River and Stream Ambient Monitoring Report for Water Year 1999

April 2001

Publication No. 01-03-013

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River and Stream Ambient Monitoring Report for Water Year 1999

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Acknowledgments

Many people contributed time, effort, and expertise to the Water Year 1999 program:

◊ Special thanks to Rob Plotnikoff, Dale Clark, and Kirk Smith, who helped collect samples. Thanks for the long hours behind the wheel and a dedication to get the job done.

◊ Thanks to Randy Coots, who reviewed the manuscript, and Michelle Ideker, who prepared the final document.

At Manchester Environmental Laboratory:

◊ Pam Covey, Karin Feddersen, Stuart Magoon, and Debi Case did the sample tracking.

◊ Kitty Bickle, Becky Bogaczyk, Shannon Greene, Debbie LaCroix, Casey Maggart, Meredith Osborn, Aileen Richmond, and, Ericka Schwender performed general chemistry analyses.

◊ Nancy Jensen and Kitty Bickle were responsible for the microbiology.

◊ Sally Cull, Susan Davis, Randy Knox, and Jim Ross worked on low level metals.

◊ Will White was the sample courier.

Abstract

The Washington State Department of Ecology collected monthly water quality information at 87 river and stream monitoring stations during Water Year (WY) 1999 (October 1, 1998 through September 30, 1999). The principal goals of this ongoing monitoring program are to characterize the rivers and streams of Washington State and to track changes in water quality.

This report is intended to document methods and data quality, and to present the data for WY 1999. A description of our long-term monitoring program and access to historical data can be found on Ecology's internet web site at http://www.ecy.wa.gov/ under “Conditions and Trends” and “Watersheds”.

Introduction

The Washington State Department of Ecology (Ecology) and its predecessor agency has operated a long-term Ambient Water Quality Monitoring Program since 1959. The current program consists of monthly water quality monitoring for conventional parameters at about 80 stations on rivers and streams within Washington State. (The actual number of stations varies slightly depending on funding and special projects.) The principal goals of this program are to characterize stream water quality and to evaluate spatial and temporal changes in water quality (trends). Within Ecology, the data generated by the River and Stream Ambient Monitoring Program are used to determine if designated uses are supported (e.g., Ecology, 1998), to support wasteload allocation models, develop water quality based permits, prepare 305(b) and other management reports, and provide water quality information necessary to prioritize grant awards.

The purpose of this report is to:

- ◊ Describe the Water Year (WY) 1999 monitoring program.
- ◊ Discuss data quality.
- ◊ Present results.

More detailed analyses and interpretations of ambient monitoring data are reported elsewhere. The Environmental Monitoring and Trends Section (EM&TS) analyzes results at specific stations in response to requests by clients (e.g., Hallock, 1996). Other programs conduct some analyses of their own; for example, the Ecology Water Quality Program applies its own data reduction procedures prior to updating Washington's 305(b) report.

Methods

Sampling Network

The ambient monitoring network in WY 1999 consisted of monthly water collection at two types of stations: (1) long-term and (2) regional or basin stations (Ehinger, 1995). Long-term stations are monitored every year to track water quality changes over time (trends) and to assess inter-annual variability, as well as to collect current water quality information. These stations are generally located near the mouths of major rivers, below major population centers, upstream from most anthropogenic sources of water quality problems, or where major streams enter the state.

Basin stations are generally monitored for one year only (although they may be re-visited every five years) to collect current water quality information. These stations are selected to support the waste discharge permitting process, to allow expanded coverage over a long-term network, and to support the "basin approach" to water quality management. This approach consists of a five-year cycle of scoping, data collection, data analysis, planning, and implementation of plans in 22 hydrologic Water Quality Management Areas (WQMA) or "basins" statewide (Wrye, 1993). Sampling was focused in the following basins during WY 1999: Spokane, Lower Yakima, Cedar/Green, and Eastern Olympics. Some basin stations are selected to target known problems and may not necessarily reflect ambient conditions.

The locations of ambient stations monitored during WY 1999 are presented in Table 1. Appendix A lists current and historical monitoring locations and the years they were monitored by Ecology and its predecessor agencies. Historical data for these stations are available from the Ecology EM&TS on request. Also, a description of our long-term monitoring program and access to historical data can be found on the Ecology internet web site at http://www.ecy.wa.gov/ under "Conditions and Trends" and "Watersheds".

Sample Collection and Analysis

The majority of water samples were collected as single surface grab samples from highway bridges. Twelve water quality constituents were monitored at all stations monthly in WY 1999 (Table 2). Metals were monitored at a few stations but we stopped sampling in June because funding was discontinued (Table 3). Sample collection and analytical methods are described in earlier annual reports (e.g., Hallock, et al., 1998), in the EM&TS quality assurance documents (i.e., Hopkins, 1996 and Ehinger, 1995), and in Manchester Environmental Laboratory's (MEL) Laboratory User's Manual (Ecology, 1994).

Any long-term monitoring program will experience changes in sampling or analytical procedures that can potentially affect results. Normally, changes will result in improved precision or reduced bias. Most changes will have only a minor affect on a synoptic analysis of the data but even improvements in procedures can mislead the unwary analyst of long-term trends. We made no changes to collection or analytical procedures in WY 1999. All earlier known and suspected changes to methods and procedures during the history of the River and Stream Ambient

Monitoring Program, as well as large-scale environmental changes that affect trend analysis are documented in Appendix B.

Table 1. Ecology river and stream ambient monitoring stations for Water Year 1999. Stations in WQMAs scheduled for data collection are shown in bold type (Status: C=Core; B=Basin).

Station		Status	Station		Status
01A050	Nooksack R @ Brennan	C	31A070	Columbia R @ Umatilla	C
01A120	Nooksack R @ No Cedarville	C	32A070	Walla Walla R nr Touchet	C
03A060	Skagit R nr Mount Vernon	C	32A100	Walla Walla at east Detour Road Br	B
03B050	Samish R nr Burlington	C	32B080	Touchet at Sims Road	B
04A100	Skagit R @ Marblemount	C	32B100	Touchet R @ Bolles	B
05A070	Stillaguamish R nr Silvana	C	33A050	Snake R nr Pasco	C
05A090	SF Stillaguamish @ Arlington	C	34A070	Palouse R @ Hooper	C
05A110	SF Stilly nr Granite Falls	C	34A170	Palouse R @ Palouse	C
05B070	NF Stillaguamish @ Cicero	C	34B110	SF Palouse R @ Pullman	C
05B110	NF Stillaguamish nr Darrington	C	35A150	Snake R @ Interstate Br	C
07A090	Snohomish R @ Snohomish	C	35B060	Tucannon R @ Powers	C
07C070	Skykomish R @ Monroe	C	36A070	Columbia R nr Vernita	C
07D050	Snoqualmie R nr Monroe	C	**37A090**	**Yakima R @ Kiona**	C
07D130	Snoqualmie R @ Snoqualmie	C	**37A205**	**Yakima R @ Knob Hill**	C
08B070	**Sammamish R @ Bothell**	B	38A050	Naches R @ Yakima on US HWY 97	B
08C070	**Cedar R @ Logan St/Renton**	C	39A050	Yakima R @ Harrison Bridge	B
08C110	**Cedar R nr Landsburg**	C	39A060	Yakima R @ Ellensburg	B
08J100	**Swamp Creek abv Lynnwood**	B	39A090	Yakima R nr Cle Elum	C
08K100	**North Creek nr Everett**	B	41A070	Crab Cr nr Beverly	C
09A080	**Green R @ Tukwila**	C	45A070	Wenatchee R @ Wenatchee	C
09A190	**Green R @ Kanaskat**	C	45A110	Wenatchee R nr Leavenworth	C
09B090	**Big Soos Cr nr Auburn**	B	45C070	Chumstick Cr nr Leavenworth	B
09F150	**Newaukum Creek nr Enumclaw**	B	45D070	Brender Cr nr Cashmere	B
10A070	Puyallup R @ Meridian St	C	45E070	Mission Cr nr Cashmere	B
10C095	White River @ R Street	B	46A070	Entiat R nr Entiat	C
11A070	Nisqually R @ Nisqually	C	48A070	Methow R nr Pateros	C
13A060	**Deschutes R @ E St Bridge**	C	48A140	Methow R @ Twisp	C
14A060	**Goldsborough Cr @ Shelton**	B	49A070	Okanogan R @ Malott	C
16A070	**Skokomish R nr Potlatch**	C	49A190	Okanogan R @ Oroville	C
16C090	**Duckabush R nr Brinnon**	C	49B070	Similkameen R @ Oroville	C
16E070	**Finch Cr @ Hoodsport**	B	53A070	Columbia R @ Grand Coulee	C
17A070	**Big Quilcene R nr Quilcene**	B	**54A120**	**Spokane R @ Riverside State Pk**	C
18A070	**Dungeness R nr Sequim**	B	**55B070**	**Little Spokane R nr Mouth**	C
18B070	**Elwha R nr Port Angeles**	C	**55B075**	**Little Spokane @ Painted Rocks**	B
20B070	Hoh R @ DNR Campground	C	**55B082**	**Little Spokane R abv Dartford Creek**	B
22A070	Humptulips R nr Humptulips	C	**55B200**	**Little Spokane @ Chattaroy**	B
23A070	Chehalis R @ Porter	C	**56A070**	**Hangman Cr @ Mouth**	C
23A160	Chehalis R @ Dryad	C	**56A200**	**Hangman Creek @ Bradshaw Road**	B
24B090	Willapa R nr Willapa	C	**57A150**	**Spokane R @ Stateline Br**	C
24D070	North R nr Raymond	B	60A070	Kettle R nr Barstow	C
24F070	Naselle R nr Naselle	C	61A070	Columbia R @ Northport	C
26B070	Cowlitz R @ Kelso	C	62A090	Pend Oreille @ Metaline Falls	B
27B070	Kalama R nr Kalama	C	62A150	Pend Oreille R @ Newport	C
27D090	EF Lewis R nr Dollar Corner	C			

Table 2. Water quality constituents monitored monthly in Water Year 1999 as part of Ecology's river and stream ambient monitoring program.

Standard constituents monitored at all stations:		
conductivity	total suspended solids	total phosphorus
dissolved oxygen	turbidity	ammonia
pH	fecal coliform bacteria	nitrate + nitrite
temperature	soluble reactive phosphorus	total nitrogen

Table 3. Metals were sampled approximately bi-monthly through June at the listed stations. (Total Hardness was also sampled at all metals stations.)

STATION Number	Name	Dissolved metals and total mercury [a]	Total recoverable metals [b]
09B090	Big Soos Cr nr Auburn	X	X
11A070	Nisqually R @ Nisqually	X	X
49B070	Similkameen R @ Oroville	X	
57A150	Spokane R @ Stateline Br	X	X
61A070	Columbia R @ Northport	X	

[a]Dissolved metals: cadmium, copper, lead, nickel, and zinc
[b]Total Recoverable metals: arsenic, cadmium, chromium, copper, lead, and zinc

Quality Assurance

MEL's Quality Assurance (QA) Program includes the use of quality control charts, check standards, in-house matrix spikes and laboratory blanks, along with quarterly performance evaluation samples. For a more complete discussion of laboratory quality assurance, see MEL's Quality Assurance Manual (Ecology, 1988) and Laboratory User's Manual (Ecology, 1994).

The QA program for field sampling consisted of three parts: (1) adherence to a procedures manual for sample/data collection and periodic evaluation of sampling personnel, (2) instrument calibration methods and schedules, and (3) the collection of a field quality control (QC) sample twice during each sampling run. Our QA program is described in detail in Ehinger (1995).

The following three types of field QC samples were collected.

◊ Duplicate (Sequential) Field Samples - These consisted of an additional sample collection made approximately 15-20 minutes after the initial collection at a station. These samples represent the variability due to short-term in-stream processes, sample collection and processing, and laboratory analysis.

◊ Field Blank - These consisted of the submission and analysis of deionized water. The expected value for each analysis is the reporting limit for that analysis. Significantly higher

results would indicate that sample contamination had occurred during field processing or during laboratory analysis.

◊ Duplicate (Split) Field Samples - These consisted of one sample split into two containers which are processed as individual samples. This eliminates the in-stream variability and isolates the variability to that due to field processing and laboratory analysis.

Because of problems with incorrectly identified sequential and split samples, these categories were pooled. QC samples were submitted semi-blind to the laboratory (they were identified as QC samples, but sample type (duplicate, blank, or split) and station were not identified).

Approximately 75 field QC samples were processed: 4 field blanks and 70+ field splits and sequential samples. In addition, the laboratory analyzed some field QC samples in duplicate (*i.e.*, lab split samples). The central tendency of the variance of pairs of split field samples was summarized by calculating the square root of the mean of the sample-pair variances (root-mean-square - RMS). These figures provide an unbiased (and higher) estimate than other commonly used statistics (mean or median of the standard deviations).

A two-tiered system was used to evaluate data quality. The first tier consisted of five automated checks, including holding time, variability in field duplicates, and reasonableness of the result. Results exceeding pre-set limits were flagged. The second tier QC evaluation was a manual review of the data flagged in the first tier. Data were then coded from one through nine (one = data meets all QA requirements, nine = data are unusable). Data with quality codes greater than four are generally not distributed outside the agency.

Results and Discussion

The primary purpose of this report is to present the results of the Ecology river and stream monitoring in WY 1999. Appendix C contains results for each station monitored in WY 1999. Raw data are available in computer formats on request and the most recent published WY's data are posted on the Ecology World Wide Web pages (http://www.ecy.wa.gov/).

A station-by-station data analysis is not within the scope of this report. Individual results exceeding the water quality criteria in Washington's water quality standards (Washington Administrative Code, Chapter 173-201A) are identified in reports on our web site (http://www.ecy.wa.gov/eils/fw_riv/monthly/riv_excds.html). Water quality criteria are presented in Table 4.

Table 4. Water quality criteria used to evaluate monitoring results. (Results outside the ranges indicated are considered to exceed the criterion.) WAC 173-201A-130 identifies exceptions to the standard criteria for some stream segments.

				Fecal Coliform	
Class	Temperature	Oxygen	pH	10 Percent	Geometric mean
AA	<=16°C	>9.5 mg/L	6.5 through 8.5	<=100	<=50
A	<=18°C	>8.0 mg/L	6.5 through 8.5	<=200	<=100
B	<=21°C	>6.5 mg/L	6.5 through 8.5	<=400	<=200

Quality Assurance

Because the variability of many parameters increases with increasing mean concentration, the RMS values of some variables are presented according to concentration ranges (of the mean of the sample pair) (Table 5). The true value of lab variability should be equal to or less than that of the field samples. In practice, the estimates of the variability are strongly influenced by extreme values (which are related to mean value of the sample pair), especially when sample size is small. The analysis is further complicated because all concentration data are truncated at the reporting limit, effectively producing a variance of zero between any two samples that are below this limit. This skews the variability estimate downward for the lowest concentration ranges.

The expected results of the analyses of the blank samples were 'below reporting limits' for all concentrations and turbidity, and less than three µS (micro Siemans) for specific conductivity. Temperature, dissolved oxygen, pH, and fecal coliform were not measured on blanks. All total phosphorus, soluble reactive phosphorus, nitrate+nitrite, turbidity, and suspended solids results were reported as 'less than the reporting limits' (Table 6). Total persulfate nitrogen was detected in two samples and ammonia in two of the four blanks submitted for each analysis. Mean conductivity of blank samples was 2.5 µS (standard error=0.5 µS) with only one measurement above three µS.

The remaining elements of the laboratory QA program were assessed by laboratory staff through a manual review of laboratory quality control charts, check standards, in-house matrix spikes, and laboratory blanks. The results were within acceptable ranges as defined by MEL's Quality Assurance Manual (Ecology, 1988).

Table 5. Root mean square of the standard deviation of sequential samples, field splits, and laboratory splits. *n* = number of sample pairs.

		Field QA		lab splits	
Variable	Range	RMS	Sample size, *n*	RMS	sample size, *n*
Temperature (C)	all	0.4	*67*	NA	-
PH	all	0.2	*72*	NA	-
Dissolved oxygen	all	0.1	*72*	NA	-
Specific conductivity (mS)	all	5.1	*72*	NA	-
Turbidity (NTU)	≤10 >10	0.3 6.7	*59* *11*	0.2 1.8	*284* *75*
Suspended solids (mg L^{-1})	≤10 >10	0.8 32.6	*44* *20*	0.5 5.3	*140* *141*
Total phosphorus (µg L^{-1})	≤50 >50	3.3 21.7	*46* *25*	2.3 14.9	*193* *85*
Soluble reactive P (µg L^{-1})	≤50 >50	1.1 23.8	*65* *6*	2.7 37.9	*343* *37*
Total Nitrogen (µg L^{-1})	≤500 >500	26.3 78.1	*43* *28*	20.9 38.9	*194* *89*
NO_3/NO_2-N (µg L^{-1})	≤500 >500	43.6 45.2	*50* *21*	4.9 33.9	*211* *73*
NH_3-N (µg L^{-1})	≤20 >20	2.2 22.7	*32* *38*	1.6 3.2	*196* *72*
Fecal coliform (# 100 mL^{-1})	≤50 >50	4.0 56.8	*5* *12*	2.4 55.0	*259* *36*

Table 6. Results of blind blank (deionized water) sample submission.

Variable	reporting limit	# above reporting limit (conc)	sample size, *n*
Specific conductivity (µS)	NA	mean= 2.5 sd= 1.0	4
Turbidity (NTU)	0.5	0	4
Suspended solids (mg L^{-1})	1.0	0	4
Total phosphorus (µg L^{-1})	10	0	4
Soluble reactive P (µg L^{-1})	5	0	4
Total Nitrogen (µg L^{-1})	10	2 (14, 25)	4
NO_3/NO_2-N (µg L^{-1})	10	0	4
NH_3-N (µg L^{-1})	10	2 (12, 31)	4

Literature Cited

Ecology, 1998. 1998 Washington State Water Quality Assessment Section 305(b) Report Washington State Department of Ecology, Water Quality Program, Olympia, WA.

------, 1988. *Quality Assurance Manual*. Manchester Environmental Laboratory. Washington State Department of Ecology, Environmental Investigations and Laboratory Services Program, Manchester, WA.

------, 1994. *Manchester Environmental Laboratory Users Manual*. D. Huntamer and J. Hyre, ed. Washington State Department of Ecology, Environmental Investigations and Laboratory Services Program, Olympia, WA.

Ehinger, W., 1995. *Freshwater Ambient Water Quality Monitoring Final Quality Assurance Project Plan*. Washington State Department of Ecology, Environmental Investigations and Laboratory Services Program, Olympia, WA. March 1996, 23 pp. + appendices.

Hallock, D., 1996. *Spokane Basin Data Analysis Report Little Spokane Sub-Basin.* Washington State Department of Ecology, Environmental Investigations and Laboratory Services Program, Olympia, WA. Publication No. 96-329, June 1996, 12 pp. + appendices.

Hallock, D., W. Ehinger, and B. Hopkins. 1998. *River and Stream Ambient Monitoring Report for Water Year 1996*. Washington State Department of Ecology, Environmental Investigations and Laboratory Services Program, Olympia, WA. Publication No. 98.317, 34 pp. + appendices.

Hopkins, B., 1996. *Ambient Metals Project Proposal - Final Quality Assurance Project Plan*. Washington State Department of Ecology, Environmental Investigations and Laboratory Services Program, Olympia, WA. March 1996, 19 pp. + appendices.

Wrye, D., 1993. *Basin Approach to Water Quality Management: Program Description*. Washington State Department of Ecology, Olympia, WA.

Appendix A

Station description and period of record
for Ecology's river and stream
ambient monitoring program

Appendix A. Station description and period of record for Ecology's river and stream ambient monitoring program.

Monitoring History for Environmental Assessment Program Ambient Monitoring Stations

Station Number	Name	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
01A050	Nooksack R @ Brennan		X XX XX	XXXXXXXXXX	XXXXXXXXXX	
01A070	Nooksack R @ Ferndale	XXXXXXXX	XX X X			
01A090	Nooksack R nr Lynden		X X X			
01A100	Nooksack R @ Hannegan Road					
01A120	Nooksack R @ No Cedarville	X XXXXXXXX X	XX X XX	XXXXXXXXXX	XX X XXXXX	
01A140	Nooksack R above the MF				X	
01B050	Silver Cr nr Brennan				XX	
01D070	Sumas R nr Huntingdon BC		X X XXX	XXXXXXXXXX	XXX X	
01D080	Sumas R @ Jones Road					
01D090	Sumas R @ Sumas		X X			
01D120	Sumas R nr Nooksack				X	
01E050	Whatcom Cr @ Bellingham		X X		X	
01E070	Whatcom Cr @ Lake Outlet		X			
01E090	Whatcom Lake nr Bellingham	XXX X	X			
01F070	SF Nooksack @ Potter Rd				X	
01G070	MF Nooksack R				X	
03A050	Skagit R @ Conway		X X			
03A060	Skagit R nr Mount Vernon	X XXXXXXXX X	X XXXXXX	XXXXXXXXXX	XXXXXXXXXX	
03A070	Skagit R nr Sedro Woolley		X X X			
03A080	Skagit abv Sedro Woolley					
03B045	Samish R. nr Mouth				X	
03B050	Samish R nr Burlington	X XXXXXXXX X	XX X XXX	XXXXXXXXXX	XX X XXXXX	
03B070	Samish R nr Hoogdal		X			
03B080	Samish R. nr Prairie				X	
03C060	Friday Cr Blw Hatchery		X		X X	
03C080	Friday Cr at Alger		X			
03D050	Nookachamp Ck nr Mouth				X	
03E050	Joe Leary Slough nr Mouth					
03F070	Hill Ditch @ Cedardale Rd					
04A060	Skagit R @ Concrete		X X XXX	XXXXXXXXXX	XX X	
04A100	Skagit R @ Marblemount	X XXXXXXXX X	X XX	XXXXXXXXXX	XXXXXXXXXX	
04A140	Skagit R @ Newhalem		X X			
04B070	Baker R @ Concrete	XXXX	XXX	XXXXXXXXXX	XX X	

Appendix A. Continued.

Station Number	Name	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
04B150	Baker Lake @ Boulder Cr		XXXXX	X		
04C070	Sauk R nr Rockport		XXX	XXXXXXXXXX	XX X	
04C110	Sauk R @ Darrington	X XX				
04E050	Finney Cr near Birdsview				X	
05A050	Stillaguamish R @ Stanwood		X			
05A055	Hat Slough nr Stanwood		X			
05A070	Stillaguamish R nr Silvana	X XXXXXXXXXX	XX X XXX	XXXXXXXXXX	XXXXXXXXXX	
05A090	SF Stillaguamish @ Arlington		X X XX	XXXXXXXXXX	XX X XXXXX	
05A110	SF Stilly nr Granite Falls	X XXXXXXX	X		X XXXXX	
05B070	NF Stillaguamish @ Cicero	XXXXXXXX	XX X XX	XXXXXXXXXX	XX X XXXXX	
05B090	NF Stillaguamish R @ Oso		X			
05B110	NF Stillaguamish nr Darrington		X		X XXXXX	
07A090	Snohomish R @ Snohomish	X XXXXXXXX X	XX X XXX	XXXXXXXXXX	XXXXXXXXXX	
07A109	Snohomish R nr Monroe NE		X			
07A110	Snohomish R nr Monroe SW		X			
07A111	Snohomish R nr Monroe (USGS)		XX X	XX		
07B055	Pilchuck R @ Snohomish		X X XX	XXXXXXXXXX	XXX X	
07B090	Pilchuck R nr Lake Stevens		X			
07C070	Skykomish R @ Monroe		X X XXX	XXXXXXXXXX	XXXX XXXXX	
07C090	Skykomish R @ Sultan		X X			
07C120	Skykomish R nr Gold Bar	X XXXXXXXXXX	X XX	XXXXXXXXXX	XXX	
07C170	Skykomish R nr Miller R		X			
07D050	Snoqualmie R nr Monroe		X		XX XXXXX	
07D070	Snoqualmie R nr Carnation		X XX XXX	XXXXXXXXXX	XXX X	
07D100	Snoqualmie R. abv Carnation					
07D130	Snoqualmie R @ Snoqualmie	X XXXXXXXXXX	X XXX	XXXXXXXXXX	XXX XXXXX	
07D150	M F Snoqualmie R nr Ellisville				X	
07E055	Sultan R @ Sultan	XXXXXXXX X	XX X		X	
07F055	Woods Cr @ Monroe		X X		X X	
07G070	Tolt R nr Carnation	XXXXXXXXXX	X		X	
07M070	S F Snoqualmie R at North Bend				X	
07N070	N F Snoqualmie R near Ellisville				X	
07P070	Patterson Ck nr Fall City				X X	
07Q070	Raging R @ Fall City				X	

Appendix A. Continued.

Station Number	Name	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
07R050	French Cr nr Mouth				X	
08A070	McAleer Cr nr Mouth		X			
08A090	Upper McAleer Cr		X			
08B070	Sammamish R @ Bothell	X XXXXXXXXXX	XX X X XX	XXXXXXXXXX	XXXXX X	
08B110	Sammamish R @ Redmond		X		X	
08B130	Issaquah Cr nr Issaquah	XXX X	XX X X		X	
08C070	Cedar R @ Logan St/Renton	X XXXXXXX	X X X XX	XXXXXXXXXX	XXXXXXXXXX	
08C080	Cedar R @ Maplewood				X	
08C090	Cedar R @ Maple Valley		X		X	
08C110	Cedar R nr Landsburg	X XXX	X XX	XXXXXXXXXX	XX XXXXXX	
08D070	Mercer Slough nr Bellevue		X			
08E090	Kelsey Cr @ Monitor Site		X			
08E110	Upper Kelsey Cr		X			
08F070	May Cr nr Mouth		X			
08G070	Valley Cr nr Mouth		X			
08H070	Thornton Cr nr Mouth		X			
08H100	North Branch Thornton Cr		X			
08J070	West Branch Thornton Cr		X			
08J100	Swamp Creek abv Lynnwood					X
08K070	Ship Canal @ Ballard					
08K071	Bear Cr. below Cottage Lake Cr.					
08K090	Ship Canal @ Freemont				X	
08K100	North Creek nr Everett					X
08K110	Ship Canal @ University					
08K130	Ship Canal @ Montlake					
09A060	Duwamish R @ Allentown Br			XXXXXXXXXX	XX	
09A070	Duwamish R @ Foster	X XXXXXXXX				
09A080	Green R @ Tukwila				XXXXXXXXX	
09A090	Green R @ 212th St nr Kent		X XX	XXXXXXXXXX	XX X	
09A110	Green R @ Auburn	XXXXX X	XX			
09A130	Green Abv Big Soos/Auburn	X XXXXXXXXX	X		X	
09A150	Green R nr Auburn		X			
09A170	Green R nr Black Diamond		X			
09A190	Green R @ Kanaskat	X XX	X XX	XXXXXXXXXX	XXXXXXXXXX	

Appendix A. Continued.

Station Number	Name	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
09B070	Big Soos Cr blw Hatchery		X X			
09B090	Big Soos Cr nr Auburn	XXXX	XX		X X	
09C070	Des Moines Cr nr Mouth		X		X	
09C090	Des Moines Cr @ So 200th		X			
09D070	Miller Cr nr Mouth		X			
09D090	Miller Cr @ Ambaum Blvd SW		X			
09E070	Mill Creek @ Orillia			XXXXXX	X X	
09E090	Mill Creek - Kent on W Valley Hwy			XXXXXX	X	
09F071	Newaukum Cr nr Mouth					
09F150	Newaukum Creek nr Enumclaw				X	
09G071	Springbrook Cr. @ N. end Longacres					
09H090	Black R @ Renton				X	
10A045	Puyallup R. @ Melroy St.					
10A050	Puyallup R @ Puyallup (USGS)	X XXXXXXXX X	XXX XXXXX	XXX		
10A070	Puyallup R @ Meridian St		X X XX	XXXXXXXXX	XXXXXXXXX	
10A090	Puyallup R @ McMillin		X X			
10A110	Puyallup R @ Orting	X XXX XXXXXX	XXX X XX	XXXXXXXXX	XX X X	
10B070	Carbon R nr Orting	XX	XX		X	
10B090	Carbon R @ Fairfax		X			
10C070	White R @ Sumner		XX XX	XXXXXXXXX	XX X X	
10C085	White R nr Sumner	X	X X		X	
10C090	White R @ Auburn	XXXXX	X X			
10C091	White R @ Auburn - A					
10C095	White River @ R Street				X	
10C110	White R blw Buckley		X			
10C130	White R @ Buckley				X	
10C140	White R nr Buckley		X			
10C150	White R nr Greenwater		X			
10D070	Boise Cr @ Buckley	XXX	X			
10D090	Boise Cr nr Enumclaw	XXX				
10E050	Salmon Creek nr Mouth					
10E070	Salmon Cr @ Sumner		X			
10F070	So Prairie Cr nr Crocker		X			
10F090	South Prairie Ck nr S. Prairie				X	

Appendix A. Continued.

Station Number	Name	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
10G060	Hylebos Creek at Mouth					
11A070	Nisqually R @ Nisqually		X X XX	XXXXXXXXXX	XXXXXXXXXX	
11A080	Nisqually R @ McKenna	X XXXXXXXXXX	X		XX X	
11A090	Nisqually R abv Powell Cr		X XX	XXXXXXXXXX	X	
11A110	Nisqually R @ LaGrande		X			
11A140	Nisqually R @ Elbe		X X XX	X		
12A070	Chambers Cr nr Steilacoom	XXXXX	XX X	XXXXXX	XX X X	
12A100	Chambers Cr blw Steilacoom Lk	XX	X		XXX	
12A110	Clover Cr abv Steilacoom Lk	XXX	X		XXXX	
12A130	Clover Cr nr Parkland	XX				
12A140	Clover Creek nr Waller Road					
12B070	Leach Cr nr Steilacoom	XXX	X			
12C070	Flett Cr @ Custer Rd	XXX	X			
12D050	Ponce de Leon Ck nr mouth				XXX	
13A050	Deschutes R @ Tumwater	XXXXX X	X X			
13A060	Deschutes R @ E St Bridge		XX	XXXXXXXXXX	XXXX XXXXX	
13A080	Deschutes R nr Olympia		X X X			
13A150	Deschutes R nr Rainier	X XXX	X X XX	XXXXXXXXXX	XX X	
14A060	Goldsborough Cr @ Shelton				X X	
14A070	Goldsborough Cr nr Shelton	XXX X	X			
15A070	Dewatto R nr Dewatto		XXX		X	
15B050	Chico Cr nr Chico				X	
15B070	Chico Cr nr Bremerton	XXXXX	X			
15C070	Clear Cr @ Silverdale				X	
15D090	Tahuya R nr Belfair				X	
15E070	Union R nr Belfair				X	
16A070	Skokomish R nr Potlatch	XXXXXXXX X	X XXX XX	X XXXXXX	XXXXXXXXXX	
16B070	Hamma Hamma R nr Mouth	XXXXXX X	X X			
16B110	Hamma Hamma R nr Eldon		XX		X	
16B120	Hamma Hamma R above Cabin Creek					
16C070	Duckabush R @ Mouth	XXXXXXXX X	X X			
16C090	Duckabush R nr Brinnon		XXX		XXXXXX	
16D070	Dosewallips R @ Brinnon	X XXXXXXXXXX	X XXX		X	
16E070	Finch Cr @ Hoodsport				X X	

Appendix A. Continued.

Station Number	Name	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
17A060	Big Quilcene R nr mouth					X
17A070	Big Quilcene R nr Quilcene	X XXXXXXX	XXX		X X	
17B070	Chimacum Cr nr Irondale				X	
17B090	Chimacum Cr @ Hadlock		X			
17B100	Chimacum Cr @ Chimacum				X	
17B110	Chimacum Cr nr Chimacum		X			
17C070	Jimmycomelately Cr near Mouth					X
18A050	Dungeness R nr Mouth					
18A070	Dungeness R nr Sequim	X XXXXXXX	XXX		X X	
18B070	Elwha R nr Port Angeles	X XXXXXXX X	XXX		XXXXXX	
18B080	Elwha R @ McDonald Br (USGS)		XXXXX	XX		
19A070	Pysht R nr Pysht		XXX			
19B070	Hoko R nr Mouth		X			
19B090	Hoko R nr Sekiu		XX			
20A090	Soleduck R nr Forks		XXX		X	
20A130	Soleduck R nr Fairholm	XXXXXXXX X	X			
20B070	Hoh R @ DNR Campground	XXXXXXXXXX	X XXX XX	X	XXXXXX	
20C070	Ozette R @ Ozette	X XX				
20D070	Dickey R nr La Push				X	
21A070	Queets R @ Queets	XXXXXXXXXX	X X		X	
21A080	Queets R nr Clearwater (USGS)		XX	XX		
21A090	Queets R abv Clearwater		XX			
21B090	Quinault R @ Lake Quinault	X X XXXXXX	X XXX XX	X	X	
21C070	Clearwater R nr Queets		XX			
21D070	NF Quinault R @ Amanda (USGS)		XXXXXXXXX	XX		
22A070	Humptulips R nr Humptulips	X XXXXXXXXXX	X XXX XX	XXXXXXXXXX	XXXXXXXXXX	
22B070	WF Hoquiam R nr Hoquiam	XXXXX	XX		X	
22C050	Chehalis R nr Montesano		XX XX	XXXXXXXXXX	XXX	
22C070	Chehalis R nr Fuller		X X			
22D070	Wishkah R nr Wishkah	XXXXX	XX X			
22F090	Wynoochee R nr Montesano	X XXXXXXX X	X XX X			
22G070	Satsop R nr Satsop	XXXXXXXXXX	XX X XXX	XXXXXXXXXX	XX X	
22H070	Cloquallum Cr nr Elma	XXXX	X X X			
22J070	Wildcat Cr nr McCleary		X			

Appendix A. Continued.

Station Number	Name		Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
23A070	Chehalis R @ Porter	X	XXXXXXXXXX	XXXX XXXXX	XXXXXXXXXX	XXXXXXXXXX	
23A100	Chehalis R @ Prather Rd					XXX	
23A110	Chehalis R @ Galvin			X X X			
23A120	Chehalis R @ Centralia			XX	XXXXXXXXXX	XX X	
23A130	Chehalis R @ Claquato					X	
23A140	Chehalis R @ Adna			X X X			
23A160	Chehalis R @ Dryad	X	XXXXXXX	XX	XXXXXXXXXX	XXXXXXXXXX	
23B050	Newaukum @ Mouth					X	
23B070	Newaukum R nr Chehalis		XXXXXXXX	X X X		X	
23B090	SF Newaukum R @ Forest			X			
23C070	NF Newaukum R @ Forest			X			
23D055	Skookumchuck R @ Centralia					X X	
23D060	Skookumchuck R nr Frost Prairie						
23D070	Skookumchuck R nr Centralia	X	X				
23E070	Black River @ Moon Road Bridge					XX X XXX	
23F070	Mill Ck nr Bordeaux					X	
23G070	SF Chehalis R @ Curtis					X	
24B090	Willapa R nr Willapa		XX X	XXXXX XXXX	XX XXXXXX	XXX XXXXX	
24B130	Willapa R @ Lebam	X	XX X	XX	XXXXXXXXXX	XXX	
24C060	SF Willapa R @ Fuller St						
24C070	SF Willapa R @ South Bend			X			
24D070	North R nr Raymond			X XX		XX	
24D090	North R @ Artic					X	
24E070	North Nemah R @ Nemah			X X			
24F040	Naselle R @ Mouth			X			
24F055	Naselle R @ Naselle			X			
24F070	Naselle R nr Naselle		XX X	X X XXXX	X	X XXXXX	
24G070	Bear Branch nr Naselle		X	X			
24H070	Middle Nemah R nr Nemah			X			
24J070	South Namah R nr Nemah			X			
25A070	Columbia R @ Cathlamet		XX	X X			
25A075	Columbia R @ Bradwood			XXXXXX			
25A110	Columbia R @ Fisher Is Lt		XXXXX				
25A115	Columbia R nr Longview		XX	X X			

Appendix A. Continued.

Station Number	Name	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
25A150	Columbia R blw Longview Br	X	X			
25B070	Grays R nr Grays River		X XX			X
25C070	Elochoman R nr Cathlamet	X	X XX			X
26B070	Cowlitz R @ Kelso	XXXXXXX	XX X XX	XXXXXXXXX	XXXXXXXXXX	
26B100	Cowlitz R @ Castle Rock (USGS)	XXX	X XXXX			
26B150	Cowlitz R @ Toledo	XXXXX	X X XX	X	X	
26B180	Cowlitz nr Kosmos B Cispus	X XXXXXXXX				
26B190	Cowlitz R nr Randle	X	X X X			
26B200	Cowlitz R nr Kosmos		X			
26C070	Coweeman R @ Kelso	XXXXX	XX X	XXXXXX	XXX	X
26C080	Coweeman R av Goble Cr					X
26C090	Coweeman R nr Rose Valley		X X			
26D070	Toutle R nr Castle Rock	XXXXXXXX X	X X X XX	XXXXXXXXX	XXX	
26D090	Toutle R @ Tower Rd					
26E070	Cispus R nr Kosmos		X	XXX		
27A070	Columbia R @ Kalama	XX	X XX			
27A110	Columbia River (above Kalama?)					
27B050	Kalama R @ Kalama	XXXXXXXXXX	X			
27B070	Kalama R nr Kalama		XX XX	XXXXXXXXX	XXX XXXXX	
27B080	Kalama R blw Upper Hatchery					
27B090	Kalama R @ Upper Hatchery		X			
27B110	Kalama R @ Pigeon Springs		X			
27C070	Lewis R @ Woodland @ I-5	XXXXX X	X XX			
27C080	Lewis R @ Co Rd 16				X	
27C110	Lewis R @ Ariel (USGS)	X X	XXX	X		
27D090	EF Lewis R nr Dollar Corner		XXX	XXXXXXXXX	XXX XXXXX	
27D100	EF Lewis R @ Heisson					
27D110	EF Lewis nr Heisson					
27E070	Cedar Cr nr Etna				X	
27F070	Gee Cr @ Ridgefield				X	
28A090	Columbia blw Vancouver WA	XX	X			
28A091	Columbia blw Vancouver OR	XX	X			
28A165	Columbia R @ Warrendale		XXXXXXX			
28A170	Columbia R blw Bonneville	XX	X			

Appendix A. Continued.

Station Number	Name	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
28A175	Columbia R @ Bonneville Dam	XX	X X			
28B070	Washougal R @ Washougal	X	X XX XX		X	
28B090	Washougal R nr Washougal	XXXXXXXX	X			
28B110	Washougal R blw Canyon Ck				X X	
28C070	Burnt Br Cr @ Mouth		X			
28C110	Burnt Br Cr @ Vancouver		X			
28D070	Salmon Cr @ Salmon Creek		X			
28D110	Salmon Cr nr Battle Ground		X			
28E070	Weaver Cr nr Battle Ground		X			
28F070	Lake R nr Ridgefield				X	
28G070	Gibbons Ck nr Washougal				X	
29B070	White Salmon R nr Underwood	XXXXXXXXXX	X XX XXXX	XXXX	X	
29C070	Wind R nr Carson		X XXXX	XXXX	X	
29D070	Rattlesnake Cr nr Mouth				XXX	
29E070	Gilmer Cr nr Mouth				XXX	
30A070	Columbia R @ The Dalles	XX	XXXXXXXX		X	
30A090	Columbia R @ The Dalles Dam	X				
30A100	Columbia R nr Maryhill					
30B060	Klickitat R nr Lyle				XX	
30B070	Klickitat R nr Pitt (USGS)	XXX	X XXXXXXX	X		
30C070	Little Klickitat nr Wahkiacus		X		XX	
31A070	Columbia R @ Umatilla	X	XXXXX		XXXXXXXXX	
31A090	Columbia R @ McNary Dam	X XXXXXXXXX				
31A130	Columbia R nr Yakima R Mouth	X				
32A070	Walla Walla R nr Touchet	X XXXXXXX	XX XXXXXX	XXXXXXXXXX	XXXXXXXXXX	
32A090	Walla Walla R nr Lowden		XX			
32A100	Walla Walla at east Detour Road Br				X	
32A110	Walla Walla R @ College Pl		XX XX			
32B070	Touchet R @ Touchet		X XX XX	XXXXXXXXX	XXX X	
32B080	Touchet at Sims Road				X	
32B100	Touchet R @ Bolles		XX		X	
32B120	Touchet R nr Dayton		XX			
32B130	Touchet R @ Dayton	X X			XX	
32B140	Touchet R above Dayton				X	

Appendix A. Continued.

Station Number	Name	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
32C070	Mill Cr @ Mission St		X XX			
32C110	Mill Cr @ Tausick Way		X X		X	
33A010	Snake R nr Mouth	X				
33A050	Snake R nr Pasco	XXXXXXX X	X		XXXXXXXXX	
33A05X	Snake R @ Burbank					
33A070	Snake R blw Ice Harbor Dam	X	X XXXXXX	XXXXXXXXXX	XX	
33A100	Snake R blw Lower Monumental Dam					
34A070	Palouse R @ Hooper	X XXXXXXXXX	X XXXXXX	XXXXXXXXXX	XXXXXXXXXX	
34A085	Palouse R @ Shields Rd Bridge				X	
34A090	Palouse R nr Diamond		X X			
34A110	Palouse R abv Buck Canyon		X XX			
34A170	Palouse R @ Palouse		X		XXXXXXXX	
34B070	SF Palouse R nr Colfax		X XX			
34B085	SF Palouse R at Armstrong Rd					
34B090	SF Palouse R nr Pullman		X X			
34B110	SF Palouse R @ Pullman		X X XX	XXXXXXXXX	XXX XXXXX	
34B130	SF Palouse R blw Sunshine		X			
34B140	SF Palouse R @ Busby				X	
34B150	SF Palouse R nr Moscow ID					
34C060	Paradise Cr at Mouth				X	
34C070	Paradise Cr nr Pullman		X			
34C100	Paradise Cr @ Border				X	
34D070	SF Palouse Trib Whitman Fm		X			
34E070	Rock Creek at Revere				X	
34E100	Rock Creek at Escures Property					
34F070	Missouri Flat Creek @ Pullman					
34F090	Pine Cr @ Rosalia				X	
34G070	Snake R @ Lyons Ferry					
35A070	Snake R @ Central Ferry					
35A100	Snake R blw Lwr Granite Dam		X			
35A110	Snake R at Lwr Granite Dam					
35A150	Snake R @ Interstate Br	XXXXX XX			XXXXXXXXX	
35A200	Snake R nr Anatone		XXXXXXXX			
35B060	Tucannon R @ Powers		X XX	XXXXXXXXX	XXX XXXXX	

Appendix A. Continued.

Station Number	Name	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
35B110	Tucannon R nr Delaney	X X				
35B150	Tucannon R nr Marengo				X	
35C070	Grande Ronde R nr Anatone		X	XXX	X	
35D070	Asotin Cr @ Asotin		X		X X	
35E070	Clearwater R @ US12/95				X	
35F070	Pataha Ck @ Archer Rd				X	
36A055	Columbia R @ Port of Pasco		X			
36A060	Columbia R @ Pasco	XX				
36A065	Columbia R @ Richland		X			
36A070	Columbia R nr Vernita	XX XX	X X XXX XX	XXXXXXXXXX	XX XXXXXX	
37A040	Yakima R @ I-182					
37A060	Yakima R @ VanGiesen Br		X XX			
37A070	Yakima R nr Richland		X			
37A090	Yakima R @ Kiona	X XXX XXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
37A095	Yakima 2 mi blw Prosser				X	
37A100	Yakima below Prosser				X	
37A110	Yakima R @ Prosser		X XX			
37A130	Yakima R @ Mabton		X XX		X	
37A149	Yakima R @ Granger No Side		X			
37A150	Yakima R @ Granger So Side		X			
37A152	Yakima above Granger Drain					
37A170	Yakima R nr Toppenish		X XX		X	
37A190	Yakima R @ Parker		X XXXXXXX	XXXXXXXXXX	XXX	
37A200	Yakima R abv Ahtanum Cr (USGS)		XX X	XX		
37A205	Yakima R @ Nob Hill				XXXXX	
37A210	Yakima R nr Terrace Height		XX XX		X	
37B060	Satus Cr @ Satus		XX			
37C060	Toppenish Cr nr Satus		XX			
37D080	Marion Drin nr Granger		XX			
37E070	Wide Hollow Cr @ Union Gap		X X		X	
37E090	Wide Hollow Cr @ Goodman		X X			
37E120	Wide Hollow Creek @ Randall Park					
37F070	Sulfur Ck Wasteway @ McGee Rd				X	
37G120	Ahtanum Cr. @ 62nd Ave					

Appendix A. Continued.

Station Number	Name	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
38A050	Naches R @ Yakima on US HWY 97	XXXXXXX			X XX	
38A061	Naches River @ Nelson Bridge					
38A070	Naches R @ Yakima		X X			
38A110	Naches R @ Naches	X X	X			
38A130	Naches R nr Naches	XXXX				
38B070	Tieton R @ Oak Creek	XXXX			X	
38C070	Rattlesnake Cr nr Nile	XX				
38D070	Bumping R @ American R	XX				
38E070	American R @ American R	XX				
38F070	Little Naches nr Cliffdell	XXX			X	
38G120	Cowiche Cr. @ Zimmerman rd					
39A041	Yakima River below Roza Dam					
39A050	Yakima R @ Harrison Bridge				XX	
39A051	Yakima River @ Umtanum					
39A060	Yakima R @ Ellensburg				XX	
39A070	Yakima R nr Thorp		X X			
39A080	Yakima R @ Cle Elum	X XXXXXXXXXX	X			
39A090	Yakima R nr Cle Elum		X X		XXX XXXXX	
39B070	Cle Elum R nr Cle Elum		X X			
39B090	Cle Elum R nr Roslyn				X	
39C070	Wilson Cr @ Thrall	XXXX	X X X		X	
39D070	Teanaway R nr Cle Elum	XXXXX			X	
39D090	Teanaway R at Highway 970					
39E071	Cabin Creek nr Easton					
41A070	Crab Cr nr Beverly	X XXXXXXXXXX	XXX XX XX	XXXXXXXXXX	XX XXXXXX	
41A075	Crab Cr nr Smyrna	XXX				
41A090	Crab Cr nr Othello		X			
41A101	Crab Creek @ McMannon Road					
41A110	Crab Cr nr Moses Lake	X		XXXX	X X	
41B071	Winchester Wasteway @ Gage					
41C071	Frenchman Hills Wasteway @ Gage					
41D070	Rocky Ford Creek @ Hwy 17				X	
41E070	Sand Hollow Creek on Hwy 26				X	
41F100	Rocky Ford Coulee Drain				X	

Appendix A. Continued.

Station Number	Name	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
41G070	Rocky Coulee Wasteway @ K NE Road					
42A070	Crab Cr below Adrian					
43A070	Crab Cr @ Irby	X			X	
43A100	Crab Ck @ Marcelus Road				X	
43A150	Crab Ck @ Bluestem Road				X	
43B090	Lake Ck @ Coffeepot Road				X	
44A070	Columbia R blw Rock Is Dam		X XX XX	XXXXXXXXXX	XX	
45A070	Wenatchee R @ Wenatchee	XXXXXXXX X	X X XX XX	XXXXXXXXXX	XXXXXXXXXX	
45A085	Wenatchee R nr Dryden		X			
45A100	Wenatchee R @ Leavenworth		X			
45A110	Wenatchee R nr Leavenworth	X XXXXXXXX	XX	XXXXXXXXXX	XXXXXXXXXX	
45B070	Icicle Cr nr Leavenworth		X		X	
45C070	Chumstick Cr nr Leavenworth				XXX	
45D070	Brender Cr nr Cashmere				XXX	
45E070	Mission Cr nr Cashmere				XXX	
46A070	Entiat R nr Entiat	X XXXXXXX	X XX XX	XXXXXXXXXX	XX XXXXXX	
47A070	Chelan R @ Chelan	XXXXXXXX X	X X XX XX	XXXXXXXXXX	XX X	
47B070	Columbia R @ Chelan Station				X X	
48A070	Methow R nr Pateros	X XXXXXXX	X XX XX	XXXXXXXXXX	XXXXXXXXXX	
48A130	Methow R nr Twisp		X XX	XXXXXXXXX		
48A140	Methow R @ Twisp			X	XX X XXXXX	
48A170	Methow R @ Weeman Br		X			
48A190	Methow R blw Gate Cr		X XX	X		
48B070	Chewack R @ Winthrop		X			
48C070	Andrews Cr nr Mazama (USGS)		XXXXXXXX	XX		
49A050	Okanogan R nr Brewster	X XXXXXXX X	X			
49A070	Okanogan R @ Malott	XXX	X X XX XX	XX XXXXXX	XXXXXXXXXX	
49A090	Okanogan R @ Okanogan		X XX	XXXXXXXXX	X	
49A170	Okanogan R @ Janis		X			
49A180	Okanogan R @ Tonaskat				X	
49A190	Okanogan R @ Oroville	XXXXXXX	XX XX	XXXXXXXXXX	XX X XXXXX	
49B070	Similkameen R @ Oroville	XXXXXXX	XX XX	XXXXXXXXXX	XXXXXXXXXX	
49B090	Similkameen R @ Nighthawk				X	
49B110	Similkameen R. @ Chopaka Br. B. C.					

Appendix A. Continued.

Station Number	Name	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
50A070	Columbia R nr Brewster	X				
50A090	Columbia R @ Bridgeport	X				
51A070	Nespelem R @ Nespelem			XXXXXXXXXX	XX X	
52A070	Sanpoil R @ Keller	XXXXXXX	X XX XX	XXXXXXXXXX	XX X	
52A110	Sanpoil R 13 mi S. Republic				X	
52A170	Sanpoil R blw Republic		X			
52A190	Sanpoil R abv Republic		X		X	
52B070	Lake Roosevelt from Keller Ferry				X	
53A070	Columbia R @ Grand Coulee		X XX XX	XXXXXXXXXX	XX X XXXXX	
54A050	Spokane R @ Mouth				XXXX	
54A070	Spokane R @ Long Lake (USGS)	X XXXXXXX X	XXXXXXXXXX	XX		
54A089	Spokane R 2 mi blw Ninemile dam		XX			
54A090	Spokane R @ Ninemile Br		X X			
54A120	Spokane R @ Riverside State Pk		XXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
54A130	Spokane R @ Fort Wright Br		X X			
55B070	Little Spokane R nr Mouth		X X XXX	XXXXXXXXXX	XX XXXXXX	
55B075	Little Spokane @ Painted Rocks				X	
55B080	Little Spokane R nr Griffith Spring				XX	
55B082	Little Spokane R abv Dartford Creek				XX X	
55B085	Little Spokane nr Dartford	XXXXXXX				
55B090	Little Spokane R abv Wandermere		X			
55B100	Little Spokane R abv Deadman Creek				XX X	
55B200	Little Spokane @ Chattaroy				X X	
55C065	Deadman Cr nr Mouth				X	
55C070	Peone (Deadman) Creek abv L Deep Cr				XX	
55D070	Deer Cr nr Chattaroy				X	
55E070	Dragoon Cr nr Chattaroy				X	
56A070	Hangman Cr @ Mouth		X X XXX	XXXXXXXXXX	XX X XXXXX	
56A200	Hangman Creek @ Bradshaw Road				X	
57A120	Spokane R @ Spokane		X			
57A130	Spokane R @ Mission St Br		X X			
57A145	Spokane R @ Trent Br		X			
57A150	Spokane R @ Stateline Br	X XXXXXX X	XX X X		XXXXXXXXX	
57A190	Spokane R nr Post Falls		XXXXXXX	XXXXXXXXXX	XX	

Appendix A. Continued.

Station Number	Name	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
59A070	Colville R @ Kettle Falls	XXXXXXXXXX	X X XX XX	XXXXXXXXXX	XX X	
59A080	Colville R abv Kettle Falls				X	
59A110	Colville R @ Blue Creek		X			
59A130	Colville R @ Chewelah		X			
59B070	Little Pend Oreille @ Hwy 395					X
60A050	Kettle R @ Hedlund Bridge	X				
60A070	Kettle R nr Barstow	XXXXXXX X	X X XX XX	XXXXXXXXXX	XX XXXXXX	
61A070	Columbia R @ Northport	X XXXXXXXXXX	XXXXXXXXXX	XX	XXXXXXXXX	
61B070	Deep Ck nr Mouth				X	
61C070	Onion Cr nr Northport				X	
61D070	Sheep Cr nr Northport				X	
62A070	Pend Oreille R @ Waneta BC (USGS)	XXX				
62A080	Pend Oreille R @ Border (USGS)		XXXXXX	XX		
62A090	Pend Oreille @ Metaline Falls	X XXX			XX XX	
62A150	Pend Oreille R @ Newport	X XXXXXXX X	X XX	XXXXXXXXXX	XXXXXXXXXX	

Appendix B

Historical changes in sampling and laboratory procedures, and large-scale environmental changes potentially affecting water quality

This appendix is intended to record changes in methods and procedures used by the Ambient Monitoring Section to collect and analyze river and stream water quality data. Other environmental changes that may potentially affect water quality over a large area are also recorded here. Many of the changes listed below are anecdotal and may or may not have affected data quality. Comments prior to October 1989 are based on interviews with individuals involved with the earlier program. Comments after that date have usually been recorded as the changes occurred.

GENERAL

Jun to Sep 1985: Laboratory moved from SWRO to Manchester.

Oct 1988: Implemented QA/QC program (Source: Memo from Hallock, D, October 17, 1988)

Prior to WY91: Samples were sent to contract labs from time to time. These occurrences are not all recorded here. Records are confusing and only available from bench sheets archived by Manchester Environmental Laboratory.

1994: The use of Polyacrilamide (PAM) to control erosion from rill irrigation is becoming widespread in eastern Washington. Water quality affects are unknown.

1996: Began monitoring discharge at some stations ourselves (mostly basin stations), rather than contracting with USGS.

1997: Contracts for about 80% of the 1.045 million acres in Washington in the Conservation Reserve Program are scheduled to expire. (See http://pnwsteep.wsu.edu)

NUTRIENTS

General: Prior to 1980, samples were analyzed by USGS labs.

1966-1969: One gallon of sample was collected in glass jars and held at room temperature for indefinite periods without preservative.

1970-1973: Unknown methods; may have been preserved with HgCl. Filtered in field.

1973: Lab moved from Tacoma to Salt Lake City.

1973-1974: Chilled, no preservative. Held as long as one week. Filtered in field; kept in brown poly bottle.

1972-1974?: For a short time, TP and NO3 may have been added by filters (probably 72-74). Source: Joe Rinnella, USGS.

9/30/78: Lab moved to Arvada, CO.

~1978: Chilled. Brown poly bottle (the brown poly bottle may have been introduced later). 30 day holding time for NO2+NO3 implemented (status of other nutrients is unknown). (Source of methods prior to 1979: pers. comm. Joe Rinnella, USGS, and Skinner, Earl L. "Chronology of Water Resources Division activities that may have affected water quality values of selected constituents in Watstore, 1970-86. Provisional Report Feb 1989.)

1979: For a while, the USGS lab reported nutrient results to the nearest 0.01 units. Therefore, values below 0.005 would be reported as 0.00. USGS decided to change all Watstore data = 0 to 0.01K back to 1973 for NO2+NO3. Decision on other nutrients is unknown but they may also have been changed. Most of the null data in our database have been converted to 0.01K (K-below the detection limit) but a few null values remain in the older data.

6/1/80 to 1986: Nutrients analyzed by Pat Crawford at SWRO.

1980: USGS requires NO2+NO3 be preserved with HgCl. Status of other nutrients is unknown. Ecology requirements are unknown.

Aug 1985: High phosphate values, presumably a result of lab error. (Coded '9-do not use' in our database). Source: Trends in PS, 1988, Tetra Tech, App. B.
1986 to Apr 1987: Analyzed by various people, mostly Helen Bates, Steve Twiss, and Wayne Kraft at Manchester.
June, 1985: Switched from Technicon to Rapid Flow Analysis (Alpkem) autoanalyzers
Apr 1987 to present: Analyzed by various people, mostly Dave Thomson at Manchester.
Jan 1987 to Jul 1987: NO3, NH3, and TP analyzed by contract lab,
Mar 1990: Began using MFS cellulose acetate filters for field filtration of nutrients. Previously use Millipore, type HA (cellulose nitrate?).
17 Sep 90-12 Oct 90: All nutrient samples were contracted out.
Oct 1990: Dissolved ammonia (P608) and dissolved nitrate+nitrite (P631) were added to the Marine network. Totals (P610 and P630) were dropped.
Feb 1991: All nutrients went to contract lab.
Mar 1991: All nutrients went to contract lab.
~1993: Began collecting nutrients in acid-washed poly-bottle passenger rather than in the stainless-steel bucket used for oxygen determinations.
Jul 1994: The phosphorus content in detergents is restricted statewide (SSB 5320). Phosphorus use had been limited in Spokane County 1? year earlier.

TOTAL SUSPENDED SOLIDS

General: Filters were usually used, but sometimes Gooch crucibles were used.
Feb 1978: Began collecting as passenger to oxygen sampler (was previously collected as aliquot of oxygen sampler). (Source: memo from Bill Yake, Jan 30, 1978)
Mid-1985 Amount filtered change from 250? to 500 ml.
17 Sep 90-12 Oct 90: Suspended sediment samples were contracted out.
Apr 1991: Began collecting 1000 ml of sample.

CONDUCTIVITY

Feb 1978: Began calibrating twice monthly using 40, 70, 140, and 200 µmho/cm standards. (Source: memo from Bill Yake, Jan 30, 1978)
Oct 1991:All meters were re-calibrated Oct 11, 1991. One conductivity meter was not calibrated above 500 µmhos/cm (and could not be calibrated). This meter had last been calibrated about 1 year earlier. Most meters read higher than the 100 µmhos/cm standard.
Oct 1994: Switched from Beckman model Type RB-5 (which could not be field calibrated) to Orion Model 126 meter which is calibrated daily.
1998: Orion meter calibration began drifting during the day. Sometimes meter could only be calibrated to within 4 µmhos of the standard. When this occurred, some samplers would correct the data, others would not.

FECAL COLIFORM BACTERIA

General: For some period in the early 1980s, some samples may have been analyzed by field personnel
Oct 7, 1975 to Nov 1981: fecal data from eastern Washington may be questionable during this period.
1980 to Mar 1988: No changes; analyzed by Nancy Jensen.
Mar 1988: Switched to new filter with slightly better recovery.

TURBIDITY

1970s: EPA specified a 2100A turbidimeter. Formerly, turbidity units were FTU

Sept 1993: Lab began using a new turbidimeter, Hach model "Ratio X/R."

FIELD PH

Oct 7, 1975 to Nov 1981: pH data from eastern Washington are questionable during this period.

Feb 1978: Began calibrating meter twice monthly. Previous procedures unknown. (Source: memo from Bill Yake, Jan 30, 1978)

1986: Changed to Beckman digital pH meter with gel probe.

Dec 91: Changed to Orion model 250A meter with "spare water" liquid probe (uses 1M KCl, rather than 4M). Calibrate daily and check calibration three times during the sampling day.

TEMPERATURE

Feb 1978: Switched from thermometer in bucket to thermistor in river. (Source: memo from Bill Yake, Jan 30, 1978)

Spring 1994: Switched to YSI 300 meter (accuracy +/- 0.4C)

OXYGEN

Oct 1, 1977 Began measuring barometric pressure to calculate percent saturation. Previous saturation calculations were presumably based on elevation.

March 1989: Began applying correction factor to results of Winkler analyses based on titration with sodium biodate to correct sodium thiosulfate normality to 0.025. Previously, thiosulfate was standardized upon preparation, but not during use.

BAROMETRIC PRESSURE

___ 1995: Began calibrating barometer prior to each run using an on-site mercury barometer rather than pressure as reported by the Olympia airport.

CHLOROPHYLL

15 Mar 90: Switched to fluorometric method (from spectrophotometric). New method has lower detection limit (0.02 µg/L) but less accuracy. (Source: Memo from Despina Strong, April 12, 1990)

HARDNESS

7/1/91: Began using 125 ml bottle with HNO3 as preservative. (Previously, aliquot from unpreserved general chemistry bottle was used.)

METALS

May, 1994: Implemented low-level dissolved metals monitoring at selected stations.

Appendix C

Water Year 1999 raw data for Ecology's
river and stream ambient monitoring program

Data listed in this appendix are available in electronic format by contacting

Central Region:	Dale Clark (360 407-6022; dcla461@ecy.wa.gov)
Eastern Region:	Dave Hallock (360 407-6681; daha461@ecy.wa.gov)
Northwest Region:	Bill Ward (360 407-6621; bwar461@ecy.wa.gov)
Southwest Region:	Rob Plotnikoff (360 407-6687; rplo461@ecy.wa.gov)

Ambient monitoring data from the most recent complete Water Year is available over the Internet on Ecology's web pages (http://www.ecy.wa.gov/). Look under "Conditions and Trends" and then "Watersheds."

The first two digits of each station number is the Water Resource Inventory Area (WRIA) number. This number can be used to identify which Water Quality Management Areas (WQMA) or "basin" each station is in, according to the table, below:

Basin	WRIAs	Basin	WRIAs
Cedar/Green	8-9	Nooksack/San Juan	1-2
Columbia Gorge	27-29	Okanogan	48-53
Eastern Olympics	13-14, 16-19	Puyallup/Nisqually	10-12
Esquatzel/Crab Creek	36, 42-43	Skagit/Stillaguamish	3-5
Horseheaven/Klickitat	30-31	Spokane	54-57
Island/Snohomish	6-7	Upper and Lower Snake	32-35
Kitsap	15	Upper Columbia/Pend Oreille	58-62
Lower Columbia	24-26	Upper Yakima	38-39
Lower Yakima	37	Wenatchee	40, 44-47
Mid Columbia	41	Western Olympics	20-23

Remarks codes are interpreted as follows:

B,V	Analyte was found in the blank indicating possible contamination.
E	Result is an estimate due to interference
G, L	True result is equal to or greater than reported value
H	Sample was analyzed over holding time
J	The reported result is an estimate
K, U	The analyte was not detected at or above the reported result
N	Spike sample recovery outside control limits
P	Result is between the detection limit and the min. quantitation limit (applied to metals)
S	Spreader: one or more bacteria colonies were smeared, possibly obscuring other colonies
X	High background count of non-target bacteria, possibly obscuring additional colonie

Conventional Data Report

Nooksack R @ Brennan

01A050

Class: A
Rivermile: 3.4
Latitude: 48 49 10.0
Longitude: 122 34 43.0
Waterbody: WA-01-1010

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/20/1998	12:10	7.1	1330	104	11.5	7.5	13	0.383	0.012	0.317	0.016	0.005 U	7.4	19
11/17/1998	12:15	5.2	8640	71	10.9		295	1.1	0.034	0.864	0.075	0.016	140	120 J
12/15/1998	12:50	4.2	10800	77	12.8	7.4	315	0.808	0.022	0.527	0.199	0.012	150	57
		pH RECALIBRATED												
1/19/1999	13:05	4.2	7640	94	11.4	7.6	120	0.872	0.01 U	0.717	0.099	0.012	45	40
2/16/1999	13:30	4.6	2820	130	11.7	7.8	23	1.09	0.01 U	0.937	0.03	0.007	9	45
3/23/1999	13:00	6.7	4420	67	11.2	7.6	60	0.6	0.019	0.534	0.044	0.012	20	14
4/20/1999	12:50	6.2	4870	81	11.9	7.7	43	0.428	0.01 U	0.319	0.035	0.006	19	47
5/25/1999	13:30	7	10600	44	11.6	7.8	395	0.348	0.038	0.12	0.35	0.005 U	210	92
6/22/1999	13:20	7.4	7250	59	11.1	7.4	105	0.195	0.025	0.119	0.081	0.005 U	55	21
7/20/1999	13:20	10.8	6510	56	10.4	7.5	75	0.176 J	0.032	0.088	0.065 J	0.006	35	48
		pH meter was W/I .05 of the pH standard												
8/17/1999	13:05	12.1	4030	60	10.7	7.5	38	0.22	0.035	0.147	0.043	0.007	24	51
9/21/1999	14:00	12.9	1990	77	10.3	7.7	21	0.199	0.028	0.155	0.032	0.006	13	13
		pH meter W/I .02 of standard												

Conventional Data Report

Nooksack R @ No Cedarville

01A120

Class: A
Rivermile: 30.8
Latitude: 48 50 30.0
Longitude: 122 17 35.0
Waterbody: WA-01-1020

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/20/1998	11:25	5.5	1160	91	12.3	7.5	6	0.232	0.01 U	0.187	0.016	0.005 U	4.5	3
11/17/1998	11:25	4.7	6830	64	11.5		162	0.603	0.024	0.475	0.035	0.005 U	95	4
12/15/1998	11:55	4.5	9970	69	12	7.3	163	0.414	0.012	0.282	0.111	0.005 U	80	3
1/19/1999	12:00	4.3	5690	74	11.8	7.6	50	0.359	0.01 U	0.293	0.049	0.006	30	150
2/16/1999	12:30	4.9	2210	96	12.1	7.9	9	0.41	0.01 U	0.35	0.024	0.005 U	7.2	3
3/23/1999	11:55	6.3	3410	50	11.9	6.8	28	0.228	0.01 U	0.203	0.035	0.01	16	1
4/20/1999	12:10	5.3	4630	65	12	7.7	53	0.196 J	0.01 U	0.129	0.044	0.005 U	29	27
5/25/1999	12:25	6.7	9690	42	11.9	7.6	193	0.216	0.038	0.086	0.135	0.005 U	130	36
6/22/1999	11:40	6.5	6500	52	11.6	7.5	58	0.094	0.024		0.055	0.005 U	35	14
7/20/1999	12:30	10.5	5670	48	11.2	7.5	43	0.099 J	0.03	0.035	0.051 J	0.005 U	25	8
8/17/1999	12:10	11	3420	51	11.1	7.6	25	0.095	0.039	0.047	0.03	0.005 U	18	3
		pH was 7.72 prior to recalibration												
9/21/1999	13:20	10.3	1620	62	10.9	7.8	18	0.085	0.028	0.056	0.037	0.005 U	18	5
		pH meter W/I .06 of standard												

Conventional Data Report

Skagit R nr Mount Vernon

03A060

Class: A
Rivermile: 15.9
Latitude: 48 26 42.0
Longitude: 122 20 03.0
Waterbody: WA-03-1010

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/20/1998	14:45	7.9	7400	61	11.7	7.5	10	0.145	0.01	0.101	0.01 U	0.005 U	2.4	6
11/17/1998	14:10	6.9	26700	45	11.1		93	0.398	0.029	0.241	0.037	0.005 U	29	15
12/15/1998	15:25	4.8	29000	49	12.7	7.2	71	0.313	0.022	0.225	0.046	0.005 U	31	9
1/19/1999	15:15	4.2	2830	67	12	7.5	43	0.291	0.01 U	0.192	0.032	0.005 U	19	3
2/16/1999	15:05	5.5	14300	71	12	7.4	13	0.224	0.01 U	0.179	0.01	0.005 U	4.6	12
3/23/1999	15:30	5.7	18100	40	11.9	7.6	10	0.161	0.01 U	0.134	0.02	0.007	4.7	2
4/20/1999	14:40	6.2	18600	57	12.2	7.6	12	0.159	0.01 U	0.099	0.013	0.005 U	5.4	9
5/25/1999	15:30	8	38100	32	11.5	7.5	202	0.25	0.032	0.1	0.083	0.005 U	75	68
6/22/1999	15:10	7.8	28600	36	11.4	7.4	32	0.129	0.02	0.065	0.036	0.005 U	13	15
7/20/1999	15:00	10.4	29700	34	10.7	7.4	22	0.089 J	0.022	0.04	0.022 J	0.005 U	9.1	6
8/17/1999	14:50	12.4	21100	38	11.2	7.3	13	0.087	0.024	0.042	0.015	0.005 U	5.6	7
9/21/1999	15:30	12.9	9560	48	9.8	7.4	15	0.112	0.027	0.049	0.021	0.005 U	5	58

Conventional Data Report

Samish R nr Burlington

03B050

Class: A
Rivermile: 10.4
Latitude: 48 32 46.0
Longitude: 122 20 13.0
Waterbody: WA-03-2010

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/20/1998	14:00	6.2	150	130	10.9	7.5	13	0.817		0.609	0.023	0.005 U	6.3	880
11/17/1998	13:35	6.7	450	65	11		17	1.21	0.03	0.963	0.035	0.005 U	10	45
12/15/1998	14:45	5.5	793	62	11.2	7.5	35	0.799 J	0.098	0.989	0.046	0.011	16	40
1/19/1999	14:20	5.7	583	68	11.3	7.4	25	1.09	0.01 U	0.958	0.025	0.007	7.7	22
		Staff: 6.28												
2/16/1999	14:25	5.2	406	68	12.1	7.6	9	1.11	0.01 U	0.648	0.02	0.005 U	5.5	24
3/23/1999	14:00	8.1	359	48	11.1	7.7	11	0.927	0.122	0.696	0.035	0.013	5.4	6
4/20/1999	14:00	8.3	327	63	11.3	7.6	13	0.742	0.01 U	0.256	0.028	0.005	9.6	440 J
5/25/1999	14:45	11.9	180	60	10.4	7.6	12	0.614	0.03	0.441	0.031	0.005	6.3	84
6/22/1999	14:35	10.2	107	78	10.4	7.6	4	0.647	0.023	0.502	0.031	0.006	3.3	150
7/20/1999	14:20	14.7	78	98	10	7.8	3	0.764 J	0.023	0.632	0.03 J	0.007	2.2	920
8/17/1999	14:10	15.7	62	93	10.1	7.9	3	0.681	0.031	0.559	0.023	0.006	2.7	230
		pH meter W/I .04 of standard												
9/21/1999	14:55	11.7	32	99	10	7.8	3	0.81	0.035	0.703	0.026	0.007	1.1	80
		pH meter W/I .01 of standard												

Conventional Data Report

Skagit R @ Marblemount

04A100

Class: AA
Rivermile: 78.2
Latitude: 48 31 35.0
Longitude: 121 25 40.0
Waterbody: WA-04-1090

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/20/1998	9:50	7.8	4390	54	11.1	7.2	2	0.088	0.01 U	0.066	0.01 U	0.005 U	0.6	1
11/17/1998	9:50	6.2	6330	40	11.3		2	0.181	0.021	0.136	0.01 U	0.005 U	1.1	2
12/15/1998	10:00	4.8	7600	42	11.9	7.1	3	0.156	0.011	0.124	0.006	0.005 U	1.4	2
1/19/1999	10:15	4.2	8360	57	12	7.2	5	0.397	0.01 U	0.08	0.01 U	0.005 U	0.9	1
2/16/1999	10:25	3.3	7640	66	12.3	7.1	1	0.09	0.01 U	0.066	0.01 U	0.005 U	0.5	1 U
		pH was 7.11 after recal. & bat. chng (init. 7.68)												
3/23/1999	9:40	3.4	6190	39	12.4	6.8	2	0.085	0.01 U	0.064	0.01 U	0.006	0.8	1 U
4/20/1999	10:10	4.2	6230	60	12.6	7.3	2	0.129	0.01 U	0.067	0.01 U	0.005 U	1.6	1
5/25/1999	10:30	5.4	12700	34	12.1	7.5	12	0.178	0.025	0.104	0.011	0.005 U	4.8	11
6/22/1999	9:35	5.8	7080	29	11.8	7.2	3	0.107	0.015	0.073	0.01 U	0.005 U	3.2	9
7/20/1999	9:50	7.3	10600	28	11.3	7.4	2	0.111 J	0.018	0.051	0.01 UJ	0.005 U	2.7	2
8/17/1999	10:05	9.4	8550	33	11.6	7.5	8	0.105	0.028	0.063	0.01 U	0.005 U	2.2	8
9/21/1999	11:00	8.9	4290	38	10.8	7.7	1	0.09	0.023	0.063	0.01 U	0.005 U	0.7	1
		pH meter W/I .07 of standard												

Conventional Data Report

Stillaguamish R nr Silvana

05A070

Class: A
Rivermile: 11.1
Latitude: 48 11 50.0
Longitude: 122 12 34.0
Waterbody: WA-05-1010

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/20/1998 15:30	7.5	1400	62	12	7.5	8	0.376	0.016	0.321	0.01 U	0.005 U	8.3	84
	Bar: 58.96; Stage height: 24.38												
11/17/1998 14:55	5.5	5870	38	11.8		78	0.543	0.027	0.407	0.043	0.005 U	60	9
	pH Recalibrated												
12/15/1998 16:10	4.5	7710	44	12.4	7.4	79	0.488	0.024	0.405	0.081	0.006	55	12
1/19/1999 16:20	4.2	8810	41	12	7.4	94	0.37	0.01 U	0.282	0.079	0.005 U	55	10
	Bar: 59.97, Stage Height:27.84												
2/16/1999 16:05	4.8	2830	66	11.9	7.5	27	0.581	0.01 U	0.484	0.042	0.007	29	6
3/23/1999 16:10	6.6	5210	29	11.8	7.3	34	0.263	0.01 U	0.229	0.048	0.008	29	10
4/20/1999 16:10	6	5890	39	12	7.4	120	0.27	0.01 U	0.182	0.077	0.006	60	510 J
5/25/1999 16:30	7.3	8200	24		7.5	92	0.238	0.033	0.097	0.066	0.005 U	50	6
	DO reading was not recorded												
6/22/1999 16:25	7.7	4480	33	11.2	7.4	24	0.14	0.018	0.084	0.031	0.005 U	17	16
7/20/1999 15:50	14.8	2460	37	10	7.4	7	0.198 J	0.025	0.074	0.021 J	0.005 U	4.9	8
	WWG was broke - measurement was taken 2 days later by USGS												
8/17/1999 16:00	16.7	1600	43	10	7.7	7	0.206	0.032	0.085	0.019	0.005 U	4.2	36
	Cond. was 47 before recal. pH meter W/I .1 of standard.												
9/21/1999 15:45	15.8	574	84	11.2	8	4	0.205	0.027	0.1	0.021	0.006	1.7	14
	pH meter W/I .01 of standard												

Conventional Data Report

SF Stillaguamish @ Arlington

05A090

Class: A
Rivermile: 18.2
Latitude: 48 12 03.0
Longitude: 122 07 04.0
Waterbody: WA-05-1040

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/19/1998 17:05	6.9		45	12.1	7	19	0.363	0.01 U	0.268	0.017	0.005 U	22	11
	Tape down: Too Windy												
11/16/1998 17:15	6.2		28	11.7		157	0.512	0.043 J	0.275	0.056	0.005 U	115	13
	Tape Down missed-too windy												
12/14/1998 15:55	4.3		32	12.5	7.1	106	0.451 J	0.014	0.344	0.09	0.005 U	70	6
1/18/1999 17:24	4		25	11.9	7.4	246	0.355	0.01 U	0.233	0.19	0.005 U	160	12
2/15/1999 15:35	3.5		56	12.6	7.3	34	0.608	0.01 U	0.493	0.054	0.005 U	35	3
3/22/1999 15:55	5.4		24	12.3	7.5	35	0.272	0.01 U	0.234	0.046	0.007	22	3
4/19/1999 16:30	5.1		36	12.3	7.4	32	0.214	0.01 U	0.162	0.026	0.005 U	15	2
5/24/1999 16:00	8		23	11.9	7.3	81	0.184	0.027	0.098	0.046	0.005 U	34	8
6/21/1999 15:50	7.8		33	11.3	7.3	16	0.142	0.044	0.096	0.025	0.008	14	46
7/19/1999 16:00	14.1		31	10.2	7.6	11	0.173 J	0.025	0.079	0.024 J	0.005 U	10	6
8/15/1999 16:10	13.8		40	10.7	7.7	12	0.174	0.032	0.106	0.032	0.005 U	14	84
	pH meter W/I .08 of Standard												
9/19/1999 15:00	15.9		67	10.1	7.8	3	0.225	0.028	0.15	0.011	0.005 U	1.7	2
	pH meter W/I .05 of Stand. Cond was 74 before recal.												

Conventional Data Report

SF Stilly nr Granite Falls

05A110

Class: AA
Rivermile: 34.6
Latitude: 48 06 12.0
Longitude: 121 57 07.0
Waterbody: WA-05-1050

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/19/1998 15:30	5.4		38	12.2	7	50 J	0.275	0.01 U	0.215	0.012	0.005 U	30	8
11/16/1998 16:15	5.9		25	12		141	0.301	0.032	0.211	0.047	0.005 U	80	5
12/14/1998 14:40	3.8		26	13.1	7.1	172	0.233 J	0.022	0.128	0.138	0.005 U	95	3
1/18/1999 15:20	3.2		24	12.6	7.3	477	0.258	0.01 U	0.083	0.285	0.005 U	300	9
2/15/1999 14:00	2.3		45	13.1	7.5	48	0.188	0.01 U	0.16	0.053	0.005 U	37	5
3/22/1999 14:25	4.1		20	12.4	7.6	77	0.139	0.01 U	0.104	0.065	0.006	40	1
4/19/1999 14:45	3.8		31	12.8	7.6	65	0.144	0.01 U	0.086	0.031	0.005 U	20	3
5/24/1999 14:30	6.6		20	12.1	7.2	50	0.117	0.027	0.069	0.037	0.005 U	32	1
	search and rescue group operating upstream of bridge												
6/21/1999 14:20	6.2		26	11.7	7.2	27	0.092	0.045	0.037	0.03	0.006	24	16
7/19/1999 14:30	10.3		24	10.8	7.4	22	0.209 J	0.028	0.028	0.033 J	0.005 U	17	1
8/15/1999 14:50	12.4		30	10.9	7.6	18	0.116	0.044	0.024	0.048	0.005 U	20	18
9/19/1999 13:05	13.1		54	9.9	7.7	2	0.082	0.028	0.033	0.011	0.005 U	1.3	5
	pH meter W/I .04 of standard												

Conventional Data Report

NF Stillaguamish @ Cicero

05B070

Class: A
Rivermile: 9.5
Latitude: 48 16 05.0
Longitude: 122 00 44.0
Waterbody: WA-05-1020

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/19/1998	16:50	6.9	1420	58	11.7	7.3	17	0.345	0.01 U	0.299	0.01 U	0.005 U	6	2
11/16/1998	16:45	6.2	5300	32	11.5		219	0.537	0.025	0.363	0.045	0.005 U	145	2
12/14/1998	15:30	4.5	6600	35	12.3	7.1	169	0.404 J	0.013	0.271	0.129	0.005 U	100	4
1/18/1999	16:20	3.9	4840	29	12.5	7.2	309	0.346	0.01 U	0.207	0.202	0.005 U	170	11
2/15/1999	14:50	3.7	1050	63	12.6	7.5	22	0.383	0.01 U	0.308	0.04	0.007	19	2
3/22/1999	15:20	5.5	2260	27	11.9	7.4	28	0.193	0.01 U	0.144	0.041	0.008	22	1
4/19/1999	15:50	4.8	2120	40	12.4	7.2	27	0.147	0.01 U	0.093	0.025	0.005 U	19	8
5/24/1999	15:25	8.4	3690	25	11.5	7.3	64	0.149	0.031	0.064	0.069	0.005 U	60	7
6/21/1999	15:15	7.1	2010	34	11.5	7.2	10	0.102	0.042	0.048	0.02	0.009	8	19
7/19/1999	15:25	13.3	1300	36	10.4	7.8	4	0.104 J	0.02	0.044	0.016 J	0.005 U	3.1	8
		pH meter was W/I .07 of the 7 pH standard												
8/15/1999	15:45	13	641	48	11.8	8.6	4	0.106	0.032	0.01 U	0.016	0.005 U	2.1	2800 J
		Ph meter W/I .02 of standard												
9/19/1999	14:20	13.7	270	86	11	8.1	5	0.132	0.028	0.056	0.019	0.007	1.6	5
		pH meter W/I .01 of standard												

Conventional Data Report

NF Stillaguamish nr Darrington

05B110

Class: A
Rivermile: 30
Latitude: 48 16 48.0
Longitude: 121 42 04.0
Waterbody: WA-05-1020

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/20/1998 8:40	5.2	115	44	11.4	6.7	3	0.243	0.01 U	0.214	0.01 U	0.005 U	0.6	3
Stage Height: 23.64;Correction +0.23													
11/17/1998 8:50	4.6	1220	32	11.6		18	0.484	0.021	0.397	0.02	0.005 U	11	3
12/15/1998 8:30	4	1750	35	12.2	7.3	21	0.311	0.012	0.987	0.027	0.005 U	17	8
pH = 7.54 following RECALIBRATION													
1/19/1999 8:35	3.6	1580	39	12	6.9	24	0.285	0.01 U	0.227	0.015	0.005 U	6.8	10
Stage Height: 21.60, Correction: +0.23													
2/16/1999 8:35	3.5	310	50	12.1	7	2	0.24	0.01 U	0.236	0.011	0.005 U	1.3	4
pH was 6.96 after recal. (initially 7.60)													
3/23/1999 8:15	3.5	765	22	12.4	6.9	8	0.152	0.01 U	0.109	0.014	0.007	2.9	1 U
4/20/1999 8:40	3.3	930	37	12.3	7.6	8	0.113	0.01 U	0.065	0.011	0.005	4.6	7
5/25/1999 8:50	4.1	2400	20	12.4	7.2	45	0.127	0.025	0.049	0.043	0.005 U	27	5
pH was 6.86 prior to recalibration													
6/22/1999 8:15	5.5	765	25	11.5	7.3	4	0.054	0.014	0.037	0.01 U	0.005 U	1.6	13
7/20/1999 8:10	7.9	465	22	10.7	7.1	2	0.095 J	0.02	0.033	0.01 UJ	0.005 U	0.8	19
8/17/1999 8:40	10.9	160	29	10.7	7.2	1 U	0.083	0.03	0.049	0.01 U	0.005 U	0.6	16
pH was 7.18 after recalibration													
9/21/1999 9:35	9.8	40	49	10	7.5	1 U	0.169	0.031	0.105	0.016	0.007	0.9	6
pH meter W/I .02 of standard													

Conventional Data Report

Snohomish R @ Snohomish

07A090

Class: A
Rivermile: 12.7
Latitude: 47 54 38.0
Longitude: 122 05 52.0
Waterbody: WA-07-1020

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/19/1998	14:20	7.6	5700	37	11.2	7	8	0.454	0.012	0.302	0.013	0.005 U	5.2	47
11/16/1998	14:45	6.6	28080	25	11.4		42	0.472	0.016	0.354	0.02	0.005 U	24	26 J
		pH Recalibrated												
12/14/1998	13:35	4.8	35380	30	12.2	7	44	0.614 J	0.014	0.477	0.04	0.005 U	24	35
1/18/1999	14:00	4.2	24040	32	12	7.1	27	0.523	0.01 U	0.407	0.026	0.006	14	43
2/15/1999	13:00	3.6	7300	53	12.4	7.2	9	0.599	0.01 U	0.525	0.019	0.005 U	5.2	9
3/22/1999	13:30	5.8	11440	25	12	7.2	16	0.32	0.012	0.26	0.025	0.007	8.4	3
4/19/1999	13:20	6.1	11350	33	11.9	7.3	14	0.218	0.01 U	0.163	0.015	0.005 U	6.3	10
5/24/1999	13:35	7.8	24200	22	11.5	7.1	84	0.249	0.024	0.115	0.04	0.005 U	30	41
6/21/1999	13:30	7.1	14850	27	11.5	7	10	0.145	0.058	0.083	0.018	0.008	6.2	22
7/19/1999	13:35	10.7	11750	31	10.6	7.2	6	0.124 J	0.022	0.073	0.015 J	0.005 U	3.3	8
		conductivity was 22 prior to recalibration												
8/15/1999	13:25	12.8	5140	31	10.5	7.2	3	0.154	0.022	0.103	0.017	0.005 U	1.8	26
9/19/1999	12:10	13.1	2080	51	9	7	4	0.248	0.041	0.146	0.015	0.005 U	2	13

Conventional Data Report

Skykomish R @ Monroe

07C070

Class: A
Rivermile: 25.6
Latitude: 47 51 08.0
Longitude: 121 57 29.0
Waterbody: WA-07-1160

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/19/1998	13:30	7.1	3120	34	12.1	7.2	2	0.23	0.01 U	0.22	0.01 U	0.005 U	2.3	10
		Bar:83.42 Stage Height: 47.36												
11/16/1998	13:50	6	22600	24	11.7		39	0.378	0.012	0.297	0.038	0.005 U	20	17
12/14/1998	12:10	4.4	22000	27	12.6	7.1	17	0.392 J	0.01 U	0.298	0.02	0.005 U	10	13
1/18/1999	13:10	3.6	14400	27	12.2	7.1	16	0.333	0.01 U	0.243	0.019	0.005 U	13	12
		Bar: 83.42 Stage Height: 51.30												
2/15/1999	12:15	2.8	3800	38	12.8	7.4	8	0.275	0.01 UJ	0.258	0.016	0.005 U	5.2	1
3/22/1999	12:55	5	5820	21	12.3	7.5	8	0.19	0.01 U	0.142	0.021	0.006	6.3	1
4/19/1999	12:25	4.7	6775	29	12.4	7.3	12	0.162	0.01 U	0.108	0.011	0.005 U	6.9	2
5/24/1999	12:45	6.2	19500	19	12.2	6.9	65	0.146	0.027	0.086	0.039	0.005 U	31	27
		pH was 7.23 prior to recalibration												
6/21/1999	12:35	6.3	12100	23	11.5	7.2	8	0.064	0.04	0.045	0.012	0.006	6.2	17
7/19/1999	12:30	9.6	8500	18	11.3	7.3	4	0.057 J	0.019	0.029	0.013 J	0.005 U	3	3
8/15/1999	12:50	11.8	3700	23	11.3	7.3	3	0.084	0.03	0.026	0.01 U	0.005 U	2.2	19
9/19/1999	11:20	13.3	2000	34	9.8	7.2	13	0.124	0.027	0.05	0.01 U	0.005 U	1.8	10

Conventional Data Report

Snoqualmie R nr Monroe

07D050

Class: A
Rivermile: 2.7
Latitude: 47 48 14.0
Longitude: 122 00 06.0
Waterbody: WA-07-1060

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/19/1998 12:20	7	2340	32	11.7	6.5	10	0.318	0.01 U	0.302	0.01 U	0.005 U	5.7	69
Stage Height: 38.89; Correctin: +0.23													
11/16/1998 12:45	7	12300	25	11.2		49	0.516	0.021	0.382	0.052	0.005 U	27	90
12/14/1998 11:30	4.8	15300	28	12.4	6.9	73	0.622 J	0.014	0.469	0.051	0.005 U	31	20
1/18/1999 12:20	4.2	10800	34	11.9	7.2	33	0.592	0.01 U	0.449	0.03	0.007	16	34
Tape Down: Too Windy													
2/15/1999 11:20	4.1	3200	61	11.6	7.3	9	0.718	0.01 U	0.589	0.025	0.007	5.4	31
3/22/1999 12:10	5.7	5300	24	12	7.4	19	0.335	0.01 U	0.277	0.027	0.008	7.5	2
4/19/1999 11:30	6.4	4600	33	12.1	7	12	0.268	0.01 U	0.199	0.017	0.005 U	5.2	23
Too windy for tapedown													
5/24/1999 12:00	9.5	10500	22	10.9	7.1	44	0.201	0.034	0.133	0.023	0.005 U	10	92
slight breeze had minor impact on RP													
6/21/1999 11:30	7.8	4700	26	11.1	7.1	12	0.156	0.044	0.106	0.017	0.008	7	31
7/19/1999 11:50	10.6	3800	28	10.3	7.2	8	0.185 J	0.023	0.118	0.02 J	0.005 U	3.9	11
Too windy for tape down													
8/15/1999 11:55	14.1	1800	39	9.8	7.2	4	0.241	0.031	0.152	0.017	0.005 U	1.9	60
Too windy for tape down													
9/19/1999 10:40	13.1	900	59	9.8	7.4	42	0.277	0.031	0.189	0.016	0.005 U	1.2	28

Conventional Data Report

Snoqualmie R @ Snoqualmie

07D130

Class: A
Rivermile: 42.3
Latitude: 47 31 40.0
Longitude: 121 48 40.0
Waterbody: WA-07-1100

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/19/1998	11:20	5.6	1780	28	11.5	7.5	2	0.294	0.01 U	0.265	0.01 U	0.005 U	1.4	14
11/16/1998	11:45	5.9	7650	21	11.5		34	0.376	0.013	0.301	0.023	0.005 U	20	6
12/14/1998	10:35	3.8	7990	25	12.6	7.3	34	0.317 J	0.01	0.286	0.029	0.005 U	17	4
1/18/1999	11:10	3.6	5530	23	12.1	7.4	17	0.367	0.01 U	0.289	0.016	0.005 U	11	15
2/15/1999	10:10	3.2	1530	48	12.4	6.9	3	0.417	0.01 U	0.386	0.01 U	0.005 U	2.1	2
		pH was 6.94 after recal. (initially 7.58)												
3/22/1999	11:00	4	3380	18	12.5	7	8	0.244	0.01 U	0.2	0.016	0.006	4.2	1 U
4/19/1999	10:15	4.2	3590	26	12.7	7	9	0.214	0.01 U	0.168	0.012	0.005 U	4.9	1
5/24/1999	10:35	5.1	8320	15	12.2	7	73	0.169	0.026	0.113	0.036	0.005 U	29	8
		pH was 7.00 prior to recalibration												
6/21/1999	10:25	6.5	4210	20	11.5	7.6	11	0.122	0.042	0.081	0.015	0.007	7.1	45
7/19/1999	10:25	9.1	3330	19	11.1	7.1	6	0.088 J	0.022	0.069	0.014 J	0.005 U	3.2	11
		pH was 7.1 prior to recalibration												
8/15/1999	10:50	11.8	1290	28	10.5	7.3	2	0.149	0.028	0.112	0.01 U	0.005 U	1.3	31
9/19/1999	9:40	10.9	600	44	9.3	7.2	3	0.241	0.033	0.174	0.013	0.005 U	0.9	38

Conventional Data Report

Sammamish R @ Bothell

08B070

Class: AA
Rivermile: 20.4
Latitude: 47 45 32.0
Longitude: 122 12 09.0
Waterbody: WA-08-1070

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/21/1998	9:50	8.7	325	157	10.9	6.9	4	0.745	0.044	0.116	0.028	0.031	3.5	71
		Stage Height: 22.10; Correction: +0.23												
11/18/1998	9:00	7.9	235	124	9.4		7	0.815	0.043	0.394	0.038	0.017	4	49
12/16/1998	9:20	7.1	1400	110	10.4	7.2	10	1.08	0.032	0.836	0.043	0.01	5.6	33
1/20/1999	10:15	6.1	1420	111	10.4	7.2	10	1.21	0.01 U	0.912	0.045	0.015	5.8	65
		Stage Height: 19.80, Correction: +0.23												
2/17/1999	9:50	5.1	1000	108	11.3	7.6	8	1.03	0.01 U	0.712	0.046	0.011	7.3	100 J
3/24/1999	9:10	8.2	900	80	11.3	7.5	6	0.813	0.013	0.589	0.04	0.014	2.9	11
4/21/1999	9:45	8.9	920	124	10.6	7.3	3	0.754	0.01 U	0.258	0.035	0.011	2.3	40
5/26/1999	9:00	12.9	990	116	9.4	7.4	5	0.772	0.041	0.485	0.039	0.007	2.2	100
		pH was 7.57 prior to recalibration												
6/23/1999	9:40	14.1	1020	133	8.4	7.6	7	0.807	0.055	0.452	0.063	0.015	4.4	310
7/21/1999	9:00	18.5	965	142	8.8	7.6	6	0.667 J	0.031	0.324	0.054 J	0.012	3.7	96
8/18/1999	9:10	18.7	765	149	8.2	7.4	4	0.675	0.053	0.375	0.067	0.02	2.9	280
9/22/1999	8:55	14.9	455	159	7.5	7.2	5	0.697	0.056	0.386	0.071	0.019	3.5	270

Conventional Data Report

Cedar R @ Logan St/Renton

08C070

Class: A
Rivermile: 1
Latitude: 47 29 09.0
Longitude: 122 12 28.0
Waterbody: WA-08-1140

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/21/1998	10:50	7.3	304	74	11.2	7.1	5	0.276	0.022	0.214	0.01 U	0.005 U	1.2	67
11/18/1998	9:50	7.2	396	66	11.2		3	0.502	0.033	0.447	0.021	0.007	1.7	38
12/16/1998	9:55	5.8	1560	49	12.6	7.4	20	0.497	0.01 U	0.452	0.022	0.005 U	8.6	9
1/20/1999	11:15	5.2	2110	56	11.4	7.4	18	0.422	0.01 U	0.362	0.023	0.007	9.6	24
2/17/1999	10:45	5.8	662	72	11.8	6.9	3	0.569	0.01 U	0.674	0.02	0.008	1.7	16
		pH was 6.92 after recal. (intially 7.67)												
3/24/1999	10:00	6.6	740	41	11.8	7.6	1	0.346	0.01 U	0.314	0.023	0.01	0.9	10
4/21/1999	10:45	6.7	638	59	12.2	7.6	3	0.228	0.01 U	0.207	0.014	0.006	1.5	17
5/26/1999	10:05	8.9	778	48	11.4	7.8	5	0.198	0.023	0.146	0.02	0.005 U	1.3	46
6/23/1999	10:40	10.4	433	64	11.5	7.8	3	0.224	0.016	0.152	0.017	0.005 U	1.8	150 J
7/21/1999	9:55	12.3	358	68	9.9	7.7	4	0.302 J	0.028	0.211	0.026	0.008	1.3	140
		pH meter was W/I .05 of the pH standard												
8/18/1999	10:00	14.5	203	79	10.9	7.9	2	0.267	0.032	0.213	0.024	0.008	1.1	320
		pH meter W/I .03 of standard												
9/22/1999	9:50	11.4	238	69	10.9	7.8	4	0.213	0.022	0.155	0.018	0.005 U	1.2	88
		pH meter W/I .04 of standard												

Conventional Data Report

Cedar R nr Landsburg

08C110

Class: AA
Rivermile: 25.1
Latitude: 47 23 28.0
Longitude: 121 55 08.0
Waterbody: WA-08-1150

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
11/16/1998 10:55	7	437	50	11.2		1	0.438	0.02	0.409	0.01	0.005 U	0.9	1 U
12/14/1998 9:45	5.1	1430	38	12.2	7.2	4	0.28 J	0.016	0.27	0.011	0.005 U	2.3	1 U
1/18/1999 10:00	4.1	2030	35	11.4	7.3	6	0.237	0.01 U	0.171	0.01 U	0.005 U	2.7	1 U
2/15/1999 9:15	5	681	55	12	7.4	1	0.25	0.01 U	0.212	0.012	0.005	1	1
3/22/1999 10:10	6.3	651	35	11.4	7.1	1	0.243	0.01 U	0.184	0.026	0.012	0.6	1 U
4/19/1999 9:15	6.5	712	46	11.5	7.4	2		0.01 U		0.013	0.005	0.6	1 U
5/24/1999 9:40	8.9	693	41	10.7	7.4	1	0.184	0.029 J	0.145	0.018	0.005 U	0.5	4
6/21/1999 9:30	9.6	639	46	10.4	7.6	1	0.156	0.04	0.115	0.018	0.013	0.6	17
7/19/1999 9:25	9.3	484	46	10.8	7.5	2	0.176 J	0.019	0.153	0.018 J	0.006	0.5 U	3
8/15/1999 9:45	10.8	332	50	11	7.5	1	0.227	0.032	0.196	0.019	0.007	0.6	4
9/19/1999 8:50	9.9	414	46	10.5	7.4	2	0.174	0.026	0.141	0.014	0.005 U	0.5 U	3

Conventional Data Report

Swamp Creek abv Lynnwood

08J100

Class: A
Rivermile: 10
Latitude: 47 51 52
Longitude: 122 15 50
Waterbody:

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/21/1998	7:50	7.7	0.5	98	9.5	6.8	1 U	0.43	0.034	0.023	0.01 U	0.005 U	1.4	37
		Stage Height: 2.88; Correction: +0.23												
11/18/1998	7:35	6.7	0.8	104	9.3		1 U	0.589	0.062	0.162	0.029	0.005 U	1.3	340
12/16/1998	7:45	5.7	12	107	9.7	6.5	1	1.96	0.075	1.4	0.026	0.005	2.9	17
1/20/1999	8:00	5	35	102	9.9	6.7	5	1.72	0.021	1.53	0.025	0.007	6.1	120
		Stage Height: 1.91, Correction: +0.23												
2/17/1999	8:00	3.3	13	104	11.3	7.1	4	1.63	0.01 U	1.27	0.023	0.005 U	4.1	57 J
3/24/1999	7:30	8	3.5	68	9.7	6.9	1 U	0.911	0.01	0.708	0.022	0.008	1.4	11
4/21/1999	8:00	9	5	104	10.2	7.3	2	0.728	0.01 U	0.376	0.014	0.005 U	1.3	46
5/26/1999	7:25	10.6	0.8	103	8.4	7.4	4	0.531	0.036	0.126	0.019	0.005 U	1	250 J
6/23/1999	8:00	13.6	3.1	109	8.4	7.5	4	0.495	0.029	0.091	0.02	0.005 U	1.1	1700 J
7/21/1999	7:15	14.8	0.3	120	6.2	7.2	2	0.592 J	0.048	0.142	0.028 J	0.01	1.1	20
8/18/1999	7:35	15.9	0.3	102	7.6	7.2	1 U	0.46	0.037	0.022	0.021	0.007	0.7	99
		pH meter was 7.24 prior to recal.												
9/23/1999	7:30		0.1											

Conventional Data Report

North Creek nr Everett

08K100

Class: A
Rivermile: 11
Latitude: 47 53 48
Longitude: 122 13 22
Waterbody:

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/21/1998	8:40	7.8	0.1	136	6.9	6.3	1	0.493	0.062	0.162	0.01 U	0.005 U	2.6	150 J
		Stage Height: 5.10; Correction: +0.23												
11/18/1998	8:10	6.7	0.1	99	6.8		2	0.481	0.035	0.161	0.021	0.005 U	1.3	39
12/16/1998	8:20	6.1	0.5	122	9.5	6.8	2	1.76	0.041	1.44	0.016	0.005 U	1.6	20
1/20/1999	9:00	5.5	0.7	108	9.6	6.9	4	1.54	0.01 U	1.33			3.3	120
		Stage Height:4.3, Correction: +0.23												
2/17/1999	8:50	4.1	1.9	82	10.6	7.1	2	0.827	0.01 U	0.591	0.021	0.005 U	4.9	370 J
3/24/1999	8:00	7.6	0.5	89	8.6	7	7	0.728	0.02	0.466	0.046	0.011	5.6	49
4/21/1999	8:50	7.2	0.9	85	9.3	7.3	3	0.616	0.01 U	0.305	0.028	0.006	3.8	560
5/26/1999	8:00	9.9	0.4	139	8	7.4	5	0.652	0.058	0.223	0.042	0.005 U	3.8	26
6/23/1999	8:30	11.9	0.6	110	7.5	7.1	3	0.689	0.059	0.226	0.046	0.005 U	4.7	350 J
7/21/1999	7:50	13.9	0.3	134	6.2	7.1	6	0.774 J	0.068	0.323	0.038 J	0.007	7.4	760
		pH was 6.99 prior to recalibration												
8/18/1999	8:15	15.8	0.3	103	6.2	6.9	1	0.689	0.059	0.323	0.037	0.005	1.8	110
		pH meter W/I .03 of standard												
9/22/1999	7:50	13.1	0.1	183	1.7	6.6	15	0.863	0.45	0.01 U	0.032	0.005 U	55	40
		Low flow. pH meter W/I .04 of Stand. Dead and dying Cutthr.												

Conventional Data Report

Green R @ Tukwila

09A080

Class: A
Rivermile: 12.4
Latitude: 47 27 52.0
Longitude: 122 14 49.0
Waterbody:

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/21/1998	11:40	7.8	305	124	10.6	7.1	6	0.549	0.042	0.418	0.023	0.007	4.4	470 J
		Bar: 37.65; Stage Height: 2.70												
11/18/1998	10:40	6.7	1470	57	10.7		13	0.532	0.033	0.409	0.041	0.013	8.1	18
12/16/1998	10:25	5.5	3440	64	12.3	7.2	14	0.761	0.024	0.646	0.054	0.021	6.1	15
1/20/1999	11:50	5.3	3550	71	11	7.4	38	0.781	0.017	0.63	0.064	0.033	14	49
		Bar: 37.66, Stage Height: 11.56												
2/17/1999	11:25	5.5	1260	108	10.8	7.2	15	0.945	0.07	0.778	0.062	0.021	6.5	20 J
3/24/1999	10:50	7	2390	42	11	7.4	20	0.426	0.024	0.336	0.05	0.024	6.9	110
4/21/1999	11:20	6.9	1870	60	11.3	7.7	27 J	0.301	0.01 U	0.229	0.055	0.011	31	39
5/26/1999	10:35	9	2370	46	10.7	7.5	24	0.29	0.024	0.141	0.037	0.005 U	8.2	31
6/23/1999	11:20	10.9	958	94	9.4	7.2	8	0.334	0.034	0.244	0.042	0.01	2.7	81
7/21/1999	10:40	15.5	760	92	8.3	7.3	9	0.379 J	0.036	0.261	0.047	0.013	2.4	35
8/18/1999	10:30	17.2	363	139	8.3	7.2	5	0.567	0.056	0.432	0.06	0.013	2.8	45
9/22/1999	10:40	14.1	386	119	8.5	7.5	12	0.503	0.052	0.325	0.052	0.01	4.4	170

Conventional Data Report

Green R @ Kanaskat

09A190

Class: AA
Rivermile: 57.6
Latitude: 47 19 10.0
Longitude: 121 53 33.0
Waterbody: WA-09-1030

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/19/1998 9:05	7.3	130	66	11.2	7.4	1	0.197	0.01 U	0.146	0.01 U	0.005 U	2.1	4
11/16/1998 9:40	6.6	2310	37	11.5		8	0.414	0.013	0.304	0.027	0.005 U	6.5	9
12/14/1998 8:45	4.7	2870	36	12.6	7.2	6	0.256 J	0.018	0.238	0.017	0.005 U	4	12
1/18/1999 8:50	3.2	2540	50	12	7.2	16	0.294	0.01 U	0.202	0.024	0.01	11	3
2/15/1999 8:15	3.2	570	45	10.7	7.2	1	0.376	0.01 U	0.22	0.021	0.01	1	8
3/22/1999 9:00	5.4	895	24	12.1	7	3	0.104	0.01 U	0.066	0.03	0.017	2.3	2
4/19/1999 8:25	6.4	1210	38	11.6	7.1	5		0.01 U		0.02	0.007	1.3	2
5/24/1999 8:40	7.5	1860	32	11.2	7	3	0.092	0.021	0.017	0.023	0.005 U	1.9	1 U
6/21/1999 8:30	9.5	790	36	10.4	7.2	2	0.079	0.042	0.034	0.026	0.017	1.5	19
7/19/1999 8:40	10.3	580	36	10.6	7.3	1 U	0.093 J	0.027	0.036	0.022 J	0.005 U	0.6	5
8/15/1999 8:40	14.2	175	45	10	7.4	1	0.163	0.027	0.096	0.022	0.006	0.7	6
9/19/1999 8:00	12.4	170	48	9.5	7.2	2	0.144	0.033	0.066	0.019	0.005 U	1	7

Conventional Data Report

Big Soos Cr nr Auburn

09B090

Class: A
Rivermile: 1.6
Latitude: 47 18 35.0
Longitude: 122 10 05.0
Waterbody: WA-09-1026

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/21/1998	13:30	7.7	29	145	11.3	7.7	1 U	0.999	0.057	0.869	0.016	0.015	0.8	31
11/18/1998	11:20	7.1	59	123	10.8		3	1.24	0.031	0.876	0.032	0.018	1.5	22
		pH Recalibrated												
12/16/1998	11:10	6.4	362	114	12.1	7.5	11	1.71	0.017	1.12	0.028	0.009	3.4	18
1/20/1999	13:30	6.4	480	101	11.3	7.7	11	1.45	0.01 U	1.35	0.023	0.013	3.3	39
2/17/1999	12:05	6	254	113	11.6	7.4	4	1.39	0.01 U	1.23	0.029	0.011	1.8	21 J
2/17/1999	12:30													
3/24/1999	11:40	8.3	200	78	11.3	7.6	3	1.07	0.01 U	0.991	0.034	0.017	1.4	16
4/21/1999	12:50	8.3	125	119	11.8	8	5	1.06	0.01 U	0.459	0.025	0.01	1.8	32
4/21/1999	15:20													
5/26/1999	11:20	10.6	78	112	10.8	8	5	1.05	0.024	0.996	0.037	0.01	1.6	31
6/23/1999	12:30	11.3	59	127	10.5	8	7	1.09	0.021	0.919	0.043	0.015	2.4	180 J
7/21/1999	12:15	12.7	47	125	10.2	7.8	3	1.15 J	0.025	0.899	0.044	0.018	1.3	31
		pH meter was W/I .1 of the pH standard												
8/18/1999	11:20	14.1	38	123	10.5	8	2	1.04	0.029	0.938	0.044	0.018	1	100
		pH meter W/I .05 of standard												
9/22/1999	11:25	11.1	24	126	10.2	7.8	3	0.979	0.04	0.89	0.043	0.015	1.1	43

Metals Data Report

Big Soos Cr nr Auburn

09B090

Class: A
Rivermile: 1.6
Latitude: 47 18 35.0
Longitude: 122 10 05.0
Waterbody: WA-09-1026

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/21/1998	13:30	29	65	0.1 U	0.02 U	0.1 U		0.4	0.33	0.1 U	0.02 U	0.003		0.91	1 J	0.48
11/18/1998	11:20	59	55	0.1 U	0.02 U	0.39		2.4	1.36	0.2	0.07	0.002 J		1.2	4.7 J	1.5
12/16/1998	11:10	362	43	0.1 U	0.02 U	0.76		1.7	1.02	0.4	0.17	0.003		0.79	6.4 J	2.59
1/20/1999	13:30	480														
2/17/1999	12:05	254	44	0.1 U		0.22		0.8		0.2		0.003			22.4 J	
2/17/1999	12:30				0.02 U				0.601		0.049			0.59		3.3
3/24/1999	11:40	200														
4/21/1999	12:50	125	50	0.1 U		0.31		1		0.2		0.003			5.5 J	
4/21/1999	15:20				0.02 U				0.513		0.034			0.71		1.5 J
5/26/1999	11:20	78														
6/23/1999	12:30	59	52	0.1 U	0.02 U	0.2 U		0.9	0.44	0.2	0.024	0.002 U		1	2 U	1.6
7/21/1999	12:15	47														
8/18/1999	11:20	38														
9/22/1999	11:25	24														

Conventional Data Report

Newaukum Creek nr Enumclaw

09F150

Class: AA
Rivermile: 0.2
Latitude: 47 17 00.0
Longitude: 122 03 36.0
Waterbody: WA-09-1028

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/21/1998 15:05	7	18	158	11.9	7.9	1	1.54	0.032	1.56	0.028	0.028	1	43
11/18/1998 12:40	7	90	164	11.3		4	2.76	0.051	3.05	0.072	0.056	2.2	17
12/16/1998 11:50	6.1	80	142	12.1	7.5	5	3.88	0.066	2.84	0.203	0.147	2.4	27
1/20/1999 14:10	6.6	95	124	11.2	7.8	9	3.39	0.044	2.69	0.252	0.207	3.8	180 J
Stage Height: 4.27, Correction: 0.23													
2/17/1999 13:10	6.1	75	133	11.8	7.8	7	2.79	0.01 U	2.59	0.138	0.101	5.1	940 J
rp @ bridge for 09F150 was 16.55													
3/24/1999 12:15	8.3	64	96	11.3	7.6	2	2.77	0.01 U	2.29	0.107	0.07	2.2	92
4/21/1999 13:50	8.4	52	138	11.6	8.4	7		0.01 U		0.064	0.035	3.3	77
5/26/1999 12:00	11	46	126	10.7	8.2	4	1.99	0.03	1.82	0.073	0.032	2.1	75
6/23/1999 13:15	11.3	45	140	10.5	8.2	4	1.96	0.02	1.85	0.074	0.041	2	88
7/21/1999 13:00	12.9	42	135	10	8	3	3.18 J	0.025	1.55	0.085	0.039	1.4	41
pH was 8.2 prior to recalibration													
8/18/1999 12:00	14.2	35	134	10.5	8.1	2	1.73	0.03	1.64	0.078	0.045	1.4	60
pH meter W/I .07 of standard													
9/22/1999 12:10	11.8	28	146	10.2	8	2	1.77	0.028	1.75	0.074	0.035	0.9	45
pH meter W/I .06 of standard													

Conventional Data Report

Puyallup R @ Meridian St

10A070

Class: A
Rivermile: 8.3
Latitude: 47 12 10.0
Longitude: 122 17 33.0
Waterbody: WA-10-1020

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/21/1998 16:50	9.1	1420	84	10.8	7.6	14	0.225	0.034	0.159	0.022	0.012	32	12
11/18/1998 15:10	6.4	1870	69	11.9		47	0.477	0.039	0.37	0.047	0.018	18	18
12/16/1998 13:30	5.5	5650	68	12.4	7.3	45	0.628	0.025	0.539	0.04	0.01	9.8	43
1/20/1999 16:05	5	5650	65	11.3	7.4	36	0.63	0.01 U	0.487	0.035	0.017	9.7	120
2/17/1999 14:40	4.5	3180	76	12	7.5	7	0.58	0.01 U	0.433	0.043	0.013	5.5	67 J
3/24/1999 14:00	7.1	3210	49	11.9	7.9	7	0.335	0.022	0.227	0.048	0.025	4.8	27
4/21/1999 15:20	7.8	3180	66	12.5	8.2	6	0.19	0.01 U	0.113	0.025	0.009	3.2	9
5/26/1999 13:55	9.3	6000	44	11.1	7.5	92	0.182	0.031	0.087	0.065	0.008	33	20
	barometric pressure was not recorded												
6/23/1999 14:35	9.7	5400	45	10.7		53	0.151	0.019	0.067	0.068	0.011	33	27
	pH measurement was not recorded												
7/21/1999 14:45	12.4	4300	41	10.1	7.6	29	0.153 J	0.027	0.051	0.07	0.011	29	21
	Conductivity was 44 prior to recalibration												
8/18/1999 13:20	14.4	2750	49	10	7.4	100	0.165	0.051	0.081	0.193	0.015	95	150
	Cond. was 51 prior to recal.												
9/22/1999 13:40	13.4	1090	61	10.3	7.5	82	0.238	0.046	0.141	0.158	0.017	85	66
	cond. was 70 before recal.												

Conventional Data Report

White River @ R Street

10C095

Class: A
Rivermile: 8
Latitude: 47 16 31
Longitude: 122 12 22
Waterbody: WA-10-1030

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/21/1998 16:10	9.7		110	11.8	8	12	0.199	0.026	0.176	0.016	0.017	7.3	6
Stage Height: 22.85; Correction: +0.23													
11/18/1998 14:40	6.6		74	11.6		76	0.378	0.021	0.318	0.047	0.015	15	14
12/16/1998 13:00	5.6		77	12.5	7.9	31	0.924	0.015	0.834	0.043	0.021	7.7	33
1/20/1999 15:20	5.5		76	11.6	7.8	35	0.955	0.01 U	0.755	0.063	0.04	6.5	260 J
Stage Height: 26.64, Correction: +0.23													
2/17/1999 14:00	5.8		101	12.3	8	2	1.12	0.01 U	0.948	0.078	0.044	2.3	490 J
3/24/1999 13:00	8.2		65	13.6	9.1	2		0.01 U	0.716	0.051	0.025	1.7	31
4/21/1999 14:40	7.9		88	12.5	9.4	4	0.484	0.01 U	0.041	0.03	0.011	2	5
pH meter was W/I .05 pH units of the standard													
5/26/1999 12:50	8.3		45	11.4	7.6	239	0.192	0.035	0.078	0.104	0.011	75	15
6/23/1999 14:00	8.7		48	10.9	7.6	122	0.121	0.021	0.044	0.089	0.014	45	21
7/21/1999 14:00	12.1		54	10.6	7.8	87	0.183 J	0.03	0.08	0.112	0.014	40	18
pH meter was W/I .01 of the pH standard													
8/18/1999 12:40	14.8		52	10	7.7	225	0.146	0.043	0.05	0.18	0.013	80	47
pH meter W/I .07 of standard													
9/22/1999 13:00	14.3		76	10.7	8.7	24	0.143	0.043	0.078	0.094	0.02	40	6
pH meter W/I .05 of standard													

Conventional Data Report

Nisqually R @ Nisqually

11A070

Class: A
Rivermile: 3.4
Latitude: 47 03 43.0
Longitude: 122 41 42.0
Waterbody: WA-11-1010

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/27/1998 13:30	10.7	1300	68	10.4	7.7	62	0.234	0.015	0.126	0.066	0.005 U	80	9
10/27/1998 13:35													
11/17/1998 14:45	8.1	1240	73	10.4	7.4	51	0.615	0.058	0.367	0.08	0.005 U	75	6
12/28/1998 7:20	4.9	11600	48	11.9	7.1	434	0.74	0.059	0.345	0.243	0.012	170	150
pH Recalibrated; pH=7.96 following recalibration													
1/26/1999 14:15	4.2	4460	56	12.2	6.8	19	0.576	0.01 U	0.408	0.033	0.013	14	7
2/23/1999 14:00	4.6	3400	45	11.7	7.6	9	0.572	0.027	0.456	0.028	0.009	8.6	9
3/30/1999 15:00	5.6	2710	60	12.3	7.8	4	0.516	0.01 U	0.394	0.044	0.019	4.5	12
4/27/1999 15:30	7.1	1260	66	12	7.8	5	0.357	0.014	0.094	0.027	0.009	2.7	4
pH Outside Limits													
5/18/1999 14:50	9.3	1520	59	11.2	7.5	12	0.352	0.035	0.221	0.041	0.009	2.8	8
6/28/1999 13:45	9.3	2420	52	11.1	7.7	6	0.147	0.01 U	0.084	0.025	0.006	2.5	6
7/27/1999 13:25	12.9	1190	56	10.6	7.7	6	0.223	0.037	0.11	0.04	0.007	8.4	4
8/24/1999 14:05	14.2	900	57	10.2	7.8	11	0.194	0.01 U	0.098	0.055	0.009	25	11
9/28/1999 15:20	10.9	1170	49	11.6	7.5	18	0.164	0.035	0.074	0.094	0.006	55	24

Metals Data Report

Nisqually R @ Nisqually

11A070

Class: A
Rivermile: 3.4
Latitude: 47 03 43.0
Longitude: 122 41 42.0
Waterbody: WA-11-1010

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/27/1998	13:30	1300	31	0.1 U		0.71		4.1		0.6		0.003			3.5 J	
10/27/1998	13:35				0.02 U				2.91		0.084			0.94		1.78
11/17/1998	14:45	1240														
12/28/1998	7:20	11600	31	0.1 U	0.037	8.42 J		32 J	2.28	4.5 J	0.1	0.002 U		3.12 J	41 J	4.66
1/26/1999	14:15	4460														
2/23/1999	14:00	3400	23	0.1 U	0.02 U	0.82		2.1	0.978	1.7	0.056	0.098		0.4	11.2 J	2.7
3/30/1999	15:00	2710														
4/27/1999	15:30	1260	27	0.1 U	0.02 U	0.2 U		0.9	0.64	0.2	0.02	0.002 U		0.32	2 J	1.2 J
5/18/1999	14:50	1520														
6/28/1999	13:45	2420	20	0.1 U	0.02 U	0.21		1	0.43	0.3	0.02 U	0.002 U		0.3	2 J	1.4
7/27/1999	13:25	1190														
8/24/1999	14:05	900														
9/28/1999	15:20	1170														

Conventional Data Report

Chambers Cr blw Steilacoom Lk

12A100

Class: A
Rivermile: 4.8
Latitude: 47 10 40.0
Longitude: 122 32 05.0
Waterbody:

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/21/1998 18:35	1.2		143		8.7								
11/18/1998 17:15	8.5		120		8.4								

Conventional Data Report

Clover Cr abv Steilacoom Lk

12A110

Class: A
Rivermile: 7.1
Latitude: 47 09 19.0
Longitude: 122 31 17.0
Waterbody:

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/21/1998 17:30	9.3		148		7								
11/18/1998 16:30	7.8		127		7.3								

Conventional Data Report

Ponce de Leon Ck nr mouth

12D050

Class: A
Rivermile:
Latitude: 47 08 44.3
Longitude: 122 31 39.7
Waterbody:

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/21/1998 18:05	1.2		138		7.2								
11/18/1998 16:50	11.2		120		6.9								

Conventional Data Report

Deschutes R @ E St Bridge

13A060

Class: A
Rivermile: 0.6
Latitude: 47 00 43.0
Longitude: 122 54 07.0
Waterbody: WA-13-1010

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/26/1998 7:25	9.2	88	124	9.6	7.8	2	0.818	0.014	0.687	0.033	0.005 U	1.7	11
	pH Recalibrated												
11/16/1998 10:40	8.5	290	108	9.9	6.8	23	0.756	0.023	0.518	0.05	0.011	9.1	43 J
12/20/1998 7:45	2.2	100	91	12.5	6.8	8	0.73	0.013	0.716	0.026	0.011	5.5	5
1/25/1999 8:05	4.8	1010	76	11.5	6.6	18	0.852 J	0.01 U	0.642	0.04	0.017	10	35
2/22/1999 7:45	5.9	934	80	10.6	7.6	12	0.789	0.026	0.668	0.043	0.016	6.5	53
3/29/1999 7:40	5.9	722	87	10.8	7.5	6	0.82	0.01 U	0.676	0.053	0.021	4.5	38
	pH Recalibrated (pH=7.46 following recalibration)												
4/26/1999 7:30	8.5	417	95	9.8	7.4	5	0.656	0.014	0.557	0.029	0.009	2.3	12
5/17/1999 7:55	8.9	382	91	9.9	7.6	5	0.729	0.043	0.613	0.044	0.008	3.6	41
	pH=7.57 following recalibration												
6/27/1999 7:50	11.1	203	115	9.4	7.6	3	0.876	0.025	0.759	0.047	0.014	2.2	55
7/26/1999 8:10	12	135	113	9.2	7.5	4	0.943	0.038	0.811	0.059	0.011	2.4	27
8/23/1999 7:30	12.9	113	109	8.3	7.2	4	0.872	0.01 U	0.786	0.047	0.013	1.7	39
9/27/1999 9:50	8.5	97	110	10.5	7.6	4	0.898	0.042	0.798	0.056	0.014	2.4	18

Conventional Data Report

Goldsborough Cr @ Shelton

14A060

Class: A
Rivermile: 0.3
Latitude: 47 12 36.0
Longitude: 123 06 00.0
Waterbody: WA-14-1600

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/27/1998 12:30	8.8	38	132	9.5	7.4	4	0.171	0.013	0.069	0.034	0.006	1.1	11
11/17/1998 13:40	7.4	235	71	10.4	7.4	6	0.636	0.01 U	0.34	0.047	0.005 U	4.8	33
12/21/1998 15:05	1.3	215	82	13.3	7.6	7	0.368	0.014	0.317	0.013	0.006	1.5	2
1/26/1999 13:20	5.2	600	64	12.1	7.2	4	0.278	0.01 U	0.184	0.016	0.009	2.9	11
2/23/1999 13:00	5.5		43	11.6	7.2	7	0.256	0.023	0.138	0.019	0.005 U	5.5	16
3/30/1999 14:05	5.6	430	64	11.5	7.6	4	0.228	0.01 U	0.073	0.03	0.011	3.1	31
4/27/1999 14:15	8.5	150	89	10.7	7.6	3	0.153	0.011	0.065	0.025	0.01	1.4	16
5/18/1999 13:50	10.1	150	82	10.4	7.3	4	0.245	0.037	0.053	0.038	0.009	2.8	90
6/28/1999 12:20	10.6	90	119	9.7	7.5	3	0.162	0.01	0.109	0.036	0.012	1.2	26
7/27/1999 11:50	12.3	60	123	9.5	7.6	3	0.194	0.03	0.086	0.046	0.014	1.1	19
8/24/1999 13:05	12.9	40	127	9.5	7.7	2	0.194	0.01 U	0.058	0.044	0.017	0.9	20
9/28/1999 14:10	8.7	85	121	10.8	7.5	3	0.128	0.03	0.048	0.039	0.011	1.2	21

Conventional Data Report

Skokomish R nr Potlatch

16A070

Class: AA
Rivermile: 5.3
Latitude: 47 18 36.0
Longitude: 123 10 33.0
Waterbody: WA-16-1010

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/27/1998 12:00	8.7		69	9.5	7.6	1 J	0.089	0.01 U	0.069	0.021	0.005 U	0.7	7
11/17/1998 13:00	7.2	3800	52	10.9	7.4	77	0.164	0.017	0.103	0.046	0.005 U	65	10
12/21/1998 13:40	3.3	1170	62	12.3	7.4	34	0.137	0.027	0.1	0.013	0.005 U	7.1	2
1/26/1999 12:05	5.3	1240	61	11.7	6.8	8	0.152	0.01 U		0.017	0.008	9	3
2/23/1999 11:45	4.9	4050	37	11.8	7.1	30	0.083	0.023	0.053	0.049	0.005	31	5
3/30/1999 13:05	5.3	1570	54	12	7.5	6	0.068	0.01 U	0.032	0.028	0.012	5.8	1
4/27/1999 13:40	7.1	1000	55	11.6	7.4	4	0.045	0.01 U	0.019	0.016	0.007	3.8	4
5/18/1999 12:30	7.7	1210	48	11.8	7	14	0.029	0.029	0.012	0.028	0.006	9.4	30
6/28/1999 11:55	8.1	585	60	11.1	7.5	2	0.027	0.01 U	0.01 U	0.016	0.006	1.2	12
7/27/1999 11:05	10.1	438	55	10.3	7.4	2	0.04	0.024	0.013	0.021	0.005	1.2	27
8/24/1999 11:40	10.3	283	58	10	7.5	1	0.065	0.01 U	0.01 U	0.023	0.008	0.5	2
9/28/1999 13:45	8.4	178	60	11.5	7.7	1	0.07	0.033	0.024	0.024	0.007	0.7	1

Conventional Data Report

Duckabush R nr Brinnon

16C090

Class: AA
Rivermile: 4.5
Latitude: 47 41 03.0
Longitude: 123 00 37.0
Waterbody: WA-16-3010

Date/Time		Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
		deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/27/1998	10:30	7.2	107	74	11.2	7.7	1 U	0.048	0.01 U	0.043	0.02	0.005 U	0.5 U	1 U
		High Tide at River Mouth												
11/17/1998	11:25	5.2	1100	58	11.8	7.8	9	0.129	0.016	0.07	0.019	0.005 U	6.6	2
1/26/1999	10:45	3.4	322	76	12.8	7.6	1	0.057	0.01 U	0.035	0.01 U	0.005 U	2	1 U
2/23/1999	10:00	3.6	531	44	12.2	7.4	1 U	0.049	0.022	0.021	0.01 U	0.005 U	0.7	1
3/30/1999	10:05	2.7	365	60	12.7	7.8	2	0.041	0.01 U	0.017	0.013	0.006	2.1	1
		Water level is Gage Height measured at USGS Station												
4/27/1999	10:10	3.4	686	61	12.3	7.3	2	0.057	0.01 U	0.029	0.01 U	0.005 U	1.4	3
5/18/1999	9:20	3.9	549	59	12.7	7.2	2	0.054	0.033	0.014	0.011	0.006	1.6	1
		flow=USGS gage house reading												
6/28/1999	10:15	4.5	884	57	12.5	7.2	10	0.024	0.01 U	0.01 U	0.013	0.005 U	5.8	7
7/27/1999	9:30	5.5	853	39	12.2	7.6	3	0.027	0.026	0.01 U	0.011	0.005 U	3.2	4
8/24/1999	10:20	7.3	428	44	11.5	7.7	2	0.029	0.01 U	0.01 U	0.01 U	0.005 U	1.6	1
9/28/1999	11:25	5.3	130	60	13.1	7.9	4	0.028	0.031	0.01 U	0.01 U	0.005 U	1.4	1 U

Conventional Data Report

Finch Cr @ Hoodsport

16E070

Class: A
Rivermile: 0.1
Latitude: 47 24 24.8
Longitude: 123 08 38.1
Waterbody: WA-16-1100

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/27/1998	11:35	8	1.5	83	10.9	7.5	1 U	0.093	0.01 U	0.078	0.026	0.01	0.5 U	44
11/17/1998	12:35	7.4	35	62	8.7	7.6	13	0.642	0.131	0.424	0.033	0.016	2.9	5
12/21/1998	12:55	4.2	15	72	12.4	8	1 U	0.18	0.023	0.155	0.018	0.013	1	85
		pH 7.03 following calibration check; New QA site												
1/26/1999	11:40	5.9	14	66	12	7.7	1 U	0.166	0.01 U	0.146	0.018	0.016	0.8	130
2/23/1999	11:00	5.6	37	40	11.7	7.6	3	0.122	0.025	0.11	0.019	0.009	2	3
3/30/1999	12:30	6.7	39	67	11.6	8	1 U	0.127	0.01 U	0.09	0.038	0.022	0.8	10
4/27/1999	13:10	8.1	22	81	11.5	8.1	1 U	0.064	0.01 U	0.063	0.035	0.019	0.5 U	6
5/18/1999	12:00	8.3	13	78	11.7	7.8	1	0.104	0.03	0.071	0.044	0.02	0.5 U	27
6/28/1999	11:20	7.9	21	88	11.5	7.7	2	0.111	0.01 U	0.067	0.04	0.021	0.5 U	24
7/27/1999	10:30	8.7	9	74	11.7	7.9	2	0.107	0.026	0.073	0.046	0.02	1.2	48
8/24/1999	11:20	9.6	1.4	75	11.3	7.9	1 U	0.09	0.01 U	0.05	0.043	0.022	0.5 U	86
9/28/1999	12:35	8.7	1.5	77	11.5	7.5	1 U	0.098	0.031	0.074	0.043	0.021	0.5	6

Conventional Data Report

Big Quilcene R nr Quilcene

17A070

Class: AA
Rivermile: 2.6
Latitude: 47 48 39.0
Longitude: 122 54 33.0
Waterbody: WA-17-1010

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/27/1998	9:40	7.2	30	131	11.3	7.8	1	0.162	0.01 U	0.041	0.026	0.005 U	0.5 U	11
11/17/1998	10:30	4.7	294	86	11.5	7.9	4	0.221	0.014	0.184	0.029	0.005 U	5.5	1 U
12/21/1998	11:30	0.7	210	97	13.7	8.2	2	0.136	0.01 U	0.144	0.01 U	0.005 U	1.5	1 U
		pH Recalibration; pH=7.95 following recalibration												
1/26/1999	10:00	3.6	176	92	12.9	7.7	2	0.19	0.01 U	0.15	0.01 U	0.005	1.9	2
2/23/1999	9:15	4.1	416	51	12.1	7.2	6	0.157	0.021	0.12	0.013	0.005	3.6	1 U
3/30/1999	9:00	3.5	268	72	12.7	7.7	2	0.136	0.01 U	0.088	0.025	0.011	1.8	6
		pH Recalibrated (pH=7.67 following recalibration)												
4/27/1999	9:20	4	406	76	12.1	7.8	4	0.028	0.011	0.016	0.015	0.007	3.4	1 U
5/18/1999	8:25	5	292	75	12.2	7.7	2	0.052	0.031	0.019	0.018	0.005 U	1.5	2
6/28/1999	9:30	5.6	439	74	11.9	7.7	16	0.06	0.01 U	0.023	0.02	0.005 U	8.9	6
7/27/1999	8:40	6.9	238	64	11.8	7.8	3	0.042	0.027	0.01 U	0.015	0.005 U	3.3	20
8/24/1999	9:30	8.3	130	74	11.1	7.9	21	0.137	0.01 U	0.01 U	0.021	0.005 U	8.3	3
9/28/1999	10:15	5.2	50	91	12.3	7.7	1	0.045	0.032	0.019	0.011	0.005 U	1	4

Conventional Data Report

Dungeness R nr Sequim

18A070

Class: A
Rivermile: 6.9
Latitude: 48 04 34.0
Longitude: 123 08 58.0
Waterbody: WA-18-1010

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/27/1998 8:15	6.7	82	133	11.3	7.6	1	0.019	0.01 U	0.01 U	0.015	0.005 U	0.5 U	4
11/17/1998 9:30	4	612	98	12	7.6	22	0.135	0.013	0.075	0.021	0.005 U	15	3
12/21/1998 10:00	0	88	135	14.2	6.8	5	0.088	0.01 U	0.067	0.011	0.005 U	4.5	8
1/26/1999 9:05	2.3	84	139	13.4	7.5	4	0.139	0.01 U	0.101	0.01 U	0.028	4.6	4
2/23/1999 8:00	2.4	121	92	12.2	7.6	48	0.147	0.02	0.045	0.073	0.007	45	5
	pH Recalibrated												
3/30/1999 7:50	1.8	574	122	12.7	7.9	18	0.073	0.01 U	0.01 U	0.037	0.01	14	12
	pH Recalibrated (pH=7.88 following recalibration)												
4/27/1999 8:00	3.3	247	115	12.3	7.9	25	0.096	0.016	0.044	0.027	0.006	17	4
	pH Recalibrated												
5/18/1999 7:10	5.3	168	120	11.8	7.7	10	0.033	0.033	0.01 U	0.025	0.005 U	8.3	10
	pH=7.73 following recalibration												
6/28/1999 8:05	5.4	958	89	11.8	7.3	27	0.071	0.013	0.018	0.04	0.005 U	24	2
7/27/1999 7:30	6.4	843	64	11.7	7.7	15	0.045	0.028	0.01 U	0.025	0.005 U	12	6
8/24/1999 8:20	7.9	505	72	11.1	7.7	6	0.043	0.01 U	0.01 U	0.015	0.005 U	4	2
	pH Recalibrated;18A070 pH 7.74 following recalibration												
9/28/1999 9:10	4.5		101	12.8	7.7	2	0.027	0.031	0.01 U	0.01 U	0.005 U	1.1	2
	wwg and RP sites were both dry												

Conventional Data Report

Elwha R nr Port Angeles

18B070

Class: AA
Rivermile: 8.1
Latitude: 48 03 56.0
Longitude: 123 34 35.0
Waterbody: WA-18-2010

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/26/1998 16:20	10	337	98	10.8	7.7	1	0.816	0.01 U	0.01 U	0.03	0.005 U	0.8	5
11/17/1998 8:35	6	3200	67	11.2	6.9	60	0.148	0.01 U	0.056	0.046	0.005 U	80	7
	pH Recalibrated												
12/20/1998 16:10	2.6	1740	81	13.3	7.4	26	0.086	0.01 U	0.051	0.051	0.005 U	42	1
	pH Outside Limits												
1/25/1999 16:20	3.8	1490	86	12.3	7.2	6	0.064 J	0.01 U	0.042	0.017	0.005 U	7.9	1 U
	pH Outside Limits												
2/22/1999 14:45	3.6	1750	95	12.2	7.2	11	0.058	0.026	0.015	0.023	0.005 U	12	2
3/29/1999 16:50	3.9	1530	88	12.3	7.8	3	0.026	0.01 U	0.01 U	0.019	0.007	4.2	1 U
4/26/1999 16:10	5.6	2480	95	11.7	7.7	2	0.017	0.011	0.01 U	0.011	0.005 U	1.7	1
5/17/1999 16:55	6	1290	86	11.8	7.5	2	0.031	0.034	0.01 U	0.012	0.005 U	1.3	1
6/27/1999 17:05	6	3200	62	12.2	7.4	12	0.034	0.012	0.01 U	0.032	0.005 U	16	1 U
7/26/1999 16:35	7.9	2700	51	11.8	7.7	6	0.087	0.022	0.01 U	0.016	0.005 U	6.5	2
8/23/1999 16:30	9.8	1490	54	10.9	7.8	2	0.255	0.01 U	0.01 U	0.01	0.005 U	1.9	1
9/27/1999 18:40	8.8	572	68	11.2	8	1 U	0.034	0.031	0.01 U	0.01 U	0.005 U	1	1 U

Conventional Data Report

Hoh R @ DNR Campground

20B070

Class: AA
Rivermile: 16.5
Latitude: 47 48 25.0
Longitude: 124 14 59.0
Waterbody: WA-20-2010

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/26/1998 14:50	9.9	791	81	11	7.6	1	0.059	0.01 U	0.048	0.022	0.005 U	1.7	2
11/16/1998 16:30	7.1	14200	52	10.8	7.4	600	0.32	0.011	0.203	0.052	0.005 U	145	33
12/20/1998 14:40	1.7	3140	73	13.3	7.3	15	0.125	0.01 U	0.126	0.022	0.005 U	13	1
1/25/1999 14:40	4.7	2730	68	10.3	7	10	0.138 J	0.01 U	0.117	0.02	0.005 U	9.8	3
2/22/1999 13:15	4.8		38	11.7	7.1	244	0.177	0.017	0.063	0.098	0.005 U	75	14
3/29/1999 15:20	4.4	3900	50	12.1	7.2	8	0.112	0.01 U	0.055	0.019	0.005 U	7.5	4
4/26/1999 13:50	5.6	2250	74	11.8	7.5	3	0.024	0.01 U		0.01 U	0.005 U	3.1	1
5/17/1999 15:05	7.1	1740	71	11.6	7.2	3	0.041	0.032	0.01 U	0.016	0.005 U	3.9	1 U
6/27/1999 15:20	8.6	2580	73	11.5	7.2	4	0.026	0.01 U	0.01 U	0.015	0.005 U	17	1 U
7/26/1999 15:05	10.6	2410	64	10.9	7.2	6	0.039	0.028	0.01 U	0.015	0.005 U	6.7	1 U
8/23/1999 14:45	11.4	1790	58	10.7	7.5	3	0.01 U	0.01 U	0.01 U	0.013	0.005 U	6.2	2
9/27/1999 16:35	9.1	757	85	12.1	7.8	95	0.034	0.035	0.01 U	0.011	0.005 U	3	1 U

Conventional Data Report

Humptulips R nr Humptulips

22A070

Class: A
Rivermile: 23.6
Latitude: 47 13 48.0
Longitude: 123 57 38.0
Waterbody: WA-22-1010

Date/Time		Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
		deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/26/1998	11:45	10	198	60	11.4	7.5	1	0.191	0.01 U	0.109	0.016	0.005 U	0.8	11
11/16/1998	13:55	7.8	6220	43	11	7.5	237	0.339	0.021	0.214	0.023	0.005 U	175	13
12/20/1998	12:00	1.9	1690	52	13	7.4	7	0.232	0.01 U	0.193	0.013	0.005 U	7.3	3
		pH Recalibrated; pH=7.72 following recalibration												
1/25/1999	12:10	5.3	1720	47	12.1	7	10	0.21 J	0.01 U	0.149	0.021	0.005 U	11	1 U
2/22/1999	10:45	4.6	6220	38	11.8	7.2	110	0.192	0.019	0.114	0.083	0.005 U	50	17
3/29/1999	13:00	3.8	2130	43	12.3	7.4	8	0.152	0.01 U	0.113	0.023	0.008	6.1	4
4/26/1999	11:10	6	936	48	11.7	7.6	2	0.065	0.011		0.013	0.005 U	1.4	2
5/17/1999	12:15	7.5	647	48	11.6	7.3	3	0.053	0.036	0.012	0.017	0.005 U	1.4	6
6/27/1999	12:10	10.6	434	54	10.8	7.4	1 U	0.056	0.011	0.01 U	0.012	0.005 U	0.8	3
7/26/1999	12:25	14	243	56	10.2	7.4	2	0.064	0.03	0.01 U	0.018	0.005 U	0.6	4
8/23/1999	11:50	15	118	57	9.8	7.6	1 U	0.061	0.01 U	0.01 U	0.017	0.005 U	0.5 U	4
9/27/1999	14:35	10.5	130	55	11.2	7.3	1	0.075	0.034	0.01 U	0.017	0.005 U	0.7	7

Conventional Data Report

Chehalis R @ Porter

23A070

Class: A
Rivermile: 33.3
Latitude: 46 56 17.0
Longitude: 123 18 45.0
Waterbody: WA-23-1010

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/26/1998	8:35	10.2	439	103	9.9	7.6	3	0.907	0.01 U	0.677	0.037	0.008	1.9	10
11/16/1998	12:30	8.3	23850	86	9.7	7.6	22	1.54	0.031	1.38	0.05	0.009	12	170 J
12/20/1998	9:00	2.7	6050	78	10.7	7.7	16	0.861	0.029	0.786	0.039	0.012	12	18
1/25/1999	9:00	4.5	14100	65	11.1	7	27	1.03 J	0.026	0.748	0.058	0.013	16	28
2/22/1999	8:45	5.3	12000	64	11	7.2	25	0.926	0.03	0.722	0.054	0.013	15	27
3/29/1999	9:00	5.5	6530	73	11.2	7.3	23	0.795	0.027	0.615	0.061	0.019	11	81
4/26/1999	8:35	10.7	2150	85	9.8	7.1	9	0.645	0.019	0.563	0.036	0.009	3.7	3
5/17/1999	9:00	10	2410	80	10.4	7	6	0.55	0.04	0.409	0.042	0.007	2.8	12
6/27/1999	8:55	14	1090	87	9.1	7.2	8	0.713	0.031	0.52	0.049	0.015	3.4	22
7/26/1999	9:10	16.2	603	95	8.8	7.4	3	0.776	0.036	0.581	0.046	0.012	1.5	24
8/23/1999	8:30	17.7	429	96	8	7.6	6	0.765	0.01 U	0.6	0.047	0.016	1.3	26
9/27/1999	11:10	12.3	344	92	10.5	7.5	4	0.753	0.034	0.522	0.046	0.007	2	11

Conventional Data Report

Chehalis R @ Dryad

23A160

Class: A
Rivermile: 101.7
Latitude: 46 37 54.0
Longitude: 123 14 51.0
Waterbody: WA-23-1100

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/28/1998 8:00	8	90	75	10.1	7.4	1	0.176	0.015	0.061	0.022	0.005 U	1.2	62
pH Recalibrated													
11/18/1998 8:45	6.5	553	63	11	7.7	2	0.851	0.013	0.79	0.019	0.005 U	1.8	21
12/28/1998 9:05	6.2	11682	43	11.9	7.4	443	0.781	0.046	0.548	0.361	0.008	150	66
1/27/1999 8:35	4.2	1137	39	12.6	7.4	5	0.637	0.01 U	0.508	0.016	0.012	2.5	6
2/24/1999 8:00	6	15900	33	12.4	7.1	782	0.378	0.017	0.284	0.311	0.008	230	100
3/31/1999 7:50	4.4	1737	48	12.3	7.3	5	0.443	0.01 U	0.416	0.035	0.013	3.2	13
4/28/1999 8:15	5.9	311	58	11.1	7	2	0.182	0.012		0.018	0.005	1.4	88
5/19/1999 8:05	7.3	637	49	11.2	7.2	4	0.227	0.034	0.155	0.026	0.005 U	2.3	24
6/29/1999 8:20	11.1	133	66	10	7.6	3	0.203	0.018	0.084	0.029	0.007	1.8	92
7/28/1999 8:50	16	71	67	8.4	7.5	2	0.222	0.042	0.043	0.036	0.007	1.8	55
8/25/1999 8:20	17.2	50	68	8	7.5	2	0.232	0.01 U	0.033	0.038	0.01	2.5	25
9/29/1999 10:25	8.6	25	67	10.9	7.6	1 U	0.126	0.036	0.01 U	0.031	0.005	1.2	15

Conventional Data Report

Willapa R nr Willapa

24B090

Class: A
Rivermile: 17.7
Latitude: 46 39 00.0
Longitude: 123 39 10.0
Waterbody: WA-24-2020

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/28/1998	9:00	8.7	77	72	10	7.5	3	0.469	0.01 U	0.306	0.022	0.005 U	2	150
11/18/1998	9:45	7.4	594	63	11	7.4	7	1.26	0.021	1.29	0.036	0.005 U	2.6	84
12/28/1998	9:55	7.2	7130	43	11	7.2	379	1.21	0.049	0.949	0.283	0.006	150	140
1/27/1999	9:30	4.9	984	38	12	7.1	15	0.998	0.01 U	0.895	0.017	0.01	4.6	13
2/24/1999	9:10	7.4	9800	32	11.1	6.9	473	0.794	0.043	0.58	0.25	0.005	210	520
3/31/1999	8:45	5.2	1470	47	11.7	7.1	20	0.818	0.013	0.804	0.042	0.011	9.8	29
4/28/1999	9:20	7.8	262	57	11.5	6.9	4	0.363	0.012	0.061	0.019	0.005 U	1.7	42
5/19/1999	9:20	8.3	441	49	11	7.1	8	0.45	0.033	0.324	0.027	0.006	3	88
6/29/1999	9:30	12	117	63	10	7.4	3	0.325	0.02	0.2	0.024	0.005 U	1.9	120
7/28/1999	9:50	16.7	41	65	8.6	7.2	3	0.37	0.042	0.178	0.033	0.006	1.7	110
8/25/1999	9:20	18	27	67	7.6	7.4	4	0.408	0.01 U	0.164	0.032	0.008	2.4	77
9/29/1999	11:45	10.6	19	66	10.4	6.9	2	0.293	0.039	0.116	0.027	0.005 U	3.3	170

Conventional Data Report

North R nr Raymond

24D070

Class: A
Rivermile: 10.7
Latitude: 46 49 46.0
Longitude: 123 49 48.0
Waterbody: WA-24-1010

Date/Time		Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
		deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/26/1998	10:05	9.3	65	72	9.9	7.7	2	0.382	0.01 U	0.181	0.026	0.005 U	2.2	8
12/20/1998	10:15	3	1140	48	12	7.6	8	0.587	0.01 U	0.548	0.014	0.005 U	5.6	5
1/25/1999	10:15	5.3	1880	45	11.8	7	18	0.71 J	0.01 U	0.589	0.026	0.005 U	8.3	4
3/29/1999	11:10	4.3	1610	39	11.3	7	18	0.377	0.01 U	0.237	0.029	0.007	8.4	31
		pH=6.98 following recalibration												
4/26/1999	0:00		383											
		road closed-no sample collected												
5/17/1999	10:25	8.9		47	10.7	6.8	12	0.295	0.036	0.184	0.037	0.006	3.4	14
		pH meter checked for calibration; result=within limits												
6/27/1999	10:20	12.8		57	9.3	7.2	2	0.3	0.021	0.113	0.034	0.006	3	27
7/26/1999	10:50	14.8	102	66	9.1	7.2	8	0.283	0.038	0.076	0.043	0.007	2.2	9
8/23/1999	10:05	15.6	71	64	8.3	7.4	2	0.223	0.01 U	0.03	0.041	0.008	4	8
9/27/1999	12:50	11	42	65	9.6	7	1	0.203	0.038	0.01 U	0.039	0.006	1.6	5

Conventional Data Report

Naselle R nr Naselle

24F070

Class: A
Rivermile: 17.4
Latitude: 46 22 23.0
Longitude: 123 44 44.0
Waterbody: WA-24-3010

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/28/1998 10:50	8.1	96	58	11	7.5	2	0.419	0.01 U	0.305	0.027	0.005 U	1.1	42
11/18/1998 10:50	7.9	598	52	11	6.3	3	0.796	0.018	0.772	0.026	0.005 U	3.1	35
12/28/1998 11:10	7.3	2850	41	11.7	7	272	0.776	0.031	0.64	0.254	0.008	160	23
1/27/1999 10:35	4.8	455	33	12	6.6	3	0.583	0.01 U	0.543 J	0.015	0.011	2.4	14
2/24/1999 10:30	7.8	3180	35	11.6	7	195	0.503	0.019	0.397	0.151	0.006	90	14
3/31/1999 10:20	5	662	44	12.4	7	3	0.481	0.01 U	0.472	0.026	0.012	2.3	3
4/28/1999 10:35	6.2	118	50	12.1	7.4	2	0.258	0.013	0.215	0.013	0.005 U	0.7	8
	pH Recalibrated												
5/19/1999 10:45	7.3	374	46	11.6	7.1	4	0.387	0.033	0.314	0.023	0.006	1.8	10
6/29/1999 11:05	10.3	82	54	11.1	7	1 U	0.234	0.014	0.19	0.016	0.005 U	0.9	42
7/28/1999 11:30	14.7	50	50	10.1	7.3	1	0.257	0.032	0.162	0.024	0.005 U	0.8	44
8/25/1999 10:35	15.8	36	51	9	7.4	1	0.244	0.01 U	0.084	0.025	0.006	1.2	51
9/29/1999 13:35	9	23	53	11.5	7.3	1 U	0.134	0.033	0.063	0.018	0.005 U	0.7	9

Conventional Data Report

Cowlitz R @ Kelso

26B070

Class: A
Rivermile: 4.9
Latitude: 46 08 44.0
Longitude: 122 54 47.0
Waterbody: WA-26-1040

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/28/1998 12:15	9.6	5470	96	10.5	7.4	6	0.117	0.01 U	0.042	0.02	0.005 U	2.6	20
11/18/1998 12:35	8.7	6210	83	10.8	7.2	19	0.269	0.01 U	0.176	0.023	0.005 U	7.3	12
12/28/1998 12:50	6	39000	49	11.5	7.2	1970	0.716	0.04	0.457	0.739	0.007	1200	410
1/27/1999 12:45	4.5	16000	43	12.3	7	101	0.412	0.01 U	0.286 J	0.062	0.009	32	3
2/24/1999 12:35	6.1	27800	53	11.5	7.1	685	0.452	0.022	0.343	0.304	0.006	200	88
3/31/1999 12:10	5.7	10400	72	11.7	7.5	110	0.454	0.01	0.28	0.069	0.012	25	15
4/28/1999 12:40	7.9	8220	81	11.3	7.4	83	0.147	0.016	0.096	0.038	0.005	14	20
5/19/1999 12:35	8.1	10400	67	11	7.3	296	0.301	0.034	0.166	0.109	0.005	55	60
6/29/1999 12:45	9.3	13400	68	10.8	7.5	44	0.124	0.01 U	0.082	0.039	0.005 U	7	6
7/28/1999 13:10	14.4	6800	74	9.9	7.6	16	0.08	0.027	0.025	0.027	0.005 U	2.8	5
8/25/1999 12:30	13	7170	61	9.9	7.6	9	0.099	0.013	0.016	0.024	0.006	3	6
9/29/1999 15:25	11.9	5270	85	10.8	7.2	7	0.133	0.033	0.02	0.036	0.005 U	3.6	4

Conventional Data Report

Kalama R nr Kalama

27B070

Class: A
Rivermile: 2.8
Latitude: 46 02 52.0
Longitude: 122 50 11.0
Waterbody: WA-27-1010

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/28/1998 14:00	8.5	350	58	11.8	7.8	2	0.245	0.01 U	0.152	0.025	0.005 U	1.1	18
11/18/1998 13:55	7.3	850	43	11.5	7.6	4	0.524	0.023	0.486	0.01 U	0.005 U	1.8	6
12/28/1998 14:25	5.9	8500	31	12.3	7.3	334	0.776	0.05	0.654	0.115	0.02	95	89
1/27/1999 13:20	4.7	1560	29	12.6	7.2	7	0.627	0.01 U	0.558 J	0.017	0.012	3.4	4
2/24/1999 13:10	5.8	8500	28	12	7.3	112	0.562	0.026	0.474	0.09	0.006	45	17
3/31/1999 13:40	5.4	1460	41	12.5	7.7	10	0.562	0.01 U	0.521	0.032	0.014	2.7	6
	Ph Outside Limits												
4/28/1999 13:10	5.3	850	38	12.9	7.4	3	0.172	0.012	0.126	0.017	0.006	1.2	4
5/19/1999 14:20	6.1	1770	30	12.8	7.4	7	0.242	0.038	0.173	0.031	0.005 U	4.3	1
6/29/1999 14:20	10.3	510	42	11.5	7.8	4	0.216	0.015	0.052	0.028	0.007	1.2	2
7/28/1999 15:10	15.4	315	48	10.5	7.7	3	0.119	0.04	0.037	0.039	0.011	1	2
8/25/1999 14:15	14.7	285	48	10.2	8.1	2	0.127	0.01 U	0.025	0.038	0.015	0.8	1
9/29/1999 16:00	8.8	220	51	12	7.6	1	0.148	0.047	0.072	0.041	0.014	0.7	2

Conventional Data Report

EF Lewis R nr Dollar Corner

27D090

Class: A
Rivermile: 10.2
Latitude: 45 48 53.0
Longitude: 122 35 26.0
Waterbody: WA-27-2020

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/28/1998 14:50	9.6	194	50	11.4	7.8	2	0.243	0.01 U	0.141	0.015	0.005 U	0.9	9
11/18/1998 15:00	7.7	657	36	11.5	7.4	2	0.587	0.018	0.541	0.01 U	0.005 U	1.6	2
12/28/1998 15:10	6.2	6550	23	11.9	7.3	183	0.586	0.034	0.473	0.091	0.007	70	37
1/27/1999 14:10	4.6	985	23	12.5	7.4	4	0.612	0.01 U	0.536 J	0.01 U	0.007	2.1	7
2/24/1999 14:00	6	4730	22	11.7	7.1	19	0.38	0.023	0.339	0.03	0.005 U	12	14
3/31/1999 17:10	5.6	870	32	11.4	7.6	2	0.438	0.01 U	0.364	0.021	0.007	1.6	2
pH Meter Recalibrated for single measurement													
4/28/1999 14:05	6.2	516	30	11.9	7.5	1	0.177	0.012	0.136	0.011	0.005 U	0.8	2
5/19/1999 15:05	7.6	1380	25	11.8	7.5	3	0.476	0.032	0.235	0.018	0.005 U	2.3	9
6/29/1999 15:25	12.7	369	34	10.5	7.6	1 U	0.179	0.01 U	0.138	0.015	0.005 U	0.7	7
7/28/1999 16:00	20.8	112	49	9	7.9	3	0.262	0.033	0.143	0.022	0.005 U	0.9	14
8/25/1999 15:10	20.8	64	54	9	8.1	2	0.23	0.01 U	0.125	0.021	0.006	0.6	12 J
9/29/1999 16:50	13.3	48	58	10.8	7.5	1 U	0.166	0.036	0.087	0.02	0.005 U	0.5 U	10

Conventional Data Report

Columbia R @ Umatilla

31A070

Class: A
Rivermile: 290.5
Latitude: 45 55 53.0
Longitude: 119 19 24.0
Waterbody: WA-CR-1020

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/14/1998 8:10	15.1	118200	182	9.5	7.4	4	0.328		0.22	0.01 U	0.005 U	1.7	1 U
11/3/1998 16:50	12.6	106500	176	10.6	8.5	4	0.331	0.01 U	0.208	0.018	0.005 U	1.7	1
12/16/1998 7:05	6.5	151000	169	11.2	6.6	3	0.414	0.021	0.289	0.022	0.009	1.7	2
1/13/1999 9:00	3.8	216100	198	13.6	7.2	5	0.574	0.021	0.476	0.172	0.022	6.6	2
collected day 3 (99/01/13)													
2/3/1999 7:00	2.3	203200	121	13.9	7.7	4	0.424	0.01 U	0.37	0.035	0.016	5.7	3
3/17/1999 8:15	4	243600	170	13.9	7.7	5	0.498	0.01 U	0.421	0.037	0.022	5.7	1 U
4/14/1999 9:15	6.8	254500	160	13.4	7.2	6	0.483	0.012	0.351	0.05	0.023	8	6
5/12/1999 7:00	9.4	273900	134	12.7	8.3	8	0.342	0.028	0.158	0.038	0.006	6.1	2
6/16/1999 11:15	13.9	338000	118	12	8.3	10	0.248	0.011	0.09	0.027	0.005	6.1	8
7/7/1999 10:10	14.8	210800	112	11.1	8.2	10	0.218	0.026	0.056	0.03	0.007	5.5	1
8/4/1999 9:50	18.8	230000	119	10.1	8	9	0.231	0.029	0.063	0.027	0.006	5.2	1
9/8/1999 9:50	17.1	173100	121	10.4	8.2	7	0.231	0.037	0.123	0.025	0.005 U	4.4	1

Conventional Data Report

Walla Walla R nr Touchet

32A070

Class: B
Rivermile: 15.3
Latitude: 46 02 16.0
Longitude: 118 45 55.0
Waterbody: WA-32-1010

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/14/1998	9:40	10.8	35	268	10.8	7.8	15	0.574		0.381	0.028	0.033	9.6	40
11/3/1998	17:50	7.6	58	237	12.9	8.6	16	0.584	0.01 U	0.35	0.056	0.027	14	28
12/16/1998	8:20	3.4	1060	103	12.2	7.2	69	1.04	0.033	0.655	0.139	0.067	32	77
1/13/1999	10:05	4	704	138	11.8	7.4	46	1.04	0.038	0.907	0.129	0.086	16	39
		collected day 3 (99/01/13)												
2/2/1999	17:30	3.4	688	117	12.3	8	95	1.34	0.023	1.19	0.217	0.092	28	150
3/17/1999	9:45	5.6	1100	103	11.9	7.4	134	0.906	0.027	0.82	0.164	0.087	34	80
4/14/1999	10:45	8.9	762	402	11.3	8.1	25	0.733	0.023	0.548	0.119	0.059	10	28
		Sampled on day three -- also Columbia at Umatilla.												
5/12/1999	8:05	9.7	623	120	10	8.3	29	0.604	0.031	0.328	0.091	0.028	8.2	80
6/15/1999	17:30	25.3	227	176	9.1	8.2	17	0.77	0.057	0.453	0.149	0.065	8.1	380
7/6/1999	16:00	24	65	230	12.6	9	18	0.572	0.039	0.168	0.117	0.04	7.4	77
8/3/1999	17:00	25.2	11	407	14.3	9	33	0.885	0.043	0.13	0.121	0.022	15	64
9/7/1999	17:45	18	25	309	12.6	8.6	18	0.732	0.047	0.537	0.142	0.072	8.7	27

Conventional Data Report

Walla Walla at east Detour Road Br

32A100

Class: A
Rivermile: 33
Latitude: 46 02 44.4
Longitude: 118 27 35.0
Waterbody:

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
5/12/1999 9:45	9.4		98	12.1	8.3	11	0.668	0.029	0.418	0.108	0.048	6.3	98
6/15/1999 17:50	24.8		156	8.4	8.1	8	1.03	0.05	0.521	0.163	0.096	2.7	
7/6/1999 16:40	24.6		306	11.3	8.1	3	0.614	0.055	0.329	0.131	0.073	1.5	150
8/3/1999 18:15	24.2		167	9.1	8.8	7	0.66	0.049	0.331	0.201	0.144	3	280
9/7/1999 18:45	16.5		173	9.8	8.5	6	0.645	0.045	0.53	0.146	0.086	2.3	60

Conventional Data Report

Touchet at Sims Road

32B080

Class: A
Rivermile: 9
Latitude: 46 09 28.7
Longitude: 118 38 50.0
Waterbody: WA-32-1020

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
5/12/1999 10:40	11.2		82	11	8.6	15	0.275	0.025	0.01 U	0.054	0.007	6.6	5
6/16/1999 7:55	20.6		88	8.3	7.8	23	0.525	0.047	0.22	0.12	0.055	10	110
7/7/1999 8:30	17.9		100	8.9	8	9	0.306	0.041	0.012	0.107	0.054	3.7	110
8/4/1999 8:00	22.6		120	7.4	7.9	5	0.282	0.04	0.01 U	0.147	0.095	2.4	85
9/8/1999 8:15	12.7		119	9.9	8	2	0.157	0.036	0.01 U	0.115	0.065	2.2	31

Conventional Data Report

Touchet R @ Bolles

32B100

Class: A
Rivermile: 40.4
Latitude: 46 16 28.0
Longitude: 118 13 15.0
Waterbody: WA-32-1020

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
5/12/1999 11:50	9.8		73	13	9.3	8	0.359	0.016	0.141	0.068	0.016	3.7	51
6/16/1999 6:30	15.4		79	9	7.8	16	0.555	0.041		0.093	0.039	4.7	290
7/7/1999 7:30	14.8		101	10.4	8.1	9	0.436	0.043	0.202	0.072	0.027	1.6	96
8/4/1999 6:45	19.2		112	7.4	7.7	10	0.529	0.039	0.248	0.117	0.061	5.4	210
9/8/1999 7:00	10.7		112	9.8	7.9	6	0.302	0.04	0.182	0.106	0.05	3.3	89

Conventional Data Report

Snake R nr Pasco

33A050

Class: A
Rivermile: 2.2
Latitude: 46 13 00.0
Longitude: 119 01 20.0
Waterbody: WA-33-1010

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/13/1998 16:30	16.7	29500	311	9.3	8.2	5	0.808		0.686	0.028	0.046	3.2	1
11/3/1998 18:45	13	20000	342	9.4	8.4	2	1.09	0.01 U	0.755	0.063	0.053	2.6	1
12/16/1998 9:30	5.6	46000	274	11.1	8	4	0.953	0.02	0.721	0.046	0.029	5.8	2
1/13/1999 11:05	2.8	72500	358	11.8	7.9	12	1.33	0.059	1.27	0.084	0.06	17	2
collected day 3 (99/01/13)													
3/17/1999 10:50	4.8	83000	242	12.2	7.6	15	1.24	0.016	1.01	0.093	0.065	13	1
4/14/1999 11:55	7.7	69000	178	13	8.4	12	0.758	0.012	0.538	0.101	0.048	14	1
sampled on day three.													
5/12/1999 13:25	10.7	113000	123	12.3	8.4	35	0.474	0.037	0.245	0.071	0.018	12	2
6/15/1999 17:00	15	120100	114	11.8	8.2	17	0.316	0.023	0.102	0.046	0.008	11	4
7/6/1999 14:50	15.9	92000	118	10.8	8	11	0.293	0.038	0.136	0.039	0.011	8.2	2
8/3/1999 16:05	20	21000	131	9.8	7.7	9	0.282	0.039	0.109	0.041	0.014	6.2	
9/7/1999 17:00	17.9	15500	147	8.6	7.9	4	0.368	0.05	0.237	0.045	0.015	4.6	35

Conventional Data Report

Palouse R @ Hooper

34A070

Class: B
Rivermile: 19.5
Latitude: 46 45 33.0
Longitude: 118 08 49.0
Waterbody: WA-34-1010

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/4/1998 11:50	12.2	78	319	10.9	8.8	49	1.81	0.011	1.26	0.123	0.017	33	33
Cond meter not holding calibration this run.													
11/1/1998 11:45	6.5	114	340	11.8	8.6	13	1.79	0.01 UJ	1.35	0.051	0.005 U	8.5	9
12/6/1998 13:30	1	660	227	12.5	7	53	3.38 J	0.081	3.08	0.281 J	0.113	90	300 J
1/10/1999 12:05	2.7	943	269	12.3	8.2	52	4.42	0.066	4.37	0.256	0.126	65	37
Cant calib cond meter nearer than 1-2 umhos in 102.1 std.													
2/7/1999 12:35	2.7	2860	234	12.3	8.1	493	5.99	0.069	5.11	0.442	0.198	190	40
First ph was 8.17 recalibrated ph was 8.09													
3/7/1999 11:30	2.4	2620	200	11.6	7.9	105	7.03	0.045	6.41	0.222	0.12	75	23
4/4/1999 14:15	5.3	1400	223	11.7	7.9	19	3.65	0.019	3.3	0.159	0.068	24	11
5/2/1999 12:00	9.3	817	182	10.9	8.8	9	2.08	0.04	1.74	0.068	0.02	6.9	15
6/6/1999 11:40	15	422	211	10.1	8	27	2.16	0.082	1.71	0.188	0.09	11	29
7/11/1999 12:00	22.6	122	268	12.7	9.4	53	1.14	0.053	0.016	0.103	0.025	19	8
calibrated pH meter													
8/8/1999 12:15	21.1	69	376	9.6	8.4	19	1.21	0.084	0.59	0.177	0.096	9.8	120
9/12/1999 13:10	15	54	284	12.1	9.1	34	1.05	0.041	0.01 U	0.134	0.01	17	2

Conventional Data Report

Palouse R @ Palouse

34A170

Class: A
Rivermile: 121.2
Latitude: 46 54 37.0
Longitude: 117 04 08.0
Waterbody: WA-34-1030

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/5/1998 7:40	7.3	16	80	9.4	8.1	2	0.211	0.01 U	0.013	0.032	0.008	1.6	25
11/2/1998 6:50	4.5	16	105	10.5	7.9	2	0.133	0.01 UJ	0.01 U	0.03	0.023	1.9	10
12/7/1998 7:30	-0.4	168	68	12.1	7.3	4	0.913	0.03	0.647	0.111	0.03	19	53 J
1/11/1999 7:35	-0.5	1340	56	12.1	7.5	386	0.951	0.055	0.766	0.531	0.076	270	650
2/8/1999 8:20	-0.8	1140	47	12.2	7.3	145	1.71	0.023	1.33	0.187	0.065	95	290
	TD =13.86 +0.23												
3/8/1999 9:50	0.4	519	43	11.4	7.1	27	1.16	0.053	0.953	0.086	0.038	35	71
	TD=14.97 +0.23												
4/5/1999 8:25	1.4	645	92	12	7.4	19	1.03	0.028	0.484	0.125	0.042	34	220
5/3/1999 8:00	5.3	499	43	10.7	7.5	12	0.175	0.036	0.11	0.057	0.02	9.3	84
	14.95+0.23 =15.18												
6/7/1999 8:30	10.2	119	48	9.9	7.6	7	0.174	0.018	0.033	0.076	0.016	6.6	96
7/12/1999 8:00	19.4	30	68	7.3	7.6	9	0.288	0.035	0.01 U	0.056	0.022	8.3	88
8/9/1999 8:00	18.3	20	80	6.3	7.7	2	0.269	0.037	0.01 U	0.036	0.012	1.8	130
9/13/1999 8:00	11.7	10	76	8	8.2	2	0.26	0.031	0.01 U	0.032	0.017	1.7	100

Conventional Data Report

SF Palouse R @ Pullman

34B110

Class: A
Rivermile: 22.2
Latitude: 46 43 58.0
Longitude: 117 10 48.0
Waterbody: WA-34-1020

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/5/1998	7:00	8.9	7.2	434	8.1	8	10	6.2	0.137	5.72	1.41	1.07	8.2	93
11/2/1998	6:15	5.8	7.6	520	8.4	7.6	3	10.1	0.174 J	8.58	1.08	1.8 J	3.5	120
12/7/1998	6:30	1.3	36	389	11.7	7.8	9	6.3	0.369	9.88	0.586	0.484	23	260 J
1/11/1999	7:00	0.7	200	184	11.9	7.9	830	8.34	0.208	5.67 J	1.6	0.156	1500	620
2/8/1999	7:00	-0.5	126	153	12.3	7.6	274	9.46	0.174	7.45	0.454	0.391	360	210
3/8/1999	7:10	0.9 CB=16.72	138	175	11.4	7.4	68	9.95	0.21	9.92	0.336	0.23	80	230
4/5/1999	7:40	2.4	92	368	11.5	7.6	17	6.1	0.165	6.15	0.326	0.196	32	75
5/3/1999	7:00	6.4 cb=16.71	48	302	9.8	7.6	16	4.7	0.073	4.31	0.404	0.27	15	140
6/7/1999	7:20	10.1	20	316	8.9	7.8	20	4.53	0.06	4.084	0.828	0.473	14	320
7/12/1999	7:15	16.6	4.1	509	6.3	8	34	4.09	0.081	0.173	1.33	0.804	10	570
8/9/1999	7:15	15.9	4.5	405	4.6	7.8	8	1.03	0.069	0.097	1.01	0.844	3.7	8500 J
9/13/1999	7:30	9.2	4.4	511	8	7.9	8	6.69	0.052	5.79	1.67	1.56	6	140

Conventional Data Report

Snake R @ Interstate Br

35A150

Class: A
Rivermile: 139.6
Latitude: 46 25 15.0
Longitude: 117 02 05.0
Waterbody: WA-35-1010

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/4/1998 14:30	16.8	26000	325	8.9	8.3	4	1.16	0.01 U	0.989	0.077	0.059	2.6	1
11/1/1998 14:45	9.4	15500	348	10.8	8.3	4	0.929	0.01 UJ	0.731	0.053	0.041	2.3	2
12/6/1998 16:40	4.7	19800	268	11.7	8	7	0.939 J	0.035	0.701	0.079 J	0.036	7.6	6
1/10/1999 15:05	5.9	34900	387	12.7	8.1	3		0.033	1.25	0.063	0.051	3.5	2
2/7/1999 15:50	2.6	30800	302	12.2	8.4	3	1.19	0.021	0.99	0.071	0.045	3.4	1
3/7/1999 14:10	3.9	52800	279	12.1	8.1	9	1.15	0.018	0.969	0.088	0.055	10	1 U
4/4/1999 17:15	7.2	61300	230	12	8.3	19	0.882	0.069	0.444	0.112	0.045	19	1 U
5/2/1999 15:20	9.6	66500	181	10.9	7.8	22	0.268	0.055	0.254	0.084	0.022	21	3
6/6/1999 14:55	11.1	105000	116	11.3	8.3	51	0.312	0.022	0.094	0.066	0.015	22	14
7/11/1999 14:50	17.8	44400	159	9.3	8.1	5	0.248	0.038	0.097	0.023	0.011	2	7
8/8/1999 14:45	20.5	24500	226	8.3	8.2	4	0.471	0.062	0.226	0.041	0.019	3.2	8
9/12/1999 15:45	17.8	18700	291	8.7	8.3	3	0.872	0.033	0.614	0.08	0.049	1.6	2

Conventional Data Report

Tucannon R @ Powers

35B060

Class: A
Rivermile: 2.3
Latitude: 46 32 18.0
Longitude: 118 09 18.0
Waterbody: WA-35-2010

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/4/1998 12:50	13.8	79	134	10.8	8.5	11	0.249	0.01 U	0.154	0.049	0.035	2.5	63
	Cattle in water downstream												
11/1/1998 13:05	8.9	89	160	10.6	8	3	0.236	0.01 UJ	0.13	0.046	0.025	1.2	40
12/6/1998 14:55	4.8	180	121	11.5	7.7	18	0.608 J	0.01 U	0.447	0.125 J	0.047	8.8	59
1/10/1999 13:15	6.6	175	133	11.2	7.9	49	0.66	0.021	0.541	0.12	0.06	13	45
	Signs of cows in stream												
2/7/1999 14:25	6.2	155	121		7.5	170	0.924 J	0.01 U	0.554	0.484	0.065	240	51
	DO is unknown because of my titration screw up!												
3/7/1999 12:30	5	282	112	11.8	7.6	53	0.931	0.01 U	0.802	0.114	0.054	18	21
4/4/1999 15:35	6.6	256	132	12.4	8.6	9	0.273	0.01 U	0.15	0.088	0.046	4	12
5/2/1999 13:15	9.4	335	101	10.9	8.1	26	0.227	0.037	0.137	0.079	0.036	6.4	58
6/6/1999 12:45	11.3	515	70	9	7.9	54	0.265	0.02	0.137	0.122	0.031	16	37
7/11/1999 13:00	20.7	215	107	9.3	8.4	15	0.208	0.043	0.034	0.084	0.043	3.2	160 J
8/8/1999 13:15	19.6	203	138	7.9	8.1	24	0.4	0.06	0.187	0.146	0.068	14	250
9/12/1999 14:10	15.8	75	127	11.4	8.9	3	0.282	0.032	0.045	0.101	0.045	1.4	43

Conventional Data Report

Columbia R nr Vernita

36A070

Class: A
Rivermile: 388.1
Latitude: 46 38 34.0
Longitude: 119 43 54.0
Waterbody: WA-CR-1030

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/7/1998	10:40	17		117	9.4	8.1	2	0.168	0.01 U	0.083	0.01 U	0.005 U	1.4	1 U
11/4/1998	10:15	13.3			9.6	8.2	1 U	0.141 J	0.01 U	0.077	0.01 U	0.005 U	1	1 U
12/9/1998	10:55	7.1		133	10.9	7.8								
1/13/1999	10:40	4.4		149	12	7.8	1	0.238	0.01 U	0.184	0.012	0.006	0.8	1 U
2/10/1999	11:00	2		103	12.8	7.1	2	0.231	0.01 U	0.223	0.01 U	0.005 U	2.3	1 U
3/10/1999	10:30	2.4		87 J	12.2	7.9	3	0.269	0.01 U	0.183	0.01 U	0.005 U	2.2	1
4/7/1999	12:25	5.8		171	12.7	8.4	4	0.38	0.011 U	0.272	0.028	0.013	5.2	1
5/5/1999	10:45	7.9		132	13.5	8.3	5	0.224	0.034	0.087	0.017	0.005 U	2.9	1 U
6/9/1999	10:55	12.1		125	12.7	8	5	0.187	0.018	0.075	0.025	0.005 U	3.3	1 U
		Temperature taken from bucket on bridge.												
7/14/1999	10:40	14.7		85	11.3	8.1	5	0.172	0.033	0.037	0.021	0.005 U	2.5	6
8/11/1999	10:20	19.5		98	10.5	8.2	2	0.147	0.034	0.073	0.015	0.005 U	1.5	1 U
9/15/1999	10:40	16.5		107	9.7	8	2	0.162	0.03	0.089	0.014	0.005 U	1.2	1

Conventional Data Report

Yakima R @ Kiona

37A090

Class: A
Rivermile: 29.8
Latitude: 46 15 13.0
Longitude: 119 28 37.0
Waterbody: WA-37-1010

Date/Time		Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
		deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/14/1998	11:20	11.3	1740	287	11.3	8.2	8	1.78		1.73	0.092	0.071	4.4	20
11/4/1998	7:45	8.2	2060	279	10.5	8	12	1.85	0.017	1.6	0.125	0.077	5	13
		staff=3.86												
12/16/1998	10:35	3.5	3790	185	12.5	7.6	35	1.18	0.023	0.904	0.096	0.057	15	22 J
1/13/1999	11:55	2.3	5130	168	13	7.4	27	0.836	0.024	0.759	0.087	0.056	12	72
2/3/1999	8:00	2.9	3950	133	12.5	7.6	33	0.855	0.01 U	0.827	0.118	0.065	16	8
3/17/1999	11:35	6	4470	166	12.1	7.8	64	0.607	0.012	0.449	0.085	0.059	8.5	49
4/14/1999	12:50	9.9	3660	167	12.6	8.6	16	0.529	0.01 U	0.363	0.088	0.047	7.5	10
		GH = 5.22												
5/12/1999	14:30	12.7	4240	161	11.3	8.4	27	0.829	0.03	0.059	0.105	0.042	11	18
6/16/1999	12:10	17.1	9200	107	9.3	7.9	136	0.67	0.024	0.419	0.2	0.037	33	460
7/7/1999	11:00	16.8	4860	138	9.5	8.1	51	0.815	0.031	0.62	0.12	0.038	16	110
		6.11												
8/4/1999	10:40	22.5	1790	239	9.4	8.4	17	1.4	0.035	1.12	0.122	0.072	5.5	55
9/8/1999	11:00	15.7	2180	217	10.9	8.4	14	1.28	0.04	1.13	0.126	0.066	7	24

Conventional Data Report

Yakima R @ Nob Hill

37A205

Class: A
Rivermile: 111.3
Latitude: 46 34 53.6
Longitude: 120 27 43.4
Waterbody: WA-37-1040

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/14/1998 12:55	10.8	2160	126	12.2	8.4	5	0.377	0.183	0.221	0.031	0.034	3.8	6
11/4/1998 9:15	7.6	1380	140	11.2	8.5	3	0.408	0.07	0.297	0.073	0.048	1.6	36
12/16/1998 12:15	2	2110	104	13.7	7.7	6	0.277	0.01 U	0.187	0.031	0.016	4.5	3
1/13/1999 13:20	1.8	3860	95	12.8	7.6	7	0.229	0.016	0.161	0.028	0.019	5.5	5
2/3/1999 9:20	1.6	2640	81	12.7	7.9	3	0.423	0.01 U	0.204	0.058	0.038	3.6	6
3/17/1999 13:00	4.5	2920	110	13.8	8.2	8	0.626	0.01	0.01 U	0.038	0.024	6.1	4
4/14/1999 14:10	6.7	3080	102	13.2	8.6	9	0.158	0.01 U	0.015	0.041	0.022	5.2	1 U
5/12/1999 16:05	9.7	4740	91	12.1	8.3	12	0.254	0.017	0.092	0.051	0.015	6.1	11
6/16/1999 13:30	12.1	13800	62	10.4	7.6	194	0.33	0.02	0.068	0.22	0.019	85	400
7/7/1999 12:20	15.6	5850	67	10	7.8	13	0.152	0.025	0.076	0.046	0.017	5	17
8/4/1999 12:40	15.7	3750	71	10	8.3	6	0.196	0.031	0.082	0.037	0.016	2.9	44
9/8/1999 12:20	12.2	2900	82	11.1	8.2	16	0.222	0.062	0.146	0.071	0.027	7.6	21

Conventional Data Report

Naches R @ Yakima on US HWY 97

38A050

Class: A
Rivermile: 0.1
Latitude: 46 37 48.0
Longitude: 120 30 20.0
Waterbody: WA-38-1010

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/14/1998 13:20	12.2	760	98	11.9	8.4							5	
11/4/1998 10:10	7.6	214	104	11.8	8.4							1.1	
12/16/1998 12:35	2	1056	74	13.6	7.2							3.8 J	
1/13/1999 13:45	1.5	1354	76	13.2	7							3.6	
2/3/1999 10:50	0.7	863	52	13.2	7.6							3.6	
3/17/1999 13:25	4.7	930	89	14.3	8.6							5.9	
4/14/1999 14:30	6.6	1234	91	13.9	8.9							5.4	
5/12/1999 16:30	9.3	2340	72	11.2	8.2							5.7	
6/16/1999 13:50	10	8662	45	10.8	7.4							120	
7/7/1999 12:45	12	3914	50	10	7.7							6.2	
8/4/1999 13:10	15	2010	50	9.5	8							2.4	
9/8/1999 12:40	12.3	1860	60	9.5	7.7							11	

Conventional Data Report

Yakima R @ Harrison Bridge

39A050

Class: A
Rivermile: 122
Latitude: 46 40 46.8
Longitude: 120 29 28.8
Waterbody:

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/14/1998 13:35	11.8		130	13.8	8.9	3	0.349	0.169	0.206	0.016	0.024	1.8	8
11/4/1998 10:30	7.6		135	12.2	8.5	4	0.366	0.01 U	0.244	0.032	0.014	1.6	6
12/16/1998 13:00	2.7		122	14.4	8.3	2	0.344	0.01 U	0.227	0.024	0.013	1.5	1
1/13/1999 13:55	2.1		98	13.3	7.3	8	0.261	0.022	0.191	0.028	0.019	5.3	7
2/3/1999 11:20	2		99	13.2	7.8	3	0.325	0.01 U	0.273	0.042	0.025	3.2	4
3/17/1999 13:50	5.6		119	13.7	8.5	6	0.16	0.01 U	0.01 U	0.024	0.013	4.3	1
4/14/1999 14:50	7.9		103	12.8	8.4	10	0.166	0.01 U	0.024	0.031	0.015	4.8	1 U
5/12/1999 16:45	9.8		106	12.8	8.9	9	0.376	0.027	0.17	0.055	0.02	5.1	11
6/16/1999 14:20	13.2		76	10.6	7.7	69	0.311	0.023	0.109	0.112	0.018	39	530
7/7/1999 13:15	15.9		86	10.4	7.8	11	0.272	0.036	0.131	0.041	0.012	3.9	23
8/4/1999 13:30	17.2		88	11.1	8.7	9	0.332	0.037	0.17	0.046	0.021	2.8	73
9/8/1999 13:00	14.1		128	11.6	8.4	5	0.419	0.046	0.284	0.069	0.032	3	13

Conventional Data Report

Yakima R @ Ellensburg

39A060

Class: A
Rivermile: 153.1
Latitude: 46 58 45
Longitude: 120 34 00
Waterbody:

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/14/1998 15:15	10.7	990	78	11.5	8.3	3	0.14	0.01 U	0.076	0.01 U	0.005 U	1.8	23
11/4/1998 11:15	7.6	550	75	11.3	8.6	2	0.113	0.01 U	0.059	0.01 U	0.005 U	1.1	3
12/16/1998 13:50	2.5	1050	83	12.8	7.4	1	0.107	0.01 U	0.078	0.01 U	0.005 U	1.3	1 U
1/13/1999 15:00	1.6	2800	90	12.7	7.2	4	0.148	0.013	0.091	0.021	0.011	3.9	4
2/3/1999 12:00	0.6	1900	64	13.2	7.6	4	0.173	0.01 U	0.124	0.025	0.013	3.8	16
3/17/1999 14:50	4.4	1650	92	14.7	8.6	3	0.102	0.011	0.01 U	0.022	0.011	3.6	1 U
4/14/1999 15:55	5.8	2455	89	13	8.6	5	0.119	0.01 U	0.02	0.019	0.013	4.1	1 U
5/12/1999 17:45	8.6	2670	80	11.5	8.4	7	0.178	0.022	0.081	0.031	0.005 U	3.6	13
6/16/1999 15:00	11.3	7000	59	10.7	7.5	73	0.199	0.017	0.049	0.085	0.007	33	120
7/7/1999 14:00	13.2	2800	64	10.2	7.6	6	0.172	0.024	0.089	0.028	0.008	2.9	8
8/4/1999 14:20	12.2	2900	58	10	7.9	6	0.183	0.028	0.087	0.027	0.011	3.3	42
9/8/1999 13:45	12.9	770	78	10.1	7.8	5	0.324	0.037	0.246	0.045	0.017	2.5	29

Conventional Data Report

Yakima R nr Cle Elum

39A090

Class: AA
Rivermile: 191
Latitude: 47 11 10.0
Longitude: 121 02 30.0
Waterbody: WA-39-1060

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/12/1998 9:30	9.7	325	59	9.5	6.7	1	0.052		0.01 U	0.01 U	0.005 U	0.8	10
11/2/1998 11:30	6.7	295	52	11.4	7	1	0.026	0.01 U	0.01 U	0.01 U	0.005 U	1.5	1
12/14/1998 10:10	2.1	440	58	11.9	6.7	5	0.122 J	0.01 U	0.081	0.01 U	0.005 U	1.4	7
1/11/1999 10:50	1.6	1365	167	12	6.8	8	0.123	0.011	0.054	0.019	0.007	7.1	2
2/1/1999 13:20	0.9	500	35	12.6	7.4	2	0.086	0.01 U	0.076	0.014	0.007	1.8	
3/15/1999 11:30	3.1	430	59	12.7	7	4	0.08	0.01 U	0.01 U	0.014	0.011	1.3	1
4/12/1999 10:10	3.1	1240	71	12.3	7.1	2	0.083	0.01 U	0.064	0.01 U	0.011	1.7	7
5/10/1999 10:55	5.4	760	58	12.8	6.7	2	0.038	0.028	0.01 U	0.015	0.005 U	1.1	1 U
6/14/1999 14:20	10.7	850	47	11	7.2	7	0.09	0.012	0.01 U	0.022	0.008	4.5	9
7/5/1999 13:10	11	710	48	10.5	7.2	1	0.061	0.025	0.014	0.013	0.005 U	1.6	5
8/1/1999 14:45	14.9	695	40	10.7	6.8	3	0.108	0.042	0.01 U	0.015	0.005 U	1.3	1
9/6/1999 13:20	12.3		49	10.2	6.9	1	0.068	0.044	0.019	0.016	0.005	0.8	4

Conventional Data Report

Crab Cr nr Beverly

41A070

Class: B
Rivermile: 6
Latitude: 46 49 53.0
Longitude: 119 48 54.0
Waterbody: WA-41-1010

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/7/1998 9:45	12.9	331	438	9.2	8.3	13	1.86	0.01 U	1.7	0.027	0.005 U	6.3	84
11/4/1998 9:15	8.3	227	686 J	9.8	8.3	21	2.29 J	0.022	1.94	0.049	0.032	9.4	22
12/9/1998 9:40	1.4	204	753	12.4	8.2	17	2.65	0.045	3.76	0.116	0.051	8.8	6
1/13/1999 9:45	2.1	168	824	12.4	8.3	16	3.54	0.027	3.64	0.104	0.075	9	12
2/10/1999 10:15	0.6	157	552	12.7	8.2	19	3.27	0.019	3.11	0.102	0.065	9	2
3/10/1999 9:25	4.2	153	503 J	11.4	8.4	23	3.16	0.024	3.38	0.093	0.046	13	16
4/7/1999 11:00	6.8	258	677	11.2	8.5	101	2.91	0.025	2.09	0.114	0.041	31	140
5/5/1999 9:45	9		503	10.2	8.4	88	1.72	0.056	1.39	0.114	0.047	40	320
6/9/1999 9:55	14.5		484	9.2	8.5	91	3	0.117	2.39	0.107	0.019	40	130
Temperature taken from bucket on bridge.													
7/14/1999 9:45	15.2	190	446	9.2	8.3	88	2.52	0.046	2.24	0.116	0.017	37	120
8/11/1999 9:30	21.7	292	475	7.4	8.4	105	2.65	0.046	2.15	0.105	0.015	33	160
9/15/1999 9:40	15.5	342	456	8.3	8.2	33	1.98	0.036	1.63	0.067	0.009	9.6	250

Conventional Data Report

Wenatchee R @ Wenatchee

45A070

Class: A
Rivermile: 1.1
Latitude: 47 27 32.0
Longitude: 120 20 07.0
Waterbody: WA-45-1010

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/12/1998 14:10	10.3	515	110	13.2	8.4	5	0.382	0.01 U	0.311	0.01 U	0.007	0.8	13
11/2/1998 15:10	6.1	479	98	14.5	9.4	2	0.417	0.01 U	0.272	0.015	0.005 U	0.7	1
12/14/1998 14:25	2.7	1550	71	14	7.7	14	0.235 J	0.01 U	0.145	0.016	0.005 U	7.2	2
1/11/1999 15:15	6.6	2480	59	13.2	8	18	0.194	0.01 U	0.122	0.012	0.005	2.9	31
2/1/1999 17:00	2.8	1940	47	16	7.9	6	0.246	0.01 U	0.137	0.02	0.005 U	1.8	43
3/15/1999 16:05	4.2	1440	108	14.3	8.7	14	0.329	0.01 U	0.15	0.03	0.018	4.3	1
4/12/1999 14:35	9.7	2180	91	14.2	9.1	24	0.444	0.01 U	0.4	0.034	0.022	4.4	54
5/10/1999 15:15	7.8	4640	61	12.4	8.2	5	0.11	0.019	0.089	0.02	0.005 U	1.9	1 U
6/14/1999 18:00	10	14800	35	11.5	7.6	66	0.245	0.02	0.081	0.088	0.005	27	36
7/5/1999 16:50	9.9	7890	39	11.2	7.7	11	0.154	0.026	0.083	0.019	0.005 U	2.4	3
8/1/1999 18:40	13.7	6410	32	10.5	8.1	9	0.117	0.015	0.049	0.014	0.005 U	1.8	12
9/6/1999 17:40	15.2	1210	64	10.3	8.8	2	0.219	0.038	0.159	0.018	0.005	0.8	12

Conventional Data Report

Wenatchee R nr Leavenworth

45A110

Class: AA
Rivermile: 35.6
Latitude: 47 40 35.0
Longitude: 120 44 00.0
Waterbody: WA-45-1020

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/12/1998 11:30	8	323	44	11.5	7.2	1 U	0.045		0.01 U	0.01 U	0.005 U	0.5 U	1
11/2/1998 13:30	5.6	278	43	12.2	8.6	2	0.031	0.01 U	0.01 U	0.01 U	0.005 U	0.7	1 U
12/14/1998 12:10	1.8	827	36	12.7	6.9	3	0.108 J	0.014	0.071	0.01 U	0.005 U	1.2	1 U
1/11/1999 12:50	1.6	1610	31	12.5	6.4	15	0.141	0.014	0.071	0.011	0.005 U	2.1	1
2/1/1999 15:20	1.1	1150	22	13.2	7.9	1	0.081	0.01 U	0.072	0.01 U	0.005 U	0.9	
3/15/1999 13:45	2.6	699	45	13.1	7.2	2	0.111	0.01 U	0.015	0.016	0.011	1.2	1 U
4/12/1999 12:15	4.3	1170	40	12.6	7.5	2	0.111	0.01 U	0.169	0.02	0.016	1.9	1 U
5/10/1999 13:00	5.7	3050	43	12	6.8	3	0.107	0.029	0.056	0.017	0.005 U	1.2	1 U
6/14/1999 16:20	7.7	9550	26	11.6		19	0.174	0.013	0.074	0.025	0.005 U	4.1	7
7/5/1999 15:20	8.5	5440	28	11	7.4	5	0.098	0.026	0.053	0.014	0.005 U	1.4	1 U
9/6/1999 16:10	12.6	951	32	10.3	8.2	1	0.053	0.033	0.01	0.013	0.005 U	0.7	1 U

Conventional Data Report

Chumstick Cr nr Leavenworth

45C070

Class: A
Rivermile: 0.2
Latitude: 47 36 37.0
Longitude: 120 38 43.0
Waterbody:

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/12/1998 12:10	7.7	3.5	310	10	7.1	3	0.641		0.587	0.01 U	0.017	0.9	41
11/2/1998 13:00	5.8	4.5	290	10.5	7.7	1	0.573	0.01 U	0.046	0.015	0.011	3.1	
staff													
12/14/1998 12:50	2.4	14	310	11.9	7.4	7	0.446 J	0.015	0.302	0.029	0.018	2.3	2
staff = 0.72													
1/11/1999 13:30	2	27	229	12.1	7.6	8	0.312	0.01 U	0.187	0.042	0.021	2.5	2
2/1/1999 14:50	2.5	28	164	12.4	8	3	0.28	0.01 U	0.226	0.04	0.021	2.1	
3/15/1999 14:20	3.2	85	211	11.7	7.6	55	0.551	0.01 U	0.257	0.076	0.046	14	2
4/12/1999 12:55	5.2	92	220	11.9	8.1	5	0.193	0.01 U	0.048	0.023	0.016	3.8	1
staff = 2.10													
5/10/1999 13:30	6.5	57	293	11.4	8.2	13	0.297	0.024	0.179	0.055	0.016	4.5	2
tape down = 6.87 and staff = 1.48													
6/14/1999 15:45	12.2	34	313	9.7	8.2	18	0.414	0.017	0.237	0.07	0.029	6.3	21
7/5/1999 14:30	10.6	24	320	10	7.9	8	0.461	0.036	0.285	0.068	0.025	4.1	84
8/1/1999 16:30	13.3	7.1	314	9.6	7.9	8	0.597	0.031	0.419	0.067	0.03	2.6	80
9/6/1999 15:25	10.6	3.7	263	9.8	7.6	28	0.546	0.033	0.475	0.075	0.027	1.8	200

Conventional Data Report

Brender Cr nr Cashmere

45D070

Class: A
Rivermile: 0.2
Latitude: 47 31 17.0
Longitude: 120 28 36.0
Waterbody:

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/12/1998 13:10	8.6	6	290	10.7	7.6	10	1.59	0.01 U	1.53	0.01 U	0.013	5.4	160
11/2/1998 14:20	7.9	2.8	459	10.7	8.3	5	3.92	0.01 U	3.5	0.058	0.025	2.5	63
	2.19+0.23												
12/14/1998 13:35	5.2	2.7	481	10.5	7.6								
1/11/1999 14:15	5.4	3	460	10.4	7.8	9	3.61	0.01 U	7.6	0.053	0.037	4.1	200
2/1/1999 16:40	5.8	3.9	307	10.5	7.6	69	3.15	0.016	3.33	0.128	0.045	31	
3/15/1999 14:55	6.3	6.5	655	11.6	7.8	48	3.49	0.01 U	2.99	0.118	0.07	27	40
4/12/1999 13:30	8.9	7.5	340	11.9	8.2	38	3.16	0.01 U	2.91	0.129	0.065	25	53
5/10/1999 14:10	9.5	11.3	285	11.7	8.3	21	1.88	0.032	0.717	0.073	0.019	16	31
6/14/1999 17:25	17.5	7.7	317	9.3	7.8	27	3.19	0.03	2.26	0.068	0.026	13	200
7/5/1999 16:10	13.6	5.9	300	9.9	7.6	28	2.68	0.031	2.12	0.061	0.021	7.2	100
8/1/1999 17:30	15.6	5.2	322	9.5	7.7	7	2.42	0.031	2.61	0.063	0.025	3.8	140
9/6/1999 16:50	13	7.3	282	9.9	7.5	34	1.91	0.038	1.89	0.085	0.024	6.4	84

Conventional Data Report

Mission Cr nr Cashmere

45E070

Class: A
Rivermile: 0.2
Latitude: 47 31 17.0
Longitude: 120 28 32.5
Waterbody:

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/12/1998	13:30	8	8.3	325	11	8.1	1 U	0.821		0.83	0.01 U	0.005 U	1.4	96
11/2/1998	14:40	5.4	8.8	304	12.1	8.6	6	0.882	0.01 U	0.627	0.02	0.005 U	1.5	68
		7.68+0.23												
12/14/1998	13:50	1.6	22	216	13	7.8	1060	0.425 J	0.025	0.17	0.356	0.008	350	19
1/11/1999	14:30	2.9	26	221	12.4	7.9	45	0.375	0.01 U	0.283	0.029	0.01	13	38
2/1/1999	16:20	3.4	24	173	12.3	8	14	0.435	0.01 U	0.384	0.032	0.01	5.2	4
3/15/1999	15:30	4.1	53	280	12.2	8.1	45	0.693	0.01 U	0.575	0.031	0.019	7.9	3
4/12/1999	13:50	6.8	58	231	12	8.5	22	0.444	0.01 U	0.326	0.077	0.047	8.6	8
5/10/1999	14:25	6.5	47	255	11.8	8.5	16	0.378	0.021	0.278	0.031	0.006	6.1	14
6/14/1999	17:35	13.8	33	177	10	8.1	42	0.233	0.013	0.158	0.059	0.012	12	99
7/5/1999	16:20	12.6	22	212	10.6	8.4	8	0.306	0.024	0.246	0.032	0.007	2.7	18
8/1/1999	18:10	17.4	3	236	10	8.3	19	0.655	0.031	0.476	0.062	0.012	2.2	380 J
9/6/1999	17:10	13.1	6.5	255		8.4	3	0.704	0.031	0.666	0.03	0.011	1.5	88

Conventional Data Report

Entiat R nr Entiat

46A070

Class: A
Rivermile: 1.5
Latitude: 47 39 48.0
Longitude: 120 14 58.0
Waterbody: WA-46-1010

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/13/1998 12:50	9.1	112	139	11.5	8.4	2	0.21		0.159	0.01 U	0.005 U	0.7	1 U
	staff out of water												
11/3/1998 13:00	6.6	143	126	12.6	9	1	0.182	0.01 U	0.118	0.01 U	0.005 U	0.6	1
12/15/1998 14:10	1.1	136	113	13.7	7.8	2	0.261	0.019	0.187	0.012	0.005 U	0.9	1 U
	staff = 6.70												
1/12/1999 13:40	2.4	170	111	13.2	7.8	2	0.23	0.01 U	0.183	0.015	0.009	0.9	1
2/2/1999 13:20	3.4	174	97	12.9	8	2	0.263	0.01 U	0.167	0.019	0.01	0.9	1
3/16/1999 13:20	5.1	194	152	12.9	7.9	7	0.331	0.01 U	0.259	0.032	0.02	3.8	1 U
4/13/1999 15:20	8.7	378	140	12.5	8.7	21	0.217	0.02	0.103	0.044	0.025	9.4	1
	staff = 7.32												
5/11/1999 14:20	7.3	715	88	11.7	8.2	11	0.169	0.018	0.085	0.029	0.006	3.7	3
	GH = 7.9												
6/15/1999 13:15	7	3420	33	11.7	7.4	67	0.331	0.017	0.043	0.108	0.009	22	100
7/6/1999 11:40	7.7	1550	40	11.7	7.7	12	0.099	0.026	0.026	0.026	0.006	2.6	2
8/3/1999 12:05	11.7	1050	41	10.6	7.8	7	0.061	0.028	0.01 U	0.02	0.005 U	1.5	3
9/7/1999 12:45	11	277	86	10.9	8.1	2	0.134	0.036	0.094	0.023	0.005	0.5 U	3

Conventional Data Report

Methow R nr Pateros

48A070

Class: A
Rivermile: 5
Latitude: 48 04 29.0
Longitude: 119 57 20.0
Waterbody: WA-48-1010

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/13/1998 11:05	8.7	438	208	12	8.2	2	0.341		0.273	0.01 U	0.005 U	0.5 U	2
11/3/1998 11:05	6.5	406	176	12.3	8.5	1 U	0.286	0.01 U	0.223	0.01 U	0.005 U	0.7	6
12/15/1998 12:20	1.7	397	186	14.1	8	1	0.357	0.01 U	0.26	0.01 U	0.005 U	0.7	2
1/12/1999 12:10	1.5	846	178	13.4	8	3	0.313	0.01 U	0.273	0.007	0.005 U	0.8	1 U
2/2/1999 12:20	2.1	380	142	13.1	8.2	2	0.235	0.01 U	0.244	0.01 U	0.005 U	1.6	1 U
3/16/1999 11:35	3.6	456	182	12.7	8.3	3	0.294	0.01 U	0.01 U	0.015	0.01	1.5	1 U
4/13/1999 11:40	4.8	1170	187	12.3	8.3	6	0.244	0.01 U	0.16	0.017	0.016	2.9	1
5/11/1999 12:10	5.4	3220	115	11.9	8.2	5	0.149	0.023	0.04	0.021	0.005 U	1.8	1
6/15/1999 11:15	7.8	13000	54	11.5	7.8	92	0.263	0.019	0.033	0.111	0.005	45	180 J
7/6/1999 10:40	9.9	5160	74	11.1	7.8	9	0.118	0.023	0.048	0.02	0.005 U	2.8	14
8/3/1999 10:50	14.9	2350	94	9.9	7.8	4	0.101	0.026	0.064	0.013	0.005 U	1.1	9
9/7/1999 11:15	11.1	705	152	10.8	8.1	1	0.236	0.034	0.212	0.017	0.005 U	0.6	1

Conventional Data Report

Methow R @ Twisp

48A140

Class: A
Rivermile: 39.4
Latitude: 48 21 34.0
Longitude: 120 06 47.0
Waterbody: WA-48-1020

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/13/1998	10:05	7.8	297	153	11	8.1	1 U	0.252		0.217	0.01 U	0.005 U	0.6	33
11/3/1998	10:00	6	277	139	11.6	8.6	1	0.232	0.01 U	0.188	0.01 U	0.005 U	0.5 U	2
12/15/1998	11:00	1.2	284	147	13.3	7.4	2	0.234	0.012	0.2	0.01 U	0.005 U	0.5	2
1/12/1999	10:35	1.5	311	148	12.8	7.6	1 U	0.242	0.01 U	0.211	0.005 U	0.005 U	1.1	19
2/2/1999	11:00	2.2	284	116	12.8	7.9	1 U	0.202	0.01 U	0.195	0.01 U	0.005 U	0.6	1 U
3/16/1999	10:20	2.4	311	158	12.5	7.8	3	0.225	0.01 U	0.147	0.014	0.009	0.8	1 U
4/13/1999	10:35	4.5	989	164	12.1	8.5	4	0.218	0.01 U	0.031	0.026	0.015	1.9	3
5/11/1999	11:05	4.7	2590	103	12.6	8.2	4	0.122	0.021	0.045	0.017	0.005 U	1.9	2
6/15/1999	10:10	5.4	12700	49	11.3	7.7	70	0.246	0.017	0.033	0.095	0.006	30	120
7/6/1999	9:40	7	4550	63	11.4	7.4	8	0.113	0.026	0.027	0.015	0.005 U	3.2	6
8/3/1999	9:45	10.9	1985	78	10.2	8	3	0.072	0.027	0.035	0.014	0.005 U	6.5	4
9/7/1999	10:00	8.5	552	120	10.9	7.9	1	0.169	0.031	0.155	0.015	0.005 U	0.6	5

Conventional Data Report

Okanogan R @ Malott

49A070

Class: A
Rivermile: 17
Latitude: 48 16 53.0
Longitude: 119 42 12.0
Waterbody: WA-49-1010

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/13/1998	9:40	11	936	309	10.1	8.1	2	0.201		0.026	0.01 U	0.005 U	0.7	19
11/3/1998	9:05	7.6	964	286	10.7	8.6	2	0.214	0.01 U	0.037	0.014	0.005 U	1.1	11
12/15/1998	9:55	1.6	1190	281	12.6	7.8	10	0.362	0.013	0.15	0.026	0.005	5.5	21
1/12/1999	9:30	-1.3	1270	259	13	8	4	0.284	0.01 U	0.158	0.018	0.009	1.7	11
2/2/1999	9:45	1.1	1760	211	12.8	7.8	8	0.301	0.01 U	0.135	0.026	0.01	4.3	7
3/16/1999	9:25	3.6	1820	287	12.2	8	15	0.32	0.01 U	0.048	0.037	0.012	8.9	1
4/13/1999	9:40	8.2	2810	321	10.5	8.6	19	0.264	0.01 U	0.023	0.03	0.013	7.6	6
5/11/1999	10:10	9	7270	185	10.8	8.4	27	0.256	0.031	0.01 U	0.032	0.005 U	8.1	6
6/15/1999	9:10	11.5	12400	87	10.4	8	65	0.209	0.015	0.01 U	0.097	0.007	30	80
7/6/1999	8:40	12.7	9080	124	10.4	7.7	46	0.191	0.029	0.01 U	0.061	0.006	12	25
8/3/1999	8:40	19.6	4310	169	8.7	8.3	23	0.193	0.024	0.01 U	0.038	0.005 U	1.5	41
9/7/1999	8:50	14.5	1750	227	9.1	8.2	4	0.197	0.036	0.042	0.025	0.005 U	1.3	26

Conventional Data Report

Okanogan R @ Oroville

49A190

Class: A
Rivermile: 78
Latitude: 48 56 20.0
Longitude: 119 25 36.0
Waterbody: WA-49-1040

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/13/1998 5:40	13.7	481	248	7.3	7.4	3	0.306		0.01 U	0.01 U	0.005 U	1.4	5
11/3/1998 6:30	10.3	386	262	9.2	8.1	2	0.357	0.01 U	0.015	0.024	0.005 U	1.3	2
12/15/1998 7:20	3.7	504	275	10.9	7.7	3	0.393	0.046	0.105	0.019	0.005	1.1	4
1/12/1999 7:40	-0.1	664	274	13.2	7.3	3	0.367	0.01 U	0.156	0.017	0.006	1.5	1
2/2/1999 8:05	0.5	935	205	13.1	8.2	2	0.354	0.01 U	0.173	0.021	0.009	1.5	1
3/16/1999 8:50	2.6	920	266	14.2	8	12	0.322	0.01 U	0.01 U	0.015	0.006	1.5	1 U
4/13/1999 8:05	6.1	1610	292	11.7	8.4	4	0.24	0.01 U	0.01 U	0.01 U	0.008	2.1	1 U
5/11/1999 8:50	9.6	2520	308	10.9	8.2	4	0.174	0.022	0.01 U	0.016	0.005 U	2.1	3
6/15/1999 7:25	18.8	2360	248	9.5	8.3	3	0.229	0.015	0.01 U	0.015	0.005 U	1	6
7/6/1999 7:00	16.9	1920	244	9.5	8.4	4	0.31	0.027	0.01 U	0.017	0.005	1.5	2
8/3/1999 7:00	21.5	1570	233	8.8	8.5	3	0.286	0.033	0.01 U	0.016	0.005	1	6
9/7/1999 7:10	17.1	609	243	8.3	8.6	3	0.262	0.032	0.01 U	0.02	0.005 U	1.4	7

Conventional Data Report

Similkameen R @ Oroville

49B070

Class: A
Rivermile: 5
Latitude: 48 56 05.0
Longitude: 119 26 27.0
Waterbody: WA-49-1030

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/13/1998 6:20	9.7	382	224	11.2	8.1	2	0.07		0.011	0.01 U	0.005 U	0.9	5
11/3/1998 6:55	5.5	378	192	12	8.5	1	0.073	0.01 U	0.011	0.01 U	0.005 U	1.1	1 U
	c-bar=38.67												
12/15/1998 7:50	2.8	484	205	12.8	8.1	2	0.086	0.01 U	0.024	0.01 U	0.005 U	1.3	5
12/15/1998 8:00													
1/12/1999 8:05	-0.3	630	185	13.8	7.8	2	0.11	0.01 U	0.149	0.007	0.005 U	1.3	2
2/2/1999 7:45	1.1	640	145	13.2	8.1	5	0.06	0.01 U	0.01 U	0.011	0.005 U	1.6	1 U
	c-bar=38.68												
3/16/1999 7:20	5.2	550	221	12.2	7.2	7	0.152	0.01 U	0.01 U	0.018	0.009	2.5	1 U
4/13/1999 7:40	8.8	910	267	11.3	8.2	6	0.12	0.016	0.01 U	0.014	0.013	2.8	1
5/11/1999 8:00	8.3	3820	137	12	8.1	14	0.108	0.026	0.01 U	0.027	0.005 U	5.7	3
5/11/1999 8:10													
6/15/1999 7:00	9	13500	65	12.1	7.7	68	0.183	0.016	0.01 U	0.12	0.005	50	37
	c-bar=38.67												
7/6/1999 6:40	12	8590	92	11.5	7.7	30	0.131	0.026	0.01 U	0.045	0.005 U	10	13
	c-bar=38.67												
8/3/1999 6:40	17.5	2750	116	9.5	7.7	9	0.104	0.026	0.01 U	0.023	0.005 U	4.7	17
9/7/1999 6:40	12	1165	163	10.3	8.3	5	0.081	0.036	0.01 U	0.019	0.005 U	1.3	7
	c-bar=38.67												

Metals Data Report

Similkameen R @ Oroville

49B070

Class: A
Rivermile: 5
Latitude: 48 56 05.0
Longitude: 119 26 27.0
Waterbody: WA-49-1030

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/13/1998	6:20	382														
11/3/1998	6:55	378														
12/15/1998	7:50	484	112									0.002 U				
12/15/1998	8:00				0.02 U				0.554		0.02 U					0.77
1/12/1999	8:05	630														
2/2/1999	7:45	640														
3/16/1999	7:20	550														
4/13/1999	7:40	910														
5/11/1999	8:00	3820	66									0.003				
5/11/1999	8:10				0.02 U				1.22		0.027					1.4 J
6/15/1999	7:00	13500														
7/6/1999	6:40	8590														
8/3/1999	6:40	2750														
9/7/1999	6:40	1165														

Conventional Data Report

Columbia R @ Grand Coulee

53A070

Class: A
Rivermile: 596
Latitude: 47 57 56.0
Longitude: 118 58 54.0
Waterbody: WA-CR-1050

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/7/1998 7:00	18.3	102900	110	8.3	8.4	1 U	0.143	0.01 U	0.102	0.01 U	0.005 U	0.5 U	1 U
11/4/1998 6:30	14.8	125000		8.3	7.5	1 U	0.164	0.01 U	0.103	0.011	0.005 U	0.5 U	1
12/9/1998 6:20	9.1	135000	135	10	7.6	1	0.176	0.017	0.141	0.029	0.005 U	1.4	1
1/13/1999 7:05	3.9	208000	148	11.5	8	1 U	0.223	0.01 U	0.171	0.01 U	0.005	0.9	1 U
2/10/1999 7:30	2.2	218000	94	12.2	7.1	1	0.196	0.01 U	0.192	0.01 U	0.005	2.3	1 U
3/10/1999 7:20	2.4	210000	82 J	11.8	7.7	2	0.233	0.012	0.186	0.01 U	0.006	2.7	1 U
4/7/1999 8:10	4.6	174000	189	12.5	7.8	2	0.311	0.015	0.197	0.025	0.013	3.9	1 U
5/5/1999 7:20	7.2	203000	135	11.5	7.9	2		0.041	0.116	0.016	0.005	2.5	1 U
6/9/1999 7:30	12	201000	110	11	7.7	2	0.174	0.026	0.078	0.021	0.006	1.5	1 U
Temperature taken from bucket on bridge.													
7/14/1999 6:30	13.2	165000	91	10.4	7.8	1	0.152	0.051	0.03	0.017	0.005 U	0.7	1 U
8/11/1999 6:45	17.4	163000	95	9.8	8	1 U	0.132	0.047	0.04	0.011	0.005 U	0.5	1 U
9/15/1999 6:45	16	129000	98	9.2	7.8	1 U	0.143	0.032	0.084	0.01	0.005 U	0.6	1 U

Conventional Data Report

Spokane R @ Riverside State Pk

54A120

Class: A
Rivermile: 66
Latitude: 47 41 48.0
Longitude: 117 29 48.0
Waterbody: WA-54-1020

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/5/1998 10:20	12	2425	126	10.4	8.4	2	0.883	0.01 U	0.848	0.02	0.005 U	0.8	67
11/2/1998 10:00	8.5	2230	178	11	8.1	2	0.953	0.01 UJ	0.823	0.062	0.047	1.1	44
12/7/1998 10:55	5.2	5860	91	10.3	7.3	2	0.554	0.016	0.467	0.057	0.029	2.5	11
1/11/1999 10:35	2.6	6240	91	12.4	7.4	358	1.58	0.056	0.888	0.693	0.052	340	340
2/8/1999 11:30	1.9	6710	77	12.7	7	103	1.71	0.021	1.46	0.126	0.04	70	120
3/8/1999 12:30	2.3	11400	54	13.5	7.3	7	0.585	0.016	0.486	0.031	0.02	4.6	74
4/5/1999 11:50	3.4	13400	103	13.6	7.6	5	0.481	0.012	0.323	0.044	0.019	3.6	26
5/3/1999 11:00	6.8	18300	66	12.7	7.7	7	0.294	0.041	0.163	0.029	0.009	2.9	13
6/7/1999 11:20	10.8	20200	53	12.2	7.9	5	0.219	0.017	0.113	0.029	0.005 U	2.5	15
7/12/1999 10:50	16	4400	124	9.6	8	2	0.738	0.032	0.153	0.018	0.005 U	1.1	43 J
8/9/1999 11:00	16.3	2390	153	9.2	8.2	1 U	0.957	0.036	0.865	0.027	0.01	0.6	100
9/13/1999 10:45	11.7	1450	212	9.9	8.1	1	1.41	0.025	1.33	0.032	0.013	0.8	68

Conventional Data Report

Little Spokane R nr Mouth

55B070

Class: A
Rivermile: 1.1
Latitude: 47 47 00.0
Longitude: 117 31 43.0
Waterbody: WA-55-1010

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/5/1998	11:00	8.5	432	218	9.5	8.2	6	1.32	0.01 U	1.37	0.016	0.005 U	2.2	60
11/2/1998	10:45	7.6	455	271	9.4	8	6	1.46	0.01 UJ	1.29	0.018	0.014	1.5	47
12/7/1998	11:40	4.5	615	236	10.3	7.7	9	1.03	0.039	1.21	0.052	0.01	4.4	31
1/11/1999	11:05	4.1	647	238	10.4	8	24	1.34	0.037	1.28	0.081	0.024	28	52
2/8/1999	12:05	2.3	1084	147	10.5	7.3	24	1.26	0.041	0.951	0.094	0.048	18	45
		TD= 17.30 +0.23												
3/8/1999	13:05	3.1	1234	142	10.2	7.4	9	0.956	0.048	0.746	0.052	0.025	9.4	15
		TD= 16.75 +0.23												
4/5/1999	12:35	5.9	1201	219	11.4	7.8	8	0.752	0.013	0.518	0.061	0.024	5.1	5
5/3/1999	11:30	8.7	975	184	7.3	7.8	13	0.886	0.047	0.61	0.052	0.019	6.6	19
		17.30+0.23=17.53												
6/7/1999	12:10	11	647	206	9.3	8.1	12	1.09	0.024	0.932	0.055	0.013	4.1	27
7/12/1999	11:30	14.6	507	248	9	8.1	8	1.27	0.036	0.28	0.03	0.012	1.7	49
8/9/1999	11:50	13.5	457	241	8.9	8.2	5	1.28	0.037	1.23	0.034	0.013	2.1	58
9/13/1999	11:20	9.8	422	253	9.6	8.2	5	1.47	0.024	1.26	0.031	0.012	1.8	23

Conventional Data Report

Little Spokane @ Painted Rocks

55B075

Class: A
Rivermile: 3.9
Latitude: 47 46 51.1
Longitude: 117 29 42.8
Waterbody: WA-55-1010

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/5/1998	11:35	8.9	434	221	9.6	8.3	4	1.32	0.01 U	1.4	0.013	0.005 U	1.4	36
11/2/1998	11:15	7.8	463	269	9.6	8	4	1.63	0.01 UJ	1.29	0.01 U	0.006	1.3	47
12/7/1998	12:15	4.6	615	232	12.4	7.8	9	1.04	0.019	1.16	0.055	0.011	3.4	27
1/11/1999	11:30	4.2	647	240	10.1	8.2	18	1.37	0.031	1.32	0.063	0.025	17	100
2/8/1999	12:45	2.6	1075	146	10.7	7.6	23	1.28	0.038	0.944	0.084	0.044	16	48
		USGS Staff Gage reading												
3/8/1999	13:35	3.2	1364	143	10.7	7.3	12	0.998	0.019	0.81	0.052	0.025	10	11
		USGS Staff Gage												
4/5/1999	13:05	5.9	1332	221	11.5	8.1	7	0.793	0.011	0.541	0.061	0.025	5.2	7
5/3/1999	12:00	8.7	1051	183	8.4	7.5	15	0.849	0.05	0.66	0.049	0.018	6.2	37
		Staff=8.10												
6/7/1999	12:40	11.1	648	205	9.3	8.3	14	1.1	0.025	0.936	0.056	0.013	3.6	25
7/12/1999	12:00	14.6	508	248	9	8.2	9	1.28	0.035	1.18	0.027	0.012	1.3	49
8/9/1999	12:15	13.8	449	246	9	8	5	1.31	0.037	1.33	0.034	0.013	1.4	49
9/13/1999	11:50	10.2	422	257	9.3	8.2	3	1.19	0.026	1.03	0.039	0.014	1.2	33

Conventional Data Report

Little Spokane R abv Dartford Creek

55B082

Class: A
Rivermile: 10.3
Latitude: 47 47 01.0
Longitude: 117 24 52.0
Waterbody: WA-55-1010

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/5/1998 12:00	8.8	167	203	11.6	8.3	3	1.2	0.01 U	1.16	0.015	0.005 U	1.7	99
11/2/1998 11:50	6.7	194	258	11.7	8.2	3	1.56	0.01 UJ	1.16	0.016	0.005 U	1.3	63
12/7/1998 12:45	2.4	333	224	12	7.9	8	1.16	0.042	0.945	0.068	0.011	4.6	9
1/11/1999 12:00	1.6	270	206	12	8.2	19	1.27	0.041	1.14	0.087	0.032	17	120
2/8/1999 13:30	0.9	755	117	12	7.2	24	1.2	0.048	0.758	0.106	0.059	17	120
	Td = 13.90 +0.23 RP was unclear												
3/8/1999 14:00	2	1010	113	11.3	7.5	12	0.836	0.015	0.626	0.055	0.028	12	12
4/5/1999 13:40	5.1	1000	180	11.8	7.9	7	0.763	0.025	0.382	0.073	0.029	7.1	12
5/3/1999 12:30	8.6	742	143	10	7.5	13	0.688	0.047	0.421	0.06	0.021	6.9	34 J
6/7/1999 13:05	12.2	369	164	10	7.9	13	0.809	0.024	0.594	0.066	0.017	5	25
7/12/1999 12:30	18	237	211	9.8	8.3	8	0.993	0.039	0.801	0.04	0.016	2.2	73
8/9/1999 13:00	17.1	181	230	9.7	8.2	5	1.13	0.041	0.994	0.048	0.019	1.7	92
9/13/1999 12:20	11.1	156	238	11	8.2								

Conventional Data Report

Little Spokane @ Chattaroy

55B200

Class: A
Rivermile: 23.1
Latitude: 47 53 22.0
Longitude: 117 21 19.0
Waterbody: WA-55-1010

Date/Time		Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
		deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/5/1998	12:35	9.2	106	157	10.8	8.3	1	0.534	0.01 U	0.379	0.01 U	0.005 U	1	72
11/2/1998	12:20	6.2	92	181	11.2	8	5	0.655	0.01 UJ	0.43	0.016	0.01	1.4	10
		Cond. Bridge battery began to fail at this site use lab data												
12/7/1998	13:20	1.7	231	147	12.1	8	7	0.619	0.035	0.374	0.052	0.005 U	3.3	5
1/11/1999	12:40	1.2	203	162	12.1	8	5	0.811	0.068	0.505	0.035	0.015	2.8	46
2/8/1999	14:10	0.9	308	103	12.2	7.4	6	0.693	0.011	0.418	0.052	0.026	5.4	17
		TD= 9.23 +0.23												
3/8/1999	14:55	2.1	459	93	12.3	7	5	0.505	0.01 U	0.272	0.036	0.013	4.3	2
		TD= 8.58 +0.23												
4/5/1999	14:10	5.3	462	159	12.6	7.8	15	0.363	0.014	0.12	0.049	0.018	3	3
5/3/1999	13:00	7.6	391	119	9.7	7.5	6	0.428	0.049	0.148	0.046	0.014	4	21
		8.90+0.23=9.13												
6/7/1999	13:40	12.8	233	136	9.9	7.9	8	0.45	0.022	0.215	0.051	0.01	4.5	23
7/12/1999	13:00	19.3	150	162	9.1	7.9	6	0.52	0.04	0.28	0.027	0.009	2	48
8/9/1999	13:30	18.4	111	186	9.5	7.9	3	0.522	0.042	0.341	0.038	0.012	1.2	52 J
9/13/1999	12:50	11.8	104	187	10.4	8.3	1	0.543	0.027	0.398	0.034	0.01	0.7	4

Conventional Data Report

Hangman Cr @ Mouth

56A070

Class: A
Rivermile: 0.6
Latitude: 47 39 17.0
Longitude: 117 27 12.0
Waterbody: WA-56-1010

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/5/1998	9:50	7.6	19	417	11	8.2	3	1.48	0.011	1.26	0.029	0.009	1.7	130
11/2/1998	9:30	6.4	23	420	11.7	8.1	4	1.36	0.01 UJ	1.13	0.033	0.022	4	31
12/7/1998	10:05	0.7	149	183	12.3	7.5	9	3.97	0.068	4.07	0.198	0.081	45	280 J
1/11/1999	10:00	-0.2	2630	77	12.6	7.2	1600	4.35	0.134	2.22	1.74	0.104	1900 J	540
2/8/1999	10:55	-0.1	1570	90	12.7	7	518	5.42	0.08	5.32	0.349	0.093	340	220
3/8/1999	11:50	2.4	573	123	11.4	7.7	33	5.36	0.019	5.29	0.141	0.08	40	210
4/5/1999	11:00	5.4	363	244	12	8.1	7	2.82	0.016	2.62	0.1	0.042	14	17
5/3/1999	10:25	9.4	160	220	10.5	8	10	5.85	0.103	1.22	0.068	0.021	4.4	680 J
6/7/1999	10:45	12.2	72	274	10.7	8.4	9	1.3	0.038	0.792	0.089	0.017	5.4	2400 J
7/12/1999	10:20	17.8	30	367	9.9	8.4	5	1.27	0.07	0.832	0.056	0.019	2.2	120
8/9/1999	10:25	15.9	21	386	9.9	8.3	3	1.41	0.08	1.09	0.072	0.028	1.9	180
9/13/1999	10:15	10	20	370	10.6	8.2	3	1.46	0.034	1.22	0.06	0.025	1.3	35

Conventional Data Report

Hangman Creek @ Bradshaw Road

56A200

Class: A
Rivermile: 32.9
Latitude: 47 23 34.5
Longitude: 117 14 48.6
Waterbody: WA-56-1010

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/5/1998 9:00	9.2		303	9.6	8.2	5	0.45	0.01 U	0.041	0.03	0.005 U	4.3	30
11/2/1998 8:35	5.3		285	9.4	8.1	3	0.397	0.01 UJ	0.01 U	0.028	0.016	2.4	29
12/7/1998 9:00	-0.7		126	12.1	7.3	4	5	0.055	4.42	0.313	0.058	45	80 J
1/11/1999 9:05	0.1		75	12.2	6.9	1080	3.75	0.097	2.85	1.37	0.097	1700	1800
2/8/1999 10:10	-0.2		68	12.2	7.2	199	5.27	0.028	4.07	0.269	0.079	230	490
	TD= 13.66 +0.23												
3/8/1999 11:05	1.3		87	11.4	7.6	17	5.66	0.018	3.93	0.118	0.065	45	31
	TD= 14.73 +0.23												
4/5/1999 9:55	2.8		197	12	7.4	6	2.94	0.013	2.59	0.114	0.039	21	14
5/3/1999 9:15	7.5		132	11	7.8	4	1.45	0.039	1.21	0.048	0.007	7.6	22
	15.48+0.23=15.71												
6/7/1999 9:50	11.8		164	9.6	7.8	9	1.037	0.044	0.562	0.073	0.008	6	35
7/12/1999 9:30	18.8		233	4.8	7.8	6	0.756	0.039	0.01 U	0.075	0.016	5.1	140
8/9/1999 9:15	18.4		268	6.1	7.8	2	0.576	0.046	0.01 U	0.088	0.04	2.8	44
9/13/1999 9:20	11.3		281	9.1	8.4	5	0.542	0.026	0.01 U	0.055	0.019	3.3	7

Conventional Data Report

Spokane R @ Stateline Br

57A150

Class: A
Rivermile: 96
Latitude: 47 41 55.0
Longitude: 117 02 37.0
Waterbody: WA-57-1010

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/5/1998	13:55	15	2140	46	9.2	8.2	1	0.129	0.01 U	0.054	0.01 U	0.005 U	0.8	12
10/5/1998	15:00													
11/2/1998	13:35	9.4	1730		10.1	7.5	2	0.148	0.01 UJ	0.064	0.011	0.005 U	0.8	4
12/7/1998	13:00													
12/7/1998	14:45	5.3	6060	54	10.6	7.5	1	0.139	0.019	0.043	0.038	0.005 U	1.3	2
1/11/1999	13:30	3.2	6280	57	11.6	7.6	1 U	0.159	0.024	0.049	0.011	0.007	0.6	15
2/8/1999	15:00	2.3	6380	41	11.9	7.1	2	0.165	0.01 U	0.072	0.011	0.006	1.8	1
3/8/1999	16:05	1.7	11300	47	12.2		2	0.184	0.012	0.08	0.01	0.005 U	1.9	1
		pH did not get recorded												
3/8/1999	16:20													
4/5/1999	15:00													
4/5/1999	15:30	2.6	13400	64	12.7	7.3	2	0.24	0.01 U	0.113	0.028	0.009	2.7	1
5/3/1999	11:15													
5/3/1999	14:20	7	19200	53	12	7.6	3	0.185	0.038	0.039	0.019	0.005 U	2.8	2
6/7/1999	14:35	10.8	20400	40	11.1	7.7	3	0.103	0.025	0.01 U	0.025	0.005 U	2	1 U
6/7/1999	14:50													
7/12/1999	14:05	17.8	4780	41	8.9	7.6	2	0.115	0.031	0.012	0.011	0.005 U	1.4	13
8/9/1999	14:30	21.7	2190	49	8.4	6.6	1 U	0.187	0.04	0.068	0.019	0.007	1	23
9/13/1999	13:50	17.2	1870	55	9.3	8	3	0.214	0.027	0.081	0.016	0.005 U	1.3	15

Metals Data Report

Spokane R @ Stateline Br

57A150

Class: A
Rivermile: 96
Latitude: 47 41 55.0
Longitude: 117 02 37.0
Waterbody: WA-57-1010

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/5/1998	13:55	2140	25	0.13		0.1 U		11.4		1.2		0.002 U			49.6	
10/5/1998	15:00				0.069				0.35		0.17			0.44		32.7
11/2/1998	13:35	1730														
12/7/1998	13:00				0.233				0.511		0.08			0.49		79.1
12/7/1998	14:45	6060	25	0.25		0.2 U		0.6		0.7		0.002 U			71.3	
1/11/1999	13:30	6280														
2/8/1999	15:00	6380	26	0.29	0.26	0.1 U		0.7	0.556	1.2	0.308	0.002 U		0.46	97 J	89.4
3/8/1999	16:05	11300	48	0.33		0.2 U		0.8		1.8		0.003			80.3	
3/8/1999	16:20				0.285				0.614		0.501			0.44		87.7
4/5/1999	15:00				0.353				0.641		1.19			0.44		99.3
4/5/1999	15:30	13400	24	0.39		0.2 U		0.7		3		0.002 U			92.2	
5/3/1999	11:15				0.319				0.598		1.12			0.41		76.7
5/3/1999	14:20	19200	21	0.36		0.2 U		0.9 J		3.3		0.002 U			75.5	
6/7/1999	14:35	20400	18	0.29		0.2 U		1.1		7.4		0.002			61.2 J	
6/7/1999	14:50				0.245				0.52		0.97			0.42		52.4
7/12/1999	14:05	4780														
8/9/1999	14:30	2190														
9/13/1999	13:50	1870														

Conventional Data Report

Kettle R nr Barstow

60A070

Class: AA
Rivermile: 10.9
Latitude: 48 47 05.0
Longitude: 118 07 27.0
Waterbody: WA-60-1010

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/6/1998 12:30	10.4	354	215	11.4	8.5	2	0.155	0.01 U	0.026	0.01 U	0.005 U	0.6	1
11/3/1998 11:45	5.8	510		12.2	8.3	2	0.177	0.01 UJ	0.068	0.01 U	0.005 U	0.8	5
12/8/1998 12:30	0.5	669	176	13.4	7.9	2	0.285	0.01 U	0.154	0.031	0.005 U	0.7	1 U
1/12/1999 12:40	-0.1	775	181	13.5	7.8	1	0.274	0.01 U	0.22	0.01 U	0.005 U	0.7	3
2/9/1999 12:15	0.5	734	115	13.1	8.2	6	0.157	0.01 U	0.125	0.01 U	0.005 U	0.9	1 U
3/9/1999 12:30	3	986	133	11.9	7.6	3	0.175	0.01 U	0.07	0.011	0.005 U	1.2	1 U
4/6/1999 12:50	4.9	3680	157	12.5	7.9	6	0.215	0.018	0.052	0.033	0.016	3.2	1 U
5/4/1999 12:55	5.3	13200	71	12.7	7.8	30	0.205	0.038	0.024	0.033	0.005 U	8.9	12
6/8/1999 13:15	6.9	13900	49	12.3	7.2	25	0.125	0.017	0.014	0.04	0.005 U	6.6	14
7/13/1999 12:15	14.8	8700	53	10.1	7.5	9	0.112	0.031	0.01 U	0.015	0.005 U	2.3	24
8/10/1999 12:20	20.8	2080	105	9.3	8	1	0.117	0.034	0.012	0.017	0.005 U	0.6	15
9/14/1999 12:25	13.8	905	136	10.3	8.3	1	0.153	0.023	0.043	0.019	0.005 U	0.5	1

Conventional Data Report

Columbia R @ Northport

61A070

Class: AA
Rivermile: 735.1
Latitude: 48 55 21.0
Longitude: 117 46 32.0
Waterbody: WA-CR-9010

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/6/1998	11:10	14.4	59700	124	9.4	8.3	1	0.147	0.01 U	0.053	0.01 U	0.005 U	0.8	84
11/3/1998	10:05	9.5	70000		10.8	7.8	1 U	0.122	0.01 UJ	0.053	0.01 U	0.005 U	0.9	11
12/8/1998	11:05	5.1	79700	129	12	7.6	1 U	0.148	0.013	0.105	0.026	0.005 U	0.9	1 U
1/12/1999	11:25	3	101000	141	12.3	7.9	1 U	0.166	0.01	0.124	0.01 U	0.005 U	0.7	2
2/9/1999	10:50	2.3	144000	90	12.4	7.8	2	0.148	0.01 U	0.13	0.01 U	0.005 U	1.2	1 U
3/9/1999	10:40	2.4	87600	110	11.7	7.9	2	0.194	0.017	0.117	0.01 U	0.005 U	1.9	1 U
3/9/1999	11:00													
4/6/1999	11:20	3.9	70700	182	12.7	7.9	2	0.18	0.022	0.089	0.014	0.008	1.5	1
4/6/1999	11:30													
5/4/1999	11:30	6.4	112000	138	12.8	8.1	4	0.164	0.041	0.066	0.012	0.005 U	2.9	2
6/8/1999	11:05	9.7	165000	118	12.3	7.9	6	0.139	0.019	0.053	0.019	0.005 U	3.2	2
6/8/1999	11:25													
7/13/1999	11:00	13.8	168000	109	11.1	7.8	4	0.17	0.036	0.036	0.01 U	0.005 U	1.8	2
8/10/1999	10:50	17.2	154000	97	10.3	7.8	3	0.159	0.041	0.073	0.01 U	0.005 U	1.3	4
9/14/1999	11:20	14	102500	103	10	8.2	1	0.148	0.028	0.082	0.01 U	0.005 U	0.7	1 U

Metals Data Report

Columbia R @ Northport

61A070

Class: AA
Rivermile: 735.1
Latitude: 48 55 21.0
Longitude: 117 46 32.0
Waterbody: WA-CR-9010

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/6/1998	11:10	59700														
11/3/1998	10:05	70000														
12/8/1998	11:05	79700														
1/12/1999	11:25	101000														
2/9/1999	10:50	144000														
3/9/1999	10:40	87600	76									0.003				
3/9/1999	11:00				0.036				0.588		0.034					3.6 J
4/6/1999	11:20	70700	75									0.002 U				
4/6/1999	11:30				0.031				0.681		0.055					4.51 J
5/4/1999	11:30	112000														
6/8/1999	11:05	165000	63									0.002 U				
6/8/1999	11:25				0.022				0.597		0.051					1.6
7/13/1999	11:00	168000														
8/10/1999	10:50	154000														
9/14/1999	11:20	102500														

Conventional Data Report

Pend Oreille @ Metaline Falls

62A090

Class: A
Rivermile: 27
Latitude: 48 51 54.0
Longitude: 117 22 20.0
Waterbody: WA-62-1010

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/6/1998	8:10	14.3	16200	149	9.2	8.4	1	0.104	0.01 U	0.01 U	0.01 U	0.005 U	1.2	1
11/3/1998	7:30	8.7	21000		10.1	7.8	1	0.07	0.01 UJ	0.01 U	0.01 U	0.005 U	1.2	1 U
12/8/1998	7:55	3	14000	159	11	8.2	2	0.124	0.01 U	0.019	0.031	0.005 U	3.5	1
1/12/1999	8:00	1	15700	164	12	7.9	1	0.127	0.01 U	0.04	0.013	0.005 U	1	1
2/9/1999	8:10	0.4	17000	95	12.6	8	3	0.091	0.01 U	0.03	0.01 U	0.005 U	2.9	1 U
3/9/1999	8:15	1.6	18500	109	11.9	7.3	4	0.156	0.01 U	0.029	0.01 U	0.005 U	3.8	1 U
4/6/1999	8:15	4.3	25000	380	12.1	8.5	3	0.129	0.01 U	0.01 U	0.02	0.008	2.3	1 U
5/4/1999	8:10	7.3	43500	146	11.9	8.5	16	0.159	0.035	0.012	0.016	0.005 U	8	6
		pH standard=7.01 meter=6.96												
6/8/1999	8:25	10.8	67500	119	12.4	8.1	8	0.121	0.032	0.01 U	0.024	0.005 U	4.7	5
7/13/1999	8:35	16.3	35000	124	10.2	8.2	7	0.146	0.032	0.01 U	0.013	0.005 U	3.1	35 J
8/10/1999	9:00	20.3	20500	133	8.6	8.2	4	0.117	0.034	0.01 U	0.016	0.005 U	1.6	3
9/14/1999	9:00	16	9500	138	9.1	8.5	2	0.116	0.024	0.01 U	0.015	0.005 U	1.2	1
		forgot to record pressure after checking ph calibration.												

Conventional Data Report

Pend Oreille R @ Newport

62A150

Class: A
Rivermile: 88.2
Latitude: 48 11 07.0
Longitude: 117 02 02.0
Waterbody: WA-62-1020

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/6/1998 6:35	14.9	16200	146	8.8	8.1	1	0.082	0.01 U	0.01 U	0.01 U	0.005 U	1.2	2
11/3/1998 6:00	8.5	23000		9.9	7.7	1	0.064	0.01 UJ	0.01 U	0.01	0.005 U	1.1	1 U
12/8/1998 5:35	3.7	12100	153	11.1	7.6	2	0.108	0.01 U	0.023	0.031	0.005 U	1.7	1 U
1/12/1999 6:20	1.6	15900	164	12	7.7	1	0.133	0.013	0.057	0.01 U	0.005 U	1.1	4
2/9/1999 6:15	1.1	17100	99	11.8	7.5	4	0.102	0.01 U	0.059	0.01 U	0.005 U	3	1
3/9/1999 6:45	3.2	17700	113	11.7	7.6	3	0.14	0.01 U	0.048	0.01 U	0.005 U	1.9	1 U
Temperature may not be correct, batteries were changed at ne													
4/6/1999 6:40	4.1	24100	206	12.2	8	3	0.121	0.01 U	0.01 U	0.018	0.008	2.4	1 U
5/4/1999 6:40	7.2	41300	164	12.3	8.1	4	0.124	0.036	0.01 U	0.011	0.005 U	1.9	1 U
6/8/1999 6:40	10.4	62700	129	11.2	8	5	0.129	0.015	0.01 U	0.021	0.005 U	3.3	7
7/13/1999 7:00	16.2	36100	130	10.3	8.3	3	0.14	0.032	0.01 U	0.012	0.005 U	1.9	1 U
8/10/1999 6:55	19.8	21100	128	8.5	8.2	2	0.102	0.038	0.01 U	0.013	0.005 U	1.6	1
9/14/1999 6:50	15.8	9610	132	8.9	8.3	2	0.128	0.028	0.089	0.015	0.005 U	1.2	1