	.24
Ochrotrichia		6	.36
Leptoceridae			
Oecetis		4	.24
Glossosomatidae			
Glossosoma		134	8.08
(pupae)		1	.06
Unknown family		1	.06
Plecoptera	Stone flies		
Nemouridae			
Nemoura		3	.18
Perlidae			
Calineuria		9	.54
Coleoptera	Beetles		
Elmidae (larvae)	Riffle beetles	32	1.93
(adults)		13	.79
Psephenidae	Water pennies		
Psephenus		4	.24
Haliplidae			
Brychius		1	.06
Unknown family		1	.06
Ephemeroptera	May flies		
Tricorythidae			
Tricorythodes		2	.12
Ephemerellidae			
Ephemerella		2	.12
Baetidae			
Baetis		107	6.45
Heptageniidae			
Epeorus		9	.54
Unknown genus		93	5.61
Thysanoptera			
Thripidae (terrestiral)	Thrips	1	.06
ARACHNOIDEA			
Hydracarina	Water mites	85	5.13
Egg masses		+	
	Total	1,658	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 3 - Evans Creek at Minthorne Road

Date: September 7, 1977

PHYLUM CLASS Order Family *Genus species*	Common name	Organism count (total/ square foot)	Percent of total
PLATYHELMINTHES	Flatworms		
TURBELLARIA			
Planariidae		138	37.2
ARTHROPODA			
INSECTA			
Diptera	True flies		
Ceratopogonidae	Biting midges	1	.3
Simuliidae	Black flies	3	.5
Chironomidae	Midges	1	.3
Odonata	Dragonflies		
Coenagrionidae	Damsel flies		
Agria		7	1.9
Gomphidae		3	.8
Hemiptera	True bugs		
Corixidae	Water boatmen	1	.3
Coleoptera	Beetles		
Elmidae	Riffle beetles	65	17.5
Psephenidae	Water pennies		
Psephenus		5	1.4
Ephemeroptera	Mayflies		
Ephemerellidae			
Ephemerella		1	.3
Baetidae			
Baetis		4	1.1
MOLLUSCA			
GASTROPODA	Snails		
Mesogastropeda			
Pleuroceridae			
Goniobasis		13	3.5
Basommatophora			
Physidae	Pond snails		
Physa		128	34.6
	Total	370	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 3 - Evans Creek at Minthorne Road

Date: July 6, 1978

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
PLATYHELMINTHES	Flatworms		
TURBELLARIA			
Planariidae		31	4.10
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	60	7.93
ARTHROPODA			
INSECTA			
Diptera	True flies		
Tipulidae	Crane flies	9	1.19
Simuliidae	Black flies	5	.66
Empididae (pupae)	Dance flies	1	.13
Chironomidae (larvae)	Midges	158	20.87
(pupae)		8	1.06
(emergents)		12	1.59
Lepidoptera	Lepidopterans		
Pyralididae		1	.13
Trichoptera	Caddis flies		
Hydropschidae			
Hydropsyche		10	1.32
Cheumatopsyche		39	5.15
Leptoceridae			
Oecetis		1	.13
Sericostomatidae			
Gumaga		1	.13
Glossosomatidae			
Glossosoma (larvae)		2	.26
(pupae)		1	.13
Plecoptera	Stone flies		
Nemouridae			
Nemoura		1	.13
Perlidae			
Acroneuria		5	.66
Perlodidae			
Isoperla		2	.26
Chloroperlidae			
Hastaperla		1	.13
Coleoptera	Beetles		
Elmidae (larvae)	Riffle beetles	230	30.39
(adults)		16	2.12
Psephenidae			
Psephenus		10	1.32
Unknown family (terrestrial)		3	.40
Ephemeroptera	May flies		
Ephemerellidae			
Ephemerella		11	1.45
Leptophlebiidae			
Paraleptophlebia		1	.13
Baetidae			
Baetis		71	9.38
Siphlonuridae			
Isonychia		2	.26
Heptageniidae			
Rhithrogena		5	.66
Homoptera			
Aphidae	Aphids	8	1.06
Thysanoptera			
Thripidae (terrestrial)	Thrips	1	.13
ARACHNOIDEA			
Hydracarina	Water mites	42	5.55
MOLLUSCA			
GASTROPODA	Snails		
Mesogastropoda			
Pleuroceridae			
Goniobasis		9	1.19
	Total	757	100.00

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 4 - Lost Creek, Molalla River basin

Date: July 21, 1977

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	3	0.7
ARTHROPODA			
INSECTA			
Diptera	True flies		
Tipulidae	Crane flies	1	.2
Antocha		1	.2
Simuliidae	Black flies	15	3.5
Chironomidae	Midges	59	13.6
Trichoptera	Caddis flies	9	2.1
Hydropsychidae			
Hydropsyche		2	.5
Rhyacophilidae			
Rhyacophila		49	11.3
Philopotamidae			
Wormaldia		1	.2
Limnephilidae			
Dicosmoecus		1	.2
Onocosmoecus		2	.5
Plecoptera	Stone flies	2	.5
Perlodidae			
Isoperla		2	.5
Chloroperlidae			
Alloperla		7	1.6
Coleoptera	Beetles		
Elmidae	Riffle beetles	2	.5
Ephemeroptera	May flies		
Ephemerellidae			
Ephemerella		9	2.1
Leptophlebiidae			
Paraleptophlebia		1	.2
Baetidae			
Baetis		241	55.4
Heptageniidae		7	1.6
Epeorus		10	2.3
Cinygmula		2	.5
Rhithrogena		8	1.8
	Total	434	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 5 - Dead Horse Canyon Creek, Molalla River basin

Date: September 6, 1977

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
PLATYHELMINTHES	Flatworms		
TURBELLARIA			
Planariidae		1	0.2
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	24	4.3
ARTHROPODA			
INSECTA			
Diptera	True flies	1	.2
Ceratopogonidae	Biting midges	3	.5
Tipulidae	Crane flies		
Antocha		3	.5
Ephydridae	Shore flies	1	.2
Chironomidae	Midges	58	10.3
Trichoptera	Caddis flies	11	2.0
Hydropsychidae (pupae)		1	.2
Hydropsyche		30	5.4
Cheumatopsyche		20	3.6
Arctopsyche		4	.7
Rhyacophilidae			
Rhyacophila		12	2.2
Glossosomatidae		122	21.7
Plecoptera	Stone flies	21	3.8
Pteronarcidae			
Pteronarcys		2	.4
Perlidae			
Acroneuria		2	.4
Perlodidae			
Arcynopteryx		1	.2
Isogenus		2	.4
Chloroperlidae			
Alloperla		16	2.9
Kathroperla		1	.2
Coleoptera	Beetles	1	.2
Elmidae	Riffle beetles	2	.4
Ephemeroptera	May flies		
Ephemerellidae			
Ephemerella		33	5.9
Leptophlebiidae			
Paraleptophlebia		9	1.6
Baetidae			
Baetis		106	18.8
Heptageniidae		40	7.2
Epeorus		9	1.6
Cinygmula		8	1.4
Rhithrogena		8	1.4
ARACHNOIDEA			
Hydracarina	Water mites	7	1.2
	Total	559	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 6 - Dorn Creek, Molalla River basin

Date: September 14, 1977

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	3	0.3
ARTHROPODA			
INSECTA			
Diptera	True flies	4	.4
Culicidae	Mosquitoes	25	2.2
Simuliidae	Black flies	7	.6
Chironomidae	Midges	213	18.5
Trichoptera	Caddis flies	2	.2
Hydropsychidae			
Hydropsyche		41	3.6
Cheumatopsyche		13	1.1
Rhyacophilidae			
Rhyacophila		34	3.0
Philopotamidae			
Wormaldia		124	10.7
Glossosomatidae		1	.1
Plecoptera	Stone flies	23	2.0
Pteronarcidae			
Pteronarcella		1	.1
Peltoperlidae			
Peltoperla		4	.4
Nemouridae			
Nemoura		297	25.8
Perlodidae			
Isoperla		2	.2
Isogenus		2	.2
Chloroperlidae			
Alloperla		29	2.5
Hemiptera	True bugs	1	.1
Coleoptera	Beetles		
Elmidae	Riffle beetles	6	.5
Ephemeroptera	May flies		
Leptophlebiidae			
Paraleptophlebia		250	21.7
Baetidae			
Baetis		30	2.6
Heptageniidae		11	1.0
Epeorus		8	.7
Rhithrogena		2	.2
Cinygma		1	.1
MOLLUSCA			
GASTROPODA	Snails		
Mesogastropoda			
Pleuroceridae			
Goniobasis		14	1.2
	Total	1,148	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 7 - Milk Creek, Molalla River basin

Date: September 13, 1977

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	1	0.4
ARTHROPODA			
INSECTA			
Diptera	True flies		
Chironomidae	Midges	6	2.1
Trichoptera	Caddis flies		
Hydropsychidae (pupae)		1	.4
Hydropsyche		6	2.1
Cheumatopsyche		207	72.7
Philopotamidae			
Wormaldia		3	1.1
Plecoptera	Stone flies		
Perlodidae			
Isogenus		2	.7
Coleoptera	Beetles		
Elmidae	Riffle beetles	1	.4
Ephemeroptera	May flies		
Baetidae			
Baetis		22	7.7
Heptageniidae		13	4.6
Epeorus		2	.7
MOLLUSCA			
GASTROPODA	Snails		
Mesogastropoda			
Pleuroceridae			
Goniobasis		11	3.9
Bulimidae (Hydrobiidae?)			
Fluminicola		7	2.5
Ancylidae	Freshwater limpets	2	.7
	Total	284	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 8 - Wolf Creek, Siuslaw River basin

Date: October 4, 1977

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
PLATYHELMINTHES	Flatworms		
TURBELLARIA			
Planariidae		2	2.5
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	1	1.3
ARTHROPODA			
CRUSTACEA			
Decapoda			
Astacidae	Crayfish		
Pacifastacus		1	1.3
INSECTA			
Diptera			
Tipulidae	Crane flies	1	1.3
Chironomidae	Midges	7	8.9
Trichoptera	Caddis flies		
Hydropsychidae			
Cheumatopsyche		1	1.3
Plecoptera	Stone flies		
Perlidae			
Acroneuria		1	1.3
Chloroperlidae			
Alloperla		2	2.5
Odonata	Dragonflies		
Gomphidae		2	2.5
Coleoptera	Beetles		
Elmidae	Riffle beetles	8	10.1
Ephemeroptera	May flies		
Tricorythidae			
Tricorythodes		2	2.5
Baetidae			
Baetis		7	8.9
Heptageniidae		18	22.8
Rhithrogena		21	26.5
MOLLUSCA			
GASTROPODA	Snails		
Mesogastropoda			
Pleuroceridae			
Goniobasis		1	1.3
Bulimidae (Hydrobiidae?)			
Fluminicola		2	2.5
Basommatophora			
Ancylidae	Freshwater limpets	2	2.5
	Total	79	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 9 - Knowles Creek, Siuslaw River basin

Date: October 4, 1977

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	7	1.3
ARTHROPODA			
INSECTA			
Diptera	True flies		
Ceratopogonidae	Biting midges	1	.2
Tipulidae	Crane flies	2	.4
Simuliidae	Black flies	8	1.5
Chironomidae	Midges	77	14.6
Trichoptera	Caddis flies		
Hydropsychidae			
Hydropsyche		1	.2
Cheumatopsyche		1	.2
Rhyacophilidae			
Rhyacophila		3	.6
Plecoptera	Stone flies	3	.6
Nemouridae		215	40.8
Perlidae			
Acroneuria		14	2.7
Perlodidae			
Isoperla		5	1.0
Chloroperlidae			
Alloperla		6	1.1
Odonata	Dragonflies		
Gomphidae		6	1.1
Coleoptera	Beetles		
Elmidae	Riffle beetles	10	1.9
Ephemeroptera	May flies		
Leptophlebiidae			
Paraleptophlebia		139	26.4
Baetidae			
Baetis		6	1.1
Heptageniidae		13	2.5
Epeorus		5	1.0
Rhithrogena		4	.8
	Total	526	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 10 - Cedar Creek, Siuslaw River basin

Date: August 10, 1977

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	2	2.4
ARTHROPODA			
CRUSTACEA			
Decapoda			
Astacidae	Crayfish		
Pacifastacus		1	1.2
INSECTA			
Diptera	True flies	2	2.4
Tipulidae	Crane flies	6	7.3
Empididae	Dance flies	4	4.9
Chironomidae	Midges	23	28.1
Trichoptera	Caddis flies		
Hydropsychidae			
Cheumatopsyche		1	1.2
Lepidostomatidae			
Lepidostoma		4	4.9
Rhyacophilidae			
Rhycophila		3	3.7
Plecoptera	Stone flies		
Nemouridae		4	4.9
Chloroperlidae			
Alloperla		1	1.2
Coleoptera	Beetles		
Elmidae	Riffle beetles	20	24.5
Lara		1	1.2
Dytiscidae		2	2.4
Ephemeroptera	May flies		
Leptophlebiidae			
Paraleptophlebia		5	6.1
Baetidae			
Baetis		1	1.2
ARACHNOIDEA			
Hydracarina	Water mites	1	1.2
MOLLUSCA			
GASTROPODA			
Mesogastropoda			
Pleuroceridae			
Goniobasis		1	1.2
	Total	82	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 10 - Cedar Creek, Siuslaw River basin

Date: October 5, 1977

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
ARTHROPODA			
INSECTA			
Diptera	True flies		
Chironomidae	Midges	5	11.9
Trichoptera	Caddis flies		
Hydropsychidae			
Hydropsyche		1	2.4
Ephemeroptera	May flies		
Leptophlebiidae			
Paraleptophlebia		17	40.4
Baetidae			
Baetis		1	2.4
Heptageniidae		2	4.8
MOLLUSCA			
GASTROPODA	Snails		
Mesogastropoda			
Pleuroceridae			
Goniobasis		16	38.1
	Total	42	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 11 - Bob Creek, Siuslaw Basin

Date: August 9, 1977

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
ARTHROPODA			
INSECTA			
Diptera	True flies		
Chironomidae	Midges	195	75.7
Trichoptera	Caddis flies		
Limnephilidae			
Neophylax		1	.4
Plecoptera	Stone flies		
Chloroperlidae			
Alloperla		2	.8
Coleoptera	Beetles		
Elmidae	Riffle beetles	48	18.7
Ephemeroptera	May flies		
Leptophlebiidae			
Paraleptophlebia		4	1.6
Heptageniidae			
Heptagenia		1	.4
ARACHNOIDEA			
Hydracarina	Water mites	5	2.0
MOLLUSCA			
GASTROPODA			
Mesogastropoda			
Pleuroceridae			
Goniobasis		1	.4
	Total	257	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 11 - Bob Creek, Siuslaw Basin

Date: October 5, 1977

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
ARTHROPODA			
INSECTA			
Diptera	True flies		
Tipulidae	Crane flies		
Antocha		5	1.7
Chironomidae	Midges	211	70.2
Trichoptera (pupae)	Caddis flies	1	.3
Hydropsychidae			
Cheumatopsyche		1	.3
Rhyacophilidae			
Rhyacophila		4	1.3
Limnephilidae (pupae)		2	.7
Glossosomatidae			
Glossosoma		13	4.3
Plecoptera	Stone flies		
Perlodidae			
Isogenus		1	.3
Chloroperlidae			
Alloperla		1	.3
Coleoptera	Beetles		
Elmidae	Riffle beetles	15	5.0
Ephemeroptera	May flies		
Leptophlebiidae			
Paraleptophlebia		5	1.7
Baetidae			
Baetis		27	9.0
Heptageniidae		4	1.3
Rhithrogena		11	3.6
	Total	301	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 12 - South Fork John Day River above Forest Service boundary

Date: September 15, 1978

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
PLATYHELMINTHES	Flatworms		
TURBELLARIA			
Planariidae		23	0.49
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	14	.30
ARTHROPODA			
CRUSTACEA			
Cyclopoida		2	.04
INSECTA			
Diptera	True flies		
Ceratopogonidae No. 1	Biting midges	9	.19
Ceratopogonidae No. 2		1	.02
Tipulidae	Crane flies		
Antocha No. 1		2	.04
Antocha No. 2		13	.28
Psychodidae	Moth flies	48	1.01
Simuliidae	Black flies	5	.11
Empididae	Dance flies	4	.08
Chironomidae (larvae)	Midges	136	2.87
(pupae)		12	.25
(emergents)		5	.11
Trichoptera	Caddis flies		
Hydropsychidae			
Hydropsyche		740	15.60
Cheumatopsyche		16	.34
Rhyacophilidae			
Rhyacophela grandes		9	.19
Leptoceridae			
Oecetis		351	7.40
Brachycentridae (pupae)		1	.02
Helicopsychidae			
Helicopsyche		2	.04
Glossosomatidae			
Glossosoma		12	.25
(pupae)		3	.06
Pleoptera	Stone flies		
Pteronarcidae			
Pteronascella		2	.04
Nemouridae			
Nemoura		134	2.82
Perlodidae			
Isoperla		125	2.63
Arcynopteryx		16	.34
Chloroperlidae			
Hastaperla		48	1.01
Coleoptera	Beetles		
Elmidae (larvae)	Riffle beetles	1,362	28.70
(adults)		321	6.77
Hymenoptera	Wasps		
Scelionidae		2	.04
Ephemeroptera	May flies		
Ephemerellidae			
Ephemerella		53	1.12
Leptophlebiidae			
Paraleptophlebia		59	1.24
Baetidae			
Baetis		161	3.39
Heptageniidae			
Cinygmula		1,003	21.14
ARACHNOIDEA			
Hydracarina	Water mites	48	1.01
MOLLUSCA			
GASTROPODA	Snails		
Basommatophora			
Lymaeidae (shells only)	Pond snails	2	.04
Planorbidae	Orb snails	1	.02
Egg masses		+	
	Total	4,745	100.00

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 13 - South Fork John Day River above Little Pine Creek

Date: September 15, 1978

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
NEMATODA	Namatodes	2	0.19
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	4	.38
ARTHROPODA			
CRUSTACEA			
Cyclopoida	Copepods	3	.29
INSECTA			
Diptera	True flies		
Tipulidae	Crane flies	1	.10
Simuliidae	Black flies	5	.48
Empididae	Dance flies	1	.10
Chironomidae (larvae)	Midges	211	20.28
(pupae)		23	2.21
Unknown family (adult)		1	.10
Trichoptera	Caddis flies		
Hydropsychidae			
Hydropsche		87	8.36
Cheumatopsyche		30	2.88
Glossosomatidae (pupae)		1	.10
Plecoptera	Stone flies		
Pteronarcidae			
Pteronarcella		1	.10
Nemouridae			
Nemoura		32	3.08
Perlodidae			
Isoperla		30	2.88
Arcynopteryx		19	1.83
Chloroperlidae			
Hastaperla		20	1.92
Odonata	Dragonflies		
Gomphidae			
Ophiogomphus		7	.67
Hemiptera	True bugs		
Belostomatidae	Giant water bugs	1	.10
Coleoptera	Beetles		
Elmidae (larvae)	Riffle beetles	46	4.42
(adults)		14	1.35
Hymenoptera	Wasps		
Scelionidae		1	.10
Ephemeroptera	May flies		
Tricorythidae			
Tricorythodes		11	1.06
Ephemerellidae			
Ephemerella No. 1		1	.10
Ephemerella No. 2		17	1.63
Leptophlebiidae			
Paraleptophlebia		356	34.23
Baetidae			
Baetis		96	9.23
Heptageniidae			
Rhithrogena		3	.29
ARACHNOIDEA			
Hydracarina	Water mites	16	1.54
Egg masses		+	
	Total	1,040	100.00

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 14 - Black Canyon Creek, South Fork John Day River basin

Date: September 14, 1978

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	17	0.70
ARTHROPODA			
CRUSTACEA			
Decapoda			
Astacidae			
Pacifactacus		1	.04
INSECTA			
Diptera			
Ceratopogonidae	Biting midges	29	1.19
Tipulidae	Crane flies		
Antocha		42	1.72
(pupae)		5	.20
Tipulidae No. 2		4	.17
Psychodidae	Moth flies	45	1.84
Simuliidae	Black flies	49	2.01
Tabanidae	Horse flies	1	.04
Empididae	Dance flies	4	.17
(pupae)		1	.04
Chironomidae (larvae)	Midges	156	6.39
(pupae)		14	.57
(emergents)		2	.08
Trichoptera	Caddis flies		
Hydropsychidae			
Hydropsyche		321	13.15
Rhyacophilida			
Rhyacophia		3	.12
(imagoes)		7	.29
Glossosomatidae			
Glossosoma		64	2.62
Plecoptera	Stone flies		
Pteronaryidae			
Pteronarella		2	.08
Nemouridae			
Nemoura		52	2.13
Perlidae			
Acroneura (Hesperoperla)		6	.25
Perlodidae			
Isoperla		18	.74
Arcynopteryx		7	.29
Chloroperlidae			
Hastaperla		9	.37
Megalopterans (pupae)	Megalopterans	1	.04
Odonata	Dragonflies		
Gomphidae			
Ophiogomphus		1	.04
Coleoptera	Beetles		
Elmidae (larvae)	Riffle beetles	988	40.48
(adults)		82	3.36
Ephemeroptera	May flies		
Tricorythidae			
Tricorythodes		15	.61
Ephemerellidae			
Ephemerella		33	1.35
Baetidae			
Baetis		293	12.00
(imago)		1	.04
Leptophlebiidae			
Paraleptophlebia		69	2.83
Heptogeniidae			
Epeorus		2	.08
Rithrogena		60	2.46
ARACHNOIDEA			
Hydracarina	Water mites	34	1.39
MOLLUSCA			
BIVALVIA			
Nuculoidea			
Sphaeriidae	Fingernail clams		
Pisidium		3	.12
	Total	2,441	100.00

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name 15 - South Fork John Day River at Dayville

Date: September 7, 1977

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
ARTHROPODA			
INSECTA			
Diptera	True flies		
Chironomidae	Midges	35	14.0
Trichoptera (pupae)	Caddis flies	10	4.0
Hydropsychidae			
Hydropsyche		4	1.6
Cheumatopsyche		2	.8
Leptoceridae			
Nectopsyche		65	26.0
Brachycentridae		1	.4
Plecoptera	Stone flies		
Perlodidae			
Isogenus		2	.8
Coleoptera	Beetles		
Elmidae	Riffle beetles	80	32.0
Psephenidae			
Psephenus		23	9.2
Ephemeroptera	May flies		
Tricorythidae			
Tricorythodes		26	10.4
Baetidae		1	.4
MOLLUSCA			
GASTROPODA			
Basommatophora			
Lymnaeidae	Pond snails		
Lymnaea		1	.4
	Total	250	100.0

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 15 - South Fork John Day River at Dayville

Date: September 13, 1978

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	11	0.38
ARTHROPODA			
CRUSTACEA			
Amphipoda	Scuds		
Talitridae			
Hyalella azteca		1	.03
INSECTA			
Diptera	True flies		
Tipulidae	Crane flies	3	.10
Simuliidae	Black flies	1	.03
Stratiomyiidae	Soldier flies	1	.03
Empididae	Dance flies	2	.07
Chironomidae (larvae)	Midges	154	5.37
(pupae)		9	.31
Lepidoptera			
Pyralididae			
Parargyractis		11	.38
Trichoptera	Caddis flies		
Hydropsychidae			
Hydropsyche		310	10.82
Cheumatopsyche		34	1.20
Hydroptilidae	Microcaddis flies		
Stactobiella		1	.03
(pupae)		2	.07
Leptoceridae			
Oecetis		58	2.03
Nectopsyche		1	.03
Brachycentridae			
Brachycentrus		23	.80
Helicopsychidae			
Helicopsyche		155	5.41
Glossosomatidae (emergent)		1	.03
Plecoptera	Stone flies		
Perlodidae			
Isoperla		91	3.18
Arcynopteryx		15	.52
Taeniopterygidae		1	.03
Odonata	Dragon flies		
Zyoptera (suborder)		2	.07
Anisoptera (suborder)			
Gomphidae			
Ophiogomphus		2	.07
Coleoptera	Beetles		
Elmidae (larvae)	Riffle beetles	372	12.98
(adults)		48	1.67
Psephenidae	Water pennies		
Psephenus		35	1.22
Collembola	Spring tails		
Isotomidae		2	.07
Ephemeroptera	May flies		
Tricorythidae			
Tricorythodes		1,021	35.62
Ephemerellidae			
Ephemerella		152	5.31
Leptophlebiidae			
Paraleptophlebia No. 1		13	.45
Paraleptophlebia No. 2		1	.03
Baetidae			
Baetis		283	9.87
Heptageniidae			
Rhithrogena		34	1.20
ARACHNOIDEA			
Hydracarina	Water mites	7	.24
MOLLUSCA			
GASTROPODA	Snails		
Basommatophora			
Lymnaeidae	Pond snails		
Lymnaea		1	.03
Planorbidae	Orb snails	2	.07
Ancylidae (shells)	Limpets	2	.07
BIVALVIA			
Nuculoidea			
Sphaeriidae	Fingernail clams		
Pisidium		5	.18
	Total	2,867	100.00

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 16 - Pearson Creek, Umatilla River basin

Date: September 20, 1978

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
NEMATODA	Nematodes	1	0.12
PLATYHELMINTHES TURBELLARIA	Flatworms		
Planariidae		3	.37
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	12 (pieces)	1.47
ARTHROPODA			
CRUSTACEA			
Ostracoda	Seed shrimp	1	.12
INSECTA			
Diptera	True flies		
Tipulidae	Crane flies		
Antocha No. 1		6	.74
Antocha No. 2		1	.12
Psychodidae	Moth flies	79	9.69
Chironomidae (larvae)	Midges	338	41.47
(pupae + emergents)		43	5.28
Trichoptera	Caddis flies		
Hydropsychidae			
Hydropsyche		56	6.87
Rhyacophilidae			
Rhyacophila		2	.25
Hydroptilidae			
Hydroptila		11	1.35
Brachycentridae			
Amiocentrus		2	.25
Limnephilidae (pupae)		1	.12
Plecoptera	Stone flies		
Nemouridae			
Nemoura		35	4.29
Perlidae			
Acroneuria		7	.86
Calineuria		21	2.58
Perlodidae			
Arcynopteryx		4	.49
Chloroperlidae			
Hastaperla		2	.25
Coleoptera	Beetles		
Elmidae (larvae)	Riffle beetles	93	11.41
(adults)		9	1.10
Ephemeroptera	May flies		
Tricorythidae			
Tricorythodes		2	.25
Ephemerellidae			
Ephemerella		23	2.82
Leptophlebiidae			
Paraleptophlebia		7	.86
Heptogeniidae			
Rhithrogena		27	3.31
ARACHNOIDEA			
Hydracarina	Water mites	29	3.56
	Total	815	100.00

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 17 - East Fork Birch Creek, Umatilla River basin

Date: September 22, 1978

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	34	1.88
ARTHROPODA			
CRUSTACEA			
Cyclopoida	Copepods	3	.17
INSECTA			
Diptera	True flies		
Tipulidae	Crane flies		
Antocha		5	.28
Tipulidae No. 2		2	.11
Psychodidae	Moth flies	3	.17
Simuliidae (adults)	Black flies	47	2.59
(pupae)		3	.17
Empididae	Dance flies	2	.11
Chironomidae (larvae)	Midges	298	16.47
(pupae)		25	1.38
(adults and emergents)		43	2.38
Dixidae	Dixa-midges		
Dixa		1	.06
Trichoptera	Caddis flies		
Hydropsychidae			
Hydropsyche		120	6.63
Cheumatopsyche		162	8.96
Limnephilidae (pupae)		2	.11
Helicopschidae			
Helicopsyche		6	.33
Glossosomatidae			
Glossosoma		14	.77
(pupae)		12	.66
(emergents)		5	.28
Plecoptera	Stone flies		
Nemouridae			
Nemoura		3	.17
Perlidae			
Calineuria		1	.06
Perlodidae			
Isoperla		94	5.19
Chloroperlidae			
Hastaperla		16	.88
Odonata	Dragonflies		
Coenargrionidae	Damsel flies	2	.11
Coleoptera	Beetles		
Elmidae (larvae)	Riffle beetles	182	10.06
(adults)		25	1.38
Collembola	Springtails		
Isotomidae		9	.49
Homoptera			
Aphidae (terrestrial)	Aphids	3	.17
Ephemeroptera	May flies		
Ephemerellidae			
Ephemerella		56	3.09
Leptophlebiidae			
Paraleptophlebia		24	1.33
Baetidae			
Baetis		224	12.38
Pseudocloeon		30	1.66
Heptageniidae			
Epeorus		8	.44
Rhithrogena		174	9.62
Hymenoptera			
Formicidae	Ants (terrestrial)	1	.06
ARACHNOIDEA			
Hydracarina	Water mites	156	8.62
MOLLUSCA			
CASTROPODA	Snails		
Basommatophora			
Ancylidae	Limpets	13	.72
BIVALVIA			
Nuculoidea			
Sphaeriidae	Fingernail clams		
Pisidium		1	.06
	Total	1,809	100.00

Table 6.--Taxa and numbers of benthic invertebrates--Continued

Site number and name: 18 - Wildhorse Creek, Umatilla River basin

Date: September 22, 1978

PHYLUM CLASS Order Family Genus species	Common name	Organism count (total/ square foot)	Percent of total
NEMATODA	Nematodes	2	0.08
ANNELIDA			
OLIGOCHAETA	Aquatic earthworms	185	7.17
HIRUDINEA	Leeches	3	.12
ARTHROPODA			
CRUSTACES			
Decapoda	Decapods		
Astacidae	Crayfish		
Pacifastacus		1	.04
Cyclopoida	Copepods	1	.04
INSECTA			
Diptera	True flies		
Tipulidae	Crane flies	2	.08
Psychodidae	Moth flies	1	.04
Simuliidae (pupae)	Black flies	1	.04
Ephydridae	Shore flies	1	.04
Chironomidae (larvae)	Midges	501	19.42
(pupae)		14	.54
(adults)		3	.12
Lepidoptera	Lepidopterans		
Pyralididae			
Parargyractis		2	.08
Trichoptera	Caddis flies		
Hydropsychidae			
Hydropsyche		345	13.37
Cheumatopsyche		814	31.56
Helicopsychidae			
Helicopsyche		1	.04
Glossosomatidae (pupae)		2	.08
Plecoptera	Stone flies		
Perlodidae			
Arcynopteryx		1	.04
Chloroperlidae			
Hastaperla		1	.04
Megalopterans	Megalopterans		
Sialidae	Alder flies		
Sialis		1	.04
Odonata	Dragonflies		
Coenagrionidae	Damsel flies	1	.04
Coleoptera	Beetles		
Elmidae (larvae)	Riffle beetles	232	8.99
(adults)		10	.39
Collembola	Springtails		
Isotomidae		2	.08
Hymenoptera	Wasps		
Saldidae		1	.04
Formicidae	Flying ants (terrestrial)	1	.04
Ephemeroptera	May flies		
Ephemerellidae			
Ephemerella		5	.19
Leptophlebiidae			
Paraleptophlebia		9	.35
Baetidae			
Baetis		399	15.47
Heptageniidae			
Rhithrogena		5	.19
Homoptera			
Aphidae	Aphids	1	.04
ARACHNOIDEA			
Hydracarina	Water mites	27	1.04
MOLLUSCA			
GASTROPODA	Snails		
Ancylidae	Freshwater limpets	3	.12
OPISTHOBRANCHI (subclass)	Slugs (terrestrial)	1	.04
	Total	2,579	100.00