



# River and Stream Water Quality Monitoring Report for Water Year 2005

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# River and Stream Water Quality Monitoring Report for Water Year 2005

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by  
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# Abstract

The Washington State Department of Ecology (Ecology) collected monthly water quality data at 95 stream monitoring stations during Water Year (WY) 2005 (October 1, 2004 through September 30, 2005). We also collected 30-minute interval temperature data at 76 sites from July through September 2005. 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 2005. A description of Ecology's long-term monitoring program and access to historical data can be found on Ecology's Internet web site at [www.ecy.wa.gov](http://www.ecy.wa.gov) by clicking on "Environmental Info" and then "River and Stream Water Quality" (under the "Watersheds" heading).

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- Will White was the sample courier.



# Introduction

The Washington State Department of Ecology (Ecology) and its predecessor agency have operated a long-term ambient water quality monitoring program since 1959. The current program consists of monthly water quality monitoring for conventional constituents at about 82 stations on rivers and streams within Washington State. In WY 2005, we monitored one additional station in the central region, ten stations associated with a special project (see [www.ecy.wa.gov/programs/eap/imw](http://www.ecy.wa.gov/programs/eap/imw)), and two stations were added in January for sediment monitoring only.

We also collect 30-minute interval temperature data from about June through September at long-term and a few basin stations, as well as conduct bi-monthly metals monitoring at selected stations.

The primary goals of the stream ambient monitoring program are to characterize water quality and to evaluate spatial and temporal changes in water quality (trends).

Within Ecology, data generated by the Freshwater Monitoring Unit (FMU) are used to:

- Determine if designated uses are supported (e.g., [www.ecy.wa.gov/programs/wq/303d/2002/2002-index.html](http://www.ecy.wa.gov/programs/wq/303d/2002/2002-index.html)).
- Refine and verify Total Maximum Daily Load (TMDL) models.
- Develop water quality based permits.
- Provide water quality information necessary to prioritize grant awards.
- Conduct miscellaneous site-specific evaluations.

Our data are provided free to the public and are widely used by academics, consultants, local government entities, schools, and others interested in the quality of Washington's flowing waters.

The purpose of this report is to describe the Water Year (WY) 2005 monitoring program, discuss data quality, and present results. More detailed analyses and interpretations of ambient monitoring data are reported elsewhere. The FMU analyzes results at specific stations in response to specific needs (e.g., Hallock, 2004).

A generalized assessment of water quality at particular stations is provided online ([www.ecy.wa.gov/programs/eap/fw\\_riv/rv\\_main.html](http://www.ecy.wa.gov/programs/eap/fw_riv/rv_main.html)) in the form of a water quality index (WQI; Hallock, 2002). The WQI and trends at long-term stations are reported in *Washington State Water Quality Conditions in 2005 based on Data from the Freshwater Monitoring Unit* (Hallock, 2005).

Other programs conduct some of their own analyses; for example, Ecology's Water Quality Program applies its own data reduction procedures prior to producing Washington State's Water Quality Assessment [303(d) & 305(b) Report] ([www.ecy.wa.gov/programs/wq/303d/2002/2002-index.html](http://www.ecy.wa.gov/programs/wq/303d/2002/2002-index.html)).

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# Methods

## Sampling Network

The ambient monitoring network in WY 2005 consisted of monthly water collection at 62 long-term stations, 21 regional ("basin") stations, and 12 special project stations (Table 1 and Appendix A). All stations were sampled year-round.

1. Long-term stations are monitored every year to track water quality changes over time (trends), assess inter-annual variability, and collect current water quality information. These stations are generally located near the mouths of major rivers, below major population centers, upstream from most anthropogenic (human-caused) sources of water quality problems, or where major streams enter the state.
2. 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, TMDL assessments, site-specific needs, and to allow expanded coverage over a long-term network. Some basin stations are selected to target known problems and may not necessarily reflect conditions representative of the basin.

The locations of ambient stations monitored during WY 2005 are presented in Table 1. Appendix A lists current and historical monitoring locations and the years they were monitored by Ecology and its predecessor agency. Historical data for these stations are available from the FMU on request. Also, a description of our long-term monitoring program, access to historical data, and previous annual reports can be found on Ecology's internet web site at [www.ecy.wa.gov/](http://www.ecy.wa.gov/) under "Environmental Info." and "River and Stream Water Quality."

Table 1. Ecology stream ambient monitoring stations for Water Year 2005. Status: L = long-term, B = basin, S = special project, S\* = sediment only beginning in January 2005. Specific location information (e.g., latitudes and longitudes) are included in Appendix C.

	Station		Status		Station		Status
1	01A050	Nooksack R @ Brennan	L	49	25E100	Abernathy Cr @ DNR	S*
2	01A120	Nooksack R @ No Cedarville	L	50	25F060	Mill Cr nr mouth	S
3	01T050	Anderson Cr @ South Bay Road	B	51	25F100	Mill Cr @ DNR	S*
4	03A060	Skagit R nr Mount Vernon	L	52	26B070	Cowlitz R @ Kelso	L
5	03A080	Skagit R abv Sedro Woolley	B	53	27B070	Kalama R nr Kalama	L
6	03B050	Samish R nr Burlington	L	54	27D090	EF Lewis R nr Dollar Corner	L
7	04A100	Skagit R @ Marblemount	L	55	28C070	Burnt Br Cr @ Mouth	B
8	04C070	Sauk R nr Rockport	B	56	31A070	Columbia R @ Umatilla	L
9	04C120	Sauk R @ Backman Park	B	57	32A070	Walla Walla R nr Touchet	L
10	05A070	Stillaguamish R nr Silvana	L	58	33A050	Snake R nr Pasco	L
11	05A090	SF Stillaguamish @ Arlington	L	59	34A070	Palouse R @ Hooper	L
12	05A110	SF Stillaguamish nr Granite Falls	L	60	34A170	Palouse R @ Palouse	L

	Station		Status		Station		Status
13	05B070	NF Stillaguamish @ Cicero	L	61	34B110	SF Palouse R @ Pullman	L
14	05B110	NF Stillaguamish nr Darrington	L	62	34B130	SF Palouse R blw Sunshine	B
15	07A090	Snohomish R @ Snohomish	L	63	34C060	Paradise Cr at Mouth	B
16	07C070	Skykomish R @ Monroe	L	64	34C100	Paradise Cr @ Border	B
17	07D050	Snoqualmie R nr Monroe	L	65	35A150	Snake R @ Interstate Br	L
18	07D130	Snoqualmie R @ Snoqualmie	L	66	35B060	Tucannon R @ Powers	L
19	08C070	Cedar R @ Logan St/Renton	L	67	36A070	Columbia R nr Vernita	L
20	08C110	Cedar R nr Landsburg	L	68	37A090	Yakima R @ Kiona	L
21	09A080	Green R @ Tukwila	L	69	37A205	Yakima R @ Nob Hill	L
22	09A190	Green R @ Kanaskat	L	70	37E050	Wide Hollow Cr @ Main St	B
23	09K070	Fauntleroy Cr nr Mouth	B	71	37I070	Moxee Drain @ Birchfield Rd	B
24	10A070	Puyallup R @ Meridian St	L	72	38G070	Cowiche Cr @ Powerhouse Rd	B
25	10A075	Puyallup R @ East Main St	B	73	39A090	Yakima R nr Cle Elum	L
26	10C095	White River @ R Street	B	74	39C070	Wilson Cr @ Highway 821	B
27	11A070	Nisqually R @ Nisqually	L	75	41A070	Crab Cr nr Beverly	L
28	13A060	Deschutes R @ E St Bridge	L	76	45A070	Wenatchee R @ Wenatchee	L
29	15F050	Big Beef Cr @ Mouth	S	77	45A110	Wenatchee R nr Leavenworth	L
30	15L050	Seabeck Cr @ mouth	S	78	45D080	Brender Cr abv Noname Cr	B
31	15M070	Llt Anderson Cr @ Anderson Hill Rd	S	79	45R070	Noname Cr on Mill Rd	B
32	15N070	Stavis Cr nr Mouth	S	80	46A070	Entiat R nr Entiat	L
33	16A070	Skokomish R nr Potlatch	L	81	48A070	Methow R nr Pateros	L
34	16C090	Duckabush R nr Brinnon	L	82	48A140	Methow R @ Twisp	L
35	18A050	Dungeness R nr Mouth	B	83	49A070	Okanogan R @ Malott	L
36	18B070	Elwha R nr Port Angeles	L	84	49A190	Okanogan R @ Oroville	L
37	19C060	West Twin R nr mouth	S	85	49B070	Similkameen R @ Oroville	L
38	19D070	East Twin R nr Mouth	S	86	53A070	Columbia R @ Grand Coulee	L
39	19E060	Deep Cr nr mouth	S	87	54A120	Spokane R @ Riverside State Pk	L
40	20B070	Hoh R @ DNR Campground	L	88	55B070	Little Spokane R nr Mouth	L
41	22A070	Humptulips R nr Humptulips	L	89	56A070	Hangman Cr @ Mouth	L
42	23A070	Chehalis R @ Porter	L	90	57A150	Spokane R @ Stateline Br	L
43	23A100	Chehalis R @ Prather Rd	B	91	59A130	Colville R @ Chewelah	B
44	23A160	Chehalis R @ Dryad	L	92	60A070	Kettle R nr Barstow	L
45	24B090	Willapa R nr Willapa	L	93	61A070	Columbia R @ Northport	L
46	24F070	Naselle R nr Naselle	L	94	62A090	Pend Oreille R @ Metaline Falls	B
47	25D050	Germany Cr @ mouth	S	95	62A150	Pend Oreille R @ Newport	L
48	25E060	Abernathy Cr nr mouth	S				

## Sample Collection and Analysis

The majority of water samples were collected as single, near-surface grab samples from highway bridges. Twelve water quality constituents were monitored at all stations monthly in WY 2005 (Table 2).

Table 2. Water quality constituents monitored in WY 2005. (SM = APHA, 2000; EPA = U.S. Environmental Protection Agency, 1983).

Constituent	Method	Reporting Limit
ammonia, total	SM 4500 NH3H	0.01 mg/L
conductivity	SM 2510 B	NA
fecal coliform bacteria	SM 9222 D	1 colony/100 mL
nitrate + nitrite, total	SM 4500 NO3I	0.01 mg/L
nitrogen, total	SM 4500 NB	0.025 mg/L
oxygen, dissolved	SM 4500 OC	NA
pH	EPA 150.1	NA
phosphorus, soluble reactive	SM 4500 PG	0.003 mg/L
phosphorus, total	EPA 200.8 M	0.001 mg/L
suspended solids, total	SM 2540 D	1 mg/L
temperature	Thermister	NA
turbidity	SM 2130	0.5 NTU

Besides the 12 water quality constituents, we also record barometric pressure (to calculate percent oxygen saturation) and stream height measurements, where necessary, to enable flow determination for most long-term stations. Sample collection and analytical methods are described in an earlier annual report (Hallock et al., 1998), our field monitoring protocols (Ward et al., 2001), FMU quality assurance documents (Hallock and Ehinger, 2003 and Hopkins, 1996), and Manchester Environmental *Laboratory User's Manual* (Ecology, 2005).

All long-term monitoring programs 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 effect on a synoptic analysis of the data, but even minor improvements in procedures should be considered when evaluating long-term trends. With one exception, we made no substantive changes to collection or analytical procedures in WY 2005. The exception was a change in our sampling device for pH, conductivity, and turbidity. Previously, aliquots for those analyses were obtained from the stainless steel bucket used to collect the oxygen sample (described in APHA, 2000 on page 4-130). The sampler was re-designed so that only the oxygen sample is collected from the bucket; all other samples are collected in passengers (Figure 1). All known and suspected changes to methods and procedures during the history of the stream monitoring program, as well as large-scale environmental changes that may affect a trend analysis, are documented in Appendix B.



Figure 1. Our new sampling device (designed by Bill Ward). Oxygen is collected in the bucket; all other samples are collected in passengers.

## Continuous Temperature Monitoring

Ecology's Environmental Monitoring and Trends Section collects temperature data at 30-minute intervals at most of our long-term and current basin ambient monitoring stations as well as at some special request and past basin stations. Temperature loggers were deployed at 81 sites in 2005, and data were successfully retrieved from 76 sites. The purpose of this monitoring effort is to collect summer, diel (24-hour) temperature data that may be used for trend analyses and to determine compliance with water quality standards.

Two Onset Stow Away TidbiT® temperature loggers were deployed at each site, one in water and one in air. All loggers were shaded with a PVC pipe and installed in a location representative of the surrounding environment. Stream temperature loggers were installed about six inches off the stream bottom to minimize potential influence from groundwater inflow. Loggers were placed in a free flowing location at a depth to avoid exposure to air resulting from low flows.

We deployed the loggers mostly in July and retrieved them in September. Detailed protocols are found in Ward (2003) and quality control requirements in Ward (2005).

## Metals Monitoring

Metals monitoring continued in WY 2005 at 12 stations (Table 3). Metals samples were collected every other month beginning in October. Samples were analyzed for hardness, total mercury, and total recoverable and dissolved arsenic, cadmium, chromium, copper, lead, nickel, silver, and zinc. Collection and analytical methods are discussed in more detail in Hopkins (1996).

Table 3. Water Year 2005 bi-monthly sampling stations for metals.

Station	Name	Station	Name
04C070	Sauk R nr Rockport	37E050	Wide Hollow Cr @ Main Street
04C120	Sauk R @ Backman Park	37I070	Moxee Drain @ Birchfield Rd
09K070	Fauntleroy Cr nr Mouth	39C070	Wilson Cr @ Highway 821
13A060	Deschutes R @ E St Bridge	49A070	Okanogan R @ Malott
18A050	Dungeness R nr Mouth	57A150	Spokane R @ Stateline Br
28C070	Burnt Br Cr @ Mouth	61A070	Columbia R @ Northport

## Quality Assurance

Ecology's Manchester Environmental Laboratory (MEL) Quality Assurance (QA) Program includes the use of quality control charts, check standards, in-house matrix spikes, and laboratory blanks, along with performance evaluation samples. For a more complete discussion of laboratory quality assurance, see MEL's *Quality Assurance Manual* (Ecology, 2001) and the *Lab User's Manual* (Ecology, 2005).

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) consistent 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 Hallock and Ehinger (2003).

Three types of field QC samples were collected.

1. *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 total variability due to short-term, instream dynamics, sample collection and processing, and laboratory analysis.
2. *Duplicate (Split) Field Samples* - These consisted of one sample (usually the duplicate sequential sample) split into two containers that are processed as individual samples. This eliminates the instream variability and isolates variability to variability attributable to field processing and laboratory analysis.

3. *Field Blank Samples* - These consisted of the submission and analysis of deionized water. These are field process blanks; the blank water was poured into cleaned sample collection equipment to simulate collecting a water sample. 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.

QC samples were submitted semi-blind to the laboratory; they were identified as QC samples, but sample type (duplicate, split, or blank) and station were not identified.

Ninety-six field QC samples were processed: 8 field blanks, 44 field duplicates (sequential), and 44 field split samples. In addition, the laboratory conducted its own splits of some field QC 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 (for example, mean or median of the standard deviations).

A two-tiered system was used to evaluate data quality of individual results based on field QC. The first tier consisted of four automated checks: holding time, variability in field duplicates, reasonableness of the result, and stoichiometric balance of nutrient species. 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 1 through 9 (1 = data meets all QA requirements, 9 = data are unusable). Criteria for assigning codes are discussed in more detail in Hallock and Ehinger (2003). We do not routinely use or distribute data with quality codes greater than 4.

The quality of the continuous temperature data was assessed by calibration checks using a certified reference thermometer before and after a deployment. If a pre-survey calibration check indicated a logger's accuracy was not within the required limits (either 0.2 °C for water or 0.4 °C for air) when compared to a certified reference thermometer, then the logger was rejected and not deployed (Ward 2005). If a logger failed a post-survey calibration check, then the results may be rejected or, if the bias is small and consistent, results may be adjusted. In addition, the data were compared to field temperature measurements taken at deployment and retrieval with a calibrated alcohol thermometer. Results were also compared to the monthly measurements collected during normal monitoring surveys. All data were reviewed graphically and anomalies were deleted prior to recording results in the database.



## Results and Discussion

The primary purpose of this report is to present the results of Ecology’s stream monitoring in WY 2005. The main body of the report describes the sampling program and interprets QC results. Appendix C contains results for each station monitored in WY 2005. Raw data are available in computer formats on request and are posted on Ecology’s World Wide Web pages ([www.ecy.wa.gov](http://www.ecy.wa.gov)). Unpublished data are also available online but are considered "preliminary."

### Monthly Ambient Monitoring

A station-by-station data analysis is not within the scope of this report. Individual results not meeting the 1997 water quality criteria in Washington’s Water Quality Standards (Washington Administrative Code, Chapter 173-201A) are identified in reports on our web site ([www.ecy.wa.gov/apps/watersheds/riv/exceed](http://www.ecy.wa.gov/apps/watersheds/riv/exceed)). The numeric criteria from the 1997 Water Quality Standards are presented in Table 4. This evaluation is not a formal determination of water quality *violations*, which requires additional considerations such as human impact or multiple results not meeting a criterion (see [www.ecy.wa.gov/programs/wq/303d/2006/policy1-11\\_rev.html](http://www.ecy.wa.gov/programs/wq/303d/2006/policy1-11_rev.html)).

Table 4. Water quality criteria used to evaluate monitoring results. Results outside the ranges indicated do not meet the criterion.

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

WAC 173-201A-130 (1997) identifies exceptions to the standard criteria for some stream segments. Metals criteria, most of which are a function of hardness, are not listed here.

Of the approximately 12,000 possible standard water quality results in WY 2005, 94 results (0.8 percent) were missed. Reasons for missing results include inaccessible for various reasons (36 results), access unsafe (24 results), and sample location tidally influenced (12 results). Other reasons for missed results include sampler error (4), flooding (12), and equipment problems (6). Appendix D gives more detailed explanations for each of these conditions.

Instantaneous discharge was recorded at 59 of the 62 long-term stations. Flow data were not available for the South Fork Stillaguamish River at Arlington (05A090), the South Fork Stillaguamish River near Granite Falls (05A110), and, after May 2005, the Skokomish River near Potlatch (16A070). In addition, on nine occasions at various stations, flows were either not available or they cannot be determined due to sampler error (some of these may become available later). Flows at Nisqually River at Nisqually (11A070) are coded as estimates because the nearest gage was a considerable distance upstream. For the same reason, flows at East Fork

Lewis River near Dollar Corner (27D090)) were considered estimates through January 2005, after which date Ecology’s Stream Hydrology Unit established a nearby gage.

Discharge was recorded at 10 of the 21 basin stations.

## Continuous Temperature Monitoring

Seventy-seven stations were successfully monitored in 2005 (Table 5). Three loggers were lost.

Table 5. Temperature monitoring summary for WY 2005 based on 30-minute interval measurements (°C; refer to Table 2 for station names). Results exceeding their criterion are shown in **bold**.

Station	Criterion	Deployment Maximum		Max 7-day Mean <sup>a</sup>		Deploy	Retrieve
		Max	Date/Time <sup>b</sup>	Max	Date <sup>b, c</sup>		
01A050	18	<b>19.4</b>	07 Aug 17:00	<b>19.2</b>	07 Aug	20 Jul	21 Sep
01A120	18	<b>19.2</b>	31 Jul 19:00	<b>19.0</b>	28 Jul	20 Jul	21 Sep
01T050	16	<b>21.3</b>	01 Aug 18:30	<b>18.5</b>	04 Aug	20 Jul	21 Sep
03A060	18	<b>18.5</b>	30 Jul 23:00	<b>18.3</b>	28 Jul	19 Jul	20 Sep
03A080	18	<b>18.9</b>	28 Jul 19:30	<b>18.4</b>	28 Jul	19 Jul	20 Sep
03B050	18	<b>18.1</b>	31 Jul 18:30	<b>17.6</b>	29 Jul	19 Jul	20 Sep
04A100	16	15.1	05 Aug 18:30	14.9	06 Aug	20 Jul	21 Sep
04C120	16	<b>18.4</b>	07 Aug 18:30	<b>18.0</b>	07 Aug	20 Jul	21 Sep
05A070	18	<b>23.0</b>	31 Jul 20:00	<b>22.5</b>	07 Aug	20 Jul	20 Sep
05A110	16	<b>21.7</b>	15 Aug 15:00	<b>21.0</b>	06 Aug	19 Jul	20 Sep
05B070	18	<b>22.4</b>	14 Aug 18:00	<b>21.7</b>	06 Aug	20 Jul	21 Sep
05B110	18	<b>19.4</b>	14 Aug 17:00	<b>19.0</b>	06 Aug	20 Jul	21 Sep
07D050	18	<b>21.9</b>	31 Jul 20:30	<b>21.3</b>	30 Jul	19 Jul	13 Sep
07D100	18	<b>21.4</b>	15 Aug 17:30	<b>20.9</b>	07 Aug	27 Jul	13 Sep
07D125	18	<b>19.5</b>	01 Aug 3:00	<b>18.9</b>	30 Jul	27 Jul	19 Sep
07D130	18	<b>19.7</b>	31 Jul 21:30	<b>19.3</b>	29 Jul	18 Jul	19 Sep
07D150	16	<b>21.1</b>	31 Jul 18:30	<b>20.7</b>	28 Jul	14 Jul	13 Sep
07G070	18	<b>24.1</b>	27 Jul 10:00	<b>20.9</b>	06 Aug	14 Jul	13 Sep
07M065	18	<b>18.7</b>	31 Jul 17:00	<b>18.3</b>	28 Jul	14 Jul	13 Sep
07M075	18	<b>18.4</b>	31 Jul 18:00	<b>18.0</b>	28 Jul	14 Jul	13 Sep
07N070	16	<b>17.7</b>	31 Jul 18:30	<b>17.3</b>	29 Jul	14 Jul	13 Sep
07P070	18	<b>18.9</b>	31 Jul 18:30	<b>18.4</b>	28 Jul	14 Jul	13 Sep
07Q050	18	<b>24.1</b>	15 Aug 17:00	<b>23.1</b>	06 Aug	14 Jul	13 Sep
07S070	18	<b>20.9</b>	31 Jul 18:30	<b>20.1</b>	30 Jul	27 Jul	13 Sep
07T050	18	<b>19.2</b>	31 Jul 21:30	<b>18.6</b>	30 Jul	27 Jul	13 Sep
07U070	18	17.2	18 Jul 16:00	<b>16.7</b>	28 Jul	14 Jul	13 Sep
07V070	18	<b>19.0</b>	17 Jul 17:00	<b>17.3</b>	20 Jul	14 Jul	13 Sep
07Y060	18	<b>19.2</b>	15 Aug 13:00	<b>18.0</b>	07 Aug	14 Jul	13 Sep
08C070	18	<b>20.4</b>	05 Aug 17:30	<b>19.7</b>	06 Aug	18 Jul	19 Sep
08C110	16	13.9	28 Jul 15:30	13.7	28 Jul	18 Jul	19 Sep
08L070	16	15.5	15 Aug 18:00	14.9	06 Aug	07 Jul	19 Sep
08M070	16	<b>18.1</b>	15 Aug 18:00	<b>17.5</b>	29 Jul	07 Jul	20 Sep
09A190	16	<b>18.5</b>	26 Aug 18:30	<b>17.9</b>	06 Aug	18 Jul	19 Sep
09B090	18	<b>18.7</b>	31 Jul 17:00	<b>18.2</b>	29 Jul	12 Jul	29 Sep
09C070	16	<b>18.3</b>	31 Jul 16:30	<b>17.8</b>	29 Jul	07 Jul	29 Sep
09D070	18	<b>18.2</b>	28 Aug 22:00	<b>17.7</b>	28 Jul	07 Jul	29 Sep
09F150	18	17.4	31 Jul 17:30	<b>17.1</b>	29 Jul	12 Jul	29 Sep
09K070	16	15.6	31 Jul 20:30	15.2	02 Aug	18 Jul	19 Sep
11A070	18	16.7	05 Aug 18:00	<b>16.1</b>	28 Jul	12 Jul	15 Sep
13A060	18	<b>20.0</b>	31 Jul 19:00	<b>19.6</b>	28 Jul	12 Jul	15 Sep
16A070	16	15.2	28 Jul 18:00	15.0	28 Jul	25 Jul	12 Sep
16C090	16	15.0	31 Jul 17:00	14.6	06 Aug	25 Jul	12 Sep

Station	Criterion	Deployment Maximum		Max 7-day Mean <sup>a</sup>		Deploy	Retrieve
		Max	Date/Time <sup>b</sup>	Max	Date <sup>b, c</sup>		
18A050	18	<b>19.0</b>	31 Jul 17:30	<b>18.6</b>	28 Jul	25 Jul	12 Sep
18B070	16	<b>19.2</b>	27 Aug 18:00	<b>18.9</b>	24 Aug	25 Jul	12 Sep
20A090	16	<b>18.8</b>	31 Jul 19:30	<b>18.2</b>	29 Jul	25 Jul	12 Sep
20B070	16	<b>18.2</b>	04 Aug 19:30	<b>17.8</b>	28 Jul	25 Jul	12 Sep
20D070	16	<b>21.6</b>	27 Jul 16:00	<b>20.6</b>	02 Aug	25 Jul	12 Sep
22A070	18	<b>21.3</b>	14 Aug 19:30	<b>21.1</b>	29 Jul	25 Jul	12 Sep
23A070	18	<b>22.9</b>	05 Aug 18:30	<b>22.7</b>	30 Jul	25 Jul	12 Sep
23A160	18	<b>22.8</b>	14 Aug 19:30	<b>21.9</b>	02 Aug	28 Jul	15 Sep
26B070	18	<b>20.3</b>	28 Jul 18:30	<b>19.1</b>	31 Jul	28 Jul	15 Sep
27B070	18	<b>19.7</b>	31 Jul 19:30	<b>19.1</b>	07 Aug	28 Jul	15 Sep
27D090	18	<b>23.8</b>	31 Jul 18:30	<b>23.2</b>	06 Aug	28 Jul	15 Sep
28C070	18	<b>21.3</b>	06 Aug 0:00	<b>20.8</b>	03 Aug	28 Jul	15 Sep
32A070	21	<b>30.1</b>	08 Aug 17:00	<b>29.0</b>	06 Aug	12 Jul	09 Nov
34A170	20	<b>27.3</b>	31 Jul 17:30	<b>26.6</b>	07 Aug	01 Jul	05 Oct
34B110	18	<b>21.1</b>	01 Jul 18:30	<b>20.4</b>	15 Jul	01 Jul	05 Oct
34B130	18	<b>23.4</b>	12 Jul 18:30	<b>22.5</b>	04 Jul	01 Jul	05 Oct
34C100	18	<b>22.2</b>	09 Aug 18:30	<b>21.7</b>	30 Jul	01 Jul	05 Oct
35B060	18	<b>26.1</b>	31 Jul 18:30	<b>25.3</b>	28 Jul	06 Jul	12 Oct
37E050	18	<b>22.1</b>	29 Jul 17:30	<b>21.8</b>	29 Jul	01 Jul	21 Nov
37I070	18	<b>23.6</b>	31 Jul 20:30	<b>23.2</b>	29 Jul	01 Jul	21 Nov
38G070	18	<b>23.2</b>	18 Jul 18:00	<b>22.4</b>	18 Jul	01 Jul	21 Nov
39A090	16	<b>22.3</b>	31 Jul 17:00	<b>21.8</b>	28 Jul	30 Jun	17 Nov
39C070	18	<b>21.8</b>	21 Aug 18:30	<b>21.2</b>	28 Jul	01 Jul	17 Nov
41A070	21	<b>28.7</b>	08 Aug 19:00	<b>28.0</b>	07 Aug	01 Jul	21 Nov
45A110	16	<b>23.6</b>	09 Aug 17:30	<b>23.3</b>	08 Aug	30 Jun	17 Nov
46A070	18	<b>24.8</b>	08 Aug 17:30	<b>24.3</b>	08 Aug	30 Jun	07 Nov
48A070	18	<b>24.9</b>	08 Aug 18:30	<b>24.2</b>	08 Aug	30 Jun	06 Nov
48A140	18	<b>21.6</b>	08 Aug 16:30	<b>21.1</b>	08 Aug	30 Jun	06 Nov
49A070	18	<b>26.2</b>	31 Jul 17:30	<b>25.4</b>	30 Jul	27 Jul	07 Nov
49A190	18	<b>26.1</b>	07 Aug 21:00	<b>25.5</b>	08 Aug	10 Jul	07 Nov
55B070	18	17.8	19 Jul 19:30	<b>17.4</b>	21 Jul	05 Jul	05 Oct
56A070	18	<b>26.6</b>	31 Jul 19:30	<b>25.8</b>	30 Jul	05 Jul	05 Oct
59A130	18	<b>24.3</b>	09 Aug 20:00	<b>23.9</b>	08 Aug	05 Jul	04 Oct
60A070	16	<b>24.3</b>	08 Aug 18:00	<b>24.0</b>	08 Aug	22 Jul	04 Oct

<sup>a</sup> This is the seven-day period with the highest average of daily maximum temperatures.

<sup>b</sup> There may be other dates or other seven-day periods with the same maximum.

<sup>c</sup> Date shown is middle of seven-day period.

The seasonal maximum at most stations (67 stations; 87 percent) failed to meet 1997 water quality criteria. Seventy-one stations (92 percent) exceeded the 16°C maximum seven-day average of daily maxima criterion. This is the proposed criterion for most streams in Washington.

Two stations had maximum temperatures exceeding 28°C: Walla Walla River (station 32A070, 30.1 °C) and Crab Creek (station 41A070, 28.7 °C).

Five more stations, all east of the Cascades, exceeded 25°C: Palouse R @ Palouse (station 34A170, 27.3 °C), Tucannon R @ Powers (station 35B060, 26.1°C), Okanogan R @ Malott (station 49A070, 26.2°C), Okanogan R @ Oroville (station 49A190, 26.1°C), and Hangman Cr @ Mouth (station 56A070, 26.6°C).

## Metals Monitoring

During the WY, all of the 1,224 possible results were reported (12 stations x 6 months x 17 metals analytes). Of the dissolved metals and total mercury results, 7 (0.6 percent) exceeded 1997 Washington State water standards quality chronic criteria; six of those were from the Spokane River at Stateline (Table 6).

Table 6. Metals results from WY 2005 exceeding water quality standards chronic criteria (1997).

Station	Name	Date	Metal	Criterion (µg/L)	Hardness (mg/L)	Result (µg/L)	Percent Over Criterion
09K070	Fauntleroy Cr nr Mouth	2005-06-13	Mercury, Total	0.012	116	0.014	17%
57A150	Spokane R @ Stateline Br	2004-10-05	Zinc, Dissolved	29.4	22.4	37.5	27%
57A150	Spokane R @ Stateline Br	2004-12-13	Zinc, Dissolved	29.5	22.5	66.3	125%
57A150	Spokane R @ Stateline Br	2005-02-08	Zinc, Dissolved	29.8	22.7	68.2	129%
57A150	Spokane R @ Stateline Br	2005-04-05	Zinc, Dissolved	28.4	21.5	67.4	137%
57A150	Spokane R @ Stateline Br	2005-06-07	Zinc, Dissolved	27.0	20.2	47.9	78%
57A150	Spokane R @ Stateline Br	2005-08-02	Zinc, Dissolved	30.4	23.3	32.6	7%

## Quality Assurance

In 2005 we collected almost 16,000 water quality results, including various constituents collected in addition to the standard 12 listed under “Sample Collection and Analysis.”

- Forty-three results (0.3 percent) were coded “4” indicating that the data are usable, but there were questions about the quality. About half of these questionable results were conductivities from one run where the temperature compensation had been incorrectly set. The rest were mostly nutrients where the result for the total fraction was less than the dissolved fraction (this often occurs when results are near detection limits).
- Only two results (0.01 percent) were coded “5” or greater (indicating serious data quality questions; these data will not be routinely used); these were both orthophosphate results that were much higher than expected and much higher than the companion total phosphorus fraction. Results coded >4 are not normally used but are provided on request. This practice gives us the opportunity to explain quality issues to prospective users.

MEL assigned a qualifier to 15 percent of results. A total of 538 results (3.4 percent) were qualified as estimates (“J”), 1815 results (11.4 percent) as below the reporting limit (“U”), and 25 results (0.2 percent) were coded for both reasons (“UJ”). Seventy-six percent of all ammonia results were below the reporting limit, as were 19 percent of orthophosphate results (Table 7).

Table 7. Results qualified by MEL as being below the reporting limit.

Constituent	Reporting Limit (mg/L except NTU for turbidity)	Number of results coded U or UJ	Number of results recorded	Percent of results coded U or UJ
ammonia	0.01	848	1108	76.5%
fecal coliform	1	116	1108	10.5%
metals	Various	465	1224	38.0%
nitrate+nitrite	0.01	73	1108	6.6%
nitrogen, total	0.025	4	1108	0.4%
organic carbon, total	1	25	106	23.6%
orthophosphate	0.03	211	1106	19.1%
phosphorus, total	0.001	1	1108	0.1%
suspended solids	1	66	1126	5.9%
Turbidity	0.05	31	1108	2.8%

## Comparison to Quality Control Requirements

RMS values for some constituents are presented by concentration range (Table 8). In practice, estimates of variability are strongly influenced by extreme values, especially when the sample size is small. Also, the variability estimate is skewed downward for the lowest concentration ranges because data below the reporting limit are censored and have a variance of zero for sample pairs below this limit.

Table 8. Root mean square (RMS) of the standard deviation of sequential samples, field splits, and laboratory splits. Results exceeding QAMP DQO criteria (Hallock and Ehinger, 2003) are shown in **bold**.

Constituent (units)	Range	S <sub>error (mp)</sub> <sup>a</sup>	Field Sequential RMS	<i>n</i>	Field Split RMS	<i>n</i>	Lab Split RMS	<i>n</i>
Specific Conductance (µS/cm)	≤50	4.4	0.29	6	NA	0	No lab splits	
	>50-100	8.8	0.44	18	0.0	1		
	>100-150	13.2	2.0	7	0.71	2		
	>150	26.4	4.9	12	2.0	5		
Fecal col. bacteria (colonies /100 mL)	1-1000	88	4.7	33	No field splits		8.3	157
	>1000	176	98	11			NA	0
NH <sub>3</sub> -N (µg N/L)	≤20	1.76	<b>1.9</b>	41	0.19	28	0.18	60
	>20-100	8.8	3.5	3	<b>15.4</b>	4	1.16	6
	>100	17.6	NA	0	2.8	1	NA	0
Nitrogen, total (µg N/L)	≤100	8.8	4.7	11	3.29	11	4.7	19
	>100-200	17.6	17.3	10	3.87	10	7.1	14
	>200-500	44	17.7	9	12.1	8	7.3	17
	>500	88	58	14	81	14	30	28
NO <sub>3</sub> NO <sub>2</sub> -N (µg N/L)	≤100	8.8	2.3	17	1.7	16	0.95	25
	>100-200	17.6	3.1	7	0.96	7	1.1	12
	>200-500	44	2.9	8	5.5	8	5.6	12
	>500	88	<b>162</b>	12	22.8	28	7.4	21

Constituent (units)	Range	S <sub>error (mp)</sub> <sup>a</sup>	Field Sequential RMS	<i>n</i>	Field Split RMS	<i>n</i>	Lab Split RMS	<i>n</i>
Oxygen, dissolved (mg O <sub>2</sub> /L)	≤ 8	0.70	NA	0	NA	0	No lab splits	
	> 8-10	0.88	0.12	9	0.10	8		
	> 10-12	1.06	0.08	24	0.05	16		
	>12	2.11	0.06	11	0.05	8		
pH	All	0.66	0.07	43	0.03	8	No lab splits	
Phosphorus, soluble reactive (µg P/L <sup>-1</sup> )	≤50	4.4	0.69	38	0.61	37	0.28	78
	>50-100	8.8	1.1	1	2.1	2	1.8	6
	>100	17.6	<b>43</b>	5	<b>24.3</b>	4	0.00	1
Phosphorus, total (µg P/L)	≤50	4.4	0.48	9	0.56	34	0.16	9
	>50-100	8.8	2.4	29	2.9	3	0.92	5
	>100	17.6	<b>32</b>	6	9.8	6	2.1	1
Solids, suspended (mg /L)	≤10	0.88	<b>0.91</b>	25	No field splits		0.61	66
	>10-20	1.76	<b>2.3</b>	8			0.62	21
	>20-50	4.4	3.8	6			2.7	27
	>50	8.8	<b>10.6</b>	5			<b>14.5</b>	17
Temperature (°C)	All	2.64	0.12	43	No field splits		No lab splits	
Turbidity (NTU)	≤10	0.88	0.49	34	0.26	30	0.07	67
	>10-20	1.76	0.35	4	0.00	1	0.42	14
	>20-50	4.4	1.4	3	1.4	1	1.8	8
	>50	8.8	7.1	1	0.00	1	0.00	2

<sup>a</sup> Maximum permissible standard error to meet Quality Assurance Monitoring Plan (QAMP) Data Quality Objectives (DQO) (Hallock and Ehinger, 2003).

*n* = number of sample pairs.

NA = not applicable.

In general, variability of repeated measures followed the expected pattern of field sequential samples > field split samples > lab split samples. In a few cases, field sequential samples had less variability than the field splits. Usually, a single field split pair with poor precision was responsible.

Variability between paired samples as measured by RMS was low and similar to that reported in previous years for most constituents.

Two field split constituent/concentration ranges (out of 28 evaluated) failed our Quality Assurance Monitoring Plan (QAMP) Data Quality Objectives (DQO) (Hallock and Ehinger, 2003), which specifies that DQOs be evaluated against field splits, where possible. One mid-range ammonia split and one upper-range soluble reactive phosphorus split were particularly poor and responsible for most of the variability in their respective constituents/ranges.

Seven field sequential constituent categories (out of 35) failed to meet the DQO criteria, but instream variability is included in these sample pairs so their variability is not a true measure of sampling plus analytical error. Three of four total suspended solids ranges did not meet DQO criteria; this underscores the inherent variability in measurements of stream sediment.

Almost all results for analyses of blank samples were “below reporting limits,” and less than three  $\mu\text{S}$  (micro Siemens) for specific conductivity (Table 9). Temperature, dissolved oxygen, pH, and fecal coliform were not measured on blanks.

Table 9. Results of blind field process blank (deionized water) samples.

Constituent	reporting limit	# above reporting limit	sample size, $n$
Metals	Various	1	2 samples x 8 analytes
$\text{NH}_3\text{-N}$ ( $\mu\text{g L}^{-1}$ )	10	0	7
$\text{NO}_3/\text{NO}_2\text{-N}$ ( $\mu\text{g L}^{-1}$ )	10	0	7
Soluble reactive P ( $\mu\text{g L}^{-1}$ )	3	0	7
Specific conductivity ( $\mu\text{S}$ )	NA	NA (mean: 1, std dev: 0.0)	7
Suspended solids ( $\text{mg L}^{-1}$ )	1	0	2
Total Nitrogen ( $\mu\text{g L}^{-1}$ )	25	0	7
Total phosphorus ( $\mu\text{g L}^{-1}$ )	1	0	7
Turbidity (NTU)	0.5	0	6

Few metals blanks are normally collected because many samples are below reporting limits anyway (Table 7). Protocols specify that four metals blank samples should be submitted annually; however, only two were submitted in WY 2005. Each of the two samples was analyzed for eight different metals; only one analysis, dissolved silver, exceeded reporting limits (reporting limit =  $0.02 \mu\text{g/L}$ , reported concentration =  $0.045 \mu\text{g/L}$ ). This was unusual because all but 4 of the 74 analyses for dissolved silver during the year were below reporting limits. There may have been a rare contamination problem associated with dissolved silver. In any case, all results were well below water quality criteria.

Laboratory staff assessed the remaining elements of the laboratory quality assurance program through a manual review of laboratory quality control results including check standards, in-house matrix spikes, and laboratory blanks. Results were within acceptable ranges as defined by MEL’s *Quality Assurance Manual* (Ecology, 2001) or were either re-run or coded as determined by laboratory staff (e.g., as an estimate, “J”).

## Continuous Temperature Monitoring

Post-deployment calibration checks using a certified reference thermometer met or exceeded criteria (Ward, 2005) for all instruments.

In seven instances, Tidbit® results were more than  $1^\circ\text{C}$  different than associated instantaneous measurements using an alcohol thermometer or long-line thermister. All seven instantaneous measurements were from thermister measurements collected during routine monthly monitoring. Four results were from the same station: Moxee Drain at Birchfield (37I070). Based on quality assurance results, Tidbit® results were accurate; it is possible, however, that a few tidbit locations were not logging stream temperatures that were representative of thalweg temperatures where routine ambient measurements are made. For these stations, remarks have been included

in the database indicating where results may have been affected by groundwater. The representativeness of thermister locations will be evaluated at Moxee Drain at Birchfield and the Nisqually River at Nisqually (11A070) in August 2006.



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# **Appendix A**

**Station description and period of record**

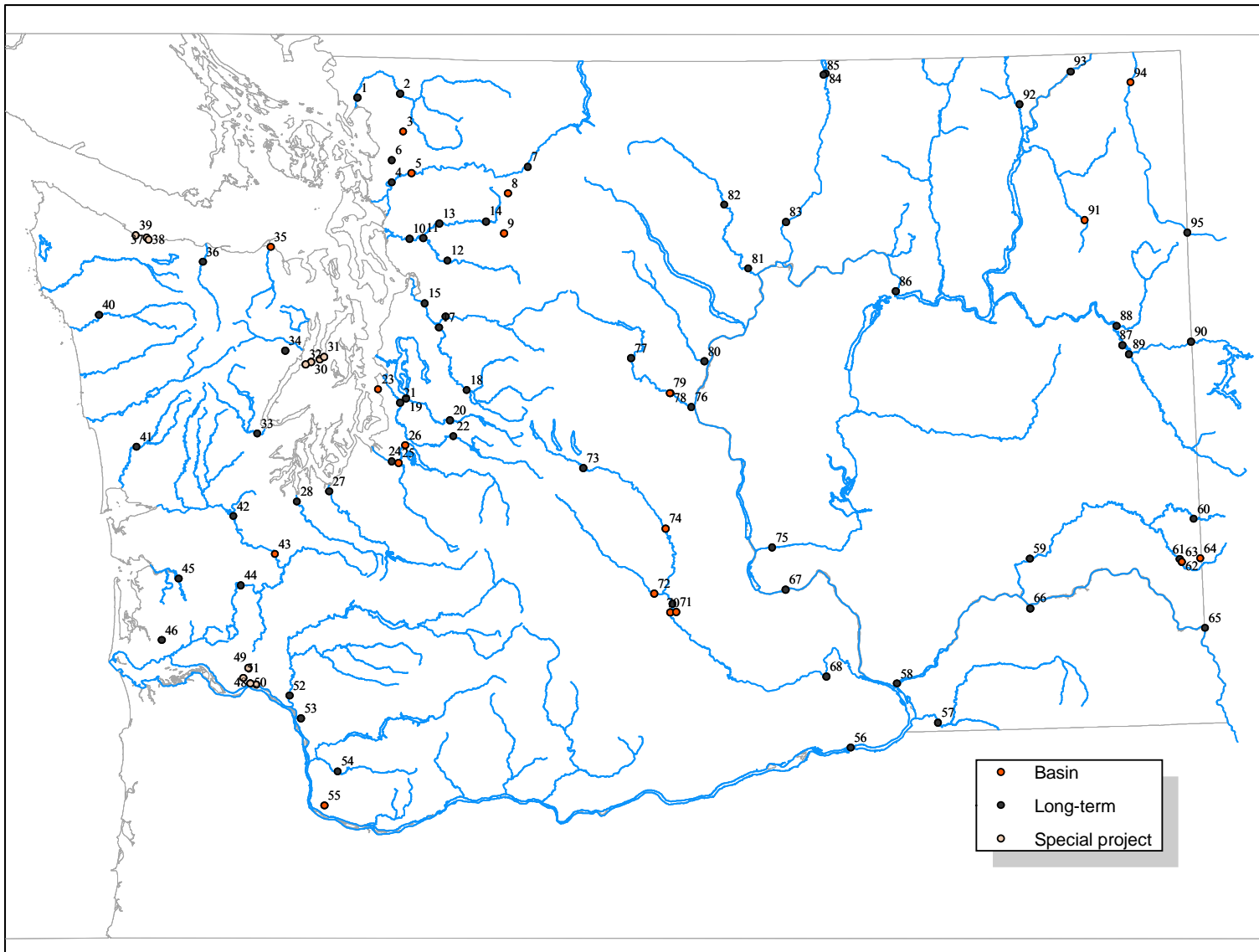


Figure A-1. Map showing stations monitored in Water Year 2005. See Table 1 for the key.

## Monitoring History for Environmental Assessment Program Ambient Monitoring Stations

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s-->	<---1970s-->	<---1980s-->	<---1990s-->	<---2000s-->
01A050	Nooksack R @ Brennan	L		x xx xx	xxxxxxxxxx	xxxxxxxxxx	xxxxxxx
01A070	Nooksack R @ Ferndale	B	xxxxxxxx	xx x x			
01A090	Nooksack R nr Lynden	B		x x x			
01A100	Nooksack R @ Hannegan Road	B					
01A120	Nooksack R @ No Cedarville	L	x xxxxxxxx x	xx x xx	xxxxxxxxxx	xx x xxxxx	xxxxxxxx
01A140	Nooksack R above the MF	B				x	x
01B050	Silver Cr nr Brennan	B				xx	
01C070	Hutchinson Cr. nr Acme	B					
01D070	Sumas R nr Huntingdon BC	B		x x xxx	xxxxxxxxxx	xxx x	
01D080	Sumas R @ Jones Road	B					x
01D090	Sumas R @ Sumas	B		x x			
01D100	Sumas R. @ Telegraph Rd.	B					
01D120	Sumas R nr Nooksack	B				x	
01E050	Whatcom Cr @ Bellingham	B		x x		x	
01E070	Whatcom Cr @ Lake Outlet	B		x			
01E090	Whatcom Lake nr Bellingham	B	xxx x x				
01F070	SF Nooksack @ Potter Rd	B				x	x
01G070	MF Nooksack R	B				x	x
01G100	M.F. Nooksack abv Clearwater Cr.	B					
01H070	Terrell Cr nr Jackson Rd.	B					x
01J060	Bar Cr. nr mouth	B					
01K050	Maple Cr. @ mouth	B					
01L050	Anderson Cr. @ mouth	B					
01M090	Kamm Slough @ Northwood Rd.	B					
01N060	Bertrand Cr. nr mouth	B					
01P080	Tenmile Cr. abv Barrett Lake	B					
01Q070	Dakota Cr. @ Giles Rd.	B					
01R090	California Cr. @ Valley View Rd.	B					

Station Number	Name	Long-term or Basin	Water Year Sampled					
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->	
01S070	Squalicum Cr. @ West St.	B						
01T050	Anderson Cr @ South Bay Road	B						X
03A050	Skagit R @ Conway	B		X X				
03A060	Skagit R nr Mount Vernon	L	X XXXXXXXX X	X XXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXX	
03A070	Skagit R nr Sedro Woolley	B		X X X				
03A080	Skagit R abv Sedro Woolley	B					X X	
03B045	Samish R. nr Mouth	B				X	X	
03B050	Samish R nr Burlington	L	X XXXXXXXX X	XX X XXX	XXXXXXXXXXXX	XX X XXXXX	XXXXXXXX	
03B070	Samish R nr Hoogdal	B		X				
03B075	Samish R. @ German Prairie	B						
03B080	Samish R. nr Prairie	B				X		
03C060	Friday Cr Blw Hatchery	B		X		X X		
03C080	Friday Cr at Alger	B		X				
03D050	Nookachamp Ck nr Mouth	B				X	X	
03E050	Joe Leary Slough nr Mouth	B					X	
03F070	Hill Ditch @ Cedardale Rd	B					X	
03G100	E.F. Nookachamps Cr. @ Beaver Lk. R	B						
03H090	Mannser Cr. Nr Hamilton	B						
03J100	Hansen Cr. nr Sedro Woolley	B						
03K070	Silver Cr. nr Alger	B						
04A060	Skagit R @ Concrete	B		X X XXX	XXXXXXXXXXXX	XX X		
04A100	Skagit R @ Marblemount	L	X XXXXXXXX X	X XX	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXX	
04A140	Skagit R @ Newhalem	B		X X				
04B070	Baker R @ Concrete	B	XXXX	XXX	XXXXXXXXXXXX	XX X		
04B150	Baker Lake @ Boulder Cr	B		XXXXX	X			
04C070	Sauk R nr Rockport	B		XXX	XXXXXXXXXXXX	XX X		X
04C110	Sauk R @ Darrington	B	X XX					
04C120	Sauk R @ Backman Park	B						X
04E050	Finney Cr near Birdsvie	B				X		

Station Number	Name	Long-term or Basin	Water Year Sampled					
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->	
05A050	Stillaguamish R @ Stanwood	B		X				
05A055	Hat Slough nr Stanwood	B			X			
05A070	Stillaguamish R nr Silvana	L	X XXXXXXXXXXXX	XX X XXX	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXX	
05A090	SF Stillaguamish @ Arlington	L		X X XX	XXXXXXXXXXXX	XX X XXXXX	XXXXXXXX	
05A100	S.F. Stillaguamish R. @ River Mdws	B						
05A105	S.F. Stillaguamish R. @ Jordan Rd.	B						
05A110	SF Stillaguamish nr Granite Falls	L	X XXXXXXXX	X		X XXXXX	XXXXXXXX	
05A150	S.F. Stillaguamish R. @ Verlot	B						
05B070	NF Stillaguamish @ Cicero	L	XXXXXXXXXX	XX X XX	XXXXXXXXXXXX	XX X XXXXX	XXXXXXXX	
05B080	N.F. Stillaguamish R. abv Deer Cr.	B						
05B090	NF Stillaguamish R @ Oso	B		X				
05B110	NF Stillaguamish nr Darrington	L		X		X XXXXX	XXXXXXXX	
05B200	N.F. Stillaguamish R abv Crevice Cr	B						
05C070	Deer Cr. @ Oso	B						
05C090	Deer Cr. nr Oso	B						
05D070	Pilchuck Cr. @ Bridge 626	B						
05D150	Pilchuck Cr. abv Lake Cr.	B						
05E060	Armstrong Cr. nr Arlington	B						
05F080	Canyon Cr. nr Masonic Park	B						
05G070	Jim Cr. @ Whites Rd.	B						
05H070	Squire Cr. @ Squire Creek Park	B						
05J060	Boulder R. nr mouth	B						
05K060	Lake Cr. nr mouth	B						
05L070	Church Cr. nr Stanwood	B						
07A090	Snohomish R @ Snohomish	L	X XXXXXXXX X	XX X XXX	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXX	
07A109	Snohomish R nr Monroe NE	B		X				
07A110	Snohomish R nr Monroe SW	B		X				
07A111	Snohomish R nr Monroe (USGS)	B			XX X XX			
07B055	Pilchuck R @ Snohomish	B		X X XX	XXXXXXXXXXXX	XXX X		

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
07B090	Pilchuck R nr Lake Stevens	B		X			
07B120	Pilchuck R @ Robe-Menzel Rd.	B					X
07B150	Pilchuck R @ Menzel Lake Rd.	B					X
07C070	Skykomish R @ Monroe	L		X X XXX	XXXXXXXXXX	XXXX XXXXX	XXXXXXXX
07C090	Skykomish R @ Sultan	B		X X			
07C120	Skykomish R nr Gold Bar	B	X XXXXXXXXXXXX	X XX	XXXXXXXXXX	XXX	X
07C170	Skykomish R nr Miller R	B		X			
07D050	Snoqualmie R nr Monroe	L		X		XX XXXXX	XXXXXXXX
07D070	Snoqualmie R nr Carnation	B		X XX XXX	XXXXXXXXXX	XXX X	
07D100	Snoqualmie R abv Carnation	B					X
07D125	Snoqualmie R @ Hwy 202 (Snoqualmie)	B					
07D130	Snoqualmie R @ Snoqualmie	L	X XXXXXXXXXXXX	X XXX	XXXXXXXXXX	XXX XXXXX	XXXXXXXX
07D150	M F Snoqualmie R nr Ellisville	B				X	X
07E055	Sultan R @ Sultan	B	XXXXXXXXXX X	XX X		X	X
07F055	Woods Cr @ Monroe	B		X X		X X	
07G070	Tolt R nr Carnation	B	XXXXXXXXXXXXX	X		X	
07M065	SF Snoqualmie @ Valley Trail RM 1.6	B					
07M070	S F Snoqualmie R at North Bend	B				X	
07M075	SF Snoqualmie @ Bendigo Blvd S	B					
07M120	SF Snoqualmie R @ 468th Ave. SE	B					X
07N070	NF Snoqualmie R near Ellisville	B				X	
07P070	Patterson Ck nr Fall City	B				X X	
07Q050	Raging R @ Mouth	B					
07Q070	Raging R @ Fall City	B				X	X
07R050	French Cr nr Mouth	B				X	
07S070	Cherry Cr @ Hwy 203	B					
07T050	Tuck Cr @ Mouth	B					
07U070	Harris Cr @ Hwy 203	B					
07V070	Ames Cr @ NE 100th St	B					



Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
07W070	Griffen Cr @ Hwy 203	B					
07X070	Tokul Cr @ SE Fish Hatchery Rd	B					
07Y060	Kimball Cr @ Hwy 202	B					
08A070	McAleer Cr nr Mouth	B		X			
08A090	Upper McAleer Cr	B		X			
08B070	Sammamish R @ Bothell	B	X XXXXXXXXXXXX	XX X X XX	XXXXXXXXXXXX	XXXXX X	
08B110	Sammamish R @ Redmond	B		X		X	
08B130	Issaquah Cr nr Issaquah	B	XXX X	XX X X		X	
08C070	Cedar R @ Logan St/Renton	L	X XXXXXXX	X X X XX	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXX
08C080	Cedar R @ Maplewood	B				X	
08C090	Cedar R @ Maple Valley	B		X		X	
08C110	Cedar R nr Landsburg	L	X XXX	X XX	XXXXXXXXXXXX	XX XXXXXX	XXXXXXXX
08D070	Mercer Slough nr Bellevue	B		X			
08E090	Kelsey Cr @ Monitor Site	B		X			
08E110	Upper Kelsey Cr	B		X			
08F070	May Cr nr Mouth	B		X			
08G070	Valley Cr nr Mouth	B		X			
08H070	Thornton Cr nr Mouth	B		X			
08H100	North Branch Thornton Cr	B		X			
08J070	West Branch Thornton Cr	B		X			
08J100	Swamp Creek abv Lynnwood	B				X	
08K070	Ship Canal @ Ballard	B					
08K071	Bear Cr. below Cottage Lake Cr.	B					
08K090	Ship Canal @ Fremont	B				X	
08K100	North Creek nr Everett	B				X	
08K110	Ship Canal @ University	B					
08K130	Ship Canal @ Montlake	B					
08L070	Laughing Jacobs Cr nr Mouth	B					X
08M070	SF Thornton Cr @ 107th Ave NE	B					X

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
09A060	Duwamish R @ Allentown Br	B			XXXXXXXXXX	XX	
09A070	Duwamish R @ Foster	B	X XXXXXXXX				
09A080	Green R @ Tukwila	L				XXXXXXXXXX	XXXXXXXXXX
09A090	Green R @ 212th St nr Kent	B		X XX	XXXXXXXXXX	XX X	
09A110	Green R @ Auburn	B	XXXXX X	XX			
09A130	Green Abv Big Soos/Auburn	B	X XXXXXXXXXXXX	X		X	
09A150	Green R nr Auburn	B		X			
09A170	Green R nr Black Diamond	B			X		
09A190	Green R @ Kanaskat	L	X XX	X XX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
09B070	Big Soos Cr blw Hatchery	B		X X			
09B090	Big Soos Cr nr Auburn	B	XXXX	XX		X X	
09C070	Des Moines Cr nr Mouth	B		X		X	X
09C090	Des Moines Cr @ So 200th	B		X			
09D070	Miller Cr nr Mouth	B		X			X X
09D090	Miller Cr @ Ambaum Blvd SW	B		X			
09E070	Mill Creek @ Orillia	B			XXXXXX	X X	
09E090	Mill Creek - Kent on W Valley Hwy	B			XXXXXX	X	
09F071	Newaukum Cr nr Mouth	B					
09F150	Newaukum Creek nr Enumclaw	B					X
09G071	Springbrook Cr. @ N. end Longacres	B					
09H090	Black R @ Renton	B				X	
09J090	Longfellow Cr abv 24-25th St junctn	B					XX
09K070	Fauntleroy Cr. nr Mouth	B					XX
10A050	Puyallup R @ Puyallup	B	X XXXXXXXX X	XXX XXXXX	XXX		XXX
10A070	Puyallup R @ Meridian St	L		X X XX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
10A075	Puyallup R @ East Main St.	B					X
10A080	Puyallup R. nr Sumner	B					X
10A090	Puyallup R @ McMillin	B		X X			
10A110	Puyallup R @ Orting	B	X XXX XXXXXX	XXX X XX	XXXXXXXXXX	XX X X	

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
10B070	Carbon R nr Orting	B	XX	XX		X	
10B090	Carbon R @ Fairfax	B		X			
10C070	White R @ Sumner	B		XX XX	XXXXXXXXXX	XX X X	
10C085	White R nr Sumner	B		X X X		X	
10C090	White R @ Auburn	B	XXXXX	X X			
10C091	White R @ Auburn - A	B					
10C095	White River @ R Street	B				X	XXXXXXX
10C110	White R blw Buckley	B		X			
10C115	White River nr 274th Ave.	B					
10C130	White R @ Buckley	B				X	
10C135	White R. abv Raineer School WWTP	B					
10C140	White R nr Buckley	B		X			
10C150	White R nr Greenwater	B		X			
10D070	Boise Cr @ Buckley	B	XXX	X			X
10D090	Boise Cr nr Enumclaw	B	XXX				
10E050	Salmon Creek nr Mouth	B					
10E070	Salmon Cr @ Sumner	B		X			
10F070	So Prairie Cr nr Crocker	B		X			
10F090	South Prairie Ck nr S. Prairie	B				X	
10F110	South Prairie Cr. @ South Prairie	B					
10F150	South Prairie Cr. @ Burnette	B					
10G060	Hylebos Creek at Mouth	B					
11A070	Nisqually R @ Nisqually	L		X X XX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX
11A080	Nisqually R @ McKenna	B	X XXXXXXXXXXXX	X		XX X	
11A090	Nisqually R abv Powell Cr	B		X XX	XXXXXXXXXX	X	
11A110	Nisqually R @ LaGrande	B		X			
11A140	Nisqually R @ Elbe	B		X X XX	X		
12A070	Chambers Cr nr Steilacoom	B	XXXXX	XX X	XXXXXX	XX X X	
12A100	Chambers Cr blw Steilacoom Lk	B	XX	X		XXX	

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
12A110	Clover Cr abv Steilacoom Lk	B	XXX	X		XXXX	
12A130	Clover Cr nr Parkland	B	XX				
12A140	Clover Creek nr Waller Road	B					
12B070	Leach Cr nr Steilacoom	B	XXX	X			
12C070	Flett Cr @ Custer Rd	B	XXX	X			
12D050	Ponce de Leon Ck nr mouth	B				XXX	
13A050	Deschutes R @ Tumwater	B	XXXXX X X	X			
13A060	Deschutes R @ E St Bridge	L		XX	XXXXXXXXXX	XXXX XXXXX	XXXXXXXX
13A080	Deschutes R nr Olympia	B		X X X			
13A100	Deschutes R. @ Rich Rd.	B					
13A120	Deschutes R. @ Waldrick Rd.	B					
13A150	Deschutes R nr Rainier	B	X XXX	X X XX	XXXXXXXXXX	XX X	
13B170	Woodland Cr. nr Lacey	B					
14A060	Goldsborough Cr @ Shelton	B				X X	
14A070	Goldsborough Cr nr Shelton	B	XXX X X				
15A070	Dewatto R nr Dewatto	B		XXX		X	
15B050	Chico Cr nr Chico	B				X	
15B070	Chico Cr nr Bremerton	B	XXXXX X				
15C070	Clear Cr @ Silverdale	B				X	
15D090	Tahuya R nr Belfair	B				X	
15E070	Union R nr Belfair	B				X	X
15F050	Big Beef Cr @ Mouth	B					XX
15F150	Big Beef Cr. @ Holly Rd.	B					
15G050	Little Mission Cr. @ Hwy 300	B					X
15H050	Stimson Creek @ Hwy 300	B					X
15J050	Big Mission Cr. @ Hwy 300	B					X
15K070	Olalla Cr. @ Forsman Rd.	B					X
15L050	Seabeck Cr. @ mouth	B					XX
15M070	Lt Anderson Cr. @ Anderson Hill Rd	B					XX

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
15N070	Stavis Cr. nr Mouth	B					XX
16A070	Skokomish R nr Potlatch	L	XXXXXXXX X	X XXX XX X	XXXXXX	XXXXXXXXXX	XXXXXXXX
16B070	Hamma Hamma R nr Mouth	B	XXXXXX X	X X			
16B110	Hamma Hamma R nr Eldon	B		XX		X	
16B120	Hamma Hamma R above Cabin Creek	B					
16C070	Duckabush R @ Mouth	B	XXXXXXXX X	X X			
16C090	Duckabush R nr Brinnon	L		XXX		XXXXXX	XXXXXXXX
16D070	Dosewallips R @ Brinnon	B	X XXXXXXXXXXX	X XXX		X	
16E070	Finch Cr @ Hoodsport	B				X X	
17A060	Big Quilcene R nr mouth	B					XX
17A070	Big Quilcene R nr Quilcene	B	X XXXXXXX	XXX		X X	
17B050	Chimacum Cr. @ mouth	B					
17B070	Chimacum Cr nr Irondale	B				X	
17B090	Chimacum Cr @ Hadlock	B		X			
17B100	Chimacum Cr @ Chimacum	B				X	
17B110	Chimacum Cr nr Chimacum	B		X			
17C070	Jimmycomelately Cr near Mouth	B					XX
17C075	Jimmycomelately Cr. @ Hwy 101	B					
17D060	Little Quilcene R. nr mouth	B					
17E060	Snow Cr. @ WDFW	B					
17F060	Salmon Cr. @ West Uncas Rd.	B					
17G060	Tarboo Cr. nr mouth	B					
17H060	Thorndyke Cr. nr mouth	B					
17J050	Pheasant Cr. @ mouth	B					
18A050	Dungeness R nr Mouth	B					XXXXXX
18A070	Dungeness R nr Sequim	B	X XXXXXXX	XXX		X X	XX
18B070	Elwha R nr Port Angeles	L	X XXXXXXX X	XXX		XXXXXX	XXXXXXXX
18B080	Elwha R @ McDonald Br (USGS)	B		XXXXX	XX		
18C070	Morse Cr. @ Four Seasons Ranch	B					

Station Number	Name	Long-term or Basin	Water Year Sampled					
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->	
18C150	Morse Cr. blw Aqueduct	B						
18D060	Matriotti Cr. @ Olympic Game Farm	B						
18E100	Meadowbrook Cr. nr Dungeness	B						
18F250	Agnew Irrigation Dt. nr Sequim	B						
18G250	CCD Irrigation Dt. nr Sequim	B						
18H250	Sequim/Prairie Irrig. Dt. nr Sequim	B						
18J250	Highland Irrigation Dt. nr Sequim	B						
18K250	Independent Irrig. Dt. nr Sequim	B						
18L060	Seibert Cr. @ Old Olympic Hwy.	B						
18M060	Ennis Cr. nr mouth	B						
18N050	Little R. @ mouth	B						
18P070	McDonald Cr. @ Hwy 101	B						
18Q050	Indian Cr. @ mouth	B						
18Q200	Indian Cr. nr Maple Grove	B						
18Q240	Indian Cr. blw Lake Sutherland	B						
18R250	McDonald Irrig. Dt. @ diversion	B						
19A070	Pysht R nr Pysht	B		XXX				
19B070	Hoko R nr Mouth	B		X				
19B090	Hoko R nr Sekiu	B		XX				
19C060	West Twin R. nr mouth	B						XX
19D070	East Twin R. nr Mouth	B						XX
19E060	Deep Cr. nr mouth	B						XX
19F070	Salt Cr. nr Ramapo	B						
19G070	Lyre R. nr Shadow	B						
19H080	Clallam R. nr Clallam Bay	B						
19J060	Sekiu R. nr mouth	B						
20A070	Soleduck R. nr Quillayute	B						
20A090	Soleduck R nr Forks	B		XXX		X		
20A130	Soleduck R nr Fairholm	B	XXXXXXXX X	X				

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
20B070	Hoh R @ DNR Campground	L	XXXXXXXXXX	X XXX XX	X	XXXXXX	XXXXXXXX
20C070	Ozette R @ Ozette	B	X XX				
20D070	Dickey R nr La Push	B				X	
21A070	Queets R @ Queets	B	XXXXXXXXXX	X X		X	
21A080	Queets R nr Clearwater (USGS)	B			XX XX		
21A090	Queets R abv Clearwater	B		XX			
21B090	Quinault R @ Lake Quinault	B	X X XXXXXX	X XXX XX	X	X	
21C070	Clearwater R nr Queets	B		XX			
21D070	NF Quinault R @ Amanda	B		XXXXXXXXXX	XX		
22A070	Humtulpis R nr Humtulpis	L	X XXXXXXXXXXXX	X XXX XX	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXX
22B070	WF Hoquiam R nr Hoquiam	B	XXXXXX	XX		X	
22C050	Chehalis R nr Montesano	B		XX XX	XXXXXXXXXXXX	XXX	
22C070	Chehalis R nr Fuller	B		X X			
22D070	Wishkah R nr Wishkah	B	XXXXXX	XX X			
22D110	Wishkah R. nr Nisson	B					
22F090	Wynoochee R nr Montesano	B	X XXXXXXXX X	X XX X			
22G070	Satsop R nr Satsop	B	XXXXXXXXXXXX	XX X XXX	XXXXXXXXXXXX	XX X	
22H070	Cloquallum Cr nr Elma	B	XXXX	X X X			
22J070	Wildcat Cr nr McCleary	B		X			
22K070	Bingham Cr. @ Hatchery	B					
22L070	Johns R. @ Western	B					
22M070	Newskah Cr. blw Falls Creek	B					
22N070	M.F. Hoquiam R. nr New London	B					
22P080	E.F. Hoquiam R. nr Nisson	B					
22Q060	E.F. Wishkah R. nr mouth	B					
22R050	M.F. Satsop R. @ mouth	B					
22S050	Decker Cr. @ mouth	B					
23A070	Chehalis R @ Porter	L	X XXXXXXXXXXXX	XXXX XXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXX
23A100	Chehalis R @ Prather Rd	B				XXX	XXXX

Station Number	Name	Long-term or Basin	Water Year Sampled					
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->	
23A110	Chehalis R @ Galvin	B		X X X				
23A120	Chehalis R @ Centralia	B			XX XXXXXXXXXXXX	XX X		
23A130	Chehalis R @ Claquato	B					X	
23A140	Chehalis R @ Adna	B		X X X				
23A160	Chehalis R @ Dryad	L	X XXXXXXXX		XX XXXXXXXXXXXX	XXXXXXXXXXXXX	XXXXXXXXX	
23B050	Newaukum @ Mouth	B					X	
23B070	Newaukum R nr Chehalis	B	XXXXXXXXXX	X X X			X	
23B090	SF Newaukum R @ Forest	B		X				
23C070	NF Newaukum R @ Forest	B		X				
23D055	Skookumchuck R @ Centralia	B					X X	
23D060	Skookumchuck R nr Frost Prairie	B						
23D070	Skookumchuck R nr Centralia	B	X X					
23E060	Black R. @ Hwy. 12	B						
23E070	Black River @ Moon Road Bridge	B					XX X XXX	
23F070	Mill Ck nr Bordeaux	B					X	
23G060	S.F. Chehalis R. nr mouth	B						
23G070	SF Chehalis R @ Curtis	B					X	
23H070	Cedar Cr. @ Hwy. 12	B						
24B090	Willapa R nr Willapa	L	XX X	XXXXX XXXX	XX XXXXXXXX	XXX XXXXX	XXXXXXXXX	
24B095	Willapa R nr Menlo	B						X
24B100	Willapa R. @ Oxbow	B						
24B130	Willapa R @ Lebam	B	X XX	X	XX XXXXXXXXXXXX	XXX		
24B150	Willapa R @ Swiss Picnic Rd	B						X
24C060	SF Willapa R @ Fuller St	B						
24C065	S.F. Willapa R. @ South Fork WTP	B						
24C070	SF Willapa R @ South Bend	B		X				
24D070	North R nr Raymond	B		X XX			XX	
24D090	North R @ Artic	B				X		
24E070	North Nemah R @ Nemah	B		X X				



Station Number	Name	Long-term or Basin	Water Year Sampled					
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->	
24F040	Naselle R @ Mouth	B		X				
24F055	Naselle R @ Naselle	B		X				
24F070	Naselle R nr Naselle	L	XX X	X X XXXX	X	X XXXXX	XXXXXXXX	
24G070	Bear Branch nr Naselle	B	X	X				
24H070	Middle Nemah R nr Nemah	B		X				
24J070	South Namah R nr Nemah	B		X				
24K060	Fork Cr. @ Willapa Hatchery	B						
24L060	Canon R. @ Kleeb's Trail	B						
24L090	Canon R. @ A-Line Bridge	B						
24M050	Ellsworth Cr. @ mouth	B						
25A070	Columbia R @ Cathlamet	B	XX X	X				
25A075	Columbia R @ Bradwood	B		XXXXXX				
25A110	Columbia R @ Fisher Is Lt	B	XXXXX					
25A115	Columbia R nr Longview	B	XX X	X				
25A150	Columbia R blw Longview Br	B	X	X				
25B060	Grays R. nr mouth	B						
25B070	Grays R nr Grays River	B		X XX		X		
25C070	Elochoman R nr Cathlamet	B	X	X XX		X		
25D050	Germany Cr. @ mouth	B						XX
25E060	Abernathy Cr. nr mouth	B						XX
25E100	Abernathy Cr. @ DNR	B						XX
25F060	Mill Cr. nr mouth	B						XX
25F100	Mill Cr. @ DNR	B						XX
26B070	Cowlitz R @ Kelso	L	XXXXXXXX	XX X XX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	
26B100	Cowlitz R @ Castle Rock	B	XXX	X XXXX				X
26B150	Cowlitz R @ Toledo	B	XXXXX	X X XX	X	X		
26B180	Cowlitz nr Kosmos B Cispus	B	X XXXXXXXX					
26B190	Cowlitz R nr Randle	B		X X X X				
26B200	Cowlitz R nr Kosmos	B		X				

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
26C070	Coweeman R @ Kelso	B	xxxxxx	xx x	xxxxxxx	xxx x	
26C075	Coweeman R. nr Kelso	B					
26C080	Coweeman R av Goble Cr	B				x	
26C090	Coweeman R nr Rose Valley	B		x x			
26D070	Toutle R nr Castle Rock	B	xxxxxxxxx	x x x xx	xxxxxxxxxxx	xxx	
26D090	Toutle R @ Tower Rd	B					
26E070	Cispus R nr Kosmos	B		x	xxx		
27A070	Columbia R @ Kalama	B		xx x xx			
27A110	Columbia River nr St. Helens	B		xx x			
27B050	Kalama R @ Kalama	B	xxxxxxxxxxx	x			
27B070	Kalama R nr Kalama	L		xx xx	xxxxxxxxxxx	xxx xxxxx	xxxxxxxxx
27B080	Kalama R blw Upper Hatchery	B					
27B090	Kalama R @ Upper Hatchery	B		x			
27B110	Kalama R @ Pigeon Springs	B		x			
27C070	Lewis R @ Woodland @ I-5	B	xxxxxx	x x xx			
27C080	Lewis R @ Co Rd 16	B				x	
27C110	Lewis R @ Ariel	B	x x		xxx x		
27D070	E.F. Lewis R. nr La Center	B					
27D090	EF Lewis R nr Dollar Corner	L		xxx	xxxxxxxxxxx	xxx xxxxx	xxxxxxxxx
27D100	EF Lewis R @ Heisson	B					
27D110	EF Lewis nr Heisson	B					
27D190	E.F. Lewis R. @ Sunset Campground	B					
27E070	Cedar Cr nr Etna	B				x	
27E100	Cedar Cr. @ Grist Mill Bridge	B					
27F070	Gee Cr @ Ridgefield	B				x	
28A090	Columbia blw Vancouver WA	B		xx x			
28A091	Columbia blw Vancouver OR	B		xx x			
28A100	Columbia R. @ Vancouver	B					x
28A165	Columbia R @ Warrendale	B		xxxxxxx			

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
28A170	Columbia R blw Bonneville	B	XX	X			
28A175	Columbia R @ Bonneville Dam	B	XX	X X			
28B070	Washougal R @ Washougal	B	X	X XX XX		X	
28B080	Washougal R. @ Hathaway Park	B					
28B090	Washougal R nr Washougal	B	XXXXXXXX	X			
28B110	Washougal R blw Canyon Ck	B				X X	X
28C070	Burnt Br Cr @ Mouth	B		X			XX
28C110	Burnt Br Cr @ Vancouver	B		X			
28D070	Salmon Cr @ Salmon Creek	B		X			
28D110	Salmon Cr nr Battle Ground	B		X			
28E070	Weaver Cr nr Battle Ground	B		X			
28F070	Lake R nr Ridgefield	B				X	
28G070	Gibbons Ck nr Washougal	B				X	X
28H070	Campen Cr nr Washougal	B					X
29B070	White Salmon R nr Underwood	B	XXXXXXXXXX	X XX	XXXX	XXXX	X
29C070	Wind R nr Carson	B		X	XXXX	XXXX	X
29D070	Rattlesnake Cr nr Mouth	B				XXX	
29E070	Gilmer Cr nr Mouth	B				XXX	
30A070	Columbia R @ The Dalles	B	XX	XXXXXXXX			X
30A090	Columbia R @ The Dalles Dam	B	X				
30A100	Columbia R nr Maryhill	B					
30B060	Klickitat R nr Lyle	B				XX	
30B070	Klickitat R nr Pitt	B	XXX	X	XXXXXXXX	X	
30C070	Little Klickitat nr Wahkiacus	B			X		XX
30C090	Little Klickitat R. @ Olson Rd.	B					
30C150	Little Klickitat R. @ Hwy 97	B					
31A070	Columbia R @ Umatilla	L	X	XXXXX		XXXXXXXXXX	XXXXXXXXXX
31A090	Columbia R @ McNary Dam	B	X	XXXXXXXXXX			
31A130	Columbia R nr Yakima R Mouth	B	X				

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
32A070	Walla Walla R nr Touchet	L	x xxxxxxxx	xx xxxxxxxx	xxxxxxxxxxxxx	xxxxxxxxxxxxx	xxxxxxxxx
32A080	Walla Walla R. blw Lowden	B					
32A090	Walla Walla R nr Lowden	B		xx			
32A100	Walla Walla at east Detour Road Br	B				x x	
32A105	Walla Walla R. @ Beet Rd.	B					
32A110	Walla Walla R @ College Pl	B		xx xx			
32A120	Walla Walla R. @ Pepper Bridge	B					
32B070	Touchet R @ Touchet	B		x xx xx	xxxxxxxxxxxxx	xxx x	
32B075	Touchet R. @ Cummins Rd.	B					x
32B080	Touchet at Sims Road	B				x x	
32B090	Touchet R nr Luckenbill Rd	B					
32B100	Touchet R @ Bolles	B		xx		x x	
32B110	Touchet R. @ County Line	B					
32B120	Touchet R nr Dayton	B		xx			
32B130	Touchet R @ Dayton	B	x x			xx	
32B140	Touchet R above Dayton	B				x	
32C070	Mill Cr @ Swegle Rd	B		x xx			x
32C110	Mill Cr @ Tausick Way	B		x x		x	
32D050	Yellowhawk Cr nr mouth	B					
32D060	Yellowhawk Cr. nr mouth	B					
32E050	N.F. Touchet R. abv Dayton	B					
32E150	N.F. Touchet R. abv Jim Cr.	B					
32F060	Dry Cr. nr mouth	B					
32F150	Dry Cr. @ Hwy 125	B					
32G060	Coppei Cr. nr mouth	B					
32G100	Coppei Cr. nr Coppei	B					
32H090	E.P. Ltl Walla Walla R. @ Stateline	B					
32J070	Robinson Fork abv W.F. Touchet	B					
32K070	Wolf Fk Touchet R. @ Mtn. Home Park	B					

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
32L070	S.F. Touchet R. abv Dayton	B					
32M060	Cottonwood Cr. nr mouth	B					
32M100	Cottonwood Cr. @ Hood Rd.	B					
32N070	Russell Cr. nr Langdon	B					
32N120	Russell Cr. nr Walla Walla	B					
33A010	Snake R nr Mouth	B		X			
33A050	Snake R nr Pasco	L	XXXXXXXX X	X		XXXXXXXXXX	XXXXXXXX
33A05X	Snake R @ Burbank	B					
33A070	Snake R blw Ice Harbor Dam	B		X	X XXXXXX	XXXXXXXXXXXX	XX
33A100	Snake R blw Lower Monumental Dam	B					
34A070	Palouse R @ Hooper	L	X XXXXXXXXXXXX	X	XXXXXX	XXXXXXXXXXXX	XXXXXXXXXX
34A075	Palouse River @ Hwy 26	B					X
34A080	Palouse River above Rebel Flat	B					X
34A085	Palouse R @ Shields Rd Bridge	B				X	X
34A090	Palouse R nr Diamond	B		X X			
34A109	Palouse River blw Colfax	B					X
34A110	Palouse R abv Buck Canyon	B		X XX			
34A120	Palouse R at Colfax	B					X X
34A170	Palouse R @ Palouse	L		X		XXXXXXXXXX	XXXXXXXX
34B065	S.F. Palouse R. @ Colfax	B					
34B070	SF Palouse R nr Colfax	B		X XX			
34B072	S.F. Palouse R. @ Parvin	B					
34B075	SF Palouse R @ Shawnee Rd	B					X
34B080	SF Palouse R @ Albion	B					X
34B085	SF Palouse R at Armstrong Rd	B					
34B090	SF Palouse R nr Pullman	B		X X			
34B110	SF Palouse R @ Pullman	L		X X XX	XXXXXXXXXXXX	XXX XXXXX	XXXXXXXX
34B130	SF Palouse R blw Sunshine	B		X			XX
34B140	SF Palouse R @ Busby	B				X	

Station Number	Name	Long-term or Basin	Water Year Sampled					
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->	
34B150	SF Palouse R nr Moscow ID	B						
34C060	Paradise Cr at Mouth	B				X	XX	
34C070	Paradise Cr nr Pullman	B		X				
34C100	Paradise Cr @ Border	B				X	XX	
34D070	SF Palouse Trib Whitman Fm	B		X				
34E070	Rock Creek at Revere	B				X		
34E100	Rock Creek at Escures Property	B						
34F090	Pine Cr @ Rosalia	B				X	X	
34G070	Snake R @ Lyons Ferry	B						
34H070	Pleasant Valley Cr blw St John	B					X	
34J050	Union Flat Cr nr Mouth	B					X	
34J070	Union Flat Cr @ Winona Rd	B					X	
34J090	Union Flat Cr @ Hwy 26	B					X	
34J120	Union Flat Cr @ Almota Rd	B					X	
34K050	Rebel Flat Cr @ Mouth	B					X	
34K080	Rebel Flat Cr @ Repp Rd	B					X	
34K120	Rebel Flat Cr @ Fairgrounds	B					X	
34L050	Cow Cr @ mouth	B					X	
34M070	Dry Creek @ Pullman	B					X	
34N070	Missouri Flat Creek @ Pullman	B					X	
35A070	Snake R @ Central Ferry	B						
35A100	Snake R blw Lwr Granite Dam	B		X				
35A110	Snake R at Lwr Granite Dam	B						
35A150	Snake R @ Interstate Br	L	XXXXXX XX			XXXXXXXXXX	XXXXXXXXXX	
35A200	Snake R nr Anatone	B		XXXXXXXXXX				
35B060	Tucannon R @ Powers	L		X XX	XXXXXXXXXXXX	XXX XXXXX	XXXXXXXXXX	
35B090	Tucannon R @ Smith Hollow	B					X	
35B100	Tucannon R @ Territorial Road	B					X	
35B110	Tucannon R nr Delaney	B	X X					

Station Number	Name	Long-term or Basin	Water Year Sampled					
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->	
35B120	Tucannon R @ Brines Road	B					X	
35B150	Tucannon R nr Marengo	B				X	X	
35C070	Grande Ronde R nr Anatone	B		X	XXX	X		
35D070	Asotin Cr @ Asotin	B		X		X	X	X
35D080	Asotin Cr. blw George Creek	B						
35D100	Asotin Cr. abv George Creek	B						
35E070	Clearwater R @ US12/95	B				X		
35F050	Pataha Cr near mouth	B						X
35F070	Pataha Cr @ Archer Rd	B				X	X	X
35F095	Pataha Cr @ Tatman Road	B						X
35F100	Pataha Cr. nr Pataha	B						
35F110	Pataha Cr @ Rosy Grade	B						X
35G060	Joseph Cr. nr mouth	B						
35H050	Couse Cr. @ mouth	B						
35J050	Tenmile Cr. @ mouth	B						
35K050	Alpowa Cr. @ mouth	B						
35L050	Almota Cr. @ mouth	B						
35M060	Deadman Cr. nr mouth	B						
35M100	Deadman Cr. nr Gould City	B						
35N050	Meadow Cr. @ mouth	B						
35P050	George Cr. @ mouth	B						
36A055	Columbia R @ Port of Pasco	B		X				
36A060	Columbia R @ Pasco	B	XX					
36A065	Columbia R @ Richland	B			X			
36A070	Columbia R nr Vernita	L	XX	XX	X X XXX XX	XXXXXXXXXXXX	XX	XXXXXX XXXXXXXX
37A040	Yakima R @ I-182	B						
37A060	Yakima R @ VanGiesen Br	B		X XX				
37A070	Yakima R nr Richland	B		X				
37A090	Yakima R @ Kiona	L	X XXX	XXX	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXX

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
37A095	Yakima 2 mi blw Prosser	B				X	
37A100	Yakima below Prosser	B				X	
37A110	Yakima R @ Prosser	B		X XX			
37A120	Yakima River @ Euclid Rd. Brdg.	B					
37A130	Yakima R @ Mabton	B		X XX		X	
37A149	Yakima R @ Granger No Side	B		X			
37A150	Yakima R @ Granger So Side	B		X			
37A152	Yakima above Granger Drain	B					
37A170	Yakima R nr Toppenish	B		X XX		X	
37A190	Yakima R @ Parker	B		X XXXXXXXX	XXXXXXXXXXXX	XXX	
37A200	Yakima R abv Ahtanum Cr (USGS)	B		XX X XX			
37A205	Yakima R @ Nob Hill	L				XXXXX	XXXXXXXX
37A210	Yakima R nr Terrace Height	B		XX XX		X	
37B060	Satus Cr @ Satus	B		XX			
37C060	Toppenish Cr nr Satus	B		XX			
37D080	Marion Drin nr Granger	B		XX			
37E050	Wide Hollow Cr. @ Main Street	B					XX
37E070	Wide Hollow Cr @ Union Gap	B		X X		X	
37E090	Wide Hollow Cr @ Goodman	B		X X			
37E120	Wide Hollow Creek @ Randall Park	B					XX
37F070	Sulfur Ck Wasteway @ McGee Rd	B				X	
37F080	Sulphur Creek @ Holaday Road	B					
37G120	Ahtanum Cr @ 62nd Ave	B					XX
37I070	Moxee Drain @ Birchfield Rd.	B					XX
38A050	Naches R @ Yakima on US HWY 97	B	XXXXXXX			X XX	X X
38A061	Naches River @ Nelson Bridge	B					
38A070	Naches R @ Yakima	B		X X			
38A110	Naches R @ Naches	B	X X	X			
38A130	Naches R nr Naches	B	XXXX				



Station Number	Name	Long-term or Basin	Water Year Sampled					
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->	
38A170	Naches R. @ Nile Rd.	B						
38B050	Tieton R. @ mouth	B						
38B070	Tieton R @ Oak Creek	B	XXXX			X		
38C070	Rattlesnake Cr nr Nile	B	XX					
38D070	Bumping R @ American R	B	XX					
38E070	American R @ American R	B	XX					
38F070	Little Naches nr Cliffdell	B	XXX			X		
38G070	Cowiche Cr. @ Powerhouse Rd.	B						XX
38G120	Cowiche Cr @ Zimmerman rd	B						XX
38H050	S.F. Cowiche Cr. @ mouth	B						
38H080	S.F. Cowiche Cr.nr Cowiche	B						
39A041	Yakima River below Roza Dam	B						
39A050	Yakima R @ Harrison Bridge	B					XX XXX	
39A051	Yakima River @ Umtanum	B						
39A060	Yakima R @ Ellensburg	B					XX XX	
39A070	Yakima R nr Thorp	B		X X				
39A080	Yakima R @ Cle Elum	B	X XXXXXXXXXXXX	X				
39A090	Yakima R nr Cle Elum	L		X X		XXX XXXXX	XXXXXXXX	
39B070	Cle Elum R nr Cle Elum	B		X X				
39B090	Cle Elum R nr Roslyn	B				X		
39C070	Wilson Cr @ Highway 821	B	XXXX	X X X		X		XX
39D070	Teanaway R nr Cle Elum	B	XXXXX			X		
39D090	Teanaway R at Highway 970	B						
39E071	Cabin Creek nr Easton	B						
39F050	Wenas Cr. nr Selah	B						
39G060	Naneum Cr. nr Ellensburg	B						
39H050	Sorenson Cr. nr Ellensburg	B						
39J050	Manastash Cr. nr Ellensburg	B						
39J090	Manastash Cr. @ Manastash Rd.	B						

Station Number	Name	Long-term or Basin	Water Year Sampled					
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->	
39K050	Reecer Cr. nr Ellensburg	B						
39L050	Packwood Dt. nr Ellensburg	B						
39M050	Swauk Cr. Nr Cle Elum	B						
39M100	Swauk Cr. @ Lauderdale Junction	B						
39N050	Crystal Cr. Nr Cle Elum	B						
39P080	Taneum Cr. @ Heart K Ranch	B						
39Q060	Big Cr. nr mouth	B						
41A070	Crab Cr nr Beverly	L	x	XXXXXXXXXX	XXX XX XX	XXXXXXXXXX	XX XXXXXX	XXXXXXXX
41A075	Crab Cr nr Smyrna	B		XXX				
41A090	Crab Cr nr Othello	B		X				
41A101	Crab Creek @ McMannon Road	B						
41A110	Crab Cr nr Moses Lake	B	X		XXXX		X X X	
41B071	Winchester Wasteway @ Gage	B						
41C071	Frenchman Hills Wasteway @ Gage	B						
41D070	Rocky Ford Creek @ Hwy 17	B					X X	
41E070	Sand Hollow Creek on Hwy 26	B					X	
41F100	Rocky Ford Coulee Drain	B					X	
41G070	Rocky Coulee Wasteway @ K NE Road	B						X
41H050	Moses Lake at South Outlet	B						X
41J070	Lind Coulee @ Hwy 17	B						X
42A070	Crab Cr below Adrian	B						X
43A070	Crab Cr @ Irby	B	X				X	X
43A080	Crab Creek @ Odessa	B						X
43A095	Crab Creek @ Amnen Road	B						X
43A100	Crab Ck @ Marcelus Road	B					X	X
43A110	Crab Creek at Tokio Road	B						X
43A130	Crab Creek @ US23	B						X
43A150	Crab Ck @ Bluestem Road	B					X	X
43B090	Lake Ck @ Coffeepot Road	B					X	

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
43C070	Goose Creek nr Wilbur	B					X
44A070	Columbia R blw Rock Is Dam	B		X XX XX	XXXXXXXXXX	XX	
44A190	Columbia River @ Hwy 2 Bridge	B					X
45A070	Wenatchee R @ Wenatchee	L	XXXXXXXXXX	X X XX XX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
45A085	Wenatchee R nr Dryden	B		X			
45A100	Wenatchee R @ Leavenworth	B		X			
45A110	Wenatchee R nr Leavenworth	L	X XXXXXXXX		XX XXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
45A240	Wenatchee R. blw Lake Wenatchee	B					
45B050	Icicle Cr. nr mouth	B					
45B070	Icicle Cr nr Leavenworth	B		X		X	
45C060	Chumstick Cr. nr mouth	B					XX
45C070	Chumstick Cr nr Leavenworth	B				XXX X X	
45D070	Brender Cr nr Cashmere	B				XXX X XX	
45D080	Brender Cr. abv Noname Cr.	B					X
45D150	Brender Cr. blw Brender Canyon	B					
45E070	Mission Cr nr Cashmere	B				XXX X XX	
45E100	Mission Cr. @ Binder Rd.	B					
45F070	Peshastin Cr. @ Green Bridge Rd.	B					
45F100	Peshastin Cr. blw Ingalls Cr.	B					
45F110	Peshastin Cr. abv Ingalls Cr.	B					
45F150	Peshastin Cr. abv Tronsen Cr.	B					
45G060	Chiwaukum Cr. nr mouth	B					
45H060	Chiwawa R. @ Schugart Flat	B					
45J070	Nason Cr. nr mouth	B					
45K070	White R. nr mouth	B					
45K090	White R. nr Plain	B					
45L070	Little Wenatchee R. nr mouth	B					
45L110	Little Wenatchee R. blw Rainey Cr.	B					
45M060	Rainey Cr. nr mouth	B					

Station Number	Name	Long-term or Basin	Water Year Sampled					
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->	
45N060	Rock Cr. nr mouth	B						
45P050	White Pine Cr. @ mouth	B						
45Q060	Eagle Cr. nr mouth	B						XX
45R050	Noname Creek nr Cashmere	B						XX
45R070	Noname Cr. on Mill Rd.	B						X
46A070	Entiat R nr Entiat	L	X XXXXXXXX	X XX XX	XXXXXXXXXXXX	XX XXXXXX	XXXXXXXXXX	
46A110	Entiat R. @ Dill Creek Bridge	B						
46A150	Entiat R. @ Tommy Creek Bridge	B						
46A160	Entiat R. blw Entiat Falls	B						
46A170	Entiat R. @ North Fork Campground	B						
46B060	Roaring Cr. nr mouth	B						
46C100	Mad R. abv Camp Nine	B						
46D050	Tillicum Cr. @ mouth	B						
46E070	Mud Cr. @ Bisping Canyon Rd.	B						
46F060	Potato Cr. nr mouth	B						
46G060	Stormy Cr. nr mouth	B						
46H050	Preston Cr. @ mouth	B						
46J080	Tommy Cr. Blw USFS Quarry	B						
46K050	Lake Cr. @ mouth	B						
46L050	Pope Cr. @ mouth	B						
47A070	Chelan R @ Chelan	B	XXXXXXXXXX X	X X XX XX	XXXXXXXXXXXX	XX X		
47B070	Columbia R @ Chelan Station	B				X X		
48A070	Methow R nr Pateros	L	X XXXXXXXX	X XX XX	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXX	
48A130	Methow R nr Twisp	B		X XX	XXXXXXXXXXXX			
48A140	Methow R @ Twisp	L				X XX X XXXXX	XXXXXXXXXX	
48A170	Methow R @ Weeman Br	B		X				
48A190	Methow R blw Gate Cr	B		X XX X				
48B070	Chewack R @ Winthrop	B		X				
48C070	Andrews Cr nr Mazama	B		XXXXXXXXXX	XX			

Station Number	Name	Long-term or Basin	Water Year Sampled					
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->	
49A050	Okanogan R nr Brewster	B	x xxxxxxxx x	x				
49A070	Okanogan R @ Malott	L	xxx	x x xx xx	xx xxxxxx	xxxxxxxxxxx	xxxxxxx	
49A090	Okanogan R @ Okanogan	B		x xx	xxxxxxxxxxx	x	x	
49A110	Okanogan R @ Omak	B					x	
49A130	Okanogan R @ Riverside	B					x	
49A170	Okanogan R @ Janis	B		x				
49A180	Okanogan R @ Tonasket	B				x		
49A190	Okanogan R @ Oroville	L	xxxxxxx	xx xx	xxxxxxxxxxx	xx x xxxxx	xxxxxxx	
49B070	Similkameen R @ Oroville	L	xxxxxxx	xx xx	xxxxxxxxxxx	xxxxxxxxxxx	xxxxxxx	
49B090	Similkameen R @ Nighthawk	B				x		
49B110	Similkameen R @ Chopaka, BC	B					xx	
49C100	Omak Cr. nr St. Mary's Mission	B						
49D080	Johnson Cr. @ Riverside	B						
49E080	Tunk Cr. nr Riverside	B						
49F070	Bonaparte Cr. @ Tonasket	B						
49F150	Bonaparte Cr. @ Aeneas Valley Rd.	B						
49G060	Antoine Cr. nr mouth	B						
49H080	Tonasket Cr. nr Oroville	B						
49J060	Ninemile Cr. nr Oroville	B						
49K090	Toats Coulee Cr. nr Loomis	B						
49L100	Sinlahekin Cr nr Loomis	B						
49M100	N.F. Salmon Cr. nr Conconully	B						
49N050	W.F. Salmon Cr @ mouth	B						
50A070	Columbia R nr Brewster	B	x					
50A090	Columbia R @ Bridgeport	B	x					
51A070	Nespelem R @ Nespelem	B			xxxxxxxxxxx	xx x		
52A070	Sanpoil R @ Keller	B	xxxxxxx	x xx xx	xxxxxxxxxxx	xx x		
52A110	Sanpoil R 13 mi S. Republic	B				x		
52A170	Sanpoil R blw Republic	B		x				

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
52A190	Sanpoil R abv Republic	B		X		X	
52B070	Lake Roosevelt from Keller Ferry	B				X	
53A070	Columbia R @ Grand Coulee	L		X XX XX	XXXXXXXXXX	XX X XXXXX	XXXXXXXX
54A050	Spokane R @ Mouth	B				XXXX	
54A070	Spokane R @ Long Lake (USGS)	B	X XXXXXXX	X XXXXXXXXXXX	XX		
54A089	Spokane R 2 mi blw Ninemile dam	B		XX			
54A090	Spokane R @ Ninemile Br	B		X X			X
54A120	Spokane R @ Riverside State Pk	L		XXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX
54A130	Spokane R @ Fort Wright Br	B		X X			
55B070	Little Spokane R nr Mouth	L		X X XXX	XXXXXXXXXX	XX XXXXXX	XXXXXXXX
55B075	Little Spokane @ Painted Rocks	B					X
55B080	Little Spokane R nr Griffith Spring	B				XX	
55B082	Little Spokane R abv Dartford Creek	B				XX	X
55B085	Little Spokane nr Dartford	B	XXXXXXXX				
55B090	Little Spokane R abv Wandermere	B		X			
55B100	Little Spokane R abv Deadman Creek	B				XX X	
55B200	Little Spokane @ Chattaroy	B				X X	
55B300	Little Spokane River @ Scotia	B					X
55C065	Deadman Cr nr Mouth	B				X	
55C070	Peone (Deadman) Creek abv L Deep Cr	B				XX	X
55C200	Deadman Cr@Holcomb Rd	B					X
55D070	Deer Cr at Hwy 2	B				X	
55E070	Dragoon Cr at Crescent Road	B				X	
56A070	Hangman Cr @ Mouth	L		X X XXX	XXXXXXXXXX	XX X XXXXX	XXXXXXXX
56A200	Hangman Creek @ Bradshaw Road	B					X
57A120	Spokane R @ Spokane	B		X			
57A130	Spokane R @ Mission St Br	B		X X			
57A145	Spokane R @ Trent Br	B		X			
57A150	Spokane R @ Stateline Br	L	X XXXXXX	X XX X X		XXXXXXXX	XXXXXXXX

Station Number	Name	Long-term or Basin	Water Year Sampled					
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->	
57A190	Spokane R nr Post Falls	B		xxxxxxx	xxxxxxxxxxx	xx		
59A070	Colville R @ Kettle Falls	B	xxxxxxxxxxx	x x xx xx	xxxxxxxxxxx	xx x		
59A080	Colville R abv Kettle Falls	B				x	x	
59A110	Colville R @ Blue Creek	B		x			x	
59A130	Colville R @ Chewelah	B		x				xx
59B070	Little Pend Oreille @ Hwy 395	B					x	
60A050	Kettle R @ Hedlund Bridge	B	x					
60A070	Kettle R nr Barstow	L	xxxxxxx x	x x xx xx	xxxxxxxxxxx	xx xxxxxx	xxxxxxx	
61A070	Columbia R @ Northport	L	x xxxxxxxxxxx	xxxxxxxxxxx	xx	xxxxxxxxxxx	xxxxxxx	
61B070	Deep Ck nr Mouth	B				x	x	
61C070	Onion Cr nr Northport	B				x		
61D070	Sheep Cr nr Northport	B				x		
62A070	Pend Oreille R @ Waneta BC (USGS)	B	xxx					
62A080	Pend Oreille R @ Border	B		xxxxxx	xx			
62A090	Pend Oreille R @ Metaline Falls	B	x xxx			xx xx	xxxxxxx	
62A150	Pend Oreille R @ Newport	L	x xxxxxxx x	x xx	xxxxxxxxxxx	xxxxxxxxxxx	xxxxxxx	

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# Appendix B

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

This appendix provides a record of changes in methods and procedures used by the Environmental Monitoring & Trends 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 1988 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 Ecology's Southwest Regional Office to Manchester.
- Oct 1988: Implemented QA/QC program (See memo from David Hallock, 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 not detailed and only available from bench sheets archived by Manchester Environmental Laboratory.
- 1994: The use of Polyacrylamide (PAM) to control erosion from rill irrigation is becoming widespread in eastern Washington. Water quality effects 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 [pnwsteep.wsu.edu](http://pnwsteep.wsu.edu))
- 2001: Began running Central (Nov 2001) and Eastern (Feb 2002) runs out of regional offices. Barometric pressures calculated from airport readings, either uncorrected, if available, or re-converted to sea level.
- Jan-Jun 2002: Some barometric pressures collected from the western part of the state may be off by 1.0 mmHg due to calibration errors. The effect of this amount of error on the percent oxygen saturation calculation is insignificant.
- October 2005 (except the NW run, which made the change several months earlier): Previously, aliquots for pH, conductivity, and turbidity were obtained from the stainless steel bucket used to collect the oxygen. However, this presented a risk of contamination from the oxygen bottles. The sampler was re-designed so that only the oxygen sample is obtained from the bucket; all other samples are collected in passengers.

### Nutrients

- General: Prior to 1980, USGS labs analyzed samples.
- 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: Laboratory 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 NO<sub>3</sub> may have been added by filters (probably 72-74). (Personal communications with Joe Rinnella, USGS).
- Sept 30, 1978: USGS Lab moved to Arvada, CO. Joint program samples sent there; samples collected for Ecology project only may have been analyzed in-house.
- ~1978: Chilled. Brown poly bottle? (the brown poly bottle may have been introduced later). 30-day holding time for NO<sub>2</sub>+NO<sub>3</sub> 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. Values below 0.005 were reported as 0.00. USGS decided to change all Watstore data = 0 to 0.01K back to 1973 for NO<sub>2</sub>+NO<sub>3</sub>. Decision on other nutrients is unknown, but they may also have been changed. Most of the 0s in our database have been converted to 0.01K (K-below the detection limit) but a few 0s may remain in the older data.
- 1980: USGS requires NO<sub>2</sub>+NO<sub>3</sub> be preserved with HgCl. Status of other nutrients is unknown. Ecology requirements are unknown.
- June 1, 1980 to 1986: Nutrients analyzed by Pat Crawford at SWRO.
- Aug 1985: High phosphate values, presumably a result of lab error. (Coded '9-do not use' in our database). (See "Trends in Puget Sound," 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) auto-analyzers
- Apr 1987 to present: Analyzed by various people at Manchester.
- Jan 1987 to Jul 1987: NO<sub>3</sub>, NH<sub>3</sub>, 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?).
- Sep 17 - Oct 12, 1990: 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 sent to contract lab.
- Mar 1991: All nutrients sent 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 laundry detergents is restricted statewide (SSB 5320). Phosphorus use had been limited in Spokane County one (?) year earlier.
- Feb 1999: MEL switched from manual to inline digestion for total phosphorus. In early 2003, during the course of evaluating a different method for phosphorus analysis, MEL discovered that the in-line method contained a high bias (4 to 20 ppb). Trend analyses of total phosphorus data should be interpreted carefully if results collected between Feb 1999 and Sept 2003 are included. (See email from Dean Momohara to David Hallock, 31 March 2003.) Total phosphorus data analyzed using this method have been coded "4" indicating a potential quality problem, and given a different name ("TP\_PInline" rather than the usual "TP\_P").
- Oct 2000: Nitrate+nitrite method nomenclature changed from EPA 353.2 to SM 4500NO<sub>3</sub>I because the latter method is more specific. Actual procedures were not changed.
- Oct 2000: TP method changed from EPA 365.1 to SM4500PI. The former method specifies a manual digestion, while the latter correctly refers to the in-line digestion used by MEL's *Lachat* instrument.

- Oct 2000 to Feb 2001: A low bias may apply to TN data. Except for December data, MEL deemed the bias to be small enough that the data did not need to be qualified. December TN results were coded as estimates (See email from M. Lee to David Hallock, March 8, 2001.)
- Oct 2003: TP method changed from SM4500PI to EPA 200.8M, an ICP/MS method with low detection limits and without the bias associated with in-line digestion. Samples are collected in a 60mL container with HCl preservative instead of the earlier 125mL container with H<sub>2</sub>SO<sub>4</sub> preservative.
- Jul 2007: The phosphorus content in dishwasher detergents will be restricted statewide as of this date (HB 2322 amends RCW 70.95L.020 and 1993 c 118 s 3). Phosphorus in laundry detergents has been restricted since 1994.

### **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). (See memo from Bill Yake, 30 Jan 1978 and Ambient Monitoring Procedure-1978(?) notebook.)
- Mid-1985: Amount filtered changed from 250 (?) to 500 ml.
- Sep 17 - Oct 12, 1990: Suspended sediment samples were contracted out.
- Apr 1991: Began collecting 1000 ml of sample.
- Jul 2002: A number of suspended solids results entered into our database as '0' were deleted. We do not know if these results were below reporting limits or "missing data"; 138 results collected between 1972 and 1981 were affected.
- Mar 2003: TSS method reference changed from EPA160.2 to SM 2540D. Methods did not change; the latter reference more accurately reflects analytical procedures. See email from Feddersen, Karin, March 24, 2003.

### **Conductivity**

- Feb 1978: Began calibrating twice monthly using 40, 70, 140, and 200 µmho/cm standards. (See memo from Bill Yake, 30 Jan 1978 and Ambient Monitoring Procedure-1978(?) Notebook)
- 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, calibrated daily.
- 1998: Orion meter calibration began drifting during the day. Sometimes meter could only be calibrated to within 4 µmhos/cm of the standard. At first, some samplers would correct the data, others would not. Now, these data are uncorrected and coded "J" (estimate).

### **Fecal Coliform Bacteria**

- Early 1980s: field personnel may have analyzed some samples.
- 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 and others at Manchester.
- Mar 1988: Switched to new filter with slightly better recovery.
- November 2000: Holding time was changed from 30 hours to 24 hours (Standard Methods changed to 24 hours with the 17<sup>th</sup> edition, 1989). As a result, more data have been coded "J" since then due to exceeding holding times.

- Sep 2003: FC method reference changed from SM 16-909C to SM 9222D. Methods did not change; the latter reference more accurately reflects analytical procedures. See email from Feddersen, Karin, September 15, 2003.

### **Turbidity**

- 1970s: EPA specified a 2100A turbidimeter. Formerly, turbidity units were FTU (?)
- Jan 1976: Turbidity units changed from Jackson Turbidity Units (JTU) to Nephelometric Turbidity Units (NTU). (Source: review of historical reports.) These are roughly equivalent when greater than 25 JTU/NTU, otherwise not.
- Sept 1993: Lab began using a new turbidimeter, Hach model "Ratio X/R."
- Jan 2003: In our database, the units for turbidity results collected prior to January were changed from NTU back to JTU. Though roughly equivalent at JTUs > 25, these are not equivalent for lower measurements; the original units should have been retained.

### **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. (See memo from Bill Yake, 30 Jan 1978 and Ambient Monitoring Procedure-1978(?) notebook)
- 1986: Changed to Beckman digital pH meter with gel probe.
- Dec 1991: 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. (See memo from Bill Yake, 30 Jan 1978 and Ambient Monitoring Procedure-1978(?) notebook)
- Feb 1985: Checked thermistor calibration daily (internal calibration check based on red-lining needle, not a check against a NIST thermometer) (Memorandum from John Bernhardt, Feb 7, 1985).
- Spring 1994: Switched to YSI 300 meter (accuracy +/- 0.4C)
- Jan 1, 2001: Began calibrating thermistors prior to each run rather than annually. Some thermistors were found to be as much as 1-2 °C low.

### **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 biiodate to correct sodium thiosulfate normality to 0.025. Previously, thiosulfate was standardized upon preparation, but not during use.

### **Barometric Pressure**

- Feb 1985: Began calibrating barometer before each run based on National Weather Service report from Olympia airport (Memorandum from John Bernhardt, Feb 7, 1985).
- \_\_\_ 1995: Began calibrating barometer prior to each run using an on-site mercury barometer rather than pressure as reported by the Olympia airport.

**Chlorophyll**

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

**Hardness**

- Jul 1, 1991: Began using 125 ml bottle with HNO<sub>3</sub> as preservative. (Previously, aliquot from unpreserved general chemistry bottle was used.)

**Metals**

- May 1994: Implemented low-level dissolved metals monitoring at selected stations. Metals results prior to this date are questionable unless well above detection limits and have been quality-coded "9" in our database so that they will not routinely be retrieved. Quality problems include inconsistent blank correction and indications of simultaneous peaks and troughs in data series from unrelated stations for results above reporting limits.

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# Appendix C

## Water Year 2005: Raw data

Data listed in this appendix are available in electronic format by contacting the Washington State Department of Ecology regional offices:

- Ecology Central Region: Chris Coffin (509-454-4257; ccof461@ecy.wa.gov)
- Ecology Eastern Region: Jim Ross (509-456-2874; jros461@ecy.wa.gov)
- Ecology Northwest Region: Bill Ward (360-407-6621; bwar461@ecy.wa.gov)
- Ecology Southwest Region: Rob Plotnikoff (360-407-6687; rplo461@ecy.wa.gov)

Ambient monitoring data from the most recent complete Water Year are available over the Internet on Ecology's web pages ([www.ecy.wa.gov](http://www.ecy.wa.gov)). Look under "Environmental Assessment" and "Long-term Monitoring."

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 in historical data are defined below. Only "U" and "J" were used in WY 2005.

- 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 colonies

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# Conventional Data Report

## Nooksack R @ Brennan 01A050

Class: A Latitude: 48 49 09.1  
 Rivermile: 3.4 Longitude: 122 34 43.3  
 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
10/20/2004	8:00 9	3670	90	11.1	7.54	51	0.295	0.01 U	0.299	0.0273	0.0062	28	30 J
11/17/2004	8:00 5.8	4460	103	11.7	7.42	44	0.562	0.01 U	0.437	0.031	0.0065	27	16 J
12/15/2004	8:05 6.2	13400	59	12.4	7.5	722	0.262	0.01 U	0.22	0.29	0.0098	500	14 J
1/26/2005	8:05 6.7	6920	103	11.1	7.27	184	0.804	0.085	0.706	0.0725	0.012	80	60 J
2/16/2005	8:10 3.7	2580	139	12.4	7.49	16	0.876	0.028	0.807	0.0184	0.0086	10 J	20 J
3/30/2005	7:15 6.4	4740	100	11.6	7.52	64	0.695	0.023	0.586	0.046	0.011	33	150 J
4/20/2005	7:25 9.7	4910	107	10.8	7.66	52	0.522	0.016	0.475	0.0343	0.0073	24	20 J
5/25/2005	7:30 12.7	2870	100	10.19	7.7	16	0.338	0.01 U	0.272	0.0197	0.0068	10	15 J
6/15/2005	7:45 12.4	2330	103	10.4	7.77	10	0.24	0.01 U	0.192	0.0089	0.0035	5.7	33 J
7/20/2005	8:00 16.6	2370	94	9.3	7.63	14	0.2	0.01 U	0.188	0.0368	0.0073	29	36 J
8/17/2005	8:10 16.5	1720	100	9.41	7.6	63	0.21	0.01 U	0.181	0.0636	0.012	45	170 J
9/21/2005	7:15 13	779	138 J	9.9	7.67	12	0.349	0.01 U	0.29	0.0345	0.015	6.9	66 J

# Conventional Data Report

## Nooksack R @ No Cedarville 01A120

Class: A      Latitude: 48 50 30.5  
 Rivermile: 30.8      Longitude: 122 17 32.3  
 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
10/20/2004	8:40 7.8	3030	80	11.6	7.62	23	0.2	0.01 U	0.167	0.0164	0.0043	19	5 J
11/17/2004	8:35 5.7	2590	81	12.2	7.6	44	0.25	0.01 U	0.196	0.0286	0.004	35	6 J
12/15/2004	9:10 5.9	9270	56	12.3	7.63	386	0.18	0.01 U	0.154	0.25	0.0057	240	4 J
1/26/2005	9:00 6.1	3950	75	12	7.56	132	0.23	0.012	0.215	0.048	0.0057	65	2 J
2/16/2005	8:50 2.2	1680	103	13.4	7.66	10	0.256	0.01 U	0.248	0.009	0.0055	6.1 J	2 J
3/30/2005	8:05 5.3	2810	77	12.3	7.64	45	0.341	0.01 U	0.291	0.0225	0.0048	24	7 J
4/20/2005	8:10 6.7	4060	82	12	7.8	54	0.23	0.01 U	0.198	0.0216	0.004	22	1 UJ
pH probe had a slow drift. Soaked probe in 10% HCL/household ammonia, changed battery, and recalibrated.													
5/25/2005	8:25 9.2	2430	84	11.3	7.73	17	0.11	0.01 U	0.087	0.0097	0.003 U	9.2	8 J
6/15/2005	8:25	2070	89	11.3	7.73	7	0.079	0.01 U	0.049	0.0049	0.003 U	5.6	11 J
Forgot to record the water temperature.													
7/20/2005	8:40 12.3	1920	83	10.5	7.37	28	0.096	0.01 U	0.081	0.0265	0.003	29	19 J
8/17/2005	9:00 13.5	1600	86	10.62	7.57	94	0.098	0.01 U	0.075	0.0651	0.003	55	130 J
9/21/2005	8:00 9.6	602	118 J	11	7.81	9	0.12	0.01 U	0.089	0.0125	0.0033	7	11 J

Conventional Data Report

Anderson Cr @ South Bay Road

01T050

Class: AA Latitude: 48 40 25.0  
 Rivermile: 0.2 Longitude: 122 15 58.0  
 Waterbody: WA-01-

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	
10/20/2004	9:40	9.3	6.3	60	10.6	7.01	2	0.585	0.01 U	0.458	0.009	0.0045	2.2	20 J
11/17/2004	9:40	7.2	9	63	11.1	6.79	2	0.648	0.014	0.479	0.0118	0.0056	1.5	7 J
Spawning Kokanee.														
12/15/2004	9:50	7	71.5	49	11.7	6.95	122	0.477	0.01 U	0.435	0.0147	0.0053	11	10 J
1/26/2005	9:40	6.3	94.3	46	12.1	7.13	10	0.267	0.01 U	0.221	0.0122	0.0055	9.8	4 J
2/16/2005	9:35	3.3	6.3	62	12.5	7.05	2	0.549	0.02	0.518	0.0083	0.0062	1.7 J	2 J
Gage stilling well pipe end abv. water surface.														
3/30/2005	9:00	5.3	103	53	12.3	7.26	8	0.319	0.01 U	0.263	0.0068	0.003 U	4.1	3 J
4/20/2005	8:25	6.5	90.1	54	12	7.18	5	0.23	0.01 U	0.176	0.008	0.0041	3.4	1 J
5/25/2005	9:15	9.5	2.3	65	10.8	6.98	2	0.503	0.01 U	0.395	0.0123	0.0049	3.5	63 J
6/15/2005	9:35	10.5	1.8	71	10.19	6.84	3	0.627	0.01 U	0.519	0.0124	0.0055	3	110 J
Staff gage may not be accurate due to low flow and slope of gravel bar.														
7/20/2005	10:15	14	4.7	62	9.6	6.97	10	0.318	0.01	0.258	0.0165	0.0056	11	100
Staff gage likely out of sync w/gage.														
8/17/2005	9:40	12.8	32.2	59	10.52	6.99	42	0.086	0.01 U	0.057	0.0582	0.0034	45	240
9/21/2005	8:50	10.5	0.6	64 J	9.4	6.86	1 U	0.616	0.01 U	0.526	0.0066	0.004	6.2	49 J

# Conventional Data Report

## Skagit R nr Mount Vernon

03A060

Class: A Latitude: 48 26 43.0  
 Rivermile: 15.9 Longitude: 122 20 02.0  
 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	
10/19/2004	15:55	10.5	16500	50	11	7.44	28	0.11	0.01 U	0.086	0.0094	0.003 U	8.9	11
11/16/2004	15:35	8.9	17300	58	11.3	7.41	42	0.15	0.01 U	0.099	0.0108	0.003 U	9.3	26
12/14/2004	16:25	6.8	29800	51	12.2	7.3	136	0.12	0.01 U	0.143	0.057	0.0041	68	4
1/25/2005	15:55	6	28300	47	12.3	7.31	150 J	0.14	0.01 U	0.127	0.0395	0.0035	45	4
2/15/2005	16:05	4.5	13300	71	12.8	7.4	40 J	0.14	0.01 U	0.127	0.0107	0.0048	7.8 J	1 U
3/29/2005	15:35	6.4	14700	57	12	7.4	78 J	0.19	0.01 U	0.15	0.0109	0.0034	13	6
4/19/2005	15:15	9.4	13100	64	11.8	7.49	28	0.18	0.01 U	0.132	0.0092	0.003 U	7.7	2
5/24/2005	15:50	11.7	12500	56	11.2	7.51	7	0.1	0.01 U	0.067	0.0062	0.003 U	5.2	2
6/14/2005	15:50	12.4	12100	55	11	7.56	8	0.066	0.01 U	0.047	0.0033	0.003 U	3.6	1
7/19/2005	16:30	17.6	9390	56	10.1	7.55	26	0.096	0.01 U	0.04	0.0212	0.0031	11	8
8/16/2005	16:25	16.7	5570	59	10.12	7.36	69	0.082	0.01 U	0.044	0.0404	0.004	28	10
9/20/2005	16:05	13.2	4710	70 J	10.7	7.52	13	0.09	0.01 U	0.058	0.0112	0.003 U	3	8

Conventional Data Report

Skagit R abv Sedro Woolley  
03A080

Class: A Latitude: 48 29 23.3  
 Rivermile: 24.4 Longitude: 122 12 15.9  
 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
10/20/2004	10:35	10.3	51	10.9	7.38	16	0.099	0.01 U	0.075	0.007	0.003 U	6.9	9
11/16/2004	14:30	8.9	58	11.4	7.33	18	0.13	0.01 U	0.09	0.0094	0.003 U	8.8	8
1/25/2005	14:40	6	47	12.4	7.3	107 J	0.14	0.01 U	0.12	0.0373	0.0034	45	1 U
2/15/2005	15:00	4.5	71	12.7	7.37	10	0.13	0.01 U	0.112	0.0081	0.0041	5 J	1 U
3/29/2005	14:20	6.3	57	12.1	7.42	34	0.17	0.01 U	0.142	0.0114	0.003 U	12	3
4/19/2005	14:05	9.4	64	11.8	7.47	14	0.15	0.01 U	0.116	0.0076	0.003 U	6.1	1 U
5/24/2005	14:30	11.5	56	11.3	7.45	6	0.089	0.01 U	0.058	0.0051	0.003 U	4.2	1
6/14/2005	14:45	12.2	54	11.3	7.61	5	0.059	0.01 U	0.037	0.0033	0.003 U	2.8	4
7/19/2005	15:21	17.4	55	10.19	7.4	13	0.076	0.01 U	0.032	0.0107	0.003 U	9.2	4
8/16/2005	15:30	17	59	10.12	7.35	43	0.092	0.01 U	0.036	0.0337	0.003 U	22	1
9/20/2005	14:55	12.9 Turbid	68 J	10.9	7.5	11	0.075	0.01 U	0.046	0.0091	0.003 U	5.1	3

Conventional Data Report

Samish R nr Burlington  
03B050

Class: A Latitude: 48 32 45.4  
Rivermile: 10.4 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	
10/19/2004	15:20	11.4	382	70	10.5	7.35	13	0.722	0.029	0.533	0.0239	0.0083	8.8	57
11/16/2004	15:05	9.2	251	76	11.1	7.35	7	0.73	0.022	0.532	0.0187	0.0064	7.2	53
12/14/2004	16:00	8.4	634	62	11.7	7.24	38	0.803	0.022	0.651	0.0264	0.0066	27	52
1/25/2005	15:15	7.8	510	64	11.8	7.28	28	0.763	0.014	0.705	0.0198	0.005	19	19
2/15/2005	15:30	4.7	229	77	12.6	7.34	7	0.761	0.012	0.688	0.0151	0.0069	6.5 J	10
3/29/2005	15:00	7.3	612	59	11.6	7.33	84	0.875	0.052	0.708	0.0596	0.023	50	240 J
4/19/2005	14:40	10.4	404	64	11.3	7.38	24	0.67	0.01 U	0.525	0.0163	0.0045	12	32
Seal just upstream of sample location.														
5/24/2005	15:15	13.5	93	94	11	7.74	3	0.664	0.01 U	0.55	0.0155	0.0052	2.8	27
6/14/2005	15:25	13.2	73	101	11.1	7.83	2	0.6	0.01 U	0.542	0.0106	0.0046	1.8	85
7/19/2005	16:00	17	61	106	9.8	7.68	3	0.65	0.01 U	0.614	0.0153	0.008	2.2	80
8/16/2005	15:58	15.3	37	122	10.52	7.84	2	0.702	0.01 U	0.607	0.0106	0.0058	1.1	140
9/20/2005	15:35	12.5	31	117 J	10.7	7.73	3	0.707	0.01 U	0.617	0.0106	0.005	0.7	48

Conventional Data Report

Skagit R @ Marblemount  
04A100

Class: AA Latitude: 48 31 37.0  
Rivermile: 78.2 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
10/20/2004 12:10	9.5	5350	51	11.4	7.55	3	0.063	0.01 U	0.055	0.0015	0.003 U	1.9	1 U
11/17/2004 11:40	8.6	6970	56	11.7	7.5	3	0.092	0.01 U	0.053	0.0015	0.003 U	1.3	1
	Fixed pH probe problem.												
12/15/2004 11:45	6.7	8940	46	12.2	7.57	15	0.097	0.01 U	0.071	0.0055	0.003 U	7	1 U
1/26/2005 11:15	5.4	10100	43	12.3	7.32	14	0.095	0.01 U	0.08	0.0103	0.003 U	10	1
2/16/2005 11:25	4	6050	67	13.1	7.58	2	0.066	0.01 U	0.061	0.0014	0.003 U	1.1 J	1 U
3/30/2005 10:30	4.8	3840	61	12.9	7.48	1	0.095	0.01 U	0.068	0.0012	0.003 U	0.6	1 UJ
4/20/2005 11:05	6.4	3780	59	12.6	7.65	1 U	0.085	0.01 U	0.065	0.0011	0.003 U	0.5 U	1 U
5/25/2005 10:45	8.7	3270	48	11.9	7.5	1	0.076	0.01 U	0.057	0.0024	0.003 U	1	1 UJ
6/15/2005 11:25	9.7	3320	49	11.8	7.6	1 U	0.061	0.01 U	0.047	0.001 U	0.003 U	0.7	1 U
7/20/2005 11:50	12.1	2880	48	11.4	7.74	1 U	0.071	0.01 U	0.048	0.0019	0.003 U	1.2	1 U
8/17/2005 11:35	12.8	2670	49	11.22	7.59	2	0.067	0.01 U	0.038	0.0022	0.003 U	1.5	11
9/21/2005 10:25	9.3	3270	60 J	11.7	7.63	2	0.075	0.01 U	0.05	0.0018	0.003 U	0.5 U	1

# Conventional Data Report

## Sauk R nr Rockport 04C070

Class: AA Latitude: 48 24 23.5  
 Rivermile: 7 Longitude: 121 33 26.2  
 Waterbody: WA-04-1060

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
10/20/2004 13:00	8.6	3000	54	11.7	7.55	56	0.085	0.01 U	0.063	0.0065	0.0031	5.4	1
11/17/2004 13:35	6.4	3020	58	12.5	7.63	16	0.13	0.01 U	0.084	0.0104	0.0055	8.8	2
12/15/2004 12:35	6.3	10200	42	12.4	7.47	271 J	0.11	0.01 U	0.104	0.0469	0.0045	80	1
1/26/2005 12:05	6.1	6410	44	12.4	7.36	191 J	0.099	0.01 U	0.088	0.0332	0.005	37	1
2/16/2005 12:30	3	3120	64	13.4	7.7	16	0.094	0.01 U	0.087	0.0063	0.0055	3.8 J	1 U
3/30/2005 11:20	4.7	4450	54	12.8	7.55	38	0.17	0.01 U	0.135	0.0133	0.0035	14	1
4/20/2005 12:10	8.1	3290	59	11.9	7.71	14	0.079	0.01 U	0.063	0.0061	0.0031	4.3	1
5/25/2005 11:30	10.4	3170	51	11.9	7.62	8	0.043	0.01 U	0.026	0.0057	0.003 U	3.7	1
RP result is estimate due to light wind.													
6/15/2005 12:25	11.5	2980	51	11.6	7.89	9	0.029	0.01 U	0.015	0.004	0.003 U	2.8	1 U
Too windy for RP.													
7/20/2005 12:50	13.5	2330	51	10.4	7.67	135	0.044	0.01 U	0.03	0.069	0.0054	65	2
Stage is estimate (W/I 0.5 ft.)													
8/17/2005 12:25	15.4	1630	57	10.12	7.5	4450	0.043	0.01 U	0.033	3	0.011	2200	55
Very Turbid. Noticed that the Suiattle River was the source of the High turbidity for the lower Sauk and Skagit.													
9/21/2005 11:35	11	889	78 J	11.2	7.9	234 J	0.039	0.01 U	0.02	0.0462	0.0045	14	3
+ or - 0.2 ft. for wind													



# Metals Data Report

## Sauk R nr Rockport 04C070

Class: AA Latitude: 48 24 23.5  
 Rivermile: 7 Longitude: 121 33 26.2  
 Waterbody: WA-04-1060

Date/Time	Flow CFS	Hardness mg/L	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Total	Dissolved	Tot. Rec.	Tot. Rec.	Dissolved
			Cadmium ug/L	Cadmium ug/L	Chromium ug/L	Chromium ug/L	Copper ug/L	Copper ug/L	Lead ug/L	Lead ug/L	Mercury ug/L	Nickle ug/L	Arsenic ug/L	Zinc ug/L	Zinc ug/L
10/20/2004 13:00		24.4	0.1 U	0.02 U	0.5 U	0.25 U	1.25	0.44	0.21	0.023	0.002 U	0.47	1.2	5 U	1.4
12/15/2004 12:35		21	0.1 U	0.02 U	9.87	0.34	10.6	0.72	1.72	0.056	0.0048	0.65	2.76	15	1.4
2/16/2005 12:30		27.1	0.1 U	0.02 U	0.75	0.25 U	0.73	0.37	0.11	0.02 U	0.002 U	0.53	0.66	5 U	1 U
4/20/2005 12:10		23.6	0.1 U	0.02 U	0.67	0.27	0.79 J	0.43	0.1 U	0.02 U	0.002 U	0.47	0.88	5 U	1 U
6/15/2005 12:25		20.2	0.1 U	0.02 U	0.5 U	0.25	0.65 J	0.38	0.1 U	0.02 U	0.002 U	0.47	1.05	5 U	2.5
8/17/2005 12:25		48.6	0.12	0.02 U	7.1	0.27	109	0.53 J	7.85	0.02 U	0.0088	0.52	2.6	28	2

# Conventional Data Report

## Sauk R @ Backman Park 04C120

Class: AA Latitude: 48 13 40.0  
 Rivermile: 24.5 Longitude: 121 34 46.0  
 Waterbody: WA-01-1080

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	
10/20/2004	14:10	8.2	667 G	45	11.6	7.46	4	0.079	0.01 U	0.067	0.0036	0.003 U	2.6	1
11/17/2004	14:45	5.5	652 G	48	12.5	7.65	8	0.15	0.01 U	0.097	0.0088	0.0033	7.6	2
12/15/2004	13:45	5.8	2430 G	31	12.5	7.28	102	0.11	0.01 U	0.096	0.0587	0.004	55	1 U
1/26/2005	13:10	6	1620 G	39	12.4	7.31	38	0.097	0.01	0.087	0.0263	0.0044	25	2
2/16/2005	13:20	2.6	454 G	56	14	7.55	3	0.076	0.01 U	0.081	0.0058	0.0053	3.6 J	1 U
3/30/2005	12:05	4.8	950 G	41	12.7	7.44	17	0.16	0.01 U	0.13	0.0107	0.0031	9.6	1 U
4/20/2005	13:05	7.6	819 G	44	12.2	7.59	10	0.074	0.01 U	0.065	0.0087	0.003 U	7.9	1 U
5/25/2005	12:15	9.9	844 G	42	11.2	7.51	5	0.053	0.01 U	0.032	0.0051	0.003 U	3.2	1 U
6/15/2005	13:35	11.8	698 G	44	11	7.6	4	0.033	0.01 U	0.022	0.0034	0.003 U	2.4	1 U
7/20/2005	14:00	15.6	412 G	51	10.19	7.44	31	0.056	0.01 U	0.028	0.019	0.0038	14	3
8/17/2005	13:25	15.8	236 G	61	10.42	7.69	40	0.044	0.01 U	0.02	0.0379	0.0046	27	41
9/21/2005	13:05	11.8	126 G	80 J	11.3	7.92	9	0.045	0.01 U	0.016	0.0107	0.0042	3.5	1

WY 2005 flows at this station based on flow at Sauk blw White Chuck.

Metals Data Report

**Sauk R @ Backman Park**  
04C120

Class: AA Latitude: 48 13 40.0  
 Rivermile: 24.5 Longitude: 121 34 46.0  
 Waterbody: WA-01-1080

Date/Time	Flow CFS	Hardness mg/L	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Total	Dissolved	Tot. Rec.	Tot. Rec.	Dissolved
			Cadmium ug/L	Cadmium ug/L	Chromium ug/L	Chromium ug/L	Copper ug/L	Copper ug/L	Lead ug/L	Lead ug/L	Mercury ug/L	Nickle ug/L	Arsenic ug/L	Zinc ug/L	Zinc ug/L
10/20/2004 14:10		18.9	0.1 U	0.02 U	0.5 U	0.25 U	0.65	0.41	0.1 U	0.029	0.002 U	0.67	1.5	5 U	1.2
12/15/2004 13:45		16.7	0.1 U	0.02 U	7.75	0.37	5.87	0.62	1.01	0.052	0.0059	0.77	2.06	9.8	1.5
2/16/2005 13:20		22.9	0.1 U	0.02 U	0.74	0.25 U	0.64	0.36	0.1 U	0.02 U	0.002 U	0.56	1.03	5 U	1.1
4/20/2005 13:05		18.1	0.1 U	0.02 U	1.7	0.32	1.31	0.44	0.18	0.02 U	0.002 U	0.59	1.2	5 U	1 U
6/15/2005 13:35		16.8	0.1 U	0.02 U	0.5 U	0.26	0.52 J	0.41	0.1 U	0.02 U	0.002 U	0.57	1.32	5 U	2.5
8/17/2005 13:25		25.9	0.1 U	0.02 U	2	0.31	2 J	0.26 J	0.33	0.02 U	0.002 U	0.54	1.8	5 U	1.1

# Conventional Data Report

## Stillaguamish R nr Silvana 05A070

Class: A Latitude: 48 11 49.5  
 Rivermile: 11.1 Longitude: 122 12 32.0  
 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
10/19/2004 14:30	9.5	4282	43	11.3	7.33	45	0.269	0.01 U	0.225	0.0268	0.0047	31	13
11/16/2004 13:20	7.8	2602	51	11.6	7.36	53	0.35	0.014	0.258	0.0423	0.0055	50	28
12/14/2004 13:55	6.9	10771	38	12.1	7.32	302	0.23	0.01 U	0.208	0.106	0.0051	170	21
1/25/2005 13:30	6.6	4925	48	12.2	7.3	36	0.291	0.01 U	0.275	0.0279	0.0054	33	3
2/16/2005 15:25	3.7	1895	69	13.1	7.43	15	0.398	0.015	0.371	0.0186	0.0079	14 J	1
3/29/2005 13:10	5.6	6895	40	12.3	7.56	63	0.254	0.01 U	0.232	0.0435	0.004	40	8
4/19/2005 13:00	7.9	4619	51	12.2	7.3	21	0.281	0.01 U	0.246	0.019	0.0047	17	3
5/24/2005 13:25	11.8	2216	55	11.2	7.46	12	0.2	0.01 U	0.14	0.0133	0.0039	10	8
6/14/2005 13:35	12	2152	55	11.5	7.56	37	0.17	0.013	0.131	0.0265	0.0042	38	290 J
7/20/2005 16:45	20.8	888	79	9.3	7.56	7	0.19	0.01	0.123	0.0136	0.0064	4.4	17
8/16/2005 14:25	20.2	341	110	9.81	7.86	3	0.17	0.01 U	0.088	0.0179	0.0093	1.3	35
9/20/2005 13:55	15.9	328	106 J	10.3	7.73	3	0.17	0.01 U	0.091	0.0209	0.011	0.9	14

Conventional Data Report

SF Stillaguamish @ Arlington

05A090

Class: A Latitude: 48 12 03.2  
 Rivermile: 18.2 Longitude: 122 07 04.0  
 Waterbody: WA-05-1040

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
10/19/2004 13:45	9.6		38	11.4	7.33	40	0.258	0.01 U	0.208	0.0244	0.0033	28	55
11/16/2004 12:35	7.8		45	11.7	7.43	47	0.34	0.01 U	0.264	0.036	0.0039	50	40
12/14/2004 13:05	7		36	12.4	7.33	292	0.23	0.01 U	0.215	0.131	0.0046	210	17
1/25/2005 12:40	6.5		43	12.1	7.11	24	0.291	0.01 U	0.282	0.019	0.0042	23	4
2/15/2005 13:55	3.5		59	13.2	7.37	53	0.397	0.01 UJ	0.372	0.0664	0.0066	120 J	26
3/29/2005 12:40	5.4		36	12.4	7.4	95	0.25	0.01 U	0.213	0.0539	0.0068	80	6
4/19/2005 12:20	7.6		45	12.1	7.36	17	0.276	0.01 U	0.261	0.0155	0.0031	15	1
5/24/2005 12:45	11.9		48	11.2	7.53	12	0.18	0.01 U	0.143	0.0122	0.0031	12	8
6/14/2005 13:05	11.9		47	11.4	7.61	16	0.17	0.018	0.116	0.0168	0.0034	19	400 J
7/19/2005 13:50	20.1		64	9.5	7.48	6	0.23	0.024	0.137	0.011	0.0061	4.6	67
8/16/2005 13:45	19.4		97	9.51	7.82	3	0.23	0.01 U	0.158	0.0063	0.0039	1.1	76
9/20/2005 13:25	16		88 J	10.8	7.88 J	2	0.23	0.01 U	0.151	0.0131	0.003 U	0.7	13

Conventional Data Report

SF Stillaguamish nr Granite Falls

05A110

Class: AA Latitude: 48 06 10.5  
 Rivermile: 34.6 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
10/19/2004 12:20	8.9		34	11.7	7.36	74	0.2	0.012	0.142	0.0297	0.0032	50	3
11/16/2004 11:40	6.9		37	12.2	7.42	60	0.2	0.01 U	0.141	0.0349	0.0031	55	9
12/14/2004 12:10	6.4		28	12.8	7.35	696	0.08	0.011	0.099	0.507	0.0051	600	6 J
			No barometric pressure was recorded.										
1/25/2005 11:45	5.8		36	12.6	7.17	35	0.13	0.01 U	0.113	0.0254	0.0034	36	2
2/15/2005 12:20	2.2		49	13.8	7.59	27	0.14	0.03	0.13	0.028	0.0057	32 J	1 U
			pH was 7.22 before recalibration.										
3/29/2005 11:45	4.7		31	12.8	7.33	185	0.15	0.01 U	0.127	0.091	0.0034	120	3
4/19/2005 11:15	5.5		37	12.9	7.49	29	0.13	0.01 U	0.105	0.0248	0.003 U	28	4 J
5/24/2005 11:40	9.1		40	12	7.54	20	0.12	0.034	0.064	0.0161	0.003 U	17	15
6/14/2005 12:15	10.1		41	11.9	7.59	26	0.081	0.01 U	0.058	0.0188	0.003 U	24	43
7/19/2005 12:41	17.7		54	9.69	7.82	5	0.1	0.01 U	0.042	0.0062	0.0067	3.7	16
8/16/2005 13:00	18.6		83	9.41	8.21	4	0.071	0.01 U	0.013	0.0064	0.0036	1	13
9/20/2005 11:50	13.9		76 J	10.5	8.22 J	2	0.064	0.01 U	0.012	0.0071	0.003 U	1.2	4

# Conventional Data Report

## NF Stillaguamish @ Cicero 05B070

Class: A Latitude: 48 16 03.0  
 Rivermile: 9.5 Longitude: 122 00 42.5  
 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
10/20/2004	15:35 9.1	1790	52	11.5	7.41	17	0.2	0.01 U	0.176	0.0157	0.0047	16	3
11/17/2004	15:55 6.6	1800	55	12.1	7.66	19	0.303	0.01 U	0.225	0.0208	0.0061	1.7	3
12/15/2004	15:20 6.8	5390	35	12.2	7.18	119	0.19	0.01 U	0.185	0.058	0.0053	85	3
1/26/2005	14:20 6.9	2080	49	12.1	7.32	32	0.24	0.034	0.216	0.0291	0.0064	31	2
2/16/2005	14:50 3.8	1160	69	13.3	7.58	27	0.263	0.01 U	0.262	0.0261	0.0088	23 J	1 U
3/30/2005	13:20 5.6	3300	44	12.6	7.38	64	0.289	0.01 U	0.256	0.0406	0.0051	40	4
4/20/2005	14:45 9.4	2110	52	11.5	7.45	14	0.2	0.01 U	0.16	0.0149	0.0048	12	1 U
5/25/2005	13:25 12.6	1250	58	11.2	7.75	7	0.13	0.01 U	0.084	0.01	0.0044	5.5	2
6/15/2005	15:05 14.8	1200	62	11.6	8.38	7	0.083	0.01 U	0.046	0.0079	0.003 U	4.5	2
7/20/2005	15:50 19.3	508	79	10.6	8.36	4	0.099	0.01 U	0.029	0.0093	0.005	2.3	6
8/17/2005	14:50 18.8	309	101	10.92	8.29	8	0.14	0.01 U	0.07	0.0176	0.0072	2.5	170 J
9/21/2005	15:00 14.4	173	111 J	11	8.19	2	0.069	0.01 U	0.021	0.0125	0.0051	1.4	14

Conventional Data Report

NF Stillaguamish nr Darrington

05B110

Class: A Latitude: 48 16 48.7  
 Rivermile: 30 Longitude: 121 42 04.2  
 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	
10/20/2004	14:50	8.8	494	41	11.4	7.39	2	0.15	0.01 U	0.125	0.0027	0.003 U	1.1	1 U
11/17/2004	15:15	6.3	379	47	12.1	7.55	2	0.18	0.01 U	0.129	0.0047	0.0035	1.2	1 U
12/15/2004	14:15	6.3	1465	31	12.3	7.07	31	0.19	0.01 U	0.155	0.0145	0.0035	19	3
1/26/2005	13:40	6.6	648	38	11.6	7.2	5	0.2	0.01 U	0.164	0.006	0.0042	3.3	1
2/16/2005	13:55	4	233	54	12.7	7.44	1	0.18	0.01 U	0.176	0.0043	0.0053	0.5 J	2
3/30/2005	12:40	5.3	928	38	12.5	7.38	9	0.21	0.01 U	0.174	0.0058	0.0035	4.6	2
4/20/2005	13:45	8.2	590	42	11.7	7.32	4	0.16	0.01 U	0.123	0.0037	0.003 U	2	1 U
5/25/2005	12:40	11.3	304	43	11.5	7.47	1 U	0.1	0.01 U	0.074	0.0036	0.003 U	0.7	3
6/15/2005	14:15	13.3	217	50	11	7.71	1	0.089	0.01 U	0.055	0.0023	0.003 U	0.5 U	4
7/20/2005	14:45	17.3	115	62	10	7.63	13	0.14	0.01 U	0.08	0.0217	0.0055	9.3 J	13
County bank stablization work resulted in high TSS, Turbidity, and possibly other wacko results. Collected additional stream sample above construction project for analysis and notified NWRO.														
8/17/2005	14:10	16.5	85.5	82	10.62	8.17	6	0.12	0.01 U	0.068	0.0076	0.0041	1.5	160 J
9/21/2005	14:10	12.1	46.6	107 J	11.4	8.16	1 U	0.15	0.01 U	0.093	0.0101	0.0067	0.5 U	6



Conventional Data Report

**Snohomish R @ Snohomish**  
07A090

Class: A Latitude: 47 54 38.7  
 Rivermile: 12.7 Longitude: 122 05 51.2  
 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
10/19/2004	9:20 10.1	12024	31	11.2	7.15	11	0.281	0.02	0.204	0.0099	0.0032	8.4	25 J
11/16/2004	8:40 8.2	7144	48	11.3	7.22	4	0.33	0.01 U	0.252	0.0096	0.0048 J	3.7	33 J
12/14/2004	8:55 6.5	23610	38	11.8	7.03	35	0.526	0.026	0.418	0.0278	0.011	23	1200 J
1/25/2005	8:15 6.3	17849	33	11.6	6.88	26	0.305	0.014	0.259	0.018	0.0052	15	8 J
2/15/2005	9:05 4.3	5613	61	12.5		4	0.389	0.013	0.334	0.0118	0.0062	4.5 J	4 J
	pH probe was not working properly.												
3/29/2005	8:30 6.3	14485	36	11.3	7.28	24	0.383	0.01 U	0.326	0.0156	0.0042	16	41 J
4/19/2005	8:20 7.8	10536	43	11.5	7.1	13	0.402	0.01 U	0.324	0.0114	0.0038	7.3	21 J
5/24/2005	8:30 10.6	8796	39	10.7	7.1	6	0.23	0.01 U	0.164	0.0103	0.0046	3.4	30 J
6/14/2005	9:10 12.9	6872	44	10.5	7.25	5	0.2	0.01 U	0.147	0.0074	0.0034	3.7	15 J
7/19/2005	9:00 18.3	3285	58	8.9	7.11	6	0.24	0.01 U	0.192	0.0103	0.005	4	37 J
8/16/2005	9:20 20.1	1535	68	8.51	7.43	3	0.23	0.01 U	0.164	0.0097	0.0045	1.8	22 J
9/20/2005	9:20 15.4	1459	64 J	9.5	7.36	4	0.282	0.016	0.192	0.0142	0.0046	1.7	37 J

# Conventional Data Report

## Skykomish R @ Monroe

07C070

Class: A Latitude: 47 51 08.0  
 Rivermile: 25.6 Longitude: 121 57 28.8  
 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
10/19/2004 11:05	10.1	9782	30	11.2	7.11	4	0.18	0.014	0.132	0.0031	0.003 U	1.9	19
11/16/2004 10:00	7.6	5143	36	11.7	7.23	4	0.2	0.01 U	0.142	0.0044	0.003 U	3.1	9 J
12/14/2004 10:25	6.3	12366	31	12.2	7.16	14	0.24	0.01 U	0.204	0.01	0.003 U	13	3 J
No barometric pressure was recorded.													
1/25/2005 10:00	5.4	11701	27	12.5	7.2	11	0.15	0.01 U	0.132	0.0094	0.003 U	11	2
2/15/2005 10:50	3.1	4185	40	13.2		2	0.19	0.01 U	0.166	0.0052	0.0037	4.1 J	2
pH probe was not working properly.													
3/29/2005 10:35	5.6	8132	32	12.2	7.19	7	0.251	0.01 U	0.205	0.0069	0.003 U	7.8	10
4/19/2005 9:50	7.5	6596	36	12	7.24	4	0.2	0.01 U	0.167	0.0047	0.003 U	2.9	4 J
5/24/2005 10:20	9.7	5511	32	11.5	7.3	2	0.094	0.01 U	0.07	0.0035	0.003 U	2.1	4 J
6/14/2005 10:50	11	4513	35	11.4	7.36	2	0.087	0.01 U	0.067	0.0022	0.003 U	1.3	8
7/19/2005 11:04	17	2589	42	10.19	7.59	2	0.13	0.01 U	0.077	0.0025	0.0042	1.2	40
8/16/2005 10:50	18.7	1458	52	9.31	7.43	2	0.13	0.01 U	0.076	0.0031	0.003 U	0.9	33 J
No site access due to tressel removal activity. Samples were taken from Hwy 203 bridge.													
9/20/2005 10:35	14.3	1480	47 J	10.19	7.4 J	3	0.13	0.01 U	0.085	0.0042	0.003 U	1	6

# Conventional Data Report

## Snoqualmie R nr Monroe 07D050

Class: A Latitude: 47 48 14.3  
 Rivermile: 2.7 Longitude: 122 00 06.0  
 Waterbody: WA-07-1060

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
10/19/2004 10:20	10	5306	31	11.2	7.07	20	0.307	0.011	0.257	0.0106	0.0043	11	68 J
11/16/2004 9:25	8.5		55	11	7.12	4	0.388	0.011	0.292	0.0094	0.0045 J	3.1	13 J
	Too windy for RP.												
1/25/2005 9:20	6.8	7441	37	11	6.73	24	0.408	0.029	0.349	0.0227	0.0083	17	28 J
2/15/2005 10:05	5	2098	58	12.1		4	0.405	0.015	0.342	0.0122	0.0064	4.2 J	8
	pH probe was not working properly.												
3/29/2005 9:40	6.5	6716	36	11.8	7.1	42	0.47	0.01 U	0.386	0.0162	0.005	19	39 J
	Established RP w/ new washer. The new RP location is 0.1 ft higher than the previous location.												
4/19/2005 9:10	8	4576	43	11.7	7.09	19	0.387	0.01 U	0.307	0.0144	0.0041	11	41 J
5/24/2005 9:30	10.5	3755	40	11.4	7.17	9	0.285	0.019	0.19	0.0158	0.0072	5.7	41 J
6/14/2005 10:00	13.2	3003	44	10.5	7.32	7	0.22	0.01 U	0.158	0.0079	0.0032	5.2	35
7/19/2005 10:00	18.8	1155	58	9.3	7.28	3	0.25	0.012	0.208	0.0117	0.0056	3.2	29
8/16/2005 10:00	20.9	668	75	8.81	7.45	3	0.23	0.018	0.179	0.0117	0.0054	1.8	25
	Slight breeze - flow result W/I 0.3 inches												
9/20/2005 10:00	15	502	71 J	9.69	7.46 J	4	0.317	0.01 U	0.232	0.0134	0.0053	1.5	25

# Conventional Data Report

## Snoqualmie R @ Snoqualmie 07D130

Class: A      Latitude: 47 31 37.5  
 Rivermile: 42.3      Longitude: 121 48 39.3  
 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	
10/18/2004	10:20	9.5	4980	23	11.3	7.2	15	0.24	0.012	0.182	0.008	0.003 U	8.4	26
11/15/2004	10:50	7.9	1240	40	11.3	7.2	2	0.24	0.01 U	0.195	0.0038	0.003 UJ	2.3	8
12/13/2004	9:35	5.7	4840	29	12.1	7.14	15	0.24	0.01 U	0.24	0.0073	0.0035	8.1	3 J
1/24/2005	10:45	5.9	4260	25	12.3	7	14	0.21	0.01 U	0.177	0.008	0.003 U	8.2	3
2/14/2005	10:30	4.5	1360	43	12.3	7.17	2	0.25	0.01 U	0.228	0.0049	0.0041	2.4 J	5
3/28/2005	10:35	5.5	5210	25	12.1	7.18	30	0.271	0.01 U	0.22	0.0142	0.003 U	15	1
4/18/2005	9:20	6	2990	31	12	7.22	12	0.2	0.01 U	0.18	0.0109	0.003 U	10	9 J
Bridge work beginning.														
5/23/2005	10:15	8.4	2950	29	12	7.3	5	0.16	0.01 U	0.124	0.0058	0.003 U	2.7	25
Bridge construction.														
6/13/2005	10:25	10.5	2210	33	11.1	7.21	5	0.15	0.01 U	0.123	0.0056	0.0039	3.4	31
7/18/2005	10:40	15.3	1050	46	9.69	7.14	4	0.2	0.01 U	0.171	0.0078	0.0042	1.7	52
8/15/2005	11:40	16.5	444	65	9.21	7.35	2	0.253	0.01 U	0.195	0.0071	0.0036	1	69
9/19/2005	10:20	12.3	430	63 J	9.6	6.59	4	0.289	0.01 U	0.219	0.0079	0.0042	1.2	32

# Conventional Data Report

## Cedar R @ Logan St/Renton 08C070

Class: A Latitude: 47 29 09.0  
 Rivermile: 1 Longitude: 122 12 28.0  
 Waterbody: WA-08-1143

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 #/100mL
10/18/2004 12:00	11.2	653	68	10.5	7.47	6	0.48	0.014	0.368	0.016	0.012	2.3	84
	pH was 7.52 prior to recalibration.												
11/15/2004 12:15	9.8	441	68	11.2	7.59	3	0.324	0.023	0.231	0.0145	0.0085 J	1.7	83
	Dead and dying spawned out salmon.												
12/13/2004 11:15	7.4	1690	53	11.8	7.32	19	0.38	0.01 U	0.375	0.0132	0.0081	7.5	13 J
1/24/2005 12:05	6.4	1550	45	12.2	7.38	13	0.277	0.01 U	0.245	0.01	0.0053	5.9	6
2/14/2005 11:45	6.7	474	76	12.4	7.71	1	0.318	0.01 U	0.306	0.0094	0.0091	0.9 J	6
3/28/2005 11:30	8.5	493	78	12	7.46	5	0.575	0.01 U	0.512	0.0105	0.0065	2.3	61 J
4/18/2005 10:45	9.1	553	79	11	7.7	6	0.447	0.01 U	0.386	0.0087	0.0058	1.4	31
5/23/2005 11:00	10.4	404	84	12.6	8.04	3	0.343	0.01 U	0.26	0.0098	0.0053	1.1	57
6/13/2005 11:55	13.6	320	84	11.4	8.04	4	0.24	0.01 U	0.193	0.0081	0.0072	3.5	60
7/18/2005 11:45	16.3	261	87	10.9	7.92	3	0.21	0.01 U	0.182	0.0101	0.0056	1.3 J	45
8/15/2005 13:50	18.6	137	99	11.42	8.55	4	0.2	0.01 U	0.142	0.0109	0.0068	1	110
9/19/2005 12:40	12.8	179	88 J	11.9	8.3 J	3	0.2	0.01 U	0.162	0.0083	0.0068	1	92

# Conventional Data Report

## Cedar R nr Landsburg 08C110

Class: AA Latitude: 47 23 29.3  
 Rivermile: 25.1 Longitude: 121 55 09.5  
 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	
10/18/2004	9:35	10.1	500	55	10.9	7.52	1 U	0.307	0.014	0.269	0.0055	0.006	0.5	4 J
11/15/2004	9:15	9	485	52	11.4	7.57	1 U	0.17	0.01 U	0.139	0.0198	0.0036 J	0.5 U	3 J
12/13/2004	9:00		1350											
			No access - trees across road.											
1/24/2005	9:40	5.6	1740	36	12.4	7.26	5	0.16	0.01 U	0.13	0.0043	0.0037	2.4	1 U
			No temperature correction needed.											
2/14/2005	9:25	6.8	475	59	11.9	7.36	1 U	0.18	0.01 U	0.172	0.0058	0.0068	0.5 U	1 U
3/28/2005	9:15	7.7	537	55	11.3	7.68	3	0.336	0.01 U	0.293	0.0062	0.0059	1.1	4 J
4/18/2005	8:50		427											
			No Access - Tree across road.											
5/23/2005	9:10	9	368	65	11.4	7.92	1 U	0.19	0.01 U	0.182	0.0061	0.005	0.5 U	1 UJ
6/13/2005	9:30	10.3	404	63	11.3	7.79	1 U	0.17	0.01 U	0.145	0.0045	0.0061	0.7	21 J
7/18/2005	9:35	11.3	330	68	10.8	7.48	1 U	0.2	0.018	0.179	0.0061	0.0064	0.6	19 J
8/15/2005	10:45	11.6	268	73	11.12	7.76	1	0.2	0.01 U	0.167	0.0069	0.0065	1.4	1
9/19/2005	9:20	10.3	275	68 J	11	7.62	1	0.18	0.01 U	0.169	0.006	0.0061	0.5 U	2 J

# Conventional Data Report

## Green R @ Tukwila 09A080

Class: A      Latitude: 47 27 56.0  
 Rivermile: 12.4      Longitude: 122 14 47.9  
 Waterbody: WA-09-1020

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
10/18/2004 12:35	11.7	1450	75	10	7.44	24	0.602	0.022	0.456	0.0398	0.017	11	420
11/15/2004 13:00	9.1	593	119	10.4	7.46	2	0.479	0.03	0.36	0.0245	0.0096 J	2.4	63
12/13/2004 11:55	6	3350	62	11.9	7.35	30	0.561	0.011	0.518	0.0381	0.019	18	14
1/24/2005 12:50	7.9	2390	67	11.2	7.39	24	0.613	0.016	0.535	0.0355	0.018	15	8
2/14/2005 12:30	6.3	725	126	11.4	7.4	3	0.67	0.021	0.598	0.0247	0.012	2.2 J	7
3/28/2005 12:30	8.7	999	107	10.4	7.51	42	1.21	0.046	0.841	0.0898	0.0308	17	1100 J
4/18/2005 11:20	9.1	1370	88	11.5	7.58	12	0.649	0.01 U	0.456	0.0419	0.018	5.3	43
5/23/2005 11:40	11.6	1170	95	10.19	7.73	12	0.554	0.021	0.382	0.0446	0.016	4.3	43
6/13/2005 12:40	14.3	1080	86	10.1	7.66	15	0.408	0.01 U	0.314	0.0346	0.012	6.8	160
7/18/2005 12:15	19	439	147	8.6	7.27	8	0.491	0.044	0.412	0.0519	0.012	4.3	88
8/15/2005 15:05	20.4	287	154	10.02	7.49	10	0.323	0.025	0.221	0.0442	0.0097	2.8 J	57
9/19/2005 13:15	15.1	384	106 J	9.19	7.49 J	12	0.452	0.04	0.307	0.0496	0.012	3.9	48

# Conventional Data Report

## Green R @ Kanaskat 09A190

Class: AA Latitude: 47 19 10.0  
 Rivermile: 57.6 Longitude: 121 53 32.3  
 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	
10/18/2004	8:20	11.2	1150	49	6.85	4	0.19	0.021	0.141	0.0062	0.0045	2.1	32 J	
	No DO result. Oxygen titration end point was severely over run. Result using remaining 75 mL sample was far lower than expected (based on a historical review). pH was 6.78 before recalibration.													
11/15/2004	8:20	7.3	331	50	11.7	7.46	1	0.16	0.01 U	0.121	0.0261	0.0038 J	0.9	4 J
12/13/2004	8:15	5	2390	39	12.4	7.24	26	0.267	0.01 U	0.221	0.0132	0.0097	7.3	4 J
1/24/2005	8:40	6.4	1560	38	12.2	7.45	9	0.2	0.01 U	0.177	0.0139	0.0097	6.8	2 J
2/14/2005	8:20	4.2	397	49	12.6	7.53	1	0.17	0.01 U	0.159	0.0083	0.0088	0.8 J	3 J
3/28/2005	8:25	6.4	318	48	11.7	7.8	3	0.35	0.01 U	0.33	0.0064	0.0059	2.1	12 J
4/18/2005	8:00	6.5	815	42	12.2	7.55	1	0.16	0.01 U	0.12	0.0053	0.0059	0.8	1 J
5/23/2005	8:00	9.6	724	45	11.6	7.68	1	0.091	0.01 U	0.059	0.0067	0.0042	0.9	14 J
6/13/2005	8:20	11.1	777	47	11.2	7.67	2	0.1	0.01 U	0.068	0.0053	0.0058	0.9	74 J
7/18/2005	8:15	13	223	53	10.3	7.47	2	0.14	0.01 U	0.087	0.0062	0.0038	0.8	20 J
8/15/2005	9:25	14.6	171	54	10.42	7.62	2	0.14	0.01 U	0.078	0.0061	0.0041	0.7	17 J
9/19/2005	8:25	14.3	292	53 J	10.1	7.51	3	0.16	0.021	0.082	0.0078	0.0041	1.4	7 J



Conventional Data Report

Fauntleroy Cr. nr Mouth  
09K070

Class: AA Latitude: 47 31 22.0  
Rivermile: 0.1 Longitude: 122 23 31.0  
Waterbody: WA-09-1005

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
10/18/2004	14:50	11.6	279	10.7	8.18	10	0.914	0.02	0.796	0.0593	0.0538	5.1	280
11/15/2004	13:50	10.6	282	11	8.23	9	0.893	0.01 U	0.71	0.0492	0.0397 J	3.3	63
12/13/2004	13:00	8.9	255	11.4	8.09	11	1.35	0.01 U	1.22	0.0474	0.0361	6.8	170
1/24/2005	14:00	10.5	261	11.3	7.97	9	1.31	0.012	1.2	0.0493	0.0422	5.2	69
2/14/2005	13:15	6.5	285	12.4	8.17	7	1.14	0.01 U	1.04	0.05	0.0418	4 J	87
3/28/2005	13:35	8.8	264	11.2	8.21	24	1.42	0.01 U	1.31	0.0504	0.0369	9.3	80 J
4/18/2005	12:45	9.4	276	12.1	8.03	16	1.21	0.01 U	1.04	0.0548	0.0404	6.7	47
5/23/2005	12:45	11.1	274	11.1	8.25	16	1.08	0.01 U	0.929	0.0725	0.0501	7.6	84
6/13/2005	13:35	12.7	284	10.8	8.34	18	0.991	0.01 U	0.846	0.0677	0.0584	8.6	280
7/18/2005	13:10	14.9	290	9.8	8.11	33	0.897	0.01 U	0.93	0.0949	0.0593	19	140
8/15/2005	16:00	15.4	290	9.81	8.24	33	0.887	0.01 U	0.837	0.864	0.0644	10	390
9/19/2005	13:50	13.1	273 J	10.4	8.18	3	0.881	0.01 U	0.829	0.0675	0.055	1.5	320

Metals Data Report

**Fauntleroy Cr. nr Mouth**  
09K070

Class: AA Latitude: 47 31 22.0  
 Rivermile: 0.1 Longitude: 122 23 31.0  
 Waterbody: WA-09-1005

Date/Time	Flow CFS	Hardness mg/L	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Total	Dissolved	Tot. Rec.	Tot. Rec.	Dissolved
			Cadmium ug/L	Cadmium ug/L	Chromium ug/L	Chromium ug/L	Copper ug/L	Copper ug/L	Lead ug/L	Lead ug/L	Mercury ug/L	Nickle ug/L	Arsenic ug/L	Zinc ug/L	Zinc ug/L
10/18/2004 14:50		127	0.1 U	0.02 U	0.89	1.1	1.14	0.75	0.55	0.11	0.004	1.1	2.9	5 U	2.2
12/13/2004 13:00		110	0.1 U	0.02 U	1.5	1.4	2.06	1.17	1.04	0.216	0.0084	1.25	2.55	5 U	1.5
2/14/2005 13:15		117	0.1 U	0.02 U	1.1	1.1	0.97	0.52	0.61	0.058	0.0036	1.06	2.32	5 U	2.5
4/18/2005 12:45		118	0.1 U	0.02 U	1.6	1.3	1.58	0.78	1.15	0.064	0.0075	1.13	2.35	5 U	1 U
6/13/2005 13:35		116	0.1 U	0.02 U	1.5	1.2	1.53 J	0.58	1.08 J	0.02 U	0.014	0.93	3.03	5 U	1.1
8/15/2005 16:00		124	0.1 U	0.02 U	1.5	1.4	1.2 J	0.26 J	1.19	0.035	0.0059	1.1	3.05	5 U	1 U

# Conventional Data Report

## Puyallup R @ Meridian St 10A070

Class: A      Latitude: 47 12 10.0  
 Rivermile: 8.3      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	
10/18/2004	17:00	10.2	4620	59	11	7.37	220	0.377	0.01 U	0.283	0.0442	0.014	31	73 J
11/15/2004	16:30	9.4	1780	84	11.2	7.64	25	0.26	0.025	0.156	0.0266	0.013 J	5	60
12/13/2004	15:35	6.1	4870	61	12.5	7.36	195 J	0.414	0.018	0.337	0.0498	0.014	35	35
1/24/2005	16:40	7.6	5280	59	12	7.28	95 J	0.344	0.022	0.304	0.0467	0.014	34	31
2/14/2005	16:25	5.4	2060	91	12.8	7.51	14	0.363	0.065	0.295	0.0238	0.014	3 J	13
3/28/2005	16:30	7.8	5280	64	11.4	7.48	119	0.605	0.024	0.503	0.0443	0.019	20	120 J
4/18/2005	15:40	9	3590	73	12	7.46	20	0.451	0.022	0.341	0.0271	0.015	4.5	10
5/23/2005	16:15	11.5	3910	67	11.5	7.6	25	0.281	0.01 U	0.18	0.0227	0.011	3.8	6
6/13/2005	16:50	14.4	2970	67	11	7.74	14	0.15	0.01 U	0.087	0.0162	0.01	5.9	20
7/18/2005	10:40	15.4	2430	65	9.8	7.29	285	0.15	0.012	0.114	0.238	0.016	160	80
8/15/2005	11:50	15	2040	54	10	7.23	463	0.093	0.01 U	0.086	0.382	0.018	220	60
9/19/2005	10:00	11.7	929	100	10.3	7.46	74	0.21	0.015	0.15	0.083	0.025	21	51

Conventional Data Report

**Puyallup R @ East Main St.**  
10A075

Class: A Latitude: 47 11 49.0  
Rivermile: 10.7 Longitude: 122 14 58.0  
Waterbody: WA-10-075

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
10/18/2004	16:30 9.8	2890	54	11.2	7.45	183	0.367	0.022	0.274	0.0326	0.01	27	51 J
11/15/2004	16:00 9.3 Clear.	711	82	11.4	7.72	14	0.24	0.01 U	0.171	0.0187	0.012 J	4.5	110
12/13/2004	15:05 6.4	2500	57	12.1	7.42	123 J	0.38	0.01 U	0.312	0.0286	0.013	16	110
1/24/2005	16:15 7.6	2110	60	11.7	7.33	196 J	0.38	0.026	0.325	0.0503	0.017	33	120
2/14/2005	15:50 5.5	832	91	12.5	7.6	4	0.345	0.01 U	0.306	0.0198	0.015	2.5 J	8
3/28/2005	15:55 7.7	3330	56	11.5	7.57	311	0.522	0.01 U	0.429	0.0297	0.011	21	47 J
4/18/2005	15:15 8.6	2160	64	11.9	7.38	127 J	0.349	0.01 U	0.292	0.0199	0.012	5.2	14
5/23/2005	15:40 11.6	1890	64	11.1	7.64	13	0.27	0.01 U	0.194	0.016	0.0079	4.1	16
6/13/2005	16:20 14.2	1430	64	11.5	7.85	10	0.12	0.01 U	0.087	0.0138	0.008	6.7	8
7/18/2005	9:45 14.5 Brown, muddy water	1360	57	10	7.46	432	0.12	0.01 U	0.111	0.383	0.013	250	80 J
8/15/2005	11:20 13.3 Brown, silty water	1080	45	10.6	7.25	725	0.074	0.01 U	0.082	0.58	0.013	370	46
9/19/2005	9:33 10.8	568	99	11	7.68	31	0.18	0.01 U	0.148	0.0579	0.016	24	45 J

Conventional Data Report

**White River @ R Street**  
10C095

Class: A Latitude: 47 16 31.0  
 Rivermile: 8 Longitude: 122 12 22.0  
 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
10/18/2004	15:45 9.9	1450	62	11.4	7.59	314	0.326	0.023	0.283	0.0486	0.018	35	37
11/15/2004	15:10 8.9 Clear.	588	81	11.7	8.02	52	0.19	0.01 U	0.141	0.0209	0.015 J	2.7	4
12/13/2004	14:20 5.8	2960	60	12.5	7.69	442 J	0.379	0.01 U	0.341	0.0598	0.014	55	7
1/24/2005	15:15 7.6	3640	56	12.1	7.64	190 J	0.297	0.015	0.273	0.0457	0.014	32	5
2/14/2005	15:05 5.4	719	82	12.7	7.85	123 J	0.33	0.01 U	0.288	0.0256	0.021	3.5 J	1 U
3/28/2005	14:40 7.7	874	81	11.7	7.82	170	0.838	0.029	0.707	0.0802	0.0549	17	310 J
4/18/2005	14:10 9.7	613	80	12.1	7.74	44	0.512	0.01 U	0.423	0.0395	0.027	2.7	9
5/23/2005	14:05 10.3	1630	64	11.7	7.77	51	0.21	0.01 U	0.149	0.0244	0.014	3.6	7
6/13/2005	15:15 14.6	978	65	11	8	22	0.12	0.01 U	0.078	0.0177	0.013	4.2	8
7/18/2005	8:50 15.8	719	69	9.8	7.37	77 J	0.12	0.01 U	0.09	0.0814	0.016	50	35 J
8/15/2005	10:10 16.5	692	60	9.79	7.37	343	0.074	0.01 U	0.056	0.212	0.019	110	65
9/19/2005	8:42 11.4	209	90	10.8	7.55	67	0.12	0.01 U	0.081	0.0569	0.017	15	10 J

# Conventional Data Report

## Nisqually R @ Nisqually 11A070

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

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	
10/19/2004	15:30	12.3	1828 J	60	10.15	7.42	12	0.379	0.01 U	0.288	0.0269	0.011	17	390 J
11/16/2004	8:30	9.8	1811 J	63	10.9	7.34	9	0.19	0.01 U	0.129	0.0157	0.0069 J	12	9 J
12/14/2004	14:30	7.9	2760 J	60	11.6	7.41	29	0.305	0.01	0.259	0.0329	0.0083	24	8
Muddy, high flow, salmon present, River Otter present														
1/25/2005	8:05	5.8	2290 J	61	11.9	7.08 J	114	0.354	0.018	0.314	0.129	0.01	160	4 J
2/15/2005	8:50	4.2	1182 J	56	12.3	7.31	8	0.346	0.012	0.285	0.0278	0.012	16 J	2 J
3/29/2005	7:30	7	2005 J	63	11.1	7.1	25	0.689	0.01 U	0.545	0.0307	0.0097	14	39 J
Muddy water														
4/19/2005	8:00	7.5	1538 J	67	11.3	7.28	12	0.541	0.01 U	0.378	0.0223	0.0082	8.2	13 J
5/24/2005	8:30	9.4	2008 J	69	10.9	7.35	7	0.34	0.01 U	0.232	0.167	0.0077	4.2	13 J
6/14/2005	15:15	12.5	1151 J	71	11.4	8.02	4	0.25	0.01 U	0.167	0.0106	0.0059	2.1	6
7/18/2005	11:28	15.2	1049 J	71	9.9	7.57	5	0.23	0.01 U	0.167	0.0108	0.0066	2.7	14
8/15/2005	12:40	17.2	774 J	66	10	7.67	4	0.23	0.01 U	0.141	0.0122	0.0081	1.8	9
9/19/2005	11:00	13.7	731 J	76	10.19	7.71	7 J	0.19	0.01 U	0.12	0.0128	0.0069	3.5	28

# Conventional Data Report

## Deschutes R @ E St Bridge 13A060

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

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
10/19/2004	9:10 10.6	498	78	9.64	7.13	12	0.861	0.01 U	0.744	0.0223	0.014	10	240 J
11/16/2004	9:20 9.2	129	120	10.3	7.4	1	0.752	0.01 U	0.637	0.0181	0.013 J	1.4	16 J
12/14/2004	13:20 8.5	616	82	10.8	7.22	10	0.75	0.01 U	0.713	0.0203	0.014	7.9	20
		Muddy, high flow											
1/25/2005	8:50 7.7	436	100	10.8	7.25 J	7	0.877	0.01	0.831	0.026	0.017	6.1	11 J
2/15/2005	9:30 5.2	193	96	11.6	7.39	2	0.888	0.01 U	0.827	0.0202	0.018	2.1 J	3 J
3/29/2005	8:20 7.5	1200	65	10.7	7.13	34	0.798	0.01 U	0.688	0.0312	0.014	22	41 J
		Muddy water											
4/19/2005	9:05 8.4	660	79	10.8	7.28	10	0.66	0.01 U	0.571	0.0204	0.011	7.1	25 J
		Muddy river											
5/24/2005	9:20 10.7	408	97	10.19	7.35	5	0.598	0.01 U	0.474	0.0192	0.0098	3.6	29 J
6/14/2005	14:15 14.8	161	132	10.5	7.65	3	0.717	0.01 U	0.597	0.0146	0.0073	1.6	22
		Macrophyte growth.											
7/18/2005	12:05 17.4	121	137	9	7.5	3	0.82	0.01 U	0.781	0.0256	0.015	2.1	29
		Dense macrophytes on margins											
8/16/2005	16:00 17.5	76	144	10.1	7.62	2	0.854	0.01 U	0.775	0.0241	0.016	1.1	30
9/19/2005	11:29 12.8	59	150	10	7.56	3	0.994	0.01 U	0.839	0.0232	0.013	1.2	37

Metals Data Report

**Deschutes R @ E St Bridge**  
13A060

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

Date/Time	Flow CFS	Hardness	Tot. Rec. Cadmium	Dissolved Cadmium	Tot. Rec. Chromium	Dissolved Chromium	Tot. Rec. Copper	Dissolved Copper	Tot. Rec. Lead	Dissolved Lead	Total Mercury	Dissolved Nickle	Tot. Rec. Arsenic	Tot. Rec. Zinc	Dissolved Zinc
		mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
10/19/2004 9:10		30.7	0.1 U	0.02 U	0.71	0.3	2.34	1.1	0.18	0.042	0.0043	0.41	0.5	5 U	1.6
12/14/2004 13:20		30	0.1 U	0.02 U	1.2	0.49	2.16	0.74	0.37	0.03	0.0035	0.39	0.35 J	5 U	3.2
2/15/2005 9:30		44.6	0.1 U	0.02 U	0.5 U	0.52	0.54 J	0.42	0.1 U	0.02 U	0.002 U	0.44	0.36	5 U	1.6
4/19/2005 9:05		29.1	0.1 U	0.02 U	0.89	0.35	1.68	0.72	0.12	0.02 U	0.0032	0.38	0.28	5 U	1
6/14/2005 14:15		45.5	0.1 U	0.02 U	0.5 U	0.61	1.03 J	0.54	0.15 J	0.02 U	0.002 U	0.48	0.42	5 U	4.7
8/16/2005 16:00		55.5	0.1 U	0.02 U	0.5 U	0.73	1.1 J	0.17 J	0.18	0.02 U	0.002 U	0.52	0.72 J	5 U	1 U



# Conventional Data Report

## Big Beef Cr @ Mouth 15F050

Class: AA      Latitude: 47 39 02.0  
 Rivermile: 0.2      Longitude: 122 46 56.0  
 Waterbody: WA-15-0000

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
10/4/2004 11:00	10.6	1.8	94	10.19	7.52	9	0.345	0.082	0.147	0.0346	0.027	4.5	19 J
Seagulls and salmon carcasses upstream													
11/1/2004 10:45	8.2	49.6	79	11.1	7.57	2	0.326	0.01 U	0.188	0.0119	0.0077	1.6	53
12/6/2004 11:54	5.8	24.9	62	11.65	7.51	11	0.461	0.031	0.277	0.021	0.013	3.9	35
High density Chum carcasses, and actively migrating Coho													
1/3/2005 11:15	3.4	15.8	57	12.8	7.51	1	0.507	0.01 U	0.377	0.0096	0.012	0.9	4
2/7/2005 10:10	5.5	26	54	12	7.46	9	0.381	0.01 U	0.305	0.01	0.0068	1.8	4
UW fish trap dam spillway was open, so the creek was in its' typical "backed up" state.													
3/7/2005 11:20	8.5	10.9	68	11.6	7.84	1	0.289	0.01 U	0.227	0.01	0.0076	0.7	3
4/4/2005 12:35	8.8	41	47	11.25	7.41	4	0.438	0.02	0.262	0.0081	0.0044	2.1	5
5/2/2005 12:10	12.5	11.3	66	10.12	7.64	2	0.277	0.01 U	0.198	0.0099	0.0073 J	1	13
6/7/2005 12:52	12.6	4.31	79	10.19	7.74	1 U	0.24	0.01 U	0.148	0.0094	0.0086	0.7	43
Several bald eagles feeding on the mud flats near the station.													
7/19/2005 13:17	16.2	3.53	84	10	7.45	4	0.26	0.01 U	0.152	0.0126	0.011	1.5	22
The fan traps for coho smolt trapping have been removed and the stream is now running against the far valley wall.													
8/16/2005 13:48	14.4	2.19	97	9.9	7.55	1	0.279	0.01 U	0.204	0.0169	0.014	0.6	9
9/20/2005 12:27	12.9	1.1	320	9.4	7.41	4	0.261	0.034	0.154	0.0227	0.015	1.4	10
The conductivity value from the meter read 0.32 mS so I, possibly in error, translated that unit to mean 320 micro siemens.													

# Conventional Data Report

## Seabeck Cr. @ mouth 15L050

Class: AA      Latitude: 47 38 09.0  
 Rivermile: 0.2      Longitude: 122 50 18.0  
 Waterbody: WA-15-7300

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
10/4/2004 11:37	9.9	0.51	96	10	7.4	1 U	0.561	0.01 U	0.546	0.0155	0.015	0.5 U	12 J
11/1/2004 11:10	8.4	0.58	92	10.5	7.33	1 U	0.584	0.011	0.577	0.0118	0.0094	0.7	120
12/6/2004 12:25	7	5.18	66	11.05	7.34	7	1.25	0.051	1.07	0.0256	0.021	1.6	19
High density Chum carcasses and actively spawning Coho													
1/3/2005 11:50	4.9	7.02	65	12.2	7.4	1 U	0.859	0.01 U	0.788	0.0095	0.015 J	0.6	1
2/7/2005 10:30	5.5	11.3	53	11.9	7.34	1	0.593	0.01 U	0.665	0.0078	0.0084	0.7	17
3/7/2005 11:55	8.6	2.11	81	11.2	7.65	1 U	0.732	0.01 U	0.674	0.0118	0.01	0.5	3
4/4/2005 13:10	7.6	28.6	38	11.55	7.24	1	0.68	0.01 U	0.575	0.0062	0.0048	1	6
5/2/2005 13:10	10.4	5.18	80	10.62	7.45	1 U	0.66	0.01 U	0.632	0.0109	0.01 J	0.5	20
6/7/2005 13:26	9.8	2.73	90	10.5	7.26	1 U	0.624	0.01 U	0.598	0.0117	0.011	0.5 U	2
I downloaded the stage data from the logger. Numerous coho fry seen at the staff gage.													
7/19/2005 14:34	12.3	1.48	96	10.3	7.23	1 U	0.675	0.01 U	0.654	0.0151	0.014	0.7	22
The stage record is from a staff gage reading at the bridge. The temperature value was taken from the temperature probe integrated into the pressure transducer used for continuous stage recording (the battery on the long line thermistor was dead).													
8/16/2005 14:56	11.6	1.48	97	10	7.36	1 U	0.707	0.01 U	0.592	0.0154	0.014	0.5 U	50
The stage value is the staff gage reading.													
9/20/2005 13:34	11.5	0.58	101	9.9	7.24	1 U	0.618	0.01 U	0.552	0.0157	0.013	0.5 U	15

Conventional Data Report

Llt Anderson Cr. @ Anderson Hill Rd  
15M070

Class: AA Latitude: 47 39 38.0  
Rivermile: 0.2 Longitude: 122 45 15.0  
Waterbody: WA-15-0000

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
10/4/2004 10:00	9		111	11.4	7.7	2	0.334	0.01 U	0.29	0.0415	0.0383	0.5 U	35 J
11/1/2004 10:10	7.7		108	11.6	7.61	1	0.466	0.01 U	0.454	0.0365	0.0325	0.9	15
12/6/2004 11:23	6.6		100	11.55	7.53	6	0.723	0.01 U	0.622	0.0361	0.032	1.7	37
1/3/2005 10:40	3.8		97	12.9	7.59	1 U	0.937	0.01 U	0.869	0.0313	0.0327	0.6	4
2/7/2005 9:45	5.5		79	12	7.5	2	0.939	0.01 U	0.972	0.0236	0.022	1.4	20 J
3/7/2005 10:45	7.7		106	11.6	7.87	1	0.717	0.01 U	0.617	0.0375	0.0339	7.1	3
			Several dead male Coho spawners in stream. These fish were likely thrown there by F&W folks to provide nutrients. Installed RP washer.										
4/4/2005 11:55	7.6		74	11.45	7.35	2	0.878	0.01 U	0.771	0.0181	0.016	1.3	48
5/2/2005 11:27	9.8		101	10.92	7.53	2	0.643	0.01 U	0.617	0.0332	0.028	1.3	5
6/7/2005 12:20	9.9		106	10.9	7.77	2 U	0.53	0.01 U	0.457	0.036	0.0332	1.1	34
			Stream was too shallow to collect samples from bridge, walked to stream. Use caution on the slope, it is a steep one.										
7/19/2005 12:35	12.5	2.3	110	10.9	7.34	2	0.447	0.01 U	0.427	0.0404	0.04	1.8	26
			Newly established staff gage just upstream from the bridge from which we sample was reading 4.00 feet.										
8/16/2005 12:59	11.4	2.3	112	10.8	7.96	1	0.398	0.01 U	0.343	0.044	0.0399	0.6	22
			The entered stage value is the staff gage reading at the flow station. The tapedown distance equals 26.91 feet (corrected).										
9/20/2005 11:41	10.6	2.3	114	11.1	7.46	3	0.352	0.01 U	0.301	0.0438	0.0383	1.3	8
			The stage value is a corrected tapedown value from the reference point on the bridge.										

# Conventional Data Report

## Stavis Cr. nr Mouth 15N070

Class: AA Latitude: 47 37 29.0  
 Rivermile: 0.2 Longitude: 122 52 25.0  
 Waterbody: WA-15-0000

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
10/4/2004 12:45	10.2		103	10.7	7.62	2	0.13	0.01 U	0.089	0.0497	0.043	1	7
11/1/2004 11:40	8		87	11.2	7.51	3	0.284	0.01 U	0.213	0.0399	0.0319	1.4	13
12/6/2004 13:25	6.2		57	11.95	7.32	42	0.438	0.022	0.347	0.0405	0.022	5.1	65
Chum carcasses here and there, a few live Coho observed													
1/3/2005 12:10	4		70	12.5	7.49	2	0.314	0.016	0.246	0.0294	0.03	1	1
2/7/2005 11:05	5		59	12	7.54	5	0.3	0.01 U	0.278	0.0269	0.0357	1.6	22
3/7/2005 12:25	8.3	12.1	82	11.3	7.72	2	0.21	0.01 U	0.152	0.0399	0.031	1	1 U
4/4/2005 13:30	7.9	54.4	40	11.45	7.12	8	0.284	0.01 U	0.186	0.0161	0.012	1.9	18
5/2/2005 13:54	10.8	10	84	10.62	7.68	2	0.18	0.01 U	0.14	0.0383	0.0329	0.8	32
6/7/2005 15:00	10.7	8.26	94	10.4	7.83	2	0.16	0.01 U	0.11	0.043	0.0378	2.7	47
The trail to this station is now heavily overgrown with grass, nettles, and blackberries. Bring tools for maintenance during the spring and summer months.													
7/19/2005 15:22	14.9	7.93	102	10.4	7.49	1	0.17	0.01 U	0.098	0.0505	0.0468	0.8	13
The staff gage value at the flow monitoring station was used for the stage record. The water temperature was taken from the red alcohol thermometer used for the calibrating the long line thermistor (the battery was dead on the long line thermistor).													
8/16/2005 16:00	12.4	7.85	105	10.6	7.32	1	0.13	0.01 U	0.094	0.0541	0.0424	0.6	19
The stage value is the value of the staff gage at the flow station.													
9/20/2005 14:09	11.4	7.76	105	10.6	7.43	1	0.13	0.01 U	0.084	0.0533	0.0444	0.7	9

# Conventional Data Report

## Skokomish R nr Potlatch 16A070

Class: AA      Latitude: 47 18 36.0  
 Rivermile: 5.3      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	
10/19/2004	12:30	9.8	1930	55	10.75	7.41	244	0.14	0.01 U	0.107	0.111	0.0061	90	260
			High Flow, muddy											
11/15/2004	16:55	9.8	769	68	10	7.32	3	0.11	0.01	0.066	0.0095	0.0086	1.6	23
			Salmon present											
12/14/2004	10:22	7.7	7110	46	11.8	7.25	194	0.055	0.01 U	0.059	0.109	0.0065	120	14
			Muddy, turbid, and flooding on the left bank											
1/24/2005	16:38	8.3	2400	57	11.3	7.01	23	0.081	0.016	0.07	0.0257	0.0078	22	7
			Glacial Till											
2/15/2005	10:40	5.8	901	55	11.7	7.46	2	0.091	0.01 U	0.074	0.01	0.0096	1.5 J	1 U
3/28/2005	17:27	5.8	2250	56	11.3	7.26	16	0.085	0.01 U	0.061	0.0183	0.0061	16	6
4/18/2005	17:55	9.2	2110	57	11.6	7.23	12	0.057	0.01 U	0.043	0.0158	0.0056	13	1
5/23/2005	19:46	10.3	1710	59	11	7.2	15	0.039	0.01 U	0.03	0.0171	0.0096	18	5
6/13/2005	18:02	12.4	419	73	10.8	7.62	2	0.039	0.01 U	0.016	0.0063	0.0067	0.7	5
7/19/2005	9:56	11.7	298	77	10.3	7.05	2	0.089	0.01 U	0.031	0.0072	0.0074	0.8	28 J
			The stage value recorded here is a tapedown value based on a reference point established on the bridge from which we sample.											
8/16/2005	9:49	10.9	219	78	9.69	7.93	3	0.069	0.01 U	0.035	0.0103	0.0079	0.7	55
			The correction factor or check value for the wire weight gage on the bridge equals 32.61 feet.											
9/20/2005	9:26	10	186	80	9.8	7.18	2	0.081	0.01 U	0.044	0.0118	0.0089	1	17 J
			The correction factor for the wire weight gauge is 32.60 feet.											

# Conventional Data Report

## Duckabush R nr Brinnon 16C090

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

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
10/18/2004 17:15	8.7	330	64	11.25	7.51	2	0.12	0.01	0.099	0.003	0.003	1.2	7
11/15/2004 15:50	7.5	330	74	11.8	7.81	4	0.059	0.01 U	0.029	0.0046	0.003 U	3.2	5
12/13/2004 16:02	5.8	945	60	12.4	7.3	16	0.058	0.01 U	0.043	0.0104	0.0043	6.2	1 U
		High Flow											
1/24/2005 15:10	5.9	907	62	12.3	7.64	18	0.054	0.01 U	0.034	0.0126	0.0034	7.3	1 U
		High Flow											
2/14/2005 16:45	4	203	73	12.9	7.39	1	0.039	0.01 U	0.024	0.0031	0.0043	0.7 J	1
3/28/2005 16:22	5.7	488	68	12	7.81	2	0.053	0.01 U	0.031	0.0037	0.003 U	1.4	1 U
4/18/2005 16:45	7.1	462	71	12	7.36	2	0.045	0.01 U	0.026	0.0038	0.003 U	1.2	1 U
5/23/2005 18:35	7.2	757	66	11.9	7.4	5	0.048	0.01 U	0.019	0.0045	0.0035	2.8	3
6/13/2005 17:00	9.5	278	77	11.1	7.61	1 U	0.025 U	0.01 U	0.01 U	0.0021	0.003 U	0.8	2
7/19/2005 8:44	11.3	138	86	11.25	7.37	1 U	0.052	0.01 U	0.01 U	0.0012	0.003 U	0.5	7 J
The stage value recorded here is the staff gage reading from the USGS station.													
8/16/2005 8:42	12.1	78	91	10.5	8.28	2 J	0.045	0.01 U	0.014	0.0041	0.0039	0.7	4 J
The staff gage is almost dry.													
9/20/2005 8:20	10.3	53	95	11.15	7.46	1	0.05	0.01 U	0.027	0.0029	0.0031	0.5 U	2 J
The staff gage was de-watered, the value entered is a measured estimate.													

Metals Data Report

**Dungeness R nr Mouth**  
18A050

Class: A      Latitude: 48 08 37.7  
 Rivermile: 1      Longitude: 123 07 39.7  
                          Waterbody: WA-18-1010

Date/Time	Flow CFS	Hardness	Tot. Rec. Cadmium	Dissolved Cadmium	Tot. Rec. Chromium	Dissolved Chromium	Tot. Rec. Copper	Dissolved Copper	Tot. Rec. Lead	Dissolved Lead	Total Mercury	Dissolved Nickle	Tot. Rec. Arsenic	Tot. Rec. Zinc	Dissolved Zinc
		mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
10/18/2004 15:20		65.7	0.1 U	0.02 U	1.4	0.38	0.52	0.28	0.1 U	0.02 U	0.002 U	0.42	0.15	5 U	1.4
12/13/2004 14:12		47.6	0.1 U	0.02 U	2	0.49	2.43	0.48	0.43	0.032	0.004	0.39	0.46 J	5 U	1.8
2/14/2005 15:15		66.3	0.1 U	0.03	0.5 U	0.44	0.39	1.72	0.1 U	0.209	0.002 U	0.65	0.15	5 U	7.3
4/18/2005 14:45		61.8	0.1 U	0.02 U	0.5 U	0.44	0.74 J	0.49	0.1 U	0.02 U	0.0021	0.52	0.11	5 U	1 U
6/13/2005 15:17		55.2	0.1 U	0.02 U	0.5 U	0.57	0.48 J	0.9	0.1 U	0.02 U	0.002 U	0.5	0.2	5 U	14
8/16/2005 6:35		69.6	0.1 U	0.02 U	0.5 U	0.67	0.58 J	0.1 J	0.1 U	0.02 U	0.002 U	0.69	0.36 J	5 U	1 U

# Conventional Data Report

## Dungeness R nr Mouth 18A050

Class: A Latitude: 48 08 37.7  
 Rivermile: 1 Longitude: 123 07 39.7  
 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	
10/18/2004	15:20	10.9	120	138	10.75	8.05	3	0.062	0.01	0.036	0.006	0.0045	1.3	13
		Quite a few fishermen												
11/15/2004	14:20	8.6	145	127	11	7.87	3	0.083	0.01 U	0.037	0.0063	0.003 U	1.6	8
		Chum present												
12/13/2004	14:12	5.8	821	102	12.1	7.7	34	0.15	0.01 U	0.113	0.027	0.0059	21	8
		High Flow												
1/24/2005	13:30	6.7	994	97	12	7.75	36	0.09	0.01 U	0.075	0.0317	0.0052	26	3
		Turbid												
2/14/2005	15:15	4.6	198	118	12.7	8.03	4	0.08	0.01 U	0.063	0.0086	0.0055	1.7 J	6
3/28/2005	14:54	6.6	414	128	11.6	8.03	8	0.13	0.01 U	0.071	0.0101	0.0041	3.7	6
4/18/2005	14:45	10	264	133	11.5	8.07	3	0.084	0.01 U	0.033	0.0053	0.0039	1.6	3
		Staff=1.84												
5/23/2005	17:02	10.9	389	117	11	7.6	5	0.049	0.01 U	0.018	0.0056	0.0034	2	9
6/13/2005	15:17	12.2	276	124	10.8	8.05	4	0.053	0.01 U	0.019	0.0065	0.0043	1.9	34
		Staff=1.86												
7/19/2005	6:45	12.7	133	143	10.25	7.04	3	0.097	0.01 U	0.043	0.0047	0.0045	1.6	41
		The value recorded in the stage record is the tapedown distance from the bridge. This value includes the correction factor of adding 0.31 feet to the measured distance.												
8/16/2005	6:35	14.1	75	154	9.19	7.08	2	0.088	0.01 U	0.053	0.0068	0.0073	1	45 J
		The stage entered above is the distance from the reference point on the bridge to the water surface. The entered value includes the 0.31 feet added as a correction factor.												
9/20/2005	6:24	10.6	76.5	170	10.1	7.2	3	0.1	0.01 U	0.069	0.0073	0.0054	0.8	17 J
		The stage value is a corrected tapedown value from the reference point on the bridge over the river.												



Conventional Data Report

**Elwha R nr Port Angeles**  
18B070

Class: AA Latitude: 48 03 56.0  
Rivermile: 8.1 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	
10/18/2004	14:10	11.2	676	97	10.65	7.97	2	0.025 U	0.01	0.01 U	0.0033	0.003 U	1.8	4
11/15/2004	13:20	7.7	1450	87	11.8	7.58	16	0.053	0.01 U	0.023	0.0173	0.003 U	19 J	5
			Muddy, glacial till											
12/13/2004	13:05	5.2	2750	69	12.6	7.54	137	0.037	0.01 U	0.045	0.133	0.006	210	6
			Turbid, heavy silt											
1/24/2005	12:30	6.4	3000	73	12.2	7.62	106	0.058	0.011	0.046	0.0895	0.0051	110	2
			Heavy silt load											
2/14/2005	14:00	5.4	913	83	12.4	7.45	7	0.041	0.01 U	0.035	0.0133	0.0049	13 J	1 U
3/28/2005	13:45	6.5	1440	102	11.9	7.62	2	0.038	0.01 U	0.016	0.0063	0.0035	2.7	1 U
4/18/2005	13:26	7.2	1400	97	12.4	7.95	4	0.042	0.01 U	0.01 U	0.0055	0.003 U	3.6	1 U
5/23/2005	15:50	8.4	2040	81	11.8	7.4	7	0.025	0.01 U	0.01 U	0.0089	0.0034	8.2	4
6/13/2005	14:00	10.9	913	94	10.7	7.87	4	0.025 U	0.01 U	0.01 U	0.0034	0.003 U	1.9	1 U
7/18/2005	15:54	16.6	554	104	10.1	7.35	2	0.088	0.01 U	0.01 U	0.0036		1	3
			A reference point for calculating tapedown values could be placed on the bridge from which we sample.											
8/15/2005	15:30	17.8	399	111	9.5	7.99	1	0.041	0.01 U	0.01 U	0.0034	0.003 U	0.5 U	1
			No staff gage or reference point at the sampling location on the highway bridge.											
9/19/2005	16:56	15.3	249	122	10.19	7.87	1	0.028	0.01 U	0.01 U	0.0032	0.0043	0.6	1

# Conventional Data Report

## West Twin R. nr mouth 19C060

Class: AA Latitude: 48 09 51.0  
 Rivermile: 0.2 Longitude: 123 57 10.0  
 Waterbody: N/A

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
10/18/2004 12:50	9.6	71	88	10.85	7.66	1 U	0.47	0.01 U	0.405	0.0075	0.0063	1.1	10
	Sampled at highway bridge; access road to flow station was unpassable due to a big rut in the road.												
11/15/2004 11:38	8.8	83.8	84	10.9	7.46	11	0.545	0.01 U	0.45	0.0137	0.0075	5.4	57
	Slow moving water, backed up by the incoming tide												
12/13/2004 11:34		78.3											
	Marine influence, discarded samples												
1/24/2005 11:05	8.4	86.3	136	11.5	7.28	15	0.669	0.01 U	0.638	0.0155	0.0071	8.6	1
	May be slightly saline from past tidal influence.												
2/14/2005 12:47	4.6	43.4	71	12.5	7.48	3	0.472	0.01 U	0.454	0.0083	0.0079	1.2 J	1
	Tide was out.												
3/28/2005 12:07	7	74.3	68	11.5	7.42	9	0.605	0.01 U	0.567	0.0111	0.0067	4.4	12
4/18/2005 12:00	7		71	11.7	7.44	14	0.556	0.01 U	0.483	0.0115	0.0059	3.5	3
5/23/2005 14:20	9.4		69	11.2	7.1	10	0.541	0.01 U	0.468	0.0118	0.0069	4.1	20
6/13/2005 12:24	10.8		93	11.2	7.6	1	0.12	0.01 U	0.073	0.005	0.0051	0.5	16
7/18/2005 14:15	16.9		108	10	7.03	3	0.22	0.011	0.136	0.008	0.0084	0.8	8
	A staff gage is established at the flow monitoring station upstream from the bridge from which we sample but the access road requires 4 wheel drive and high ground clearance.												
8/15/2005 13:34	14.1		108	9.4	7.34	2	0.16	0.01 U	0.091	0.0101	0.0073	0.5	2
	No staff gage or reference point at the sampling location on the highway bridge.												
9/19/2005 14:30	12.2		112	9.69	7.47	1 U	0.092	0.01 U	0.044	0.0077	0.0063	0.6	2
	Sample was taken at high tide! This sampling location was completely inundated with tide water.												

# Conventional Data Report

## East Twin R. nr Mouth 19D070

Class: AA Latitude: 48 09 17.0  
 Rivermile: 1.5 Longitude: 123 56 23.0  
 Waterbody: N/A

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
10/18/2004 13:15	9.5	7.45	91	10.95	7.77	2	0.772	0.01 U	0.679	0.0097	0.0074	1.7	10
	Bank sample												
11/15/2004 12:35	8.5	20	81	11.3	7.6	11	0.758	0.01 U	0.626	0.0148	0.01	6.9	13
	Muddy; landowner suspects recently placed engineered LWD is contributing to suspended sediment												
12/13/2004 12:12	7	16.6	71	11.9	7.32	20	0.8	0.01 U	0.76	0.0159	0.0085	11	1 U
	Turbid, high flow												
1/24/2005 11:35	7.8	43.6	69	11.6	7.43	11	0.593	0.01 U	0.606	0.013	0.007	6.3	2
2/14/2005 13:10	4.2	9.13	66	12.9	7.62	3	0.531	0.01 U	0.49	0.0081	0.0079	1.3 J	1 U
	Landowner said that the staff had moved and settled with some high flow events, and it should not be considered reliable.												
3/28/2005 12:33	6.6	35.3	61	11.7	7.57	5	0.627	0.01 U	0.594	0.0093	0.0063	3.2	1 U
4/18/2005 12:28	7.2	0.32	68	12	7.36	6	0.52	0.01 U	0.478	0.0087	0.0062	3.1	2
5/23/2005 13:58	8.8	0.27	66	11.4	7.2	6	0.639	0.01 U	0.53	0.0108	0.0067	4	26
6/13/2005 13:00	10.3	12.6	91	11.2	7.84	1 U	0.19	0.01 U	0.147	0.0072	0.0071	0.5 U	6
7/18/2005 14:45	15.8	6.61	109	10.3	7.28	1	0.24	0.01 U	0.17	0.0092	0.0084	0.7	1 U
	The staff gage value was recorded for the stage value. A satisfactory reference point for calculating tapedown values is to be established.												
8/15/2005 14:19	14.5	2.41	116	10.4	7.62	1 U	0.22	0.01 U	0.157	0.0115	0.0096	0.5 U	7
	A hydraulic control downstream of the staff gage may be preventing the stage from dropping further at this location despite a continuing trend downward of flow volume.												
9/19/2005 15:08	12.6	2.41	127	11.4	7.85	1 U	0.15	0.01 U	0.108	0.009	0.0077	0.5 U	2

# Conventional Data Report

## Deep Cr. nr mouth 19E060

Class: AA      Latitude: 48 10 22.0  
 Rivermile: 0.2      Longitude: 124 01 35.0  
 Waterbody: WA-19-4500

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
10/18/2004 11:45	9.3	33.9	90	10.55	7.39	1 U	0.429	0.01 U	0.348	0.0079	0.0048	1.1	23
Tannins/organic acids in the water column; foam in the pools; clear water; staff reading was 1.58													
11/15/2004 10:40	8.9	85.1	84	10.8	7.45	44	0.468	0.01 U	0.427	0.0242	0.0078	11	58
Muddy													
12/13/2004 10:55	7.2	67.9	72	11.6	7.32	20	0.8	0.01 U	0.811	0.0142	0.0077	6.6	6
Turbid, high flow													
1/24/2005 10:45	8.1	223	70	11.4	7.16	21	0.653	0.01 U	0.655	0.0165	0.0072	7.2	9
Slightly Turbid													
2/14/2005 11:35	4	58.9	68	12.5	7.44	2	0.482	0.01 U	0.451	0.0086	0.0073	1.4 J	1 U
3/28/2005 11:49	7.2	195	67	11.4	7.44	10	0.6	0.01 U	0.54	0.009	0.005	3.3	10
4/18/2005 11:22	7.3	156	71	11.8	7.41	22	0.516	0.01 U	0.455	0.0098	0.005	3.2	4
5/23/2005 12:27	9.3	16.3	72	11	7.3	7	0.496	0.01 U	0.401	0.0094	0.0051	2.7	32
Staff was read instead of RP.													
6/13/2005 12:04	11	17.7	98	11	7.49	3	0.12	0.01 U	0.075	0.006	0.0044	0.9	28
7/18/2005 13:47	15.6	9.8	109	9.8	7.75	1	0.2	0.012	0.121	0.0097	0.0077	0.6	11
I entered the staff gage value for the stage record at this station. The tapedown or reference point value measured from the bridge was - 20.20 feet.													
8/15/2005 13:03	14.4	4.29	120	9.1	7.32	2	0.13	0.01 U	0.043	0.012	0.0078	1.3	10
The tapedown value from the bridge equals 20.05 feet plus 0.31, totaling 20.36 feet.													
9/19/2005 13:40	12.6	2.71	125	9.19	7.58	2	0.069	0.01 U	0.019	0.0103	0.007	0.7	7
The stage entry is for the staff gage located beneath the bridge.													

Conventional Data Report

**Hoh R @ DNR Campground**  
20B070

Class: AA Latitude: 47 48 36.0  
 Rivermile: 16.5 Longitude: 124 14 47.0  
 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
10/18/2004 10:15	8.9	2490	76	10.95	7.43	43	0.12	0.01 U	0.099	0.0358	0.0041	33	200
	Muddy												
11/15/2004 9:15	8.7	2660	70	11.1	7.35	77	0.18	0.01 U	0.122	0.0518	0.0041	26	180 J
12/13/2004 9:45	7	4550	75	11.8	7.33	114 J	0.14	0.01 U	0.145	0.0891	0.0056	75	20 J
	Recent sand deposition on bankfull margin; turbid, high flow												
1/24/2005 9:25	7.3	5280	71	11.7	7.35	127	0.14	0.023	0.13	0.112	0.0046	120	6 J
	Turbid												
2/14/2005 10:05	4.5	1490	70	12.5	7.49	12	0.1	0.01 U	0.098	0.017	0.0054	10 J	2
3/28/2005 10:15	6.7	3630	69	11.5	7.49	40	0.13	0.01 U	0.107	0.0291	0.0036	17	9
4/18/2005 10:00	6.7	3420	72	12	7.44	37	0.11	0.01 U	0.092	0.0303	0.0037	19	9
5/23/2005 10:13	8	4450	69	11.4	7.1	44	0.11	0.01 U	0.078	0.0304	0.0099	29	20
	River moderately high and turbid												
6/13/2005 10:00	9.7	1440	89	11.2	7.54	6	0.035	0.01 U	0.016	0.0057	0.0031	4.5	16
7/18/2005 12:00	13.4	1270	86	11	7.55	15	0.17	0.01 U	0.032	0.0028		16	12
	No method for measuring stage exists for this station.												
8/15/2005 11:32	12.9	954	77	10.1	7.38	31	0.046	0.01 U	0.021	0.0237	0.003 U	24	30
9/19/2005 11:44	13.2	427	96	10.9	7.96	2	0.045	0.01 U	0.01	0.0044	0.0036	1.7	20

# Conventional Data Report

## Humptulips R nr Humptulips 22A070

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

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	
10/18/2004	8:40	9.5	1530	52	10.55	7.37	9	0.19	0.01 U	0.16	0.0104	0.0042	7.5	88 J
														Muddy
11/15/2004	7:30	9.4	649	62	10.8	7	2	0.24	0.018	0.183	0.0074	0.0069	1.6	27 J
														Live Coho and carcasses in reach
12/13/2004	8:12	7.8	3010	49	11.5	7.14	37	0.21	0.01 U	0.222	0.0328	0.0066	31	19 J
														Turbid, high flow
1/24/2005	8:00	8	3350	48	11.5	7.05	29	0.18	0.01 U	0.178	0.0268	0.0059	26	1 UJ
														brown, turbid, fine mud deposited on banks
2/14/2005	8:00	4.6	924	47	12.4	7.3	2	0.14	0.01 U	0.142	0.0054	0.0065	1.4 J	6 J
3/28/2005	8:45	7.1	2770	47	11.5	7.23	21	0.19	0.01 U	0.167	0.0202	0.0047	17	6 J
4/18/2005	8:30	7.2	2660	48	11.8	7.16	18	0.15	0.01 U	0.133	0.0181	0.0045	14	7 J
														Slightly turbid, elevated flow
5/23/2005	8:18	8.4	2110	49	11.5	7.4	8	0.12	0.01 U	0.091	0.0099	0.0038	9.4	7 J
6/13/2005	8:25	11.8	395	62	10.6	7.51	1	0.036	0.01 U	0.015	0.0017	0.003 U	0.9	11 J
7/18/2005	9:27	15.6	356	66	9.65	6.73	2	0.12	0.01 U	0.074	0.0046	0.0047	0.8	17 J
														This station was the QA location for the run. I was using a new pH probe and meter today as well as the new van. The calibration values were good.
8/15/2005	9:58	16.6	181	71	9.1	6.74	1 U	0.073	0.01 U	0.027	0.0042	0.0042	0.5 U	31 J
														The correction factor on the wire weight gage on the bridge was 36.22 feet.
9/19/2005	10:01	13.6	130	74	10	7.33	1 U	0.042	0.01 U	0.012	0.0039	0.0056	0.5 U	32 J
														The wire weight gauge check factor was 36.22 feet.

# Conventional Data Report

## Chehalis R @ Porter 23A070

Class: A Latitude: 46 56 17.0  
 Rivermile: 33.3 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
10/19/2004 13:40	12	3910	97	9.44	7.42	19	0.922	0.011	0.753	0.044	0.016	13	170
	Muddy												
11/16/2004 11:00	9.4	1470	89	10.6	7.34	4	0.644	0.01	0.537	0.0225	0.013	3.2	17
12/14/2004 11:35	7.6	9600	76	10.5	6.99	33	0.99	0.017	0.886	0.0376	0.015	15	29
	Muddy, high flow												
1/25/2005 9:55	8.9	5620	80	10.3	7.09 J	25	0.862	0.023	0.756	0.0351	0.014	12	12
2/15/2005 11:55	5.1	2290	74	11.9	7.33	5	0.827	0.016	0.725	0.0285	0.017	3.8 J	4
3/29/2005 9:20	8.2	17000	67	10.1	7.03	56	1.08	0.031	0.94	0.0446	0.013	27	290 J
	Muddy and flooding												
4/19/2005 10:16	9.2	7710	70	10.8	7.24	24	0.731	0.01 U	0.578	0.0271	0.009	9.2	34
5/24/2005 10:23	12.1	4160	83	10	7.33	10	0.623	0.01 U	0.469	0.03	0.011	6.4	27 J
6/14/2005 13:17	15.7	1270	105	9.9	7.52	5	0.58	0.01 U	0.496	0.0241	0.0089	2.7	8
	Slow current												
7/19/2005 9:36	20.5	653	101	7.9	7.43	3	0.681	0.01 U	0.608	0.0224	0.012	1.7	17 J
	Cows upstream with access to water; Otters downstream												
8/16/2005 15:09	21.1	390	114	8.68	7.74	2	0.642	0.01 U	0.487	0.0161	0.008	0.8	9
	Spreading manure in adjacent field; observed cows on bank a few miles upstream of sampling station												
9/19/2005 12:35	16	376	115	9.6	7.74	3	0.834	0.01 U	0.659	0.0233	0.011	1.4	15

# Conventional Data Report

## Chehalis R @ Prather Rd 23A100

Class: A Latitude: 46 46 31.4  
 Rivermile: 59.9 Longitude: 123 02 03.3  
 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	
10/19/2004	14:30	11.7	3140	97	9.44	7.35	12	0.892	0.01 U	0.732	0.0386	0.017	10	69
			Muddy											
11/16/2004	10:07	9.1	1080	92	10.5	7.28	3	0.555	0.031	0.401	0.024	0.012 J	2.6	9 J
12/14/2004	12:27	7.8	5880	83	10.6	6.85	20	0.808	0.027	0.863	0.0334	0.014	12	50
			Muddy, high flow											
1/25/2005	10:50	8.2	3390	86	10.6	6.67 J	16	0.833	0.032	0.749	0.0377	0.015	12	13
2/15/2005	12:40	5.2	1390	74	12	7.24	2	0.683	0.032	0.599	0.0364	0.021	4.1 J	6
3/29/2005	10:30	8.2	9900	71	10.3	7.01	45	1	0.02	0.902	0.0448	0.013	21	180 J
			Muddy water											
4/19/2005	10:57	9.9	5010	72	10.8	7.21	14	0.641	0.012	0.538	0.0258	0.0098	7.9	21
5/24/2005	11:15	12.7	2790	80	10.4	7.29	5	0.531	0.01 U	0.393	0.029	0.012	5.4	16
6/14/2005	12:13	15.9	859	104	10	7.44	3	0.465	0.01 U	0.326	0.0356	0.019	2.5	18
			Slow current.											
7/19/2005	10:54	20.1	410	94	8	7.34	2	0.488	0.011	0.386	0.0417	0.024	1.7	18
			Very little current, dense macrophytes on margins											
8/16/2005	14:15	21.2	256	111	9.09	7.32	1	0.609	0.01	0.436	0.054	0.0378	1.1	13
9/19/2005	13:35	15.6	256	108	9.69	7.51	2	0.601	0.012	0.431	0.0492	0.028	1.6	20



# Conventional Data Report

## Chehalis R @ Dryad 23A160

Class: A Latitude: 46 37 52.0  
 Rivermile: 101.7 Longitude: 123 14 56.0  
 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	
10/20/2004	17:20	11.1	636	65	11.05	7.58	4	0.695	0.01 U	0.645	0.0095	0.0064	1.8	43
			Mayfly hatch; Caddisfly hatch											
11/17/2004	15:40	7.7	207	69	12.2	7.32	1 U	0.371	0.01 U	0.282	0.0091	0.0058	1.7	22
12/15/2004	15:11	8.1	1458	62	11.8	7.17	5	0.712	0.01 U	0.656	0.0138	0.011	3.4	8
1/26/2005	16:15	8.2	521	62	11.4	7.34	3	0.605	0.01 U	0.597	0.0141	0.011	1.7	10
2/16/2005	17:10	3.8	238	55	13.4	7.1	1	0.459	0.01 U	0.437	0.0098	0.0097	1.1 J	2
3/30/2005	16:27	8.2	3072	58	11.9	7.13	18	0.768	0.01 U	0.738	0.0207	0.0099	6.7	17
4/20/2005	17:04	11.2	689	63	11.5	7.59	3	0.548	0.01 U	0.479	0.0104	0.008	1.7	2
5/25/2005	15:27	13	430	65	12.2	8.55	2	0.363	0.01 U	0.295	0.0094	0.0057	1.4	7
6/15/2005	16:31	14.8	156	72	12.4	8.92	3	0.2	0.01 U	0.119	0.0092	0.0045	1.5	3
			High DO and pH indicate eutrophic conditions.											
7/20/2005	15:45	20.4	79.4	75	10.19	8.18	2	0.252	0.01 U	0.176	0.0167	0.0089	1.6	44
8/17/2005	17:15	19.9	54	83	10.5	8.13	3	0.19	0.01 U	0.063	0.0167	0.0072	1.7	51
9/21/2005	17:30	14.5	45.7	86	10.8	7.79	2	0.13	0.01 U	0.023	0.0161	0.0054	1.4	21

# Conventional Data Report

## Willapa R nr Willapa 24B090

Class: A      Latitude: 46 39 01.0  
 Rivermile: 17.7      Longitude: 123 39 08.0  
 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	
10/20/2004	16:30	11.6	732	65	10.55	7.21	7	1.15	0.01 U	1.06	0.0136	0.0063	3.3	97
		Quite a few fishermen												
11/17/2004	14:40	8.5	268	67	11.8	7.26	2	0.671	0.01 U	0.538	0.0117	0.0057	1.9	17
12/15/2004	14:12	9	1230	61	11.3	6.96	13	1.04	0.01 U	1.03	0.0171	0.0091	6.2	40
1/26/2005	15:10	9.3	635	63	11.3	7.11	8	1.01	0.01 U	0.95	0.0142	0.0084	4.5	9
2/16/2005	16:08	4.8	294	54	13.3	7.31	3	0.743	0.01 U	0.723	0.0096	0.0052	1.4 J	4
3/30/2005	15:35	8.9	2320	57	11.9	7.03	40	1.2	0.01 U	1.12	0.0294	0.007	13	57
4/20/2005	16:10	11.4	969	61	11.3	7.18	5	0.945	0.01 U	0.85	0.0101	0.0063	2.4	5
5/25/2005	14:07	13.5	518	63	11.4	7.28	3	0.771	0.01 U	0.658	0.0123	0.0044	1.8	12
6/15/2005	15:30	16.6	146	67	10.5	7.61	4	0.413	0.01 U	0.316	0.0096	0.003 U	1.2	34
7/20/2005	14:50	21.6	79	66	9.6	7.62	2	0.404	0.011	0.304	0.0166	0.007	1.4	35
8/17/2005	16:30	20.2	41	73	9.49	7.42	3	0.286	0.022	0.143	0.0181	0.0053	1.5	51
		Slow current, dark water												
9/21/2005	16:30	15.9	31	77	10	7.4	4	0.281	0.014	0.156	0.0158	0.0043	1.3	31

# Conventional Data Report

## Naselle R nr Naselle 24F070

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

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
10/20/2004 14:54	10.7	613	54	10.95	7.28	5	0.758	0.01 U	0.709	0.0109	0.0078	2.8	90
	Coho in the river												
11/17/2004 13:30	8.2	169	57	12.1	7.41	2	0.536	0.01 U	0.453	0.0119	0.0091	1.5	37
	Salmon and salmon carcasses present												
12/15/2004 13:08	8.7	689	53	11.7	7.11	6	0.593	0.01 U	0.64	0.0133	0.01	3.4	20
1/26/2005 14:00	8.8	313	53	11.4	7.2	3	0.619	0.01 U	0.612	0.0129	0.011	1.8	32
2/16/2005 15:00	4.6	174	46	13	7.32	1	0.535	0.01 U	0.503	0.0083	0.0094	0.7 J	10
3/30/2005 13:06	8	1100	50	11.9	6.97	9	0.626	0.01 U	0.615	0.0145	0.0068	4.6	15
	High flow, but in good shape												
4/20/2005 13:54	9.4	488	53	11.7	7.22	3	0.587	0.01 U	0.55	0.0097	0.008	1.7	1
5/25/2005 13:00	12.1	258	54	11.2	7.56	2	0.471	0.01 U	0.413	0.008	0.0053	1	4
6/15/2005 13:10	11.4	106	57	11.4	7.8	2	0.274	0.01 U	0.228	0.0048 J	0.0037	0.6	8
7/20/2005 13:45	16.9	83	57	10	7.65	2	0.335	0.01 U	0.288	0.0089	0.0068	0.6	29
8/17/2005 14:44	16.8	53	60	10.3	7.68	2	0.281	0.01 U	0.196	0.0099	0.0056	0.7	200 J
9/21/2005 15:18	13	26	63	10.8	7.59	1	0.19	0.01 U	0.129	0.0081	0.0044	0.5 U	17
	Fish carcasses on stream bottom												

Conventional Data Report

**Germany Cr. @ mouth**  
25D050

Class: A      Latitude: 46 11 29.0  
Rivermile: 0.6      Longitude: 123 07 30.0  
Waterbody: WA-25-3500

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
10/20/2004 12:50	11	118	54	10.75	7.43	11	0.756	0.025	0.748	0.0138	0.011	1.4	59
	Salmon carcass smell												
11/17/2004 11:17	6.9	66	54	12.3	7.46	3	0.57	0.01 U	0.492	0.045	0.0067	1	60
	Smells like rotten salmon carcasses												
12/15/2004 11:13	7.7	189	49	11.9	7.25	11	0.793	0.01 U	0.783	0.0137	0.0086	3.9	29
	High Flow, a little turbid												
1/26/2005 10:42	7.7	112	49	11.6	7.34	4	0.704	0.01 U	0.684	0.0109	0.009	2.2	60
2/16/2005 11:22	3.1	61.6	44	13.4	7.36	2	0.593	0.01 U	0.559	0.0078	0.0084	1 J	23
3/30/2005 8:57	6.7	283	47	12.1	7.12	14	0.91	0.01 U	0.862	0.0142	0.0065	5.5	23 J
	High flow, but in good shape												
4/20/2005 10:30	7.7	136	50	12	7.28	4	0.657	0.01 U	0.584	0.0081	0.0058	1.7	11
5/25/2005 8:52	9.2	78.7	52	11.2	7.58	4	0.593	0.01 U	0.519	0.009	0.0066	2.1	27 J
6/15/2005 9:15	9.7	30.4	59	11	7.49	1	0.38	0.01 U	0.321	0.0082	0.0065	1.5	51 J
7/20/2005 10:35	14.3	15.1	64	10	7.52	1	0.362	0.01 U	0.313	0.0101	0.0091	0.9	76
8/17/2005 11:30	16.4	7.13	73	9.89	7.38	2	0.271	0.01 U	0.193	0.0103	0.0076	0.9	100
9/20/2005 10:30	11.1	6.04	76	10.4	7.4	2	0.271	0.013	0.201	0.0143	0.009	1.1	48

# Conventional Data Report

## Abernathy Cr. nr mouth 25E060

Class: A Latitude: 46 11 43.0  
 Rivermile: 0.4 Longitude: 123 09 56.0  
 Waterbody: WA-25-3300

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
10/20/2004 13:17	10.8	136	37	10.95	7.28	3	0.369	0.01 U	0.339	0.0052	0.0041	2	60
11/17/2004 11:46	7	82.5	39	12.3	7.37	1 U	0.306	0.01 U	0.25	0.0216	0.0032	1.3	21
12/15/2004 11:42	7.8	176	36	11.9	7.16	3	0.423	0.01 U	0.456	0.0055	0.0049	2.5	37
1/26/2005 11:10	7.7	122	36	11.7	7.23	3	0.412	0.01 U	0.397	0.0061	0.0056	1.8	15
Juga sp. on margins													
2/16/2005 12:00	3.4	79.6	32	13.2	7.29	1	0.331	0.01 U	0.305	0.0042	0.0049	1 J	4
3/30/2005 9:27	7	257	33	12	7.07	7	0.508	0.01 U	0.474	0.0069	0.0043	3.7	25 J
High flow, but in good shape													
4/20/2005 10:50	8.5	144	34	11.7	7.26	3	0.389	0.01 U	0.335	0.0047	0.0033	1.6	10
5/25/2005 9:20	9.4	82.5	40	11.3	7.29	2	0.329	0.01 U	0.269	0.0057	0.004	1.7	50 J
6/15/2005 10:00	9.6	36.5	44	11.2	7.4	3	0.23	0.01 U	0.176	0.0068	0.005	1.5	35 J
Salmonid smolts in creek; probably O. mykiss.													
7/20/2005 11:00	14.4	19.2	49	10	7.45	2 U	0.25	0.01 U	0.209	0.0091	0.007	1.1	28
8/17/2005 12:00	15.8	11.9	56	10.1	7.21	2	0.24	0.01 U	0.161	0.0103	0.0064	1.3	250
9/21/2005 11:56	9.6	8.12	58	11	7.33	3	0.25	0.01 U	0.177	0.0099	0.0061	0.8	51

Conventional Data Report

**Abernathy Cr. @ DNR**  
25E100

Class: A Latitude: 46 15 53.0  
 Rivermile: 1 Longitude: 123 10 59.0  
 Waterbody: WA-CR-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
1/26/2005	11:40	7.9	39	11.7	7.12	1							
2/16/2005	12:40	4.7	34	12.6	7.19	3							
3/30/2005	10:30	6.9	36	11.9	7.13	8							
		High flow											
4/20/2005	11:30	8.2	40	11.5	7.17	1							
5/25/2005	10:00	9.3	43	11.1	7.38	1 U							
6/15/2005	10:30	8.6	45	11.2	7.3	2							
7/20/2005	11:26	12.9	47	10.1	7.23	1							
8/17/2005	12:30	14	49	10	7.13	2 U							
9/21/2005	12:30	11.2	50	10.8	7.38	1 U							

# Conventional Data Report

## Mill Cr. nr mouth 25F060

Class: A Latitude: 46 11 42.0  
 Rivermile: 0.5 Longitude: 123 09 55.0  
 Waterbody: WA-25-3200

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	
10/20/2004	13:55	10.3	93.1	32	10.85	7.14	3	0.22	0.01 U	0.195	0.0029	0.003 U	1.6	73
11/17/2004	12:17	7.4	61.5	33	12	7.19	1	0.278	0.01 U	0.211	0.0027	0.003 U	1.2	29
12/15/2004	12:07	7.9	156	31	12	7.01	3	0.37	0.01 U	0.331	0.002	0.003 U	1.8	15
1/26/2005	12:10	7.8	88.4	31	11.7	7.15	3	0.336	0.01 U	0.307	0.0027	0.0036	1.6	160 J
2/16/2005	13:09	3.4	42	28	13.2	7.13	1	0.278	0.01 U	0.268	0.0021	0.0037	0.9 J	7
3/30/2005	10:57	7.2	239	30	12	6.69	6	0.398	0.01 U	0.352	0.0033	0.003 U	2.7	6
		High flow												
4/20/2005	11:53	9.4	146	31	11.5	7.15	2	0.318	0.01 U	0.273	0.0024	0.003 U	1.5	3
5/25/2005	10:30	9.8	54.8	34	11.3	7.14	2	0.267	0.01 U	0.213	0.0033	0.003	1.6	25
6/15/2005	10:54	9.9		34	11.1	7.29	2	0.22	0.01 U	0.167	0.0046 J	0.0034	1.3	26
7/20/2005	11:50	14.2	11.7	38	10.1	7.14	2	0.22	0.01 U	0.176	0.0051	0.0044	1.3	130 J
8/17/2005	13:00	15.2	8.5	43	10	7.46	2	0.2	0.01 U	0.147	0.0053	0.003 U	1.4	300
9/21/2005	13:08	10.5		44	11	7.26	2	0.18	0.01 U	0.145	0.0051	0.003 U	0.8	96

Conventional Data Report

Mill Cr. @ DNR  
25F100

Class: A Latitude: 46 13 08.0  
Rivermile: 4 Longitude: 123 12 43.0  
Waterbody: WA-CR-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
1/26/2005	12:42	7.8	26	11.5	6.81	2							
2/16/2005	14:00	4.3	23	12.7	6.96	5							
3/30/2005	11:40	7.2	24	11.8	6.88	3							
		High Flow											
4/20/2005	12:40	9.7	27	11.2	7.02	2							
5/25/2005	11:45	10.3	40	28	10.9	7.17	1						
		Fresh Cougar prints, so I took the sample at the bridge.											
6/15/2005	11:38	9.7	22	30	10.7	7.03	1						
7/20/2005	12:40	15.2	13.3	31	9.69	7.37	2 U						
8/17/2005	13:30	15.6	7.54	35	9.79	6.93	1						
		Hydrocarbon waste leaching into stream from the bank.											
9/21/2005	13:40	12.8	4.65	35	10.1	7.1	1 U						
		King Salmon present											



# Conventional Data Report

## Cowlitz R @ Kelso 26B070

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

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
10/20/2004 11:55	11.4	9700	70	10.45	7.4	568	0.22	0.01 U	0.186	0.316	0.0065	130	79
	Muddy River												
11/17/2004 10:32	10.3	7460	78	10.8	7.37	44	0.16	0.01 U	0.103	0.0954	0.0056	7.3	11
12/15/2004 10:22	8.6	12000	74	11.4	7.34	184	0.343	0.01 U	0.304	0.0918	0.0082	29	22 J
	Brown, turbid												
1/26/2005 9:50	7	10300	69	11.8	7.13	137 J	0.258	0.012	0.244	0.0611	0.0076	34	12 J
	A few seals present												
2/16/2005 10:11	4.5	5530	74	12.3	7.44	25	0.21	0.01 U	0.183	0.0194	0.0082	10 J	4
3/30/2005 8:00	7.1	14300	66	11.7	7.31	475	0.677	0.01 U	0.606	0.209	0.0094	60	52 J
	Muddy												
4/20/2005 9:15	10.9	8160	74	11	7.22	149	0.398	0.01 U	0.323	0.0719	0.0065	25	12 J
	Muddy												
5/25/2005 8:00	13.5	7190	81	10.7	7.79	52	0.219	0.01 U	0.148	0.0361	0.0054	12	14 J
6/14/2005 11:00	13.3	5460	97	10.4	7.6	10	0.1	0.01 U	0.051	0.0082	0.003 U	3.5	10
7/20/2005 9:30	16.3	4880	88	9.6	7.54	21	0.12	0.01 U	0.062	0.0164	0.005	4.5	46 J
	Water is clear, but green												
8/17/2005 10:40	14.4	3060	121	10.1	7.36	26	0.11	0.01 U	0.053	0.0113	0.0032	2.4	19
9/20/2005 11:28	12.7	3680	100	10.4	7.59	12	0.095	0.01 U	0.049	0.008	0.0036	1.5	12

# Conventional Data Report

## Kalama R nr Kalama 27B070

Class: A      Latitude: 46 02 51.0  
 Rivermile: 2.8      Longitude: 122 50 10.0  
 Waterbody: WA-27-1010

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
10/20/2004	11:30 9.5	1362	40	11.25	7.38	9	0.413	0.01 U	0.379	0.0127	0.0085	4.2	80
11/17/2004	9:50 8.2	375	54	11.8	7.74	2	0.389	0.01 U	0.325	0.0104	0.01	1	15 J
12/15/2004	9:54 7.5	1425	44	12	7.57	7	0.501	0.01 U	0.466	0.013	0.011	4	11 J
1/25/2005	14:25 6.6	899	43	12.3	7.27 J	4	0.449	0.01 U	0.423	0.0133	0.012	3.1	7
2/16/2005	9:30 3.2	482	41	13.1	7.15	2	0.408	0.01 U	0.401	0.012	0.014	1.1 J	11 J
3/29/2005	14:00 7	2249	40	12	7.3	28	0.837	0.01 U	0.772	0.02	0.0086	12	24
	High flow												
4/19/2005	14:37 8.2	1352	41	12.2	7.31	6	0.555	0.01 U	0.498	0.011	0.0071	2.9	3
5/24/2005	14:45 10.8	952	46	11.9	7.49	3	0.489	0.01 U	0.428	0.0105	0.0079	2.1	2
6/14/2005	10:27 11.7	370	52	11.4	7.73	3	0.19	0.01 U	0.138	0.0053	0.0044	1.2	14
7/19/2005	14:30 18	704	53	10.19	7.93	3	0.23	0.014	0.16	0.0152	0.012	1.4	8
8/16/2005	12:13 17	163	63	9.69	7.71	2	0.16	0.01 U	0.091	0.0135	0.011	0.9	27
9/20/2005	12:10 11.8	550	68	10.9	7.67	2	0.13	0.01 U	0.067	0.0123	0.0093	0.7	5

# Conventional Data Report

## EF Lewis R nr Dollar Corner 27D090

Class: A Latitude: 45 48 53.0  
 Rivermile: 10.2 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
10/20/2004 10:45	9.9	1020 J	34	11.15	7.35	3	0.397	0.01 U	0.366	0.0039	0.0036	2.2	23
		Mayfly Hatch underway											
11/17/2004 8:21	8.6	316 J	42	11.4	7.21	2	0.388	0.01 U	0.321	0.0031	0.003 U	1.3	6 J
12/15/2004 7:57	7.8	1180 J	35	11.7	6.99	4	0.56	0.01 U	0.512	0.0046	0.0049	2.4	6 J
		Lots of fishermen, but no steelhead this morning; high flow											
1/25/2005 13:40	6.6	653 J	37	12.2	7.53 J	1	0.407	0.01 U	0.385	0.0048	0.0043	1.6	1
2/15/2005 15:50	4.8	424	32	13.1	7.65	1 U	0.591	0.01 U	0.375	0.0039	0.0052	1.1 J	1 U
3/29/2005 13:20	7.5	3010	30	11.7	7.35	11	0.633	0.01 U	0.576	0.0082	0.0048	6.2	32
		High flow											
4/19/2005 13:42	8.2	1270	33	12.1	7.49	3	0.424	0.01 U	0.363	0.004	0.003 U	1.7	1 U
5/24/2005 14:00	11.2	874	36	11.7	7.43	2	0.354	0.01 U	0.298	0.0044	0.003	1.8	1
6/14/2005 9:35	12.2	339	41	10.8	7.6	2	0.2	0.01 U	0.158	0.0032	0.003 U	1	7 J
7/19/2005 13:40	20.6	140	46	9.19	7.74	2	0.289	0.01 U	0.231	0.0064	0.0051	1.2	96
		People swimming upstream											
8/16/2005 10:30	18.8	63	59	9.29	7.23	1 U	0.24	0.01 U	0.154	0.0051	0.0038	0.8	24
		Very low flow-- as low as I've ever seen it.											
9/20/2005 13:36	16	43	63	10.7	7.92	1	0.19	0.01 U	0.125	0.0045	0.0031	0.5 U	8

Conventional Data Report

**Burnt Br Cr @ Mouth**  
28C070

Class: A Latitude: 45 39 42.0  
 Rivermile: 14.7 Longitude: 122 40 16.0  
 Waterbody: WA-28-1040

Date/Time	Temp		Flow	Conduc-	Oxygen	ph	Suspend.	Total	Ammonia	Nitrate+	Total	Soluble	Turbid-	Fecal
	deg. C	CFS		tivity			Solids	Pers. N.	Nitrogen	Nitrite	Phosp.	Reactive P	idity	Coliforms
			umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/20/2004	9:45	12.2		151	9.74	7.75	1	0.839	0.01 U	0.685	0.0966	0.0809	1.9	230 J
11/17/2004	9:00	10.2		180	10.3	7.83	28	1.53	0.01 U	1.27	0.106	0.0753	9.7	130 J
12/15/2004	8:57	8.3		146	11.2	7.58	5	1.67	0.011	1.39	0.0963	0.0753	5.7	29 J
			High flow											
1/25/2005	12:50	7		189	11.8	7.94 J	4	3.07	0.01 U	1.86	0.0969	0.0743	3.9	120
2/15/2005	14:47	5.5		150	12.5	8.06	3	1.85	0.01 U	1.62	0.0796	0.0634	3 J	31
3/29/2005	12:20	10.1		109	10.6	7.5	30	2.62	0.027	1.7	0.12	0.0682	17	210 J
			Muddy water											
4/19/2005	12:39	11.4		146	10.8	7.73	9	1.52	0.01 U	1.12	0.0819	0.048	5.2	80
5/24/2005	13:15	14.6		169	9.8	7.86	10	1.72	0.016	1.34	0.124	0.0767	6.6	88
6/14/2005	8:34	15.2		194	9.1	7.93	8	1.32	0.011	1.15	0.0886	0.063	6 J	540 J
7/19/2005	12:50	18.9		192	8.69	7.94	3	0.998	0.012	0.866	0.113	0.0872	2.7	290
8/16/2005	11:13	18.6		204	8.68	7.88	5	1.21	0.011	0.863	0.114	0.0888	3.4	430
9/20/2005	13:03	14.4		221	9.6	8	3	1.12	0.01 U	0.918	0.109	0.0779	2.4	260

Metals Data Report

**Burnt Br Cr @ Mouth**  
28C070

Class: A Latitude: 45 39 42.0  
 Rivermile: 14.7 Longitude: 122 40 16.0  
 Waterbody: WA-28-1040

Date/Time	Flow CFS	Hardness mg/L	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Total	Dissolved	Tot. Rec.	Tot. Rec.	Dissolved
			Cadmium ug/L	Cadmium ug/L	Chromium ug/L	Chromium ug/L	Copper ug/L	Copper ug/L	Lead ug/L	Lead ug/L	Mercury ug/L	Nickle ug/L	Arsenic ug/L	Zinc ug/L	Zinc ug/L
10/20/2004 9:45		66.4	0.1 U	0.02 U	0.5 U	0.42	1.61	1.4	0.31	0.11	0.002 U	0.77	0.6	5 U	4.2
12/15/2004 8:57		60.3	0.1 U	0.02 U	1	0.7	2.22	1.63	0.67	0.11	0.003	0.81	0.58 J	26	22.1
2/15/2005 14:47		80.9	0.1 U	0.02 U	0.52	0.62	1.73	1.36	0.36	0.058	0.002 U	1	0.55	5.6	4.7
4/19/2005 12:39		65.7	0.1 U	0.02 U	0.71	0.58	2.51	1.88	0.84	0.077	0.0046	0.94	0.55	9 J	5.6
6/14/2005 8:34		73.8	0.1 U	0.02 U	0.59	0.67	1.84 J	1.34	0.83 J	0.028	0.0029	0.87	0.66	5 U	4.3
8/16/2005 11:13		86.6	0.1 U	0.02 U	0.5 U	0.87	2 J	1.2	0.76	0.093	0.0024	1.2	0.9 J	5 U	2.7

# Conventional Data Report

## Columbia R @ Umatilla 31A070

Class: A Latitude: 45 56 02.0  
 Rivermile: 290.5 Longitude: 119 19 31.0  
 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
10/5/2004 13:40	18.3	194200	149	9.64	8.23	2	0.24	0.01 U	0.112	0.0123	0.0079	1.5	1
	pH measured @ 19.4°C.												
11/2/2004 12:40	12.9	229600	163	10.25	8.05	2	0.282	0.012	0.211	0.0156	0.012	1.3	9
	pH measured @ 15.8°C. Windy.												
12/7/2004 13:25	8.2	352500	156	11.11	8.08	1	0.259	0.01 U	0.198	0.0126	0.01	1.1	4
	pH measured @ 9.9°C.												
1/4/2005 13:11	5.1	328400	160	12.24	8.02	1	0.301	0.01 U	0.235	0.013	0.0096	1	7
	pH measured @ 6.4°C.												
2/8/2005 14:25	4.1	342600	167	12.99	8.05	2	0.358	0.01 U	0.283	0.0142	0.012	1.7	1
	pH was measured @ 8.2°C.												
3/8/2005 13:19	5.1	235200	152	13.97	8.44	2	0.22	0.01 U	0.149	0.0039	0.003 U	1	2
	pH recorded @ 9.6°C.												
4/5/2005 13:12	7.4	224300	176	13.26	8.59	5	0.257	0.01 U	0.186	0.0069	0.003 U	2	1 U
	pH measured @ 12.2°C.												
5/3/2005 14:10	12	365400	168	12.55	8.28	4	0.271	0.01 U	0.198	0.0094	0.0034	1.9	1 U
	pH measured @ 16.5°C.												
6/7/2005 13:40	15.2	319700	136	10.51	8.1	5	0.22	0.01 U	0.127	0.0102	0.0065	3.1	2
	pH measured @ 17.4°C.												
7/12/2005 14:41	19.3	455100	138	10.81	8.2	5	0.15	0.01 U	0.051	0.009	0.004	3.1	1
	pH measured @ 20.3°C. Pressure was estimated using data from Snake River site # 33A050.												
8/2/2005 14:35	21.4	345300	146	10.35	8.31	4	0.14	0.01 U	0.049	0.01	0.0048	1.8	1
	pH measured @ 21.6°C.												
9/13/2005 14:38	19.7	200500	154	9.48	8.19	3	0.15	0.01 U	0.087	0.0098	0.0054	2.3	1
	pH measured @ 20.5°C. USGS (Pasco office) is also moitoring this site for a Corp. of Engineers project.												

# Conventional Data Report

## Walla Walla R nr Touchet 32A070

Class: B Latitude: 46 02 16.0  
 Rivermile: 15.3 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
10/5/2004 12:03	14.3	45	332	11.26	8.36	1	0.72	0.01 U	0.576	0.0456	0.0395	1.4	6
	Wind blowing, making accurate tape-down difficult. pH measured @ 15.7°C.												
11/2/2004 11:08	8	66	269	11.47	7.97	2	0.682	0.017	0.643	0.0443	0.0361	1.7	43
	pH measured @ 10.7°C. Poor tape-down - wind blowing.												
12/7/2004 11:48	4.7	306	194	12.72	7.96	3	1.07	0.01 U	0.999	0.105	0.103	2.3	27
	pH measured @ 6.2°C.												
1/4/2005 11:50	1.8	412	179	13.67	7.79	6	1.02	0.01 U	0.974	0.104	0.0916	3.4	13
	pH measured @ 4.5°C. Stage measurement "J" due to wind moving tape and ice on water												
2/8/2005 11:47	3.6	423	167	13.19	7.94	7	0.846	0.01 U	0.767	0.0672	0.0591	3.2	13
	pH was measured @ 7.0°C. Tapedown is approximate due to wind and waves.												
3/8/2005 10:53	11.2	177	237	11.63	8.28	8	0.958	0.01 U	0.798	0.0719	0.0486	4.5	1
	pH recorded @ 12.8°C.												
4/5/2005 11:39	9.3	1170	105	11.22	7.87	141	0.544	0.019	0.42	0.141	0.0783	54	200
	pH measured @ 11.0°C.												
5/3/2005 11:50	16.7	187	190	10.1	8.11	16	0.489	0.014	0.379	0.0766	0.0513	7.4	66
	pH measured @ 17.8°C. No tape down taken due to windy conditions.												
6/7/2005 11:59	16.8	131	248	11.42	8.5	12	0.565	0.01 U	0.385	0.0794	0.056	6.2	100
	pH measured @ 17.7°C. Too windy for tape-down.												
7/12/2005 12:20	24.7	33	431	8.57	8.03	11	0.914	0.049	0.603	0.123	0.09	6.3	71
	pH measured @ 24.7°C. Too windy for tape-down -- no stage.												
8/2/2005 13:15	27.1	9	551	15.07	8.85	5	1.16	0.014	0.795	0.1212	0.0749	1.9	9
	pH measured @ 25.5°C. No water under RP; hence no tapedown.												
9/13/2005 12:00	18.3	29	358	12.24	8.71	3	0.404	0.01 U	0.189	0.0747	0.0503	1.8	36
	pH measured @ 19.0°C. Stage is estimated (J) because of wind during tape-down.												

# Conventional Data Report

## Snake R nr Pasco 33A050

Class: A      Latitude: 46 13 00.0  
 Rivermile: 2.2      Longitude: 119 01 23.0  
 Waterbody: WA-33-1010

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
10/5/2004 15:42	17.9	58900	197	8.93	8.06	3	0.309	0.02	0.167	0.0333	0.028	2.1	2
	pH measured @ 18.7°C.												
11/2/2004 14:50	13.3	21700	230	9.44	8.01	19	0.433	0.012	0.35	0.0404	0.0335	2.4	5
	pH measured @ 15.2°C.												
12/7/2004 15:35	7.8	57100	268	11.11	8.11	2	0.538	0.01 U	0.424	0.0409	0.036	1.4	1 U
	pH measured @ 8.8°C.												
1/4/2005 15:25		21700	266	12.24	8.07	2	0.676	0.01 U	0.546	0.0542	0.0431	1.8	1 U
	pH measured @ 4.3°C. No temperature available.												
2/8/2005 13:12	3.9	54100	314	12.99	8.16	1	0.936	0.01 U	0.847	0.0581	0.0514	1.5	1 U
	pH was measured @ 7.6°C.												
3/8/2005 12:02	5.6	56500	250	13.26	8.35	3	0.701	0.01 U	0.584	0.0354	0.027	1.6	1 U
	pH recorded @ 10.0°C.												
4/5/2005 15:32	8.7	144000	286	13.57	8.88	9	0.638	0.01 U	0.49	0.0139	0.0074	3.5	1 U
	pH measured @ 11.1°C.												
5/3/2005 12:55	12.5	123800	189	12.04	8.12	5	0.479	0.01 U	0.365	0.0288	0.021	3.7	1 U
	pH measured @ 15.2°C.												
6/7/2005 10:35	15.3	225200	135	11.53	8.15	7	0.293	0.01 U	0.187	0.0246	0.016	4.8	2
	pH measured @ 16.2°C.												
7/12/2005 13:30	20.7	82300	139	10	8.09	7	0.22	0.016	0.099	0.0191	0.013	3.8	16
	pH measured @ 21.8°C. Street cleaner, creating dust, passed over bridge while sample was being retrieved.												
8/2/2005 12:15	22.2	62800	159	9.53	8.12	8	0.23	0.023	0.088	0.0287	0.018	3.7	1
	pH measured @ 22.0°C.												
9/13/2005 13:10	19.8	60300	181	8.67		3	0.273	0.03	0.12	0.0313	0.021	2.4	4
	pH not recorded.												



# Conventional Data Report

## Palouse R @ Hooper 34A070

Class: B Latitude: 46 45 32.0  
 Rivermile: 19.5 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	
10/5/2004	8:37	12.9	51	322	8.93	8.68	9	0.486	0.023	0.183	0.0347	0.016	6	140
11/2/2004	8:03	6.6	94	280	11.57	8.69	4	0.828	0.019	0.653	0.0581	0.041	2.8	9 J
12/7/2004	8:00	1.6	146	230	12.52	8.06	2	1.36	0.013	1.18	0.0906	0.0734	5.2	16
1/4/2005	7:37	0.5	160	270	13.87	8.34	2	2.09	0.01 U	1.84	0.127	0.106	3.2	14 J
2/8/2005	9:02	2.5	279	230	13.09	8.14	8	2.14	0.01 U	1.99	0.102	0.0828	7.6	15 J
3/8/2005	8:03	9.4	168	289	10.91	8.8	10	1.22	0.01 U	0.915	0.0385	0.015	3.5	1 J
4/5/2005	8:07	8.9	674	163	11.02	8.1	36	1.32	0.017	1.16	0.107	0.0783	27	35 J
5/3/2005	7:35	14.9	211	233	9.38	8.38	11	0.569	0.01 U	0.313	0.0753	0.045	4.7	25 J
6/7/2005	8:17	14.6	222	239	9.59	8.53	20	0.77	0.01 U	0.526	0.0702	0.0465	10	84 J
7/12/2005	8:28	21.4	64	329	7.85	8.17	17	0.731	0.028	0.467	0.117	0.0943	9.6	140
8/2/2005	10:10	22.2	20	342	8.41	8.77	14	0.446	0.013	0.123	0.111	0.0724	8.4	63
9/13/2005	8:37	15.6	21	346	9.18	8.76	9	0.362	0.01	0.085	0.0277	0.01	5	32 J

Conventional Data Report

**Palouse R @ Palouse**  
34A170

Class: A Latitude: 46 54 33.0  
 Rivermile: 121.2 Longitude: 117 04 33.0  
 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
10/6/2004	9:54 11.1	53	85	9.54	7.89	5	0.18	0.01 U	0.01 U	0.0145	0.0055	1.3	13 J
11/3/2004	10:40 5.4	103	89	11.77	8.03	2	0.13	0.011	0.01 U	0.0384	0.021	3.1	17
12/8/2004	10:20 0.7	154	54 J	12.69	8.06	2	0.14	0.01 U	0.045	0.0265	0.015	5.3	34
1/5/2005	10:35 -0.1	82	71	13.4	8.37	2	0.081	0.01 U	0.012	0.0221	0.011	3.9	1
2/9/2005	10:25 0	268	56	13.03	7.75	4	0.15	0.01 U	0.08	0.0233	0.013	9.5	1
3/16/2005	9:45 5.9	154	73	10.92	7.58	2	0.13	0.01 U	0.01 U	0.0248	0.0076	3.7	2
4/6/2005	10:30 5.3	943	52	12.1	7.48	13	0.21	0.01 U	0.092	0.0417	0.027	22	58
5/4/2005	10:05 12.8	204	64	9.59	7.77	3	0.11	0.01 U	0.01 U	0.0303	0.012	5.1	33
6/8/2005	9:50 14.6	232	70	9.59	7.73	5	0.13	0.01 U	0.01 U	0.0358	0.014	7	51 J
7/13/2005	9:45 21.2	62	76	8.57	7.85	3	0.22	0.01 U	0.01 U	0.0193	0.0046	2.2	56
8/3/2005	9:50 20	18	76	7.85	8.74	3	0.355	0.01 U	0.01 U	0.0389	0.014	1.8	61
9/14/2005	9:35 12.5	18	92	8.76	8.46	1	0.278	0.01 U	0.01 U	0.0203	0.0037	1.2	11 J

Almost stagnant

Conventional Data Report

**SF Palouse R @ Pullman**  
34B110

Class: A Latitude: 46 43 57.0  
Rivermile: 22.2 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
10/6/2004 11:17	10.6	8.61	600	9.34	7.92	33	3.73	0.01 U	2.06	0.347	0.218	3.1	140
11/3/2004 11:55	7.5	22	506	10.92	8.01	5	3.27	0.035	2.64	0.257	0.21	6.5	120
12/8/2004 10:55	3.4	39.7	319 J	10.96	7.69	19	2.57	0.048	2.64	0.29	0.177	45	500
1/5/2005 11:15	0.4	9.15	601	13.19	8.05	2	3.22	0.01 U	2.74	0.247	0.212	3	130
2/9/2005 11:20	1.5	11.3	478	14.94	8.32	24	3.57	0.01 U	3.29	0.17	0.133	5.3	20
3/16/2005 10:35	6.1	7.79	532	12.42	8.23	4	2.47	0.01 U	1.59	0.205	0.139	2	3
4/6/2005 11:30	7.8	32.1	334	12.3	7.99	6	2.41	0.012	2.62	0.162	0.112	34	85
5/4/2005 11:00	12.3	26.9	370	7.85	8	39	2.33	0.287	0.93	0.388	0.196	27	3800 J
6/8/2005 10:40	12.5	8.88	456	10	8.05	4	1.51	0.017	1.14	0.363	0.295	2.5	120
7/13/2005 10:50	18.6	2.01	592	7.65	7.99	4	1.44	0.044	1.13	0.324	0.257	2.8	2300 J
8/3/2005 11:00	16.9	1.2	689	7.14	7.81	4	1.35	0.031	0.909	0.531	0.455	2.9	350
WWG location nearly dry													
9/14/2005 10:20	11.6	4.45	721	8.15	7.96	2	3.23	0.011	2.68	0.448	0.377	1.9	350

Conventional Data Report

SF Palouse R blw Sunshine  
34B130

Class: A Latitude: 46 43 05.0  
Rivermile: 23.75 Longitude: 117 09 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
10/6/2004	11:40	9.7	349	8.32	7.69	62	0.23	0.01 U	0.01 U	0.0548	0.0411	19	8 J
11/3/2004	12:35	5.8	303	11.02	8.03	19	0.744	0.027 J	0.547	0.0566	0.0409	6.7	17
12/8/2004	11:30	1.6	186 J	11.47	7.61	7	1.81	0.02	1.58	0.131	0.0946	20	33
1/5/2005	11:40	0	331	12.18	8.07	2	2.36	0.01 U	2.15	0.0821	0.0664	3.2	12
2/9/2005	11:40	0.6	268	13.83	8.24	4	2.33	0.01 U	2.08	0.0802	0.0573	5.9	2
3/16/2005	11:00	5.5	310	10.92	8.21	13 J	0.87	0.01	0.607	0.0398	0.018	3.2	4
4/6/2005	11:55	7.8	223	10.87	7.82	7	2.2	0.013	1.97	0.142	0.0974	45	56
5/4/2005	11:25	12.5	236	8.26	7.92	8	0.585	0.069	0.124	0.109	0.0424	10	110
6/8/2005	11:05	13.7	244	9.59	7.83	6	0.356	0.01 U	0.045	0.0846	0.0478	8.6	56
7/13/2005	11:15	20.4	315	6.42	7.7	4	0.489	0.01 U	0.023	0.136	0.0585	3.6	84
8/3/2005	11:25	17.2	425	7.85	7.67	3	0.465	0.01 U	0.035	0.148	0.0841	1.8	160
9/14/2005	11:10	12	436	4.53	7.4	1 U	0.312	0.01 U	0.01 U	0.0825	0.0521	0.6	37

Very low; hand-sampled. Patches of iron bacteria under bridge.

Conventional Data Report

Paradise Cr at Mouth  
34C060

Class: A Latitude: 46 43 14.0  
Rivermile: 0.1 Longitude: 117 09 47.0  
Waterbody: WA-34-1025

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
10/6/2004	12:06	11	681	9.13	7.93	2	4.32	0.01 U	3.42	0.463	0.343	2.3	28 J
11/3/2004	13:00	8.6	625	10.12	8.23	10	4.83	0.026	4.21	0.425	0.335	7.9	19
12/8/2004	11:50	4.9	509 J	10.35	7.72	6	4.19	0.095	3.65	0.38	0.296	13	1600 J
1/5/2005	12:00	1.3 foam in water	774	12.69	8.28	3	3.63	0.01 U	3.35	0.362	0.299	2.3	6
2/9/2005	12:05	2.8	635	13.73	8.52	4	4.48	0.013	4.29	0.235	0.18	3.6	92
3/16/2005	11:20	6.7	704	12.62	8.41	11 J	3.99	0.01 U	2.5	0.382	0.307	2.3	7
4/6/2005	12:20	9.6	512	12.1	8.37	6	3.36	0.015	2.53	0.2	0.146	28	29
5/4/2005	11:40	12.3	637	10	8.44	3	3	0.01 U	2.66	0.159	0.0953	3.1	92
6/8/2005	11:20	13.7	594	10.91	8.41	2	2.56	0.01 U	2.21	0.655	0.564	2	35
7/13/2005	11:35	18.2	680	8.67	8.18	3	2.52	0.015	2.87	0.358	0.292	2	110
8/3/2005	11:45	15.5	715	8.67	7.95	2	1.76	0.01 U	1.31	0.515	0.478	1.9	200
9/14/2005	11:30	11.9 Flow greater than at SFPR below sunshine	761	8.55	8.08	4	4.04	0.01 U	3.45	0.41	0.366	1.6	40

Conventional Data Report

**Paradise Cr @ Border**  
34C100

Class: A Latitude: 46 43 57.0  
 Rivermile: 6.5 Longitude: 117 02 35.0  
 Waterbody: WA-34-1025

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
10/6/2004	12:30	15.5	692	6.59	7.6	2	4.63	0.017	4.12	0.435	0.343	1	260
11/3/2004	14:30	13.1	653	7.61	7.9	6	4.97	0.01	4.53	0.578	0.493	6.3	53
12/8/2004	13:00	5	353 J	9.34	7.61	62	3.6	0.106	1.76	0.334	0.148	95	1300 J
1/5/2005	12:35	6.3	824	8.93	7.96	10	4.24	0.071	3.6	0.354	0.275	8.9	440
2/9/2005	12:35	9.7	687	10.5	8.08	12	5.43	0.049	4.76	0.218	0.127	4	290
3/16/2005	11:45	9.9	711	12.12	7.94	4	3.49	0.014	2.74	0.618	0.5	2.7	26
4/6/2005	12:45	12.1	568	10.46	7.74	7	4.16	0.031	4.1	0.137	0.106	28	29
5/4/2005	12:05	15	675	8.77	7.98	32	4.69	0.032	4.79	0.254	0.148	8.7	410
6/8/2005	11:53	16.3	688	11.22	8.19	3	4.2	0.017	3.58	0.981	1.04	2.3	160
7/13/2005	12:00	19.5	675	10	8.1	34	3.18	0.022	2.98	0.213	0.162	2.8	84
8/3/2005	12:20	18.1	720	9.79	7.85	7	3.68	0.017	2.22	0.343	0.303	3.2	92
9/14/2005	12:00	17.3	705	9.26	8.27	3	5.62	0.02	4.39	0.353	0.288	3.5	84

Did not find correct station. Sampled from upstream culvert near loading silo. RP (from edge by hole a few inches to right of top of culvert: 10.90.

# Conventional Data Report

## Snake R @ Interstate Br 35A150

Class: A Latitude: 46 25 15.0  
 Rivermile: 139.6 Longitude: 117 02 05.0  
 Waterbody: WA-35-1020

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	
10/6/2004	13:50	17.1	14300	335	9.13	8.28	6	0.619	0.01 U	0.476	0.0631	0.0514	3	5 J
11/3/2004	15:45	11	14700	340	10.62	8.44	4	0.613	0.024	0.499	0.0445	0.0346	2.5	10
12/8/2004	14:10	5.5	14200	289 J	11.87	8.17	4	0.925	0.01 U	0.802	0.0664	0.0557	1.6	6
1/5/2005	13:40	3.7	14600	419	12.69	8.26	3	1.23	0.01 U	1.07	0.082	0.0701	1.6	8
2/9/2005	13:50	3.8	14500	369	13.23	8.47	5	1.15	0.01 U	1.02	0.0525	0.0437	1.5	2
3/16/2005	13:00	6.6	15900	378	12.92	8.51	7	1.03	0.01 U	0.892	0.036	0.023	2.6	2
4/6/2005	14:00	8.2	23200	332	11.58	8.28	10	0.891	0.037	0.714	0.0671	0.0361	6.8	1
5/4/2005	14:45	12.3	31400	189	10.51	8.55	18	0.384	0.01 U	0.265	0.0218	0.011	6	15
6/8/2005	13:40	14.3	40100	183	10.2	8.02	9	0.391	0.01 U	0.264	0.109	0.02	4.7	3
7/13/2005	13:30	21.3	23400	195	9.89	8.88	11	0.24	0.01 U	0.113	0.0182	0.0058	3.6	10
8/3/2005	13:40	22	15200	286	8.06	8.12	5	0.566	0.013	0.324	0.0574	0.037	1.5	3
9/14/2005	13:15	20	12800	329	9.06	8.45	2	0.597	0.01	0.415	0.0778	0.0576	1	9

pH from post-recalibration measurement.

# Conventional Data Report

## Tucannon R @ Powers 35B060

Class: A Latitude: 46 32 16.0  
 Rivermile: 2.3 Longitude: 118 09 16.0  
 Waterbody: WA-35-2010

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
10/5/2004 10:00	12	53	164	10.55	8.04	4	0.23	0.01 U	0.169	0.0355	0.0377	1.4	10
	pH measured @ 13.1°C.												
11/2/2004 9:15	10.8	74	161	10.96	8.02	2	0.19	0.018	0.145	0.025	0.024	0.7	11
	pH measured @ 12.5°C.												
12/7/2004 9:29	6.2	82	154	11.81	7.94	5	0.368	0.01 U	0.315	0.0472	0.0492	1.4	45
	pH measured @ 6.9°C.												
1/4/2005 8:55	4.4	70	155	12.75	7.98	6	0.447	0.01 U	0.384	0.0527	0.0504	2.2	33 J
	pH measured @ 6.1°C.												
2/8/2005 7:55	3.8	71	147	12.89	7.88	6	0.373	0.01 U	0.329	0.0464	0.0465	2.3	44 J
	pH was measured @ 5.7°C. Air temp ≤ freezing.												
3/8/2005 9:09	9.6	77	153	11.63	8.18	8	0.316	0.01 U	0.236	0.0512	0.0429	2	15 J
	pH recorded @ 11.0°C.												
4/5/2005 9:12	8.3	178	122	12.04	8.09	12	0.21	0.01 U	0.131	0.0444	0.0394	4	120 J
	pH measured @ 9.3°C.												
5/3/2005 8:55	12.9	128	127	10.71	8.11	12	0.15	0.01 U	0.069	0.0372	0.028	2.1	92
	pH measured @ 14.0°C.												
6/7/2005 7:00	12.4	96	131	10.3	7.94	9	0.19	0.01 U	0.102	0.038	0.0327	2.6	120 J
	pH measured @ 12.4°C. Very windy.												
7/12/2005 10:00	19.6	54	169	9.38	8.2	5	0.2	0.01 U	0.099	0.0402	0.036	1.3	40
	pH measured @ 19.6°C.												
8/2/2005 8:51	19.1	43	175	9.74	8.07	5	0.13	0.01 U	0.036	0.0335	0.025	1.4	52
	pH measured @ 19.2°C.												
9/13/2005 10:00	15.1	57	175	11.02	8.3	8	0.17	0.01 U	0.104	0.0393	0.029	1.8	170
	pH measured @ 16.3°C.												



# Conventional Data Report

## Columbia R nr Vernita 36A070

Class: A Latitude: 46 38 30.0  
 Rivermile: 405 Longitude: 119 43 50.0  
 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
10/4/2004 15:45	18.6	68700	132	9.44	8.18	1	0.13	0.01 U	0.062	0.0056	0.0046	0.5 U	1 U
	pH measured @ 19.4°C.												
11/3/2004 6:45	12.6	56800	136	10.05	7.97	2	0.15	0.01 U	0.01 U	0.0071	0.0056	0.9	1
	pH measured @ 11.4°C.												
12/6/2004 15:27	9.3	138000	136	10.8	8.45	1	0.16	0.01 U	0.108	0.0069	0.0056	0.7	4
	pH measured @ 9.3°C.												
1/3/2005 16:00		107000											
	No measurements taken due to dangerous conditions. Darkness, icy roads, heavy traffic.												
2/7/2005 15:49	3.8	136000	138	12.99	7.95 J	1	0.21	0.01 U	0.135	0.0042	0.0034	1.1	1 U
	pH was measured @ 6.7°C. pH given "J" qualifer because of slow response. Calibration check was within 0.1 units.												
3/7/2005 15:45		84800											
	No sample taken due to high winds and large truck traffic on bridge.												
5/2/2005 13:53	10.8	106000	144	13.46	8.33	2	0.16	0.01 U	0.1	0.0026	0.003 U	1.2	1 U
	pH measured @ 12.6°C. Bridge was avoided because of traffic. Site sampled approx. 200m u/s of bridge off right bank in approx. 1m of water. Current was strong and appeared well mixed.												
6/6/2005 14:59	15.1	88900	130	11.73	8.28	2	0.16	0.01 U	0.087	0.0036	0.003 U	0.9	1 U
	pH measured @ 15.6°C.												
7/11/2005 15:50	18	113000	136	11.83	8.42	2	0.12	0.01 U	0.043	0.0039	0.003 U	1	1
	pH measured @ 19.6°C. Site moved to right bank just upstream of bridge. Rattlesnake claiming sampling site for personal use. A negotiated settlement with compromise was successful.												
8/1/2005 16:05	19.7	146000	139	10.97	8.37	2	0.12	0.01 U	0.047	0.0047	0.003 U	0.8	1
	pH measured @ 20.3°C.												
9/12/2005 16:05	19.3	50800	141	10.4	8.36	1	0.12	0.01 U	0.061	0.0066	0.0038	0.6	1 U
	pH measured @ 19.8°C.												

# Conventional Data Report

## Yakima R @ Kiona 37A090

Class: A Latitude: 46 15 11.0  
 Rivermile: 29.8 Longitude: 119 28 27.0  
 Waterbody: WA-37-1010

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	
10/5/2004	14:50	16.5	1860	270	12.69	8.66	4	1.23	0.01 U	1.18	0.129	0.118	2.1	1
		pH measured @ 17.3°C.												
11/2/2004	13:50	9.4	2650	263	11.67	8.19	6	1.43	0.015	1.41	0.0959	0.0859	3.1	11
		pH measured @ 12.6°C.												
12/7/2004	14:45	5.1	2180	244	13.63	8.36	5	1.43	0.01 U	1.33	0.114	0.104	2.6	7
		pH measured @ 7.5°C.												
1/4/2005	14:31		2290	232	14.28	8.26	5	1.33	0.021	1.24	0.105	0.0876	2.7	2
		pH measured @ 4.8°C. No temperature available.												
2/8/2005	15:48	5.6	2940	194	13.19	8.08	9	1.03	0.02	0.929	0.0985	0.0852	4.8	15
		pH was measured @ 8.7°C.												
3/8/2005	14:45	12.4	1810	229	14.48	9.09	6	0.852	0.01 U	0.704	0.105	0.0795	3.1	1
		pH recorded @ 14.7°C. pH meter calibration checked. A second sampled was measured and river pH of 9.09 verified.												
4/5/2005	14:41	12.6	1320	244	14.69	9.01	9	1.01	0.01 U	0.823	0.138	0.113	4.4	1
		pH measured @ 13.4°C.												
5/3/2005	15:20	18.7	1280	199	12.24	8.74	9	0.908	0.019	0.775	0.153	0.119	3.1	3
		pH measured @ 19.3°C. Stage measured by gage height.												
6/7/2005	14:47	19.9	809	258	14.59	9.22	4	0.78	0.01 U	0.638	0.112	0.0875	1.4	4
		pH measured @ 19.8°C.												
7/12/2005	15:49	25.3	962	242	12.65	8.96	5	1.02	0.011	0.818	0.119	0.101	2.6	12
		pH measured @ 23.5°C.												
8/2/2005	15:35	25.8	636	290	12	8.84	6	0.843	0.01 U	0.607	0.197	0.165	2.2	12
		pH measured @ 23.5°C.												
9/13/2005	15:54	19.8	1600	284	11.83	8.65	19	1.05	0.01 U	0.911	0.116	0.0875	5.5	11
		pH measured @ 20.0°C.												

# Conventional Data Report

## Yakima R @ Nob Hill 37A205

Class: A Latitude: 46 34 54.0  
 Rivermile: 111.3 Longitude: 120 27 38.0  
 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
10/6/2004 12:18	15.1	2070	114	11.47	8.6	6	0.28	0.01 U	0.185	0.0362	0.0302	3.1	12
	pH measured @ 17.0°C.												
11/3/2004 12:01	7	1870	133	13.4	8.43	11	0.315	0.012	0.262	0.0231	0.016	4.6	17
	pH measured @ 8.3°C.												
12/8/2004 14:38	4.5	1420	128	13.83	8.6	2	0.258	0.01 U	0.204	0.0226	0.019	1.4	1
	pH measured @ 6.2°C.												
1/5/2005 11:35	0	1170	125	14.99	8.14	4	0.285	0.01 U	0.22	0.0185	0.014	1.8	2
	pH measured @ 2.0°C. Sampled by hand while dodging ice chunks and slush patches floating with the current.												
2/9/2005 12:52	2.4	2010	115	14.21	8.05	2	0.21	0.01 U	0.163	0.0167	0.016	1.4	2
	pH was measured @ 4.9°C.												
3/9/2005 11:58	9.9	1360	123	13.67	9.16	5	0.147	0.01 U	0.033	0.018	0.011	1.6	2
	pH recorded @ 13.4°C. pH meter calibration checked and final pH of 9.16 verified.												
4/6/2005 13:05	9.8	1490	116	13.46	9.07	9	0.15	0.01 U	0.054	0.0188	0.013	3.6	3
	pH measured @ 11.8°C.												
5/4/2005 14:32	14.6	1920	100	12.24	9.19	7	0.2	0.01 U	0.114	0.0401	0.029	2.7	15
	pH measured @ 15.7°C. Hard local rainfall just before the time of sampling.												
6/8/2005 13:50	14.4	3590	90	11.53	8.64	13	0.11	0.01 U	0.068	0.0202	0.013	5.3	71
	pH measured @ 15.3°C.												
7/13/2005 15:18	19.6	2810	93	10.4	8.7	9	0.25	0.011	0.15	0.0278	0.02	4.8	84
	pH measured @ 20.0°C.												
8/3/2005 13:55	20.1	2650	88	10.35	8.7	7	0.16	0.01 U	0.077	0.0236	0.014	2.5	10
	pH measured @ 21.1°C.												
9/14/2005 14:02	17.8	2220	99	10.81	8.79	9	0.12	0.01 U	0.051	0.0338	0.023	2.7	8
	pH measured @ 18.5°C. Barometric pressure not recorded at this site. Value given is an estimate based on pressure at site # 37A205 approximately 1.5 miles distance.												

# Conventional Data Report

## Wide Hollow Cr. @ Main Street 37E050

Class: A      Latitude: 46 32 37.0  
 Rivermile: 0.5      Longitude: 120 28 28.0  
 Waterbody: EB21AR

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	
10/6/2004	14:20	15.9	321	10.96	8.23	1	2.14	0.01 U	2.03	0.0949	0.0902	1.4	210	
		pH measured @ 16.8°C.												
11/3/2004	13:00	12.5	506	11.37	8.07	3	3.66	0.045	2.97	0.183	0.168	1.3	53	
		pH measured @ 12.7°C.												
12/8/2004	16:15	9.8	1.73	558	9.59	7.85	10	3.86	0.016	3.86	0.186	0.172	5.7	320
		pH measured @ 10.4°C.												
1/5/2005	12:47	6	0.86	539	12.95	8.19	5	3.62	0.01 U	3.46	0.205	0.166	2.7	64
		pH measured @ 6.3°C.												
2/9/2005	14:42	9.1	5.84	540	13.6	8.37	4	3.15	0.01 U	3.06	0.194	0.181	2.3	6
		pH was measured @ 10.2°C. Collected Metals blank												
3/9/2005	13:11	13.4	5.23	545	13.97	8.51	6	2.92	0.01 U	2.83	0.23	0.154	3.1	7
		pH recorded @ 14.4°C. pH meter calibration checked and pH of 8.51 verified.												
4/6/2005	14:35	12	30	211	12.95	8.66	23	0.715	0.01 U	0.598	0.0556	0.0384	9.9	29
		pH measured @ 13.6°C.												
5/4/2005	16:13	16.4	28	247	13.06	8.66	11	1.1	0.01 U	1	0.0827	0.0646	4.6	200 J
		pH measured @ 17.6°C. Stage measured by staff gage.												
6/8/2005	15:15	15.4	28	240	11.32	8.33	6	1.05	0.01 U	1.03	0.0751	0.0609	2.9	490
		pH measured @ 16.7°C.												
7/13/2005	16:50	20.8	17.5	325	11.12	8.41	3	1.72	0.01 U	1.96	0.116	0.0831	2.1	240
		pH measured @ 21.2°C.												
8/3/2005	15:15	20.1	20	284	11.89	8.54	3	1.4	0.01 U	1.26	0.0837	0.0651	1.5	350
		pH measured @ 21.1°C.												
9/14/2005	15:37	17.3	26.9	258	10.3	8.09	13	1.25	0.01 U	1.15	0.0842	0.0644	2.9	230
		pH measured @ 19.4°C.												

Metals Data Report

Wide Hollow Cr. @ Main Street  
37E050

Class: A Latitude: 46 32 37.0  
 Rivermile: 0.5 Longitude: 120 28 28.0  
 Waterbody: EB21AR

Date/Time	Flow CFS	Hardness mg/L	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Total	Dissolved	Tot. Rec.	Tot. Rec.	Dissolved
			Cadmium ug/L	Cadmium ug/L	Chromium ug/L	Chromium ug/L	Copper ug/L	Copper ug/L	Lead ug/L	Lead ug/L	Mercury ug/L	Nickle ug/L	Arsenic ug/L	Zinc ug/L	Zinc ug/L
10/6/2004 14:20		124	0.1 U	0.02 U	0.5 U	1	1.26	1.11	0.16 J	0.024	0.002 U	0.76	1.9	5 U	1.2
12/8/2004 16:15		203	0.1 U	0.02 U	0.69 J	2.2	2.4	1.5	0.66	0.05	0.0026	1.14	2.08	6.4	4
2/9/2005 14:42		202	0.1 U	0.02 U	0.68 J	1.5	1.51	0.97	0.27	0.024	0.002 U	1.32	2.02	5.7	4.1
4/6/2005 14:35		84.4	0.1 U	0.02 U	0.8	0.72	2.31	0.71	1.33	0.033	0.0042	0.58	0.99	7.9	1 U
6/8/2005 15:15		87.7	0.1 U	0.02 U	0.5 U	0.84	1.38 J	0.91	0.28 J	0.02 U	0.002 U	0.63	1.12	5 U	7.4
8/3/2005 15:15		107	0.1 U	0.02 U	0.52	1.2	1.47	1.21	0.22	0.029	0.002 U	0.84 J	1.29	5 U	2.2

Conventional Data Report

Moxee Drain @ Birchfield Rd.  
37I070

Class: A Latitude: 46 32 46.0  
Rivermile: 2.5 Longitude: 120 26 15.0  
Waterbody: YE21MH

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
10/6/2004 13:16	15.3	47.4	307	9.74	8.25	67	1.26	0.01 U	1.11	0.121	0.0917	16	170
	pH measured @ 16.3°C.												
11/3/2004 12:31	9.4	14.9	746	11.16	8.48	4	4.98	0.044	4.57	0.296	0.261	2.5	140
	pH measured @ 9.9°C.												
12/8/2004 15:37	8.2	13	749	11.01	8.52	3	4.52	0.03	4.25	0.316	0.291	2.9	84
	pH measured @ 9.3°C. Pigeons roosting under bridge just u/s of sampling site.												
1/5/2005 12:05	1.2	11.75	786	14.08	8.58	7	4.85	0.024	4.73	0.304	0.269	4.3	82
	pH measured @ 2.7°C.												
2/9/2005 13:50	5.9	11.75	782	13.7	8.7	9	4.68	0.022	4.63	0.342	0.297	3.7	75
	pH was measured @ 7.1°C.												
3/9/2005 12:27	10.9	10.5	793	13.46	8.87	9	4.85	0.024	4.5	0.426	0.315	3.1	28
	pH recorded @ 12.8°C. Bureau of Reclamation wire weight and stilling well gauge at this site. WWG = 68.55 with check bar @ 79.28. Gauge height = 68.0. Man + nature = wasp nest in wire weight box.												
4/6/2005 13:33	11.9	34.5	247	11.53	8.81	124	0.704	0.01 U	0.588	0.0889	0.0608	25	540
	pH measured @ 13.8°C. Stage from B of Rec guage house. Wire weight box home to a wasp nest.												
5/4/2005 15:25	19.3	31.75	258	8.97	8.51	129	1.07	0.027	0.876	0.135	0.089	22	160
	pH measured @ 19.8°C. Stage measured by gage height. Wire Wt. gage at the site = 69.21with check bar @ 79.28.												
6/8/2005 14:27	17.5	33.4	235	9.18	8.22	53	0.929	0.024	0.884	0.106	0.0743	14	700 J
	pH measured @ 18.1°C. Wire weight checked at 69.20 and check bar at 79.22.												
7/13/2005 15:48	22.5	25.85	284	8.87	8.33	16	3.49	0.218	2.98	0.121	0.102	7.1	150
	pH measured @ 14.9°C. Both gauge height and wire weight were measured with the same result.												
8/3/2005 14:25	21.6	24.1	253	9.43	8.48	12	1.18	0.011	1.03	0.114	0.089	4.7	350
	pH measured @ 21.5°C.												
9/14/2005 14:51	17.7	50.9	255	9.28	8.27	34	0.877	0.029	0.714	0.0966	0.066	6.3	220
	pH measured @ 19.2°C. Stage height from Sutron in Gauge House is 69.47.												

Metals Data Report

**Moxee Drain @ Birchfield Rd.**  
37I070

Class: A Latitude: 46 32 46.0  
 Rivermile: 2.5 Longitude: 120 26 15.0  
 Waterbody: YE21MH

Date/Time	Flow CFS	Hardness mg/L	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Total	Dissolved	Tot. Rec.	Tot. Rec.	Dissolved
			Cadmium ug/L	Cadmium ug/L	Chromium ug/L	Chromium ug/L	Copper ug/L	Copper ug/L	Lead ug/L	Lead ug/L	Mercury ug/L	Nickle ug/L	Arsenic ug/L	Zinc ug/L	Zinc ug/L
10/6/2004 13:16		99.2	0.1 U	0.02 U	0.5 U	0.88	3.52	2.01	0.59 J	0.031	0.0028	1.07	3.1	6.2	2.4
12/8/2004 15:37		197	0.1 U	0.02 U	0.64 J	2.3	1.87	1.5	0.14	0.03	0.0022	1.26	7.59	11	11.7
2/9/2005 13:50		199	0.1 U	0.02 U	0.82 J	2.1	1.65	1.18	0.16	0.045	0.002 U	1.49	7.92	13	12
4/6/2005 13:33		82.4	0.1 U	0.02 U	2	0.91	4.25	1.04	1.32	0.02 U	0.0037	0.99	2.14	11	1 U
6/8/2005 14:27		87.4	0.1 U	0.02 U	1.7	0.96	4.02	1.9	0.81 J	0.02 U	0.003	0.99	2.18	5 U	3.3
8/3/2005 14:25		73.8	0.1 U	0.02 U	0.83	1.1	2.46	1.8	0.33	0.023	0.002 U	1.28	2.45	5 U	2.7

# Conventional Data Report

## Cowiche Cr. @ Powerhouse Rd. 38G070

Class: A Latitude: 46 37 39.0  
 Rivermile: 0.5 Longitude: 120 34 48.0  
 Waterbody: AR69RI

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
10/6/2004 11:45	13.5		426	10.15	8.11	2	1.36	0.01 U	1.24	0.282	0.263	1.6	59 J
	pH measured @ 15.2°C.												
11/3/2004 11:15	8		361	12.18	8.1	3	1.08	0.039	0.99	0.156	0.139	1.5	15
	pH measured @ 8.9°C.												
12/8/2004 14:01	5.3	11	316	12.32	8.24	2	1.05	0.01 U	0.878	0.153	0.143	1.7	25
	pH measured @ 7.2°C.												
1/5/2005 10:50	1.6	4.22	354	13.26	7.98	2	1.37	0.01 U	1.23	0.152	0.136	1.6	8
	pH measured @ 3.6°C.												
2/9/2005 12:09	2.7	12.8	242	13.5	8.07	3	0.731	0.01 U	0.643	0.091	0.0849	2.2	1
	pH was measured @ 4.2°C.												
3/9/2005 11:07	8.8	14.1	234	12.34	8.47	4	0.541	0.01 U	0.405	0.0719	0.0781	2.2	14
	pH recorded @ 10.5°C.												
4/6/2005 11:55	9.7	12.8	224	13.06	8.96	3	0.271	0.01 U	0.136	0.0488	0.0397	1.8	4
	pH measured @ 10.8°C.												
5/4/2005 12:40	13.8	20.9	194	10.51	8.41	17	0.418	0.01 U	0.277	0.0974	0.0705	7.2	30
	pH measured @ 14.9°C. Stage measured by staff gage.												
6/8/2005 12:40	14.7	11	215	10.2	8.24	7	0.54	0.01 U	0.383	0.0989	0.0816	3.7	93
	pH measured @ 15.2C.												
7/13/2005 14:39	21.1	0.42	363	10.2	8.32	3	0.824	0.01 U	0.64	0.117	0.0999	2.1	190
	pH measured @ 21.5°C.												
8/3/2005 12:35	16.6	0.66	376	11.17	8.3	2	1.27	0.01 U	1.17	0.0838	0.0644	1.2	670
	pH measured @ 18.2°C. A clear film was visible on the water surface.												
9/14/2005 13:17	15.8	1.65	395	9.89	8.15	5	1.21	0.01 U	0.984	0.14	0.108	1.8	100
	pH measured @ 17.1°C.												



# Conventional Data Report

## Yakima R nr Cle Elum 39A090

Class: AA Latitude: 47 11 09.0  
 Rivermile: 191 Longitude: 121 02 36.0  
 Waterbody: WA-39-1060

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	
10/6/2004	9:09	13.1	270	62	9.23	7.51	2	0.042	0.01 U	0.01 U	0.0046	0.0035	1	39
			pH measured @ 14.4°C.											
11/3/2004	8:55	5.5	572	64	11.47	7.53	4	0.051	0.031	0.01 U	0.0069	0.0037	3.1	14
			pH measured @ 6.9°C.											
12/8/2004	9:20	3.6	349	65	11.81	7.67	1	0.052	0.01 U	0.019	0.004	0.0037	0.8	24 J
			pH measured @ 6.0°C. Rain, snow, fog. Runoff to river.											
1/5/2005	8:45	0	300	69	13.06	7.68	2	0.075	0.01 U	0.041	0.0049	0.0042	0.9	3 J
			pH measured @ 2.4°C.											
2/9/2005	8:00	2.2	451	69	12.38	7.32	2	0.055	0.01 U	0.037	0.0046	0.0053	1.1	1 UJ
			pH was measured @ 6.2°C. Air temp ≤ freezing.											
3/9/2005	8:37	6.3	264	67	11.42	7.58	2	0.036	0.01 U	0.01 U	0.0037	0.003	0.7	1 J
			pH recorded @ 7.8°C.											
4/6/2005	9:01	5.2	469	71	11.73	7.66	2	0.06	0.01 U	0.019	0.0047	0.0041	1.1	3 J
			pH measured @ 6.4°C.											
5/4/2005	10:28	9.3	470	63	10.91	7.81	3	0.04	0.01 U	0.01 U	0.0047	0.0033	1	10
			pH measured @ 10.8°C. Stage measured by tape down at newly established RP.											
6/8/2005	9:30	10.8		57	10.2	7.51	4	0.057	0.01 U	0.01 U	0.0048	0.003 U	2.1	19 J
			pH measured @ 16.0°C. pH not recorded at the time of sampling because meter was acting inconsistent. After changing filler solution and standards pH was measured at 11:32 from sample taken previously. Too windy for tape-down.											
7/13/2005	9:49	14.7	300	58	9.48	8.02	3	0.054	0.01 U	0.01 U	0.0043	0.003 U	1.5	21
			pH measured @ 16.7°C. Too windy for tape-down -- no stage.											
8/3/2005	8:55	17	552	53	8.71	7.78	6	0.051	0.01 U	0.01 U	0.0058	0.003 U	2.1 J	38
			pH measured @ 16.8°C.											
9/14/2005	10:05	13.9	336	60	9.48	7.76	1	0.025 U	0.01 U	0.01 U	0.0042	0.003 U	0.7	5
			pH measured @ 15.5°C.											

# Conventional Data Report

## Wilson Cr @ Highway 821 39C070

Class: A Latitude: 46 55 02.0  
 Rivermile: 0.4 Longitude: 120 30 24.0  
 Waterbody: WA-39-1020

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
10/6/2004 10:15	13.5		279	9.54	7.91	23	1.37	0.01 U	1.2	0.144	0.126	8.7	220
	pH measured @ 15.2°C.												
11/3/2004 10:12	8		383	11.57	8.14	13	1.76	0.01 U	1.72	0.107	0.097	5	40
	pH measured @ 9.4°C.												
12/8/2004 10:13	6.8		393	10.8	8.13	24	1.77	0.021	1.56	0.122	0.11	8.6	55
	pH measured @ 8.8°C. Geese u/s of sampling site.												
1/5/2005 9:50	1.2		407	13.06	8.14	14	1.86	0.015	1.75	0.122	0.0926	6.3	300 J
	pH measured @ 1.8°C.												
2/9/2005 9:29	3.5		350	12.28	8.07	12	1.45	0.013	1.32	0.094	0.0842	5.5	29 J
	pH was measured @ 5.9°C. Air temp ≤ freezing.												
3/9/2005 10:07	8.7		350	12.24	8.31	8	1.36	0.01 U	1.19	0.102	0.0801	3.2	69
	pH recorded @ 10.5°C.												
4/6/2005 10:05	8.9		390	11.63	8.27	10	3.01	0.012	1.59	0.123	0.106	4.9	120
	pH measured @ 9.8°C.												
5/4/2005 11:45	13.7		268	11.22	8.21	44	1.43	0.03	1.22	0.268	0.213	13	160
	pH measured @ 14.6°C.												
6/8/2005 11:10	12.9		250	10.91	8.18	50	1.1	0.025	0.778	0.156	0.131	12	320
	pH measured @ 14.6°C.												
7/13/2005 11:35	16		323	10	7.96	29	2.41	0.117	1.69	0.251	0.23	11	260 J
	pH measured @ 18.4°C.												
8/3/2005 10:00	15.3		372	9.53	8.04	22	2.21	0.01 U	1.75	0.234	0.183	9.1	450
	pH measured @ 18.9°C.												
9/14/2005 11:22	14.5		235	10.4	7.98	19	0.904	0.01 U	0.735	0.133	0.107	4.1	190
	pH measured @ 17.7°C.												

Metals Data Report

**Wilson Cr @ Highway 821**  
39C070

Class: A Latitude: 46 55 02.0  
 Rivermile: 0.4 Longitude: 120 30 24.0  
 Waterbody: WA-39-1020

Date/Time	Flow CFS	Hardness mg/L	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Total	Dissolved	Tot. Rec.	Tot. Rec.	Dissolved
			Cadmium ug/L	Cadmium ug/L	Chromium ug/L	Chromium ug/L	Copper ug/L	Copper ug/L	Lead ug/L	Lead ug/L	Mercury ug/L	Nickle ug/L	Arsenic ug/L	Zinc ug/L	Zinc ug/L
10/6/2004 10:15		115	0.1 U	0.02 U	0.5 U	0.69	1.69	1.25	0.23 J	0.02 U	0.0041	1.08	1.1	5 U	1.2
12/8/2004 10:13		157	0.1 U	0.02 U	1 J	1.6	1.7	0.79	0.32	0.02 U	0.0029	0.9	1.09	5 U	1 U
2/9/2005 9:29		137	0.1 U	0.02 U	1	1.1	1.14	0.57	0.18	0.02 U	0.002 U	1	0.9	5 U	1 U
4/6/2005 10:05		153	0.1 U	0.02 U	0.73	1.5	1.27	0.83	0.15	0.02 U	0.002 U	1.28	1.14	5 U	1 U
6/8/2005 11:10		97.2	0.1 U	0.02 U	1.2	0.82	2.32 J	1.2	0.37 J	0.02 U	0.0032	1.04	0.98	5 U	3.8
8/3/2005 10:00		143	0.1 U	0.02 U	1.2	1.7	2.68	1.88	0.28	0.02 U	0.0036	2.21	1.16	5 U	2.4

# Conventional Data Report

## Crab Cr nr Beverly 41A070

Class: B Latitude: 46 49 53.0  
 Rivermile: 6 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
10/4/2004 14:40	15.6	297	549	12.18	8.5	6	2.54	0.01 U	2.46	0.0299	0.017	3.1	410
	pH measured @ 18.0°C.												
11/1/2004 14:55	8.1	224	687	12.79	8.36	7	3.48	0.048	2.24	0.0562	0.0363	7.9	37
	pH measured @ 9.5°C.												
12/6/2004 14:22	4	156	773	14.54	8.44	4	3.29	0.015	3.17	0.0499	0.0396	3.9	6
	pH measured @ 7.6°C. pH meter checked and recalibrated.												
1/3/2005 15:15	1.8	176	834	14.48	8.52	8	3.07	0.015	3.11	0.0933	0.082	7.2	6
	pH measured @ 4.1°C.												
2/7/2005 14:51	5.3	254	799	13.5	8.34 J	15	3.26	0.013	3.13	0.0939	0.0713	8.5	4
	pH was measured @ 7.2°C. pH given "J" qualifier because of slow response.												
3/7/2005 14:49	12.5	161	774	15.51	8.73	17	2.72	0.01 U	2.88	0.0731	0.0307	8.5	4
	pH recorded @ 15.3°C.												
4/4/2005 13:41	11.1	218	614	12.04	8.61	37 J	3.86	0.011	2.11	0.0643	0.023	18	6
	pH measured @ 12.9°C. Windy and dusty.												
5/2/2005 14:41	16.5	119	602	9.79	8.42	60	1.59	0.03	1.31	0.0931	0.0407	25	19
	pH measured @ 17.9°C. Stage measured by tape down at newly established RP.												
6/6/2005 14:05	17.8		586	10.71	8.56	21	1.6	0.01 U	1.32	0.0517	0.026	11	30
	pH measured @ 18.2°C.												
7/11/2005 14:35	23.5	192	528	8.87	8.42	88	1.61	0.014	1.36	0.068	0.021	32	100
	pH measured @ 22.6°C. Wind blowing too hard to measure stage with a tape-down.												
8/1/2005 14:18	23.5	108	585	10.05	8.57	42	1.41	0.011	1.26	0.0468	0.011	16	47
	pH measured @ 22.9°C. Gusty winds prevented tapedown.												
9/12/2005 15:12	18.4	298	537	9.89	8.4	32	1.44	0.01 U	1.2	0.0609	0.03	8	160
	pH measured @ 19.8°C.												

# Conventional Data Report

## Wenatchee R @ Wenatchee 45A070

Class: A Latitude: 47 27 32.0  
 Rivermile: 1.1 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
10/4/2004 11:35	11.9	789	75	12.38	8.35	2	0.19	0.01 U	0.131	0.0064	0.0056	0.6	7
	pH measured @ 13.7°C.												
11/1/2004 11:05	5.3	1300	61	13.4	7.87	2	0.12	0.01 U	0.086	0.004	0.003 U	0.8	20
	pH measured @ 7.2°C. Raining.												
12/6/2004 11:20	3.1	1660	53	13.03	7.4 J	1	0.17	0.01 U	0.134	0.0035	0.0041	0.7	9
	pH measured @ 7.6°C. Sleet lightly falling at station. pH given a "J" because of long and indefinite response.												
1/3/2005 12:20	1.8	1730	56	14.08	8.22	1	0.17	0.01 U	0.135	0.0039	0.0076	0.8	9
	pH measured @ 4.4°C.												
2/7/2005 13:05	3.1	3280	51	13.5	7.61	2	0.14	0.01 U	0.099	0.0036	0.0036	1.1	1
	pH was measured @ 5.0°C.												
3/7/2005 11:49	6.6	1560	66	13.26	8.08	2	0.14	0.01 U	0.078	0.0032	0.003 U	0.5	1 U
	pH recorded @ 13.2°C. Fish carcass observed on river bottom.												
4/4/2005 11:29	6.5	1900	67	14.38	9.02	1	0.056	0.01 U	0.01 U	0.0032	0.003 U	0.8	1 U
	pH measured @ 9.1°C.												
5/2/2005 10:47	9.5	4540	42	12.24	7.98	4	0.07	0.01 U	0.03	0.003	0.003 U	1.1	5
	pH measured @ 11.5°C.												
6/6/2005 10:55	11.5	2990	44	11.32	7.99	4	0.11	0.056	0.052	0.0023	0.003 U	1.3	14
	pH measured @ 12.9°C.												
7/11/2005 10:59	16.5	1270	56	10.51	8.17	2	0.14	0.01 U	0.064	0.0037	0.003 U	1.1	17
	pH measured @ 18.3°C. Water was backed up from Columbia River but appeared to be flowing downstream. The river was sampled at the Sleepy Hollow Bridge approximately one mile upstream with the results: Temperature = 16.8°C and Conductivity = 55 microsie												
8/1/2005 10:35	21.6	590	81	9.84	8.12	3	0.26	0.01 U	0.188	0.0045	0.003 U	1	11 J
	pH measured @ 22.1°C.												
9/12/2005 12:59	16.3	367	104	11.53	8.73	4	0.288	0.01 U	0.212	0.005	0.003 U	0.8	19
	pH measured @ 18.6°C.												

Conventional Data Report

Wenatchee R nr Leavenworth  
45A110

Class: AA      Latitude: 47 40 35.0  
 Rivermile: 35.6      Longitude: 120 43 58.0  
 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	
10/4/2004	9:20	10.1	798	40	10.55	7.3	1	0.043	0.01 U	0.01 U	0.0015	0.003 U	0.5	24 J
		pH measured @ 11.2°C.												
11/1/2004	8:15	5.7	1320	37	11.87	7.08	1	0.038	0.01 U	0.01 U	0.0015	0.003 U	1.6	10 J
		pH measured @ 8.3°C. Snowing.												
12/6/2004	8:05	3.3	1680	34	12.12	6.85	1	0.078 J	0.01 U	0.057	0.0018	0.003 U	0.8	3 J
		pH measured @ 4.5°C. Snowing at station.												
1/3/2005	9:30	2.3	1750	37	13.16	6.87	1 U	0.081	0.01 U	0.065	0.0027	0.0067	0.7	3
		pH measured @ 4.4°C.												
2/7/2005	8:15	2.3	3320	34	12.79	6.99	2	0.11	0.01 U	0.07	0.0039	0.0037	1.1	1 UJ
		Snow fell the night before and was falling lightly during sampling. Air temps were below freezing and no runoff was apparent. pH was measured @ 6.0°C.												
3/7/2005	7:40	4.3	1550	40	12.24	7.46	1	0.077	0.01 U	0.046	0.0019	0.003 U	0.5 U	1 J
		pH recorded @ 7.0°C.												
4/4/2005	7:30	4.3	1910	40	12.14	7.16	1 U	0.091	0.01 U	0.048	0.0022	0.003	0.7	1 UJ
		pH measured @ 7.9°C. Tape down = 28.81.												
5/2/2005	8:37	7.1	4540	32	11.53	7.11	4	0.086	0.01 U	0.064	0.0019	0.0037 J	1	1 J
		pH measured @ 10.2°C. Stage measured by tape down.												
6/6/2005	8:41	9	3020	31	10.91	7.06	2	0.073	0.01 U	0.029	0.0016	0.003 U	0.8	6 J
		pH measured @ 11.3°C.												
7/11/2005	9:17	13.9	1280	36	9.69	8.59	1	0.056	0.01 U	0.012	0.0016	0.003 U	0.7	13
		pH measured @ 14.9°C.												
8/1/2005	8:41	18.8	590	42	8.71	7.32	2	0.045	0.01 U	0.012	0.0017	0.003 U	0.5	19 J
		pH measured @ 20.2°C. Wind gusts prevented tapedown to measure stage. A forest fire on Dirty Face Peak was adjacent to Lake Wenatchee which is approximately 15 miles upstream of sampling site.												
9/12/2005	9:15	13.5	367	50	9.79	7.26	1	0.047	0.01 U	0.01 U	0.0014	0.003 U	0.5	4
		pH measured @ 14.6°C. No tape -down was taken as river was dry under RP.												

Conventional Data Report

**Brender Cr. abv Noname Cr.**  
45D080

Class: A Latitude: 47 31 15.0  
Rivermile: 0.1 Longitude: 120 28 33.0  
Waterbody: WA-45-1100

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
10/4/2004 10:35	10.7		478	6.8	7.5	2	3.1	0.013	2.9	0.0347	0.026	1	180
	Strong smell of sewage. pH measured @ 11.8°C.												
11/1/2004 10:05	7.7		549	7.2	8.5	1 U	3.3	0.033 J	3.34	0.0348	0.027	0.7	76
	pH measured @ 8.5°C. Raining.												
12/6/2004 10:20	5.7		545	8.78	7.63	2	3.79	0.01 U	3.95	0.0375	0.033	1.1	80 J
	pH measured @ 7.4°C. Snowing at station. Primary thermister, CT6, became inoperative and thermister CT2 was used as a replacement. CT2 calibration to FMU NIST Hg thermometer is to add 6.7° to CT2 display. Temperatures indicated in this database have b												
1/3/2005 11:20	4.9		566	8.87	7.64	37	3.75	0.016	3.66	0.0576	0.0434	14	130
	pH measured @ 5.9°C. Water appears turbid.												
2/7/2005 10:22	6.1		566	8.52	7.69	2	3.36	0.012	3.7	0.0438	0.0343	1.3	102
	pH was measured @ 7.2°C. Snow on ground and in trees and shrubs was melting and running into stream.												
3/7/2005 10:13	9.1		571	8.57	7.61	2	3.4	0.01 U	3.68	0.0427	0.023	1	80
	pH recorded @ 10.8°C.												
4/4/2005 9:05	9		573	8.16	7.76	2	2.91	0.01 U	2.92	0.0337	0.023	1.4	140 J
	pH measured @ 10.0°C. Flows appeared lower than usual.												
5/2/2005 10:03	12.2		289	8.46	7.6	8	1.02	0.01 U	0.929	0.0343	0.021	2	110
	pH measured @ 12.7°C.												
6/6/2005 10:07	11.7		239	8.36	7.61	5	0.808	0.01 U	0.733	0.028	0.021	3.6	550
	pH measured @ 12.3°C.												
7/11/2005 10:21	15.2		260	7.24	7.66	5	0.837	0.01 U	0.761	0.0312	0.023	1.7	410
	pH measured @ 15.8°C.												
8/1/2005 9:51	16.5		547	5.74	7.52	2	2.62	0.016	2.02	0.0501	0.028	0.7	310 J
	pH measured @ 18.0°C.												
9/12/2005 10:50	13.1		214	8.57	7.58	7	0.722	0.01 U	0.657	0.0251	0.018	2.7	180
	pH measured @ 14.6°C.												

# Conventional Data Report

## Noname Cr. on Mill Rd. 45R070

Class: A Latitude: 47 31 15.0  
 Rivermile: 0.2 Longitude: 120 28 38.0  
 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
10/4/2004	10:20	11.8	543	6.9	7.46	2	4.36	0.029	3.65	0.0631	0.0479	1.1	270
			Clear film on surface. Many snails on surface. pH measured @ 12.8°C.										
11/1/2004	9:50	10.3	540	6.09	7.33	2	3.29	0.01 U	3.18	0.0618	0.0434	1.4	480 J
			pH measured @ 10.8°C. Snowing.										
12/6/2004	10:03	8.5	525	7.07	7.46	2	3.26	0.072	3	0.0717	0.051	2.1	1100
			pH measured @ 11.3°C. Snowing at the station.										
1/3/2005	11:02	8	546	7.44	7.38	4	3.51	0.051	3.26	0.0674	0.0565	3.2	860 J
			pH measured @ 8.6°C. Film on water. Sewage smell. Domestic ducks upstream.										
2/7/2005	9:51	8.2	547	7.71	7.44	7	2.96	0.035	3.22	0.0679	0.0442	4.9	780 J
			pH was measured @ 10.6°C. Snow on ground and in trees and shrubs was melting and running into stream. Slight sewer smell was apparent at the sampling site. Domestic ducks were observed in the stream approximatey 1/8 mile upstream of the site.										
3/7/2005	9:45	9.2	543	9.08	6.9	6	3.29	0.014	3.2	0.0774	0.0418	3.2	100
			pH recorded @ 10.8°C. Slight sewage smell noted at this location. Water was visibly flowing, no sheen apparent on the surface and no ducks were observed upstream. The opposite is normally the case.										
4/4/2005	8:48	8.9	487	9.08	7.71	2	3.08	0.017	3.23	0.058	0.0413	1.5	220 J
			pH measured @ 10.5°C. This stream is usually backed up with little movement and occasional film on the surface. Stream was visibly flowing and clear although lower volumes than usual. No ducks observed up-stream of sampling site, which is unusual.										
5/2/2005	9:45	9.8	200	10.71	7.55	20	0.574	0.01 U	0.53	0.0221	0.011 J	5	180
			pH measured @ 10.5°C. Ducks observed upstream. Flows high and clear with fish in stream.										
6/6/2005	9:50	10.5	213	10.51	7.55	5	0.737	0.01 U	0.7	0.0155	0.013	4.3	200
			pH measured @ 11.2°C.										
7/11/2005	9:57	14.5	201	10.1	7.92	4	0.54	0.01 U	0.508	0.0154	0.012	3	220
			pH measured @ 15.4°C. Domestic ducks upstream of site.										
8/1/2005	9:35	17.2	313	7.38	7.4	2	1.48	0.018	1.4	0.0359	0.024	1.2	1400 J
			pH measured @ 18.0°C. Domestic ducks were in the creek upstream of the sampling site. A clear surface film was present and numerous snails were visible.										
9/12/2005	10:30	13.8	287	8.97	7.47	1	1.34	0.01 U	1.33	0.0235	0.018	0.8	420
			pH measured @ 14.8°C. Domestic ducks were observed up-stream of sampling site.										



# Conventional Data Report

## Entiat R nr Entiat 46A070

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

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	
10/4/2004	12:25	10.9	89	105	11.57	8.18	3	0.22	0.01 U	0.182	0.0028	0.0036	1.3	4
		pH measured @ 12.9°C.												
11/1/2004	12:20	4.2	107	104	13.4	7.77	2	0.17	0.011	0.16	0.0025	0.0031	1.2	3
		pH measured @ 5.5°C. Sleet.												
12/6/2004	12:17	1.1	125	90	14.04	7.66	2	0.16	0.01 U	0.134	0.0022	0.0037	1.4	1
		pH measured @ 4.1°C.												
1/3/2005	13:30	0.6	125	87	15.1	7.67	1	0.12	0.01 U	0.089	0.0017	0.0093	1.1	1 U
		pH measured @ 4.4°C.												
2/7/2005	11:25	1.3	361	63	14.51	7.3 J	2	0.084	0.01 U	0.051	0.0024	0.0041	1.2	1 U
		pH was measured @ 6.1°C. pH was giving "J" qualifier because of slow and drifting response. pH probe was cleaned and meter was recalibrated but response was still slow however calibration check was within 0.1 units. Snow had fallen the night before and												
3/7/2005	11:03	6.7	202	81	13.06	8.67	2	0.063	0.01 U	0.024	0.104	0.003 U	0.7	1
		pH recorded @ 8.3°C.												
4/4/2005	10:22	5.7	205	80	13.26	8.42	2	0.05	0.01 U	0.015	0.0022	0.0041	0.5 U	1 U
		pH measured @ 9.4°C. Several salmon redds near sampling site.												
5/2/2005	11:40	8.5	704	45	12.04	7.85	6	0.034	0.01 U	0.011	0.0035	0.003 U	2	3
		pH measured @ 10.5°C. Stage measured by gage height.												
6/6/2005	11:50	8.9	683	47	11.32	7.72	5	0.049	0.01 U	0.012	0.0027	0.003 U	1.4	6
		pH measured @ 10.8°C.												
7/11/2005	12:01	15.3	238	68	10.4	8.29	3	0.078	0.01 U	0.035	0.0024	0.003 U	1.1	4
		pH measured @ 16.5°C. A brood of wild ducks was observed 100 meters upstream of the sampling site.												
8/1/2005	11:39	19.8	120	88	9.64	8.3	3	0.15	0.01 U	0.093	0.003	0.003 U	0.9	27
		pH measured @ 19.8°C.												
9/12/2005	11:54	14.5	78	109	10.81	8.22	2	0.254	0.01 U	0.188	0.0031	0.0031	0.5	10
		pH measured @ 15.7°C.												

# Conventional Data Report

## Methow R nr Pateros 48A070

Class: A Latitude: 48 04 29.0  
 Rivermile: 5 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
10/4/2004 11:33	11	447	148	11.16	8.33	3	0.16	0.01 U	0.1	0.0026	0.0035	1.2	2
11/1/2004 12:15	4.7	437	160	12.82	7.94	3	0.19	0.021	0.134	0.0018	0.003 U	1	1
12/6/2004 12:15	2.3	452	146 J	13.19	8.07	2	0.263	0.01 U	0.205	0.0019	0.003 U	0.9	1 U
1/3/2005 11:50	-0.1	471	162	14.36	7.92	2	0.23	0.01 U	0.188	0.002	0.0075	1.5	1 U
Channel has changed													
2/7/2005 11:30	2.2	976	138	13.83	8	3	0.18	0.01 U	0.145	0.0017	0.0036	1.1	1 U
3/14/2005 11:05	6.2	775	143	12.22	8.07	5	0.2	0.01 U	0.126	0.003	0.003 U	1.7	1 U
4/4/2005 11:15	7.4	597	153	12.2	8.11	3	0.19	0.01 U	0.134	0.0022	0.003 U	4.8	1 U
5/2/2005 10:10	9.3	2660	88	11.73	7.78	25	0.2	0.01 U	0.162	0.0103	0.0032 J	5.7	6
6/6/2005 11:00	10.5	2060	92	11.12	8.02	7	0.096	0.01 U	0.042	0.0025	0.003 U	1.5	14
7/11/2005 11:25	15.8	816	128	9.89	8.2	3	0.16	0.01 U	0.064	0.0026	0.003 U	0.9	2
8/1/2005 10:50	19.8	383	164	9.28	8.34	2	0.24	0.01 U	0.151	0.0041	0.003 U	0.9	5
9/12/2005 10:35	14.9	231	189	10.17	8.38	2	0.23	0.01 U	0.176	0.0028	0.003 U	0.7	4

# Conventional Data Report

## Methow R @ Twisp 48A140

Class: A Latitude: 48 21 34.0  
 Rivermile: 39.4 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
10/4/2004 10:11	8.6	412	131	11.37	8.1	3	0.17	0.01 U	0.119	0.0025	0.003 U	0.8	5
11/1/2004 11:10	4.1	383	136	12.77	7.63	6	0.15	0.018	0.129	0.0022	0.003 U	1.1	4
12/6/2004 11:00	2	383	125 J	12.99	8.13	1	0.15	0.01 U	0.165	0.002	0.003	0.9	2
1/3/2005 10:45	0.5	376	139	13.75	7.88	1	0.19	0.01 U	0.153	0.002	0.0067	0.8	2
2/7/2005 10:30	2.2	778	120	14.14	7.99	4	0.14	0.01 U	0.117	0.0016	0.003 U	1.1	2
3/14/2005 10:05	4.2	730	123	12.52	8.12	4	0.18	0.01 U	0.126	0.002	0.003 U	1	1 U
4/4/2005 10:15	5.9	537	132	12	8.05	3	0.18	0.01 U	0.133	0.0023	0.003 U	1	1 U
5/2/2005 9:05	6.4	2640	82	11.63	7.6	22	0.24	0.01 U	0.193	0.0094	0.0041 J	4.6	8 J
6/6/2005 10:00	8.1	1970	83	11.53	7.76	6	0.1	0.01 U	0.051	0.0028	0.003 U	1.1	4
7/11/2005 10:25	12.9	712	110	10.51	8.21	3	0.14	0.01 U	0.01 U	0.0027	0.003 U	0.7	10
8/1/2005 9:40	15.7	343	142	9.59	8.23	2	0.23	0.01 U	0.159	0.0036	0.003 U	0.5 U	23 J
9/12/2005 9:35	11.7	206	160	10.27	8.14	1	0.267	0.01 U	0.229	0.0023	0.003 U	0.5 U	25

Conventional Data Report

**Okanogan R @ Malott**  
49A070

Class: A Latitude: 48 16 50.0  
 Rivermile: 17 Longitude: 119 42 12.0  
 Waterbody: WA-49-1010

Date/Time	Temp	Flow	Conduc-	Oxygen	ph	Suspend.	Total	Ammonia	Nitrate+	Total	Soluble	Turbid-	Fecal
	deg. C	CFS	tivity	mg/L	std units	Solids	Pers. N.	Nitrogen	Nitrite	Phosp.	Reactive P	ity	Coliforms
			umhos/cm			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/4/2004	8:50 13.4	1230	278	9.44	8.17	4	0.17	0.01 U	0.033	0.0072	0.0046	1.4	11 J
11/1/2004	9:40 6.1	1160	258	11.47	8.12	2	0.13	0.029	0.028	0.0051	0.003	1.2	6
12/6/2004	9:30 1.7	1950	199 J	12.69	8.3	5	0.18	0.01 U	0.063	0.0069	0.0046	1.8	12
1/3/2005	9:30 0	1790	260	14.11	8.13	5	0.18	0.01 U	0.076	0.0099	0.0092	1.9	22
2/7/2005	9:10 1.8	3500	208	13.03	8.44	21	0.14	0.01 U	0.053	0.0109	0.0045	5.1	24 J
3/14/2005	8:50 6.2	2620	179	11.52	8.31	18	0.12	0.01 U	0.011	0.01	0.0037	5.6	6 J
4/4/2005	9:00 8	2010	245	11.17	7.85	6	0.12	0.01 U	0.01 U	0.0055	0.003 U	1.7	2 J
5/2/2005	8:05 11.1	4570	141	10.81	7.9	29	0.11	0.01 U	0.01 U	0.0134	0.0035 J	7.8	1 UJ
6/6/2005	8:45 15.3	2650	158	9.18	8.4	10	0.11	0.01 U	0.01 U	0.0078	0.003	3.5	26 J
7/11/2005	9:00 19.4	2510	204	8.57	8.12	8	0.13	0.01 U	0.012	0.009	0.003	2.6	43
8/1/2005	8:30 24.1	1690	268	7.24	8	4	0.16	0.01 U	0.01 U	0.0087	0.003 U	1.2	36 J
9/12/2005	8:25 16.9	562	318	8.45	8.32	2	0.15	0.01 U	0.021	0.012	0.0043	0.8	32

Metals Data Report

**Okanogan R @ Malott**  
49A070

Class: A Latitude: 48 16 50.0  
 Rivermile: 17 Longitude: 119 42 12.0  
 Waterbody: WA-49-1010

Date/Time	Flow CFS	Hardness mg/L	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Total	Dissolved	Tot. Rec.	Tot. Rec.	Dissolved
			Cadmium ug/L	Cadmium ug/L	Chromium ug/L	Chromium ug/L	Copper ug/L	Copper ug/L	Lead ug/L	Lead ug/L	Mercury ug/L	Nickle ug/L	Arsenic ug/L	Zinc ug/L	Zinc ug/L
10/4/2004 8:50		115	0.1 U	0.02 U	0.5 U	0.44	1.06	0.82	0.1 UJ	0.02 U	0.002 U	0.7	4.8	5 U	1 U
12/6/2004 9:30		101	0.1 U	0.02 U	0.5 U	0.58	1.44	0.69	0.22	0.02 U	0.002 U	0.64	1.81	5 U	2.7
2/7/2005 9:10		86.8	0.1 U	0.02	1.1	0.34	2.7	0.86	0.35	0.02	0.002 U	0.68	2.55	5 U	1.7
4/4/2005 9:00		99	0.1 U	0.02 U	0.5 U	0.66	1.62	0.78	0.18	0.02 U	0.002 U	0.81	2.45	5 U	2.7
6/6/2005 8:45		65.2	0.1 U	0.02 U	0.7	0.25 U	2.2 J	0.87	0.26 J	0.02 U	0.002 U	0.48	3.43	5 U	8.5
8/1/2005 8:30		109	0.1 U	0.02 U	0.53	0.88	1.36	1.18	0.11	0.16	0.0024	1.21	4.32	5 U	22.8

Conventional Data Report

Okanogan R @ Oroville  
49A190

Class: A Latitude: 48 56 21.0  
 Rivermile: 78 Longitude: 119 25 32.0  
 Waterbody: WA-49-1040

Date/Time	Temp		Flow	Conduc-	Oxygen	ph	Suspend.	Total	Ammonia	Nitrate+	Total	Soluble	Turbid-	Fecal
	deg. C		CFS	tivity	mg/L	std units	Solids	Pers. N.	Nitrogen	Nitrite	Phosp.	Reactive P	ity	Coliforms
				umhos/cm			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/4/2004	7:15	16.3	402	330	8.83	8.19	6	0.257	0.01 U	0.01 U	0.0099	0.003 U	2.3	11 J
11/1/2004	8:10	10	527	312	9.61	8.11	2	0.283	0.023	0.024	0.0079	0.003 U	1.8	3 J
12/6/2004	7:50	4.7	670	253 J	11.57	8.18	5	0.263	0.01 U	0.055	0.0069	0.003 U	2.2	1 UJ
1/3/2005	7:45	0.8	775	341	13.09	8.22	4	0.271	0.01 U	0.073	0.0064	0.005	1.5	1 UJ
2/7/2005	7:50	1.4	987	341	14.24	8.23	4	0.24	0.01 U	0.062	0.0056	0.003 U	1	1 UJ
3/14/2005	7:20	4.2	369	325	13.32	8.3	5	0.23	0.01 U	0.022	0.0074	0.003 U	1.9	1 UJ
4/4/2005	7:35	6.2	556	319	12.61	8.33	6	0.2	0.01 U	0.01	0.0066	0.003 U	2	3 J
5/2/2005	6:45	12	775	310	11.42	8.53	7	0.2	0.01 U	0.01 U	0.0075	0.003 U	2.3	2 J
6/6/2005	7:15	16.8	305	291	9.08	8.35	5	0.24	0.01 U	0.01 U	0.0088	0.003 U	1.7	26 J
7/11/2005	7:25	19.8	719	280	8.46	8.32	7	0.22	0.01 U	0.01 U	0.009	0.003 U	2.8	15 J
8/1/2005	6:50	23.1	1080	275	8.77	8.46	7	0.22	0.01 U	0.01 U	0.0086	0.003 U	2	13 J
9/12/2005	7:00	18.7	295	281	8.15	8.47	4	0.19	0.01 U	0.01 U	0.0079	0.003 U	1.8	14 J

Conventional Data Report

**Similkameen R @ Oroville**  
49B070

Class: A Latitude: 48 56 05.0  
 Rivermile: 5 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
10/4/2004	6:50 12.2	717	170	10.45	7.93	2	0.1	0.02	0.01 U	0.0031	0.003 U	1	1 UJ
11/1/2004	7:24 5.1	711	109		7.8	1	0.052	0.018	0.01 U	0.0017	0.003 U	0.7	1 UJ
12/6/2004	7:15 1.9	1311	142 J	13.6	7.43	2	0.11	0.01 U	0.026	0.0046	0.0054	1.2	2 J
1/3/2005	7:10 0.2	1738	191	14.57	7.19	2	0.12	0.01 U	0.038	0.0097	0.011 J	2.7	1 J
2/7/2005	7:25 1.7	2552	146	14.24	7.2	9	0.1	0.01 U	0.029	0.0097	0.004	4.6	3 J
3/14/2005	6:50 5.4	2349	133	13.92	7.26	7	0.096	0.01 U	0.01 U	0.0071	0.0036	5	1 UJ
4/4/2005	7:05 7	1486	183	12.1	7.58	3	0.069	0.01 U	0.01 U	0.005	0.0037	1.2	2 J
5/2/2005	6:20 9.8		115	11.93	7.53	19	0.099	0.01 U	0.01 U	0.0092	0.0033 J	4.6	13 J
6/6/2005	6:50 12.4	2533	128	11.02	7.72	377 J	0.084	0.01 U	0.01 U	0.0048	0.003 U	2.4	14 J
7/11/2005	6:55 16	1971	142	10.1	7.68	5	0.09	0.01 U	0.01 U	0.0039	0.003 U	1.4	13 J
8/1/2005	6:25 22.6	633	190	8.16	7.59	2	0.12	0.01 U	0.01 U	0.0047	0.003 U	0.8	9 J
9/12/2005	6:40 14.6	358	221	9.56	8.01	2	0.042	0.01 U	0.01 U	0.0032	0.003 U	0.7	19 J

Stage an estimate: hard to see. +/- 0.02

Conventional Data Report

**Columbia R @ Grand Coulee**  
53A070

Class: A Latitude: 47 57 56.0  
 Rivermile: 596 Longitude: 118 58 51.0  
 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
10/4/2004 13:20	18.3	217400	125	8.12	8.04	1 U	0.11	0.01 U	0.058	0.0041	0.0031	0.5 U	1
11/1/2004 14:45	13.5	269800	134	8.71	7.95	1	0.12	0.019	0.077	0.0049	0.0033	0.5	1
12/6/2004 14:35	10	300400	128 J	10.05	7.99	1 U	0.15	0.01 U	0.096	0.0046	0.0044	0.5 U	1 U
1/3/2005 13:40	5.4	179400	144	11.26	7.74	1 U	0.19	0.01 U	0.138	0.0043	0.0057	0.6	1 U
2/7/2005 13:25	2.9	278800	148	12.42	7.54	1	0.18	0.01 U	0.127	0.0029	0.003 U	1.1	1
3/14/2005 12:40	3.3	239800	157	12.62	8.06	1 U	0.2	0.01 U	0.147	0.003	0.003 U	0.6	1 U
4/4/2005 13:05	4.7	242400	152	12.92	7.97	1 U	0.17	0.01 U	0.118	0.006 J	0.003 U	0.8	1 U
5/2/2005 12:00	7.8	337400	149	12.65	7.96	1	0.21	0.01 U	0.135	0.0037	0.003 U	0.7	1 U
6/6/2005 12:40	12.6	297800	127	10.71	8.21	1 U	0.14	0.012	0.051	0.0024	0.003 U	0.6	1 U
7/11/2005 13:30		415200	135	9.79	8.11	1	0.12	0.01	0.038	0.0034	0.003 U	0.6	1 U
		thermistor broken last station											
8/1/2005 12:50	17.4	295800	134	8.87	7.72	1 U	0.13	0.01 U	0.056	0.0042	0.003 U	0.6	1 U
9/12/2005 12:20	19.5	227800	136	8.45	8.07	1 U	0.1	0.01 U	0.05	0.0035	0.003 U	0.5	1 U



Conventional Data Report

**Spokane R @ Riverside State Pk**  
54A120

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

Date/Time	Temp		Flow	Conduc-	Oxygen	ph	Suspend.	Total	Ammonia	Nitrate+	Total	Soluble	Turbid-	Fecal	
	deg. C		CFS	tivity	mg/L	std units	Solids	Pers. N.	Nitrogen	Nitrite	Phosp.	Reactive P	ity	Coliforms	
				umhos/cm			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL	
10/6/2004	7:39	13.9	2940	119	9.34	8.06	2	0.58	0.01 U	0.499	0.0135	0.0091	0.9	55 J	
11/3/2004	8:25	8.4	3430	120	10.62	8.09	2	0.558	0.012	0.491	0.0236	0.017	1.3	15	
12/8/2004	7:55	6.6	5490	83 J	11.26	8.03	5	0.761	0.018	0.651	0.0701	0.0344	3.3	380 J	
1/5/2005	8:05	4	5440	113	12.58	8.04	1 U	0.508	0.012	0.432	0.0204	0.016	0.8	4 J	
2/9/2005	8:15	3.3	8040	84	13.33	8.05	1 U	0.346	0.01 U	0.294	0.0138	0.011	1	3 J	
3/16/2005	7:15	5.8	4030	127	11.32	8.02	2	0.437	0.01 U	0.361	0.0101	0.0058	0.9	5 J	
4/6/2005	7:50	5.1	12400	69	14.15	7.61	5	0.271	0.01 U	0.183	0.0074	0.0049	2.5	2 J	
			Sample from bank, flows high												
5/4/2005	8:05	9.8	7140	88	11.22	7.85	3	0.326	0.01 U	0.258	0.0074	0.0031	1.1	7 J	
			High Flow, sample taken from bank												
6/8/2005	7:40	13.7	4800	107	9.89	7.86	2	0.459	0.01 U	0.366	0.0097	0.0038	1.2	23 J	
			high flow, sample taken at bank												
7/13/2005	7:25	16.8	1620	191	8.77	8.1	2	1.11	0.01 U	1.05	0.0168	0.0062	1	21 J	
8/3/2005	7:25	14.5	780	270	9.08	8.03	3	1.77	0.01 U	1.69	0.0284	0.0098	0.9	16 J	
9/14/2005	7:20	12.4	638	276	9.36	8.05	2	2.8	0.01 U	2.04	0.0458	0.014	0.8	25 J	

Conventional Data Report

Little Spokane R nr Mouth  
55B070

Class: A Latitude: 47 46 59.0  
 Rivermile: 1.1 Longitude: 117 31 46.0  
 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
10/6/2004	7:00 10.4	398	294	8.62	8.29	3	1.27	0.01 U	1.18	0.0085	0.0059	1.4	63 J
11/3/2004	7:45 8.1	457	271	9.61	8.11	3	1.27	0.029	1.25	0.0097	0.0064 J	1.2	35
12/8/2004	7:15 6.6	446	180 J	10.65	7.97	3	1.36	0.01 U	1.29	0.0138	0.012	1.5	100 J
1/5/2005	7:25 4.3	411	290	10.05	8.03	5	1.34	0.01 U	1.27	0.0132	0.011	1.4	22 J
2/9/2005	7:30 4.8	487	260	10.5	8.2	10	1.35	0.01 U	1.2	0.0162	0.014	2.5	14 J
3/16/2005	6:30 7.8	459	285	9.41	7.8	10	1.28	0.01 U	1.17	0.0138	0.0096	2.3	10 J
4/6/2005	7:20 8.2	692	233	9.74	7.89	23	0.974	0.01 U	0.826	0.0243	0.015	7.8	26 J
5/4/2005	7:30 11.7	462	268	8.67	8.11	10	1.07	0.01 U	1.03	0.0184	0.01	3.1	36 J
6/8/2005	7:00 11.6	438	277	8.67	8.15	5	1.13	0.01 U	1	0.0135	0.0091	2	120 J
7/13/2005	6:45 13.9	389	288	7.95	8.14	4	1.16	0.01 U	1.14	0.0141	0.0068	1.4	110 J
8/3/2005	6:55 12.9	349	298	8.16	8.09	6	1.25	0.01 U	1.14	0.014	0.0063	1.4	84 J
9/14/2005	6:45 11.1	359	288	8.45	8.07	2	1.26	0.01 U	1.18	0.0092	0.005	0.9	43 J

pH from post-recalibration measurement

Conventional Data Report

**Hangman Cr @ Mouth**  
56A070

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

Date/Time	Temp		Flow	Conduc-	Oxygen	ph	Suspend.	Total	Ammonia	Nitrate+	Total	Soluble	Turbid-	Fecal
	deg. C		CFS	tivity	mg/L	std units	Solids	Pers. N.	Nitrogen	Nitrite	Phosp.	Reactive P	ity	Coliforms
				umhos/cm			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/6/2004	8:25	11.9	8.9	396	8.62	8.1	4	0.762	0.01 U	0.544	0.0142	0.0069	1.7	51 J
11/3/2004	9:00	5.7	20	355	10.82	8.27	2	0.62	0.038	0.428	0.0146	0.0075 J	1	24
12/8/2004	8:30	1.6	36	193 J	11.97	8.01	27	0.86	0.031	0.64	0.0758	0.026	33	210
1/5/2005	8:50	-0.2	35	328	13.09	7.64	9	2.43	0.01 U	2.24	0.0462	0.0335	7.8	13 J
		ice pretty thick												
2/9/2005	8:50	0	63	237	13.43	7.98	6	2.66	0.01 U	2.48	0.0587	0.047	9.5	3
3/16/2005	8:10	6.7	35	295	10.32	8.07	3	0.507	0.01 U	0.248	0.0188	0.0059	1.7	2 J
4/6/2005	8:30	6.3	295	152	11.48	7.69	13	2.09	0.01 U	2.24	0.075	0.0509	35	14 J
5/4/2005	8:35	13.6	51	244	9.89	8.08	3	0.363	0.01 U	0.092	0.0264	0.0082	2.2	37 J
6/8/2005	8:20	13.9	63	239	9.69	8.19	4	0.401	0.01 U	0.103	0.04	0.021	2.8	80 J
7/13/2005	8:05	19.2	20	347	7.14	8.3	2	0.519	0.02	0.221	0.0304	0.013	1.9	110 J
8/3/2005	8:05	19.2	3.5	402	5.91	8.24	5	0.7	0.021	0.397	0.0213	0.0043	2.1	65 J
9/14/2005	7:50	13.5	4	425	8.55	8.32	2	0.869	0.01 U	0.67	0.0108	0.003 U	1.5	60 J
		Almost stagnant												

# Conventional Data Report

## Spokane R @ Stateline Br 57A150

Class: A Latitude: 47 41 55.0  
 Rivermile: 96.35 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	
10/5/2004	7:00	15.6	2660	54	8.83	7.54	2	0.11	0.01 U	0.028	0.0048	0.0035	0.8	8 J
11/2/2004	7:15	9.8	2960	56	9.71	7.44	1 U	0.1	0.01 U	0.033	0.0081	0.0069	0.8	11
12/13/2004	7:25	6.2	11100	38 J	11.57	7.24	6	0.11	0.012	0.043	0.0072	0.0058	1.8	3 J
1/4/2005	7:30	3.9	5410	58	11.16	7.03	1 U	0.14	0.018	0.056	0.0085	0.0067	0.6	5 J
2/8/2005	7:20	2.9	7720	58	12.22	7.23	1 U	0.13	0.015	0.056	0.007	0.0066	0.7	1 J
3/15/2005	6:40	4.1		57	11.92	7.71	1 U	0.14	0.012	0.053	0.0045	0.0033	0.6	1 UJ
			No instantaneous flow. Daily flow on Mar15 was 2,810E											
4/5/2005	6:45	4.2		56	13.23	7.27	2	0.12	0.011	0.043	0.0048	0.0032	1.2	2 J
			No instantaneous flow. Daily flow on Apr 8 was 12,500E											
5/3/2005	8:00	8.8	6800	54	11.53	7.49	2	0.096	0.01 U	0.023	0.0036	0.003 U	0.9	1
6/7/2005	6:45	14.3	4630	51	9.69	7.38	2	0.08	0.01 U	0.01 U	0.0031	0.003 U	1.1	6 J
7/12/2005	6:25	20.3	1030	56	7.95	7.26	2	0.2	0.021	0.096	0.006	0.0042	1.2	13 J
8/2/2005	6:40	22.9	221	61	7.14	7.35	2	0.321	0.021	0.176	0.0075	0.003 U	0.9	30 J
9/13/2005	7:00	17.4	146	64	8.05	7.29	2	0.311	0.013	0.218	0.005	0.003 U	1.1	58 J
			Water level very low											

Metals Data Report

**Spokane R @ Stateline Br**  
57A150

Class: A Latitude: 47 41 55.0  
 Rivermile: 96.35 Longitude: 117 02 37.0  
 Waterbody: WA-57-1010

Date/Time	Flow CFS	Hardness mg/L	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Tot. Rec.	Dissolved	Total	Dissolved	Tot. Rec.	Tot. Rec.	Dissolved
			Cadmium ug/L	Cadmium ug/L	Chromium ug/L	Chromium ug/L	Copper ug/L	Copper ug/L	Lead ug/L	Lead ug/L	Mercury ug/L	Nickle ug/L	Arsenic ug/L	Zinc ug/L	Zinc ug/L
10/5/2004 7:00		22.4	0.15	0.084	0.5 U	0.25 U	0.48	0.5	1.2	0.209	0.002 U	0.24	0.7	38	37.5
12/13/2004 7:25		22.5	0.43	0.19	0.5 U	0.25 U	0.92	0.42	4.77	0.081	0.0024	0.31	0.63	84.3	66.3
2/8/2005 7:20		22.7	0.26	0.222	0.5 U	0.25 U	1.99	0.45	1.36	0.19	0.002 U	0.32	0.43	74.9	68.2
4/5/2005 6:45		21.5	0.28	0.212	0.5 U	0.25 U	2.37	0.56	2.06	0.18	0.002 U	0.34	0.51 J	73.8	67.4
6/7/2005 6:45		20.2	0.23	0.16	0.5 U	0.25 U	0.7 J	0.41	1.48	0.15	0.002 U	0.28	0.37	48.5	47.9
8/2/2005 6:40		23.3	0.13	0.081	0.5 U	0.34	0.95	0.57	1.19	0.11	0.002 U	0.4	0.35	37	32.6

# Conventional Data Report

## Colville R @ Chewelah 59A130

Class: A Latitude: 48 15 38.0  
 Rivermile: 40.3 Longitude: 117 42 52.0  
 Waterbody: WA-59-1010

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
10/5/2004	14:47	13.2	387	13.19	8.55	2	0.26	0.01 U	0.099	0.013	0.0065	3.8	92
11/2/2004	16:15	5.6	375	11.12	8.25	2	0.462	0.042	0.335	0.0178	0.012	3.1	81
12/13/2004	15:35	1.4	297 J	12.89	8.17	6	0.695	0.018	0.65	0.0362	0.026	5.3	31
1/4/2005	15:50	-0.1	429	13.6	8.18	5	0.573	0.018	0.446	0.0296	0.021	3.8	2
2/8/2005	16:05	2.3	427	14.24	8.08	16	0.999	0.021	0.756	0.0338	0.019	12	3
3/15/2005	14:40	6.7	353	14.52	8.48	5	0.382	0.01 U	0.214	0.0915	0.01	4.1	1
4/5/2005	14:50	6.8	316	11.79	8.22	15	0.569	0.016	0.301	0.0255	0.014	9.8	4
5/3/2005	14:50	12.6	318	10.71	8.4	5	0.345	0.019	0.138	0.0332	0.019	4.5	39
6/7/2005	14:25	13.4	334	12.24	8.58	3	0.21	0.01 U	0.048	0.0238	0.011	3.9	200
7/12/2005	13:50	20.2	355	12.85	8.74	4	0.23	0.01 U	0.018	0.0368	0.02	3.3	60
8/2/2005	15:10	21.3	370	13.87	8.75	5	0.21	0.01 U	0.015	0.0446	0.023	3.5	58
9/13/2005	15:25	16.1	377	13.39	8.8	4	0.13	0.01 U	0.019	0.0191	0.0072	2.5	55

no BP recorded

# Conventional Data Report

## Kettle R nr Barstow 60A070

Class: AA      Latitude: 48 47 05.0  
 Rivermile: 10.9      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	
10/5/2004	13:07	11.3	1177	109	10.76	8.16	1	0.093	0.01 U	0.018	0.0014	0.003 U	0.5	6
11/2/2004	14:40	4.6	1124	123	12.72	8.23	1	0.097	0.018	0.01 U	0.0022	0.003 U	0.9	7
12/13/2004	14:05	-0.1	1240	79 J	14.21	8.17	1	0.1	0.01 U	0.059	0.0019	0.0035	0.6	3
1/4/2005	14:35	-0.1	1283	134	14.11	7.47	3	0.15	0.01 U	0.088	0.0028	0.003 U	0.7	2
2/8/2005	14:45	0.8	2300	108	13.93	7.84	3	0.14	0.01 U	0.059	0.0036	0.004	1.3	1 U
3/15/2005	13:05	4.4	3795	94	12.72	8.12	13	0.14	0.01 U	0.019	0.0072	0.003 U	2.9	1 U
4/5/2005	13:30	6.8	3456	116	12.51	8.44	3	0.11	0.01 U	0.01 U	0.0043	0.003 U	1	1 U
5/3/2005	13:30	9.2	9985	70	11.93	7.66	18	0.12	0.01 U	0.023	0.0092	0.003 U	3.7	2
6/7/2005	12:45	11.9	7091	65	10.91	7.8	9	0.1	0.01 U	0.015	0.0058	0.003 U	2.5	3
7/12/2005	12:15	17.4	2947	100	9.79	8.25	2	0.11	0.01 U	0.01 U	0.0038	0.003 U	0.9	10
8/2/2005	13:35	22.2	928	158	9.08	8.38	2	0.13	0.01 U	0.026	0.0035 J	0.003 U	0.5 U	16
9/13/2005	13:45	15.5	294	219	10.67	8.76	1	0.11	0.01 U	0.02	0.0041	0.003 U	0.5 U	7

Water level very low, but definite flow. pH from post-recalibration measurement.

# Conventional Data Report

## Columbia R @ Northport 61A070

Class: AA Latitude: 48 55 21.0  
 Rivermile: 735.1 Longitude: 117 46 32.0  
 Waterbody: WA-CR-1060

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
10/5/2004 12:00	14.8	79200	132	9.74	8.31	1	0.1	0.01 U	0.03	0.0023	0.003 U	0.7	6
11/2/2004 13:00	9.8	96500	134	10.32	8.2	1	0.095	0.012	0.05	0.0026	0.003 U	0.8	4
12/13/2004 13:00	4.8	100000	101 J	11.77	8.03	1 U	0.13	0.01 U	0.095	0.0025	0.003 U	0.7	3
1/4/2005 13:20	3.8	109000	148	12.28	7.59	1	0.15	0.01 U	0.098	0.0024	0.003 U	0.8	1
2/8/2005 13:40	3.1	90700	159	13.13	7.97	1 U	0.15	0.01 U	0.098	0.0021	0.003 U	0.8	1 U
3/15/2005 12:00	4.3	63500	155	12.32	8.26	2	0.14	0.01 U	0.088	0.0027	0.003 U	0.8	1 U
4/5/2005 12:15	4.9	65400	155	12.41	8.25	2	0.14	0.01 U	0.077	0.0031	0.003 U	1.6	1 U
5/3/2005 12:30	9.4	86700	146	11.83	8	2	0.12	0.01 U	0.062	0.0035	0.003 U	1.3	1
6/7/2005 11:40	12.4	145000	139	11.53	8.3	4	0.13	0.01 U	0.055	0.0032	0.003 U	1.4	4
7/12/2005 11:15	15.4	144000	138	10.3	8.32	3	0.12	0.01 U	0.045	0.0037	0.003 U	1.1	2
8/2/2005 12:20	18.1	123000	133	9.79	8.27	2	0.11	0.01 U	0.033	0.0035	0.003 U	0.8	13
9/13/2005 12:30	16	80400	126	9.36	8.31	1	0.11	0.01 U	0.06	0.0031	0.003 U	0.6	3

Water level very low (long + short ropes too short)



Metals Data Report

**Columbia R @ Northport**  
61A070

Class: AA Latitude: 48 55 21.0  
 Rivermile: 735.1 Longitude: 117 46 32.0  
 Waterbody: WA-CR-1060

Date/Time	Flow CFS	Hardness	Tot. Rec. Cadmium	Dissolved Cadmium	Tot. Rec. Chromium	Dissolved Chromium	Tot. Rec. Copper	Dissolved Copper	Tot. Rec. Lead	Dissolved Lead	Total Mercury	Dissolved Nickle	Tot. Rec. Arsenic	Tot. Rec. Zinc	Dissolved Zinc
		mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
10/5/2004 12:00		68.4	0.1 U	0.02 U	0.5 U	0.29	0.54	0.52	0.18 J	0.02	0.002 U	0.47	0.62	5 U	3.3
12/13/2004 13:00		67.6	0.1 U	0.022	0.5 U	0.36	0.84 J	0.44	0.23	0.02 U	0.002 U	0.5	0.39 J	5 U	3.5
2/8/2005 13:40		72.2	0.1 U	0.024	0.5 U	0.25 U	0.65	0.44	0.13	0.02 U	0.002 U	0.56	0.39	5 U	2.5
4/5/2005 12:15		68.9	0.1 U	0.023	0.5 U	0.43	0.73	0.45	0.28	0.02 U	0.0022	0.58	0.45 J	5 U	2.5
6/7/2005 11:40		62	0.1 U	0.02 U	0.5 U	0.38	0.87 J	0.48	0.34 J	0.02 U	0.002 U	0.43	0.53	5 U	2.4
8/2/2005 12:20		63.3	0.1 U	0.02 U	0.5 U	0.37	0.64	0.46	0.22	0.02 U	0.002 U	0.65 J	0.27	5 U	1.4

Conventional Data Report

**Pend Oreille R @ Metaline Falls**  
62A090

Class: A Latitude: 48 51 54.0  
 Rivermile: 27 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
10/5/2004 10:10	15.4	23200	154	9.34	8.39	2	0.088	0.01 U	0.01 U	0.0035	0.003 U	0.8	1
11/2/2004 10:35	8.4	25400	161	10.22	8.1	1	0.058	0.022	0.01 U	0.0033	0.003 U	1	1
12/13/2004 10:35	4.1	25700	113 J	11.47	7.92	1	0.071	0.01 U	0.01 U	0.0027	0.003 U	1	1 U
1/4/2005 11:00	1.8	18000	175	12.38	7.71	3	0.07	0.01 U	0.011	0.0027	0.003 U	1.1	1 U
2/8/2005 10:30	2.5	16800	170	12.72	8.3	2	0.076	0.01 U	0.01 U	0.0026	0.003 U	1.1	1
3/15/2005 9:50	5.9	12000	169	12.02	8.14	4	0.076	0.01 U	0.01 U	0.0038	0.003 U	1.2	1 U
4/5/2005 10:00	5.5	16900	155	11.79	8.22	4	0.093	0.01 U	0.01	0.0054	0.003	3.3	1 U
5/3/2005 11:10	11.7	28600	159	11.73	8.38	3	0.073	0.01 U	0.01 U	0.004	0.003 U	2.1	1 U
6/7/2005 9:55	14.3	53100	152	10.91	8.35	5	0.078	0.01 U	0.01 U	0.0043	0.003 U	2.6	1
7/12/2005 9:40	19.2	22600	162	8.87	8.4	3	0.084	0.01 U	0.01 U	0.0051	0.003 U	1.8	1
8/2/2005 10:00	22.9	15800	162	8.67	8.57	2	0.1	0.01 U	0.01 U	0.0067	0.003 U	0.9	1
9/13/2005 10:10	17.8	8550	166	9.16	8.72	1 U	0.082	0.01 U	0.01 U	0.0048	0.003 U	0.7	1

pH from post-recalibration reading

# Conventional Data Report

## Pend Oreille R @ Newport 62A150

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

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
10/5/2004	8:27 15.1	27000	151	9.23	8.22	1	0.075	0.01 U	0.01 U	0.0028	0.003 U	1	1 U
11/2/2004	8:55 9.8	23800	161	10.12	8.1	2	0.061	0.024	0.01 U	0.003	0.003 U	1.5	1 U
12/13/2004	8:55 4.9	26100	110 J	11.16	7.74	2	0.068	0.01 U	0.013	0.003	0.003 U	1	1 U
1/4/2005	8:55 2.3	16200	172	11.98	7.97	1	0.077	0.01 U	0.021	0.0023	0.0033	1.2	1 UJ
2/8/2005	8:40 2.5	15700	185	12.42	7.66	1	0.08	0.01 U	0.026	0.0027	0.003 U	1.1	1 UJ
3/15/2005	8:00 5.8	10800	166	12.12	8.03	2	0.11	0.01 U	0.012	0.003	0.003 U	1.1	1 UJ
4/5/2005	8:15 5.1	16900	158	12.1	7.95	4	0.089	0.01 U	0.025	0.0046	0.003 U	3.1	1 J
5/3/2005	9:25 10.4	29100	161	11.42	8.2	4	0.067	0.01 U	0.01 U	0.0056	0.003 U	2.4	1 U
6/7/2005	8:15 14.1	57800	156	10.61	8.47	7	0.079	0.01 U	0.01 U	0.0041	0.003 U	3.2	3 J
7/12/2005	7:50 18.9	21300	158	9.08	8.33	3	0.09	0.01 U	0.01 U	0.0042	0.003 U	1.5	1 UJ
8/2/2005	8:25 22.5	16200	164	8.87	8.34	1	0.086	0.01 U	0.01 U	0.0043	0.003 U	0.9	1 U
9/13/2005	8:20 18.2	7200	164	8.55	8.39	1 U	0.076	0.01 U	0.01 U	0.0041	0.003 U	0.7	1 UJ

Water level very low

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