River and Stream Water Quality Monitoring Report for Water Year 2006

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River and Stream Water Quality Monitoring Report for Water Year 2006

by
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Abstract

The Washington State Department of Ecology (Ecology) collected monthly water quality data at 100 stream monitoring stations during Water Year (WY) 2006 (October 1, 2005 through September 30, 2006). We also collected 30-minute interval temperature data at 80 sites from July through September 2006. 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 2006. 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 by clicking on "Environmental Assessment", "Long-term Monitoring", and then "River and Stream Water Quality".

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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 basic program consists of monthly water quality monitoring for conventional constituents at 62 long-term stations and 20 basin (rotating) stations on rivers and streams throughout Washington State.

In WY 2006, we monitored 18 additional basin stations associated with special projects, 3 in the Eastern Region, 4 in the Northwest Region, 3 in the central region, and 8 in the Southwest region. Twelve of these stations were associated with a special project (see www.ecy.wa.gov/programs/eap/imw), 3 were added to support a Total Maximum Daily Load (TMDL) study in the South Fork of the Palouse River, and 3 were added to assess fecal coliform bacteria contamination in the Okanogan River.

We also collected 30-minute interval temperature data from about July through September at most long-term and a few basin stations, as well as conducted 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).
- Identify trends in water quality characteristics (e.g., Hallock, 2005)
- Refine and verify TMDL models.
- Develop water quality based permits.
- Provide water quality information necessary to prioritize grant awards.
- Conduct miscellaneous site-specific evaluations (e.g., Hallock, 2004).

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 rivers.

The purpose of this report is to describe the Water Year (WY) 2006 monitoring program, discuss data quality, and present results. More detailed analyses and interpretations of ambient monitoring data are reported elsewhere.

A generalized assessment of water quality at particular stations is provided online (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).

Ecology's Water Quality Program and the Environmental Assessment Program apply their 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).

Methods

Sampling Network

The ambient monitoring network in WY 2006 consisted of monthly water collection at 62 long-term stations, 20 regional ("basin") stations, and 18 special project stations (Table 1 and Appendix A). All stations were sampled year-round except three special project stations on the Okanogan River that were intended to assess fecal coliform bacteria contamination.

- 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, where major streams enter the state, or upstream from most anthropogenic (human-caused) sources of water quality problems.

- 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 wastewater discharge permitting process, TMDL assessments, and 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.

- Special project stations are typically sampled to address a particular question or need and they are usually supported by funding external to FMU. Special project stations will not necessarily represent typical water quality conditions.

The locations of ambient stations monitored during WY 2006 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/ under the "Environmental Assessment" program, "Long-term monitoring," and "River and Stream Water Quality."

Table 1. Ecology stream ambient monitoring stations for Water Year 2006. Specific location information (e.g., latitudes and longitudes) are included in Appendix C.

	Station		Status[a]		Station		Status[a]
1	01A050	Nooksack R @ Brennan	L	51	25F100	Mill Cr. @ DNR	S*
2	01A120	Nooksack R @ No Cedarville	L	52	26B070	Cowlitz R @ Kelso	L
3	03A060	Skagit R nr Mount Vernon	L	53	26B100	Cowlitz R @ Castle Rock	B
4	03B050	Samish R nr Burlington	L	54	27B070	Kalama R nr Kalama	L
5	04A100	Skagit R @ Marblemount	L	55	27D090	EF Lewis R nr Dollar Corner	L
6	05A070	Stillaguamish R nr Silvana	L	56	31A070	Columbia R @ Umatilla	L
7	05A090	SF Stillaguamish @ Arlington	L	57	32A070	Walla Walla R nr Touchet	L
8	05A110	SF Stillaguamish nr Granite Flls	L	58	33A050	Snake R nr Pasco	L
9	05B070	NF Stillaguamish @ Cicero	L	59	34A070	Palouse R @ Hooper	L
10	05B110	NF Stillaguamish nr Darrington	L	60	34A170	Palouse R @ Palouse	L
11	07A090	Snohomish R @ Snohomish	L	61	34B080	SF Palouse R @ Albion	S
12	07B120	Pilchuck R @ Robe-Menzel Rd.	B	62	34B110	SF Palouse R @ Pullman	L
13	07B150	Pilchuck R @ Menzel Lake Rd.	B	63	34B130	SF Palouse R blw Sunshine	B
14	07C070	Skykomish R @ Monroe	L	64	34C060	Paradise Cr at mouth	B
15	07D050	Snoqualmie R nr Monroe	L	65	34C100	Paradise Cr @ Border	B
16	07D130	Snoqualmie R @ Snoqualmie	L	66	34M070	Dry Creek @ Pullman	S
17	07M120	SF Snoqualmie R @ 468th Ave.	B	67	34N070	Missouri Flat Cr @ Pullman	S
18	08C070	Cedar R @ Logan St./Renton	L	68	35A150	Snake R @ Interstate Br	L
19	08C110	Cedar R nr Landsburg	L	69	35B060	Tucannon R @ Powers	L
20	09A080	Green R @ Tukwila	L	70	36A070	Columbia R nr Vernita	L
21	09A190	Green R @ Kanaskat	L	71	37A090	Yakima R @ Kiona	L
22	09D070	Miller Cr nr mouth	B	72	37A205	Yakima R @ Nob Hill	L
23	09K070	Fauntleroy Cr. nr mouth	B	73	37E050	Wide Hollow Cr. @ Main St.	B
24	10A070	Puyallup R @ Meridian St.	L	74	37I070	Moxee Drain @ Birchfield Rd.	B
25	10C095	White River @ R Street	B	75	38G070	Cowiche Cr @ Powerhous Rd.	B
26	11A070	Nisqually R @ Nisqually	L	76	39A090	Yakima R nr Cle Elum	L
27	13A060	Deschutes R @ E St. Bridge	L	77	39C070	Wilson Cr @ Highway 871	B
28	15F050	Big Beef Cr @ mouth	S	78	41A070	Crab Cr nr Beverly	L
29	15L050	Seabeck Cr. @ mouth	S	79	44A190	Columbia River @ Hwy 2 Br.	B
30	15M070	Llt Anderson Cr @ Anderson Hill	S	80	45A070	Wenatchee R @ Wenatchee	L
31	15N070	Stavis Cr. nr mouth	S	81	45A110	Wenatchee R nr Leavenworth	L
32	16A070	Skokomish R nr Potlatch	L	82	46A070	Entiat R nr Entiat	L
33	16C090	Duckabush R nr Brinnon	L	83	48A070	Methow R nr Pateros	L
34	18A050	Dungeness R nr mouth	B	84	48A140	Methow R @ Twisp	L
35	18B070	Elwha R nr Port Angeles	L	85	49A070	Okanogan R @ Malott	L
36	19C060	West Twin R. nr mouth	S	86	49A090	Okanogan R @ Okanogan	S+
37	19D070	East Twin R. nr mouth	S	87	49A110	Okanogan R @ Omak	S+
38	19E060	Deep Cr. nr mouth	S	88	49A130	Okanogan R @ Riverside	S+
39	20B070	Hoh R @ DNR Campground	L	89	49A190	Okanogan R @ Oroville	L
40	22A070	Humptulips R nr Humptulips	L	90	49B070	Similkameen R @ Oroville	L
41	23A070	Chehalis R @ Porter	L	91	53A070	Columbia R @ Grand Coulee	L
42	23A160	Chehalis R @ Dryad	L	92	54A120	Spokane R @ Riverside State	L

	Station		Status[a]		Station		Status[a]
43	24B090	Willapa R nr Willapa	L	93	55B070	Little Spokane R nr mouth	L
44	24B095	Willapa R nr Menlo	B	94	56A070	Hangman Cr @ mouth	L
45	24B150	Willapa R @ Swiss Picnic Rd.	B	95	57A150	Spokane R @ Stateline Br.	L
46	24F070	Naselle R nr Naselle	L	96	59A130	Colville R @ Chewelah	B
47	25D050	Germany Cr. @ mouth	S	97	60A070	Kettle R nr Barstow	L
48	25E060	Abernathy Cr. nr mouth	S	98	61A070	Columbia R @ Northport	L
49	25E100	Abernathy Cr. @ DNR	S*	99	62A090	Pend Oreille @ Metaline Flls	B
50	25F060	Mill Cr. nr mouth	S	100	62A150	Pend Oreille R @ Newport	L

[a] Status: L = long-term, B = basin, S = special project, S* = special project, sediment only, S+ = special project, fecal coliform bacteria, October through January only.

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 2006 (Table 2).

Table 2. Water quality constituents monitored in WY 2006.
(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 and many basin 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, analytical, or quality control procedures in WY 2006. The exception was that we incorporated new temperature calibration procedures. The new procedure permits corrections based on a linear regression rather than adding a constant (this allows for different corrections at different temperatures). In addition, the database rather than the sampler now applies the correction to preclude simple math errors. 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.

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 80 sites in 2006 and data were successfully retrieved from all 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 2006 at 13 stations (Table 3). At 12 stations, 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. Total recoverable arsenic was collected monthly at the Similkameen River at Oroville. Collection and analytical methods are discussed in more detail in Hopkins (1996).

Table 3. Water Year 2006 bi-monthly sampling stations for metals.

Station	Name		Station	Name
07M120	SF Snoqualmie R @ 468th Ave. SE		36A070	Columbia R nr Vernita
09D070	Miller Cr nr mouth		44A190	Columbia River @ Hwy 2 Bridge
09K070	Fauntleroy Cr. nr mouth		49A070	Okanogan R @ Malott
10A070	Puyallup R @ Meridian St		49B070 [a]	Similkameen R @ Oroville
13A060	Deschutes R @ E St Bridge		57A150	Spokane R @ Stateline Bridge
18A050	Dungeness R nr mouth		61A070	Columbia R @ Northport
31A070	Columbia R @ Umatilla			

[a] Total recoverable arsenic was sampled here monthly. Additional metals were sampled only in January and February 2006.

Estimating 7-day Average of Daily Maximum Temperatures From Monthly Grab Sample Results

The new 2006 water quality standards (WAC 173-201A) specify that temperature criteria listed in the WAC be evaluated against the 7-day average of the daily maximum temperature (7DADM). This requires continuous temperature data. (In practice, temperature is typically recorded at 30-minute intervals.) Although currently the FMU collects continuous temperature data at most of our stations, there are a few stations where only monthly grab sample data are available. Also, our continuous monitoring program is relatively new while we have a long history of grab sample results.

The 7DADM, which is an average, will always be lower than the seasonal maximum temperature. However, because a monthly grab sample is collected on a single day each month and often at a time of day other than the time of the peak temperature, the grab sample is unlikely to capture the seasonal maximum and conceptually could be less than the 7DADM. Hence a grab sample result greater than the 7DADM criterion may be a strong indication that the criterion would have been exceeded had continuous data been available.

It would be helpful to be able to estimate the 7DADM from monthly grab sample results with a known level of confidence. A monthly grab sample result greater than a certain temperature should be sufficient evidence to indicate a temperature problem requiring management (e.g., 303(d) listing). However, even consistently low monthly grab sample results can not indicate acceptable temperatures because the seasonal peak may have occurred between grabs.

The relationship between 7DADM and monthly grab sample results is quantified in this report using multiple linear regression. Besides the grab sample result, I evaluated time of day, ecoregion (Omernik and Gallant, 1986), river mile, and elevation as predictors of 7DADM. The final result is an estimate of 7DADM along with confidence intervals on the estimate. Using the lower 90th percent confidence limit, a monthly grab sample result can be used to estimate the 7DADM with confidence that 90 percent of the time the true 7DADM result will be greater than the estimate. Grab sample temperatures exceeding this value should be sufficient to indicate a temperature problem, particularly if recorded on more than a single occasion.

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 field

quality control (QC) samples 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.

Altogether, 108 field QC samples were processed: 8 field blanks, 52 field duplicates (sequential), and 48 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 2006. The main body of the report describes the sampling program and interprets QC results. Appendix C contains results for each station monitored in WY 2006. Raw data are available in computer formats on request and are posted on Ecology's World Wide Web pages (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).

Effective December 20, 2006, Ecology adopted an aquatic life system for classifying the state's waterbodies, dropping the AA, A, B, and C system in the 1997 standards (Ecology, 2006). Some of the numeric criteria from the new 2006 Water Quality Standards are listed in Tables 4 and 5. Our web presentation still uses the 1997 system because EPA has not yet approved the new system. In any case, FMU's comparison of results to water quality criteria is not a formal determination of water quality *violations*, which requires additional considerations such as human impact or multiple results not meeting a criterion, and in some cases requires continuous data (see www.ecy.wa.gov/programs/wq/303d/2006/policy1-11_rev.html).

Table 4. Water quality criteria in the 2006 water quality standards associated with aquatic life uses.[a] Results outside the ranges indicated do not meet the criterion.

Aquatic Life Use	Temperature (7DADM)[b]	Oxygen (1-day minimum)	pH
Char spawning	<=9°C		
Char spawning and rearing	<=12°C	>9.5 mg/L	6.5<=pH<=8.5
Salmon and trout spawning	<=13°C		
Core summer salmonid habitat	<=16°C	>9.5 mg/L	6.5<=pH<=8.5
Salmonid spawning rearing and migration	<=17.5°C	>8.0 mg/L	6.5<=pH<=8.5
Salmonid rearing and migration only	<=17.5°C	>6.5 mg/L	6.5<=pH<=8.5
Non-anadromous interior redband trout	<=18°C	>8.0 mg/L	6.5<=pH<=8.5
Indigenous warm water species	<=20°C	>6.5 mg/L	6.5<=pH<=8.5

[a] WAC 173-201A-602 (2006) identifies use designations for waterbodies and some exceptions to the standard criteria listed above. Metals criteria, most of which are a function of hardness, are not listed here.

[b] 7DADM = 7-day average of the daily maximum temperature. Some of the temperature criteria only apply during specified seasons.

Table 5. Water quality criteria in the 2006 water quality standards associated with contact recreation.[a] Results outside the ranges indicated do not meet the criterion.

Recreation Use	Fecal Coliform Bacteria	
	10 Percent	Geometric Mean
Extraordinary primary contact recreation	<=100	<=50
Primary contact recreation	<=200	<=100
Secondary contact recreation	<=400	<=200

[a] WAC 173-201A-602 (2006) identifies use designations for waterbodies.

Of the nearly 14,000 possible standard water quality results in WY 2006, 179 results (1.3 percent) were missed. Reasons for missing results include inaccessible for various reasons (87 results), sampler ran out of daylight (36 results), and sample contaminated by wind-blown debris (10 results). Other reasons for missed results include sampler error (30) and equipment problems (16). Appendix D gives more detailed explanations for each of these conditions.

Instantaneous discharge was recorded at all of the 62 long-term stations. On 11 occasions at various stations, flows were not available for various reasons. Flows at Nisqually River at Nisqually (11A070) are coded as estimates because the nearest gage was a considerable distance upstream.

Discharge was recorded at 20 of the 38 basin and special stations.

Continuous Temperature Monitoring

Eighty stations were successfully monitored in 2006 (Table 6). No loggers were lost this year.

Table 6. Temperature monitoring summary for WY 2006 based on 30-minute interval measurements (°C; refer to Table 1 for station names). Deployment maximum results exceeding the 1997 criterion and 7DADM results exceeding 2006 criteria (excluding special seasonal criteria) are shown in **bold**.

Station	1997 Criterion	Deployment Maximum		Max 7-day Mean [a]		Deploy	Retrieve
		Max	Date/Time [b]	Max	Date [b, c]		
01A050	18	**18.8**	20 Aug 18:00	**18.3**	17 Aug	19 Jul	20 Sep
01A120	18	**19.1**	21 Jul 19:30	**18.2**	24 Jul	19 Jul	20 Sep
01K050	18	12.8	24 Jul 15:00	12.6	24 Jul	13 Jul	27 Sep
01N060	18	**20.6**	23 Jul 18:30	**19.5**	24 Jul	13 Jul	27 Sep
03B050	18	**19.5**	24 Jul 18:30	**18.6**	24 Jul	20 Jun	20 Sep
04A100	16	14.4	20 Aug 19:00	14.1	19 Aug	19 Jul	20 Sep
05A070	18	**24.9**	24 Jul 19:00	**23.7**	24 Jul	14 Jul	15 Sep
05A110	16	**21.9**	24 Jul 17:30	**21.2**	24 Jul	14 Jul	15 Sep
05B070	18	**23.2**	23 Jul 19:30	**22.3**	24 Jul	19 Jul	20 Sep
05B110	18	**19.8**	23 Jul 17:30	**18.9**	24 Jul	19 Jul	20 Sep
05D070	18	**25.0**	23 Jul 18:30	**23.6**	24 Jul	14 Jul	27 Sep
05G070	18	**22.6**	24 Jul 17:00	**21.7**	24 Jul	13 Jul	27 Sep
07B120	18	**23.4**	23 Jul 17:30	**22.4**	24 Jul	14 Jul	15 Sep
07B150	18	**19.9**	23 Jul 19:00	**19.0**	24 Jul	14 Jul	15 Sep
07C070	18	**20.9**	24 Jul 20:30	**20.3**	25 Jul	14 Jul	15 Sep
07D050	18	**23.1**	25 Jul 17:30	**22.6**	25 Jul	14 Jul	27 Sep
07D130	18	**21.6**	24 Jul 19:30	**20.7**	24 Jul	28 Jun	18 Oct
07D150	16	**22.5**	24 Jul 18:00	**21.9**	24 Jul	28 Jun	18 Oct
07G070	18	**23.1**	23 Jul 18:00	**21.9**	24 Jul	28 Jun	17 Oct
07M065	18	**19.7**	23 Jul 17:30	**19.0**	24 Jul	28 Jun	22 Sep
07M075	18	**19.5**	23 Jul 17:00	**18.7**	24 Jul	28 Jun	06 Dec
07M120	18	**19.0**	24 Jul 17:30	**18.5**	24 Jul	17 Jul	18 Sep
07N070	16	**19.8**	24 Jul 17:30	**19.0**	24 Jul	28 Jun	18 Oct
07P070	18	**19.6**	24 Jul 18:30	**18.7**	24 Jul	28 Jun	18 Oct
07Q050	18	**26.3**	23 Jul 17:30	**25.0**	24 Jul	01 Jun	18 Oct
07S070	18	**18.6**	21 Aug 15:30	**17.9**	18 Aug	28 Jun	17 Oct
07T050	18	**20.5**	29 Jul 00:00	**19.7**	26 Jul	28 Jun	17 Oct
07U070	18	**18.4**	24 Jul 16:30	**17.6**	24 Jul	01 Jun	17 Oct
07V070	18	**19.9**	23 Jul 17:30	**19.0**	24 Jul	01 Jun	24 Oct
07W070	18	**20.5**	23 Jul 17:30	**19.4**	24 Jul	28 Jun	17 Oct
07Y060	18	**21.1**	23 Jul 22:30	**20.2**	25 Jul	01 Jun	19 Oct
08C070	18	**21.1**	24 Jul 18:00	**20.3**	24 Jul	19 Jun	15 Sep
08C110	16	15.1	27 Jul 17:00	14.5	24 Jul	19 Jun	18 Sep
09A190	16	**20.1**	23 Jul 18:30	**19.2**	24 Jul	19 Jun	18 Sep
09D070	18	**20.1**	23 Jul 18:00	**19.1**	24 Jul	19 Jun	18 Sep
09K070	16	**16.8**	24 Jul 18:30	**16.1**	24 Jul	19 Jun	18 Sep
11A070	18	16.9	28 Aug 17:30	16.4	05 Sep	27 Jul	04 Oct
13A060	18	**21.4**	24 Jul 19:00	**20.3**	24 Jul	11 Jul	04 Oct
16A070	16	14.8	26 Jul 18:30	13.7	28 Jul	25 Jul	13 Sep
16C090	16	14.8	27 Jul 17:30	13.2	06 Aug	25 Jul	13 Sep
17A060	16	**17.1**	23 Jul 17:30	**16.6**	24 Jul	27 Jun	27 Sep
17C075	18	**22.3**	24 Jul 15:30	**21.1**	24 Jul	27 Jun	27 Sep
18A050	18	17.5	27 Jul 17:00	16.6	17 Aug	25 Jul	13 Sep
18B070	16	**17.9**	21 Aug 17:30	**17.4**	24 Aug	25 Jul	13 Sep
18L060	18	**18.3**	23 Jul 17:30	16.9	24 Jul	27 Jun	03 Oct
20B070	16	**17.3**	06 Aug 19:00	**16.5**	04 Aug	25 Jul	13 Sep
22A070	18	**22.8**	25 Jul 19:00	**20.1**	28 Jul	25 Jul	13 Sep
23A070	18	**25.7**	25 Jul 17:30	**22.4**	28 Jul	25 Jul	13 Sep

Station	1997 Criterion	Deployment Maximum		Max 7-day Mean [a]		Deploy	Retrieve
		Max	Date/Time [b]	Max	Date [b, c]		
23A160	18	**26.8**	23 Jul 19:00	**24.9**	24 Jul	12 Jul	04 Oct
25D050	18	**21.9**	23 Jul 21:30	**20.4**	24 Jul	12 Jul	04 Oct
26B070	18	**18.9**	07 Aug 18:00	**18.1**	06 Aug	12 Jul	04 Oct
27B070	18	**20.6**	24 Jul 19:00	**19.4**	24 Jul	12 Jul	04 Oct
27D090	18	**27.2**	24 Jul 16:30	**25.4**	24 Jul	12 Jul	04 Oct
28C070	18	**24.7**	24 Jul 19:00	**23.3**	24 Jul	12 Jul	09 Oct
32A070	21	**31.8**	24 Jul 16:00	**29.8**	24 Jul	13 Jul	12 Sep
34A170	20	**29.9**	23 Jul 17:00	**28.6**	24 Jul	15 May	25 Oct
34B080	18	**28.8**	04 Jul 17:00	**27.5**	24 Jul	15 May	25 Oct
34B110	18	**24.3**	04 Jul 18:30	**23.1**	01 Jul	15 May	25 Oct
34B130	18	**26.1**	04 Jul 15:30	**24.5**	04 Jul	15 May	25 Oct
34C060	18	**24.9**	27 Jun 19:00	**23.7**	30 Jun	15 May	25 Oct
34C100	18	**23.6**	27 Jun 16:30	**22.4**	30 Jun	15 May	25 Oct
34N070	18	**20.9**	04 Jul 18:00	**20.1**	03 Jul	15 May	25 Oct
35B060	18	**27.5**	23 Jul 17:30	**26.7**	24 Jul	13 Jul	12 Sep
35M060	18	**24.4**	23 Jul 19:00	**22.8**	23 Jul	18 Jul	25 Oct
37E050	18	**19.9**	10 Aug 16:00	**19.2**	13 Aug	10 Aug	13 Sep
37I070	18	**21.8**	22 Aug 18:00	**21.4**	19 Aug	10 Aug	13 Sep
39A090	16	**20.7**	07 Aug 17:30	**20.0**	20 Aug	03 Aug	13 Sep
39C070	18	**19.7**	20 Aug 20:00	**19.4**	18 Aug	10 Aug	13 Sep
39J090	18	**18.9**	20 Aug 16:30	**18.4**	19 Aug	10 Aug	19 Sep
41A070	21	**30.0**	23 Jul 18:00	**28.2**	24 Jul	17 Jul	11 Sep
45A110	16	**20.9**	22 Aug 16:00	**20.4**	20 Aug	14 Aug	11 Sep
46A070	18	**22.1**	07 Aug 17:30	**20.8**	20 Aug	17 Jul	11 Sep
48A070	18	**23.5**	24 Jul 17:30	**22.8**	25 Jul	09 Jul	01 Oct
48A140	18	**20.4**	24 Jul 18:30	**19.8**	25 Jul	09 Jul	01 Oct
49A070	18	**28.0**	25 Jul 19:30	**27.4**	25 Jul	09 Jul	01 Oct
49A190	18	**29.6**	23 Jul 14:30	**28.6**	24 Jul	09 Jul	01 Oct
49B070	18	**26.4**	23 Jul 15:30	**26.0**	25 Jul	09 Jul	01 Oct
56A070	18	**28.1**	23 Jul 19:30	**26.8**	24 Jul	28 Jun	24 Oct
59A130	18	**25.7**	23 Jul 19:00	**24.4**	25 Jul	28 Jun	03 Oct
60A070	16	**26.6**	24 Jul 18:00	**25.9**	25 Jul	28 Jun	03 Oct

[a] This is the 7-day period with the highest average of daily maximum temperatures.
[b] There may be other dates or other 7-day periods with the same maximum.
[c] Date shown is middle of 7-day period.

The seasonal maximum at most stations (73 stations; 91 percent) failed to meet 1997 water quality criteria. Likewise, the 7DADM failed to meet the basic 2006 criteria at most stations (72 stations; 90 percent).

The six stations with the warmest maximum temperatures were:

- Walla Walla River, 32A070, 31.8 ºC.
- Crab Creek, 41A070, 30.0 ºC.
- Palouse River at Palouse, 34A170, 29.9 ºC.
- Okanogan River at Oroville, 49A190, 29.6 ºC.
- SF Palouse River at Albion, 34B080, 28.8 ºC.
- Hangman Creek at Mouth, 56A070, 28.1ºC.

Metals Monitoring

During the WY, of the 1,236 possible metals results (12 stations x 6 months x 17 metals plus monthly arsenic samples from one station), 26 results were missed due to sampler error. Of the 639 dissolved metals and total mercury results reported, 8 (1.2 percent) exceeded 2006 Washington State water standards quality chronic criteria; seven of those were from the Spokane River at Stateline (Table 7).

Table 7. Metals results from WY 2006 exceeding the 2006 water quality standards chronic criteria.

Station	Name	Date	Metal	Criterion (µg/L)	Hardness (mg/L)	Result (µg/L)	Percent Over Criterion
10A070	Puyallup R @ Meridian St.	2006-08-21	Mercury, Total	0.012	32.7	0.0136	13%
57A150	Spokane R @ Stateline Br.	2005-10-04	Zinc, Dissolved	30.417	23.3	37.4	23%
57A150	Spokane R @ Stateline Br.	2005-12-06	Zinc, Dissolved	30.748	23.6	58.4	90%
57A150	Spokane R @ Stateline Br.	2006-02-07	Zinc, Dissolved	30.858	23.7	85.9	178%
57A150	Spokane R @ Stateline Br.	2006-04-11	Zinc, Dissolved	30.084	23.0	72.7	142%
57A150	Spokane R @ Stateline Br.	2006-04-11	Lead, Dissolved	0.492	23.0	0.85	73%
57A150	Spokane R @ Stateline Br.	2006-06-06	Zinc, Dissolved	25.93	19.3	44	70%
57A150	Spokane R @ Stateline Br.	2006-08-08	Zinc, Dissolved	28.637	21.7	35	22%

Estimating 7-day Maximum Temperatures From Grab Sample Results

Since FMU began continuous temperature monitoring in 2001, we have collected annual records for both continuous and grab sample temperatures for 312 station-years. However, 62 of the continuous records may not include the annual maximum due to late deployment of the recorder, low water exposing the instrument, or other reasons. This determination was made prior to this analysis during our regular QC review of the continuous temperature data.

Maximum grab sample temperatures and 7DADM temperatures were closely related, with maximum grab sample results typically 0 to 8°C cooler than the 7DADM (Figure 1). Two factors significantly influenced the relationship between 7DADM and the grab sample maximum. The time of day that the annual maximum grab sample was collected was predictive of the amount that the grab sample underestimated the 7DADM (Figure 2): the later in the day the sample was collected, the closer the grab result was to the 7DADM. Also, grab sample results inside Puget Sound were closer to the 7DADM than results from stations outside Puget Sound (Figure 3). This may be because temperatures inside Puget Sound are moderated by marine influences. Away from coastal influences, temperatures spikes of only a few days, which may be missed by grab samples, may be more common.

After randomly removing 50 data pairs to use in testing the model, I used Systat (2004) to evaluate a multiple linear regression for the remaining 200 data pairs using the model:

$$7DADM = \beta_0 + \beta_1 * \text{maximum grab sample result} + \beta_2 * \text{sample time} + \beta_3 * \text{elevation} + \beta_4 * \text{river mile} + \beta_5 * \text{Puget Lowlands Ecoregion} + \beta_6 * \text{Columbia Ecoregion} \quad \text{Eq. 1}$$

where β_0 is the intercept and β_i are the slope coefficients. The two ecoregion variables were categorical (1=in the region, 0=out of the region).

Elevation, river mile, and the Columbia Ecoregion were not significant and were dropped from the model. The final model was:

$$7DADM = 8.377 + (0.95 * \text{maximum grab sample result}) - (0.322 * \text{sample time}) - (1.020 * \text{Puget Lowlands Ecoregion}) \quad \text{Eq. 2}$$

The residuals from this equation were evenly distributed and no pattern was evident when they were plotted against the explanatory variables. The r^2 of the estimate was 0.80 and the standard error was 1.640.

Equation 2 can be used to estimate the 7DADM from the annual grab sample maximum. However, in order to be 90 percent certain of not over-estimating the 7DADM, the lower prediction interval could be used. This can be approximated as:

$$\text{Lower prediction} = \hat{y} - t_{(n-2,\ \alpha/2)}s = \hat{y} - t_{(198,.05)}s = \hat{y} - (1.645)(1.640) = \hat{y} - 2.70 \quad \text{Eq. 3}$$

where $\hat{y}$ is the predicted 7DADM from Equation 2 (Helsel and Hirsh, 2002). Compared to using the direct predicted 7DADM from Equation 2, Equation 3 is less likely to result in false claims of impairment, but more likely to miss true impairments.

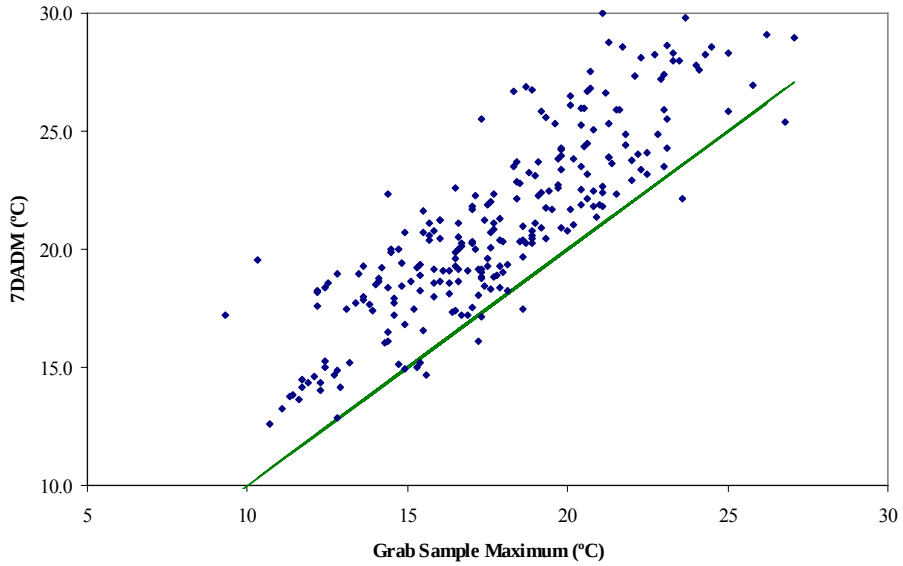

Figure 1. Grab sample annual maximum temperature vs. 7DADM temperature for 87 stations sampled over 1 to 6 years (n=250).

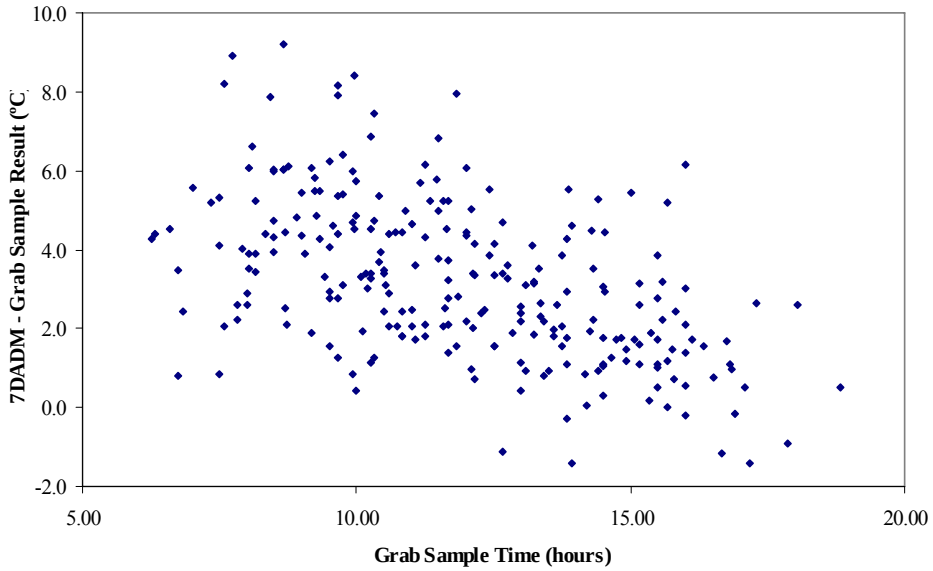

Figure 2. The time of day the annual maximum grab sample was collected vs. the difference between the 7DADM and the grab sample result (n=250). Grab samples collected later in the day more closely matched 7DADM temperatures.

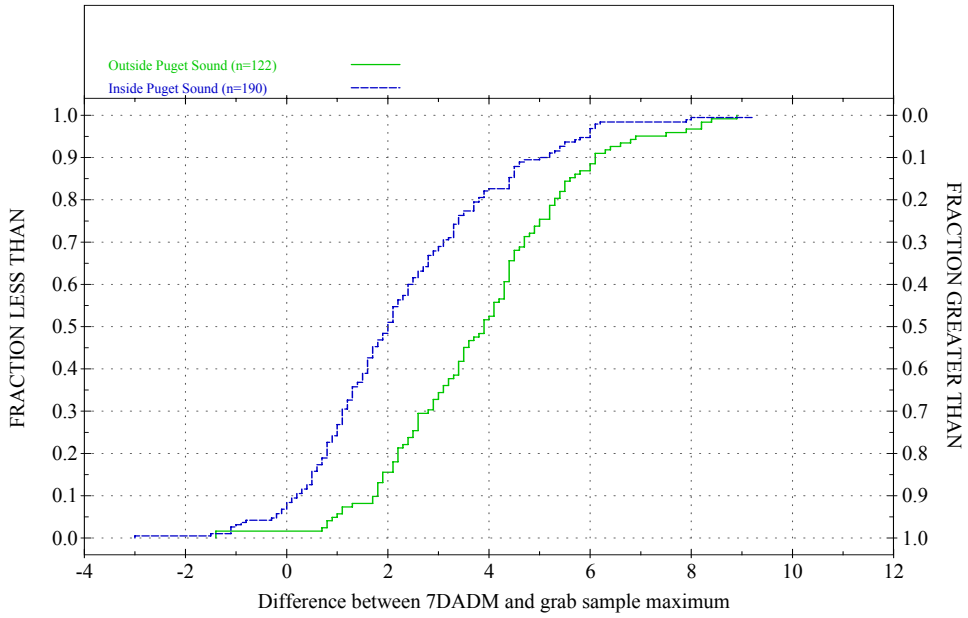

Figure 3. Cumulative distribution of the difference between 7DADM and maximum grab sample results (°C) inside (left line) and outside (right line) Puget Sound. The median 7DADM was 2°C warmer than the median maximum grab sample result inside Puget Sound and 4°C warmer outside Puget Sound.

Equation 2 was used to predict the 7DADM for the 50 records randomly excluded from the analysis. An evaluation of whether the predicted 7DADM exceeded the 2006 water quality criteria yielded the following matrix:

		Prediction (Eq. 2)		
		Correct	Incorrect	Total
True Status	Exceed	39	2	41
	Not Exceed	4	5	9
	Total	43	7	50

Using the maximum annual grab sample result, equation 2 correctly predicted whether or not water quality criteria had been exceeded for 43 of 50 samples. For 2 samples, the model falsely indicated a violation; for 5 samples, the model indicated no violation where a violation had occurred.

To minimize the risk of falsely indicating a violation, equation 3 can be used to predict the lower (10%) bound on the 7DADM. For the 50 records randomly excluded from the analysis, equation 3 yielded the following matrix:

		Prediction (Eq. 3)		
		Correct	Incorrect	Total
True Status	Exceed	26	0	26
	Not Exceed	6	18	24
	Total	32	18	50

Equation 3 correctly predicted whether or not water quality criteria had been exceeded for 32 of 50 samples. For no sample did the model falsely indicate a violation; for 18 samples, the model indicated no violation where a violation had occurred.

A much easier but less precise way to conservatively estimate 7DADM from annual maximum grab sample result is to simply add 0.84°C to the grab sample temperature:

$$7DADM = 0.84 + \text{maximum grab sample result} \qquad \text{Eq. 4}$$

The 0.84°C correction was determined by trial and error using the n=200 data set such that 90% of the estimated 7DADM results were less than the true 7DADM.

Using equation 4 to predict the 7DADM for the 50 records randomly excluded from the analysis yielded the following matrix:

		Prediction (Eq. 4)		
		Correct	Incorrect	Total
True Status	Exceed	32	1	33
	Not Exceed	5	12	17
	Total	37	13	50

Equation 4, though much simpler than equation 3, only incorrectly identified one case as exceeding water quality criteria when the true 7DADM did not show a violation. However, equation 4 failed to identify 12 samples that had exceeded water quality criteria based on the 7DADM.

Ecology's current assessment policy (Water Quality Program Policy 1-11) does not allow Category 5 temperature assessments based on grab sample results. However, one could estimate the 7DADM using monthly grab sample data with a high degree (equation 4) or very high degree (equation 3) of confidence that the predicted 7DADM would not falsely indicate a water quality violation. A requirement that predicted 7DADM from *two* grab sample results exceed a criterion would make the likelihood of falsely claiming impairment miniscule.

This analysis should only be applied to data from monthly monitoring on mid to large sized streams.

- Even consistently low monthly grab sample results should not be used to indicate acceptable temperatures because the seasonal peak may have occurred between grabs. Removing waterbodies listed for temperature on the 303(d) list should continue to require continuous data.
- Using the above analysis to predict 7DADM based on sampling designs targeting warm periods or a sampling frequency greater than monthly would not be valid. These designs would result in grab samples results closer to the 7DADM than the regular monthly monitoring used in the analysis.
- The relationship between grab sample results and 7DADM from small stream monitoring programs might be different than the relationship evaluated here. However, since small streams are less buffered to temperature changes, Equations 3 and 4 might be even more conservative (less likely to falsely indicate impairment) when applied to small stream monitoring programs.

Quality Assurance

In 2006 we collected more than 15,000 non-QC water quality results, including metals and various constituents collected in addition to the standard 12 listed under "Sample Collection and Analysis."

- Twenty-four results (0.2 percent) were coded "4" indicating that the data are usable, but there were questions about the quality. Half of these questionable results were alkalinities from August and September when the lab was experiencing equipment problems and samples were analyzed over holding times. These were also coded "J" (estimate) by the lab. The rest were mostly nutrients where the result for the total fraction was less than the dissolved fraction by a sufficiently large margin to render the result questionable.
- Only three results (0.02 percent) were coded "5" or greater (indicating serious data quality questions; these data will not be routinely used); these were orthophosphate results that were 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 the results. A total of 379 results (2.4 percent) were qualified as estimates ("J"), 1892 results (12.2 percent) as below the reporting limit ("U"), and 86 results (0.6 percent) were coded for both reasons ("UJ"). Seventy-six percent of all ammonia results were below the reporting limit, as well as 19 percent of orthophosphate results (Table 8).

Table 8. 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 (most)	908	1122	80.9%
Fecal coliform	1	103	1143	9.0%
Metals	Various	523	1235	42.3%
Nitrate+nitrite	0.01	58	1122	5.2%
Nitrogen, total	0.025	10	1122	0.9%
Organic carbon, diss.	1	4	100	4.0%
Organic carbon, total	1	34	194	17.5%
Orthophosphate	0.03	154	1119	13.8%
Phosphorus, total	0.001	5	1104	0.5%
Suspended solids	1	98	1140	8.6%
Turbidity	0.5	70	1121	6.2%

Comparison to Quality Control Requirements

RMS values for some constituents are presented by concentration range (Table 9). 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 9. Root mean square (RMS) of the standard deviation of sequential samples, field splits, and laboratory splits. Results exceeding Quality Assurance Monitoring Plan (QAMP) Data Quality Objectives (DQO) criteria (Hallock and Ehinger, 2003) are shown in **bold**.

Constituent (units)	Range	$s_{error\ (mp)}$ [a]	Field Sequential RMS	*n*	Field Split RMS	*n*	Lab Split RMS	*n*
Specific Conductance (µS/cm)	≤50 >50-100 >100-150 >150	4.4 8.8 13.2 26.4	0.0 0.42 0.54 1.99	6 23 7 16	NA 0.29 0.71 1.1	0 6 1 6	No lab splits	
Fecal col. bacteria (colonies /100 mL)	1-1000 >1000	88 176	27 71	53 1	No field splits		5.52 NA	240 0
NH_3-N (µg N/L)	≤20 >20-100 >100	1.76 8.8 17.6	1.62 1.76 16.3	46 5 1	0.36 1.84 6.36	42 5 1	0.29 0.87 3.64	65 6 2
Nitrogen, total (µg N/L)	≤100 >100-200 >200-500 >500	8.8 17.6 44 88	4.2 9.2 38.3 **181**	9 10 10 23	1.80 5.77 7.36 **92**	9 6 10 23	1.13 5.49 7.71 72	13 12 14 28
NO_3NO_2-N (µg N/L)	≤100 >100-200 >200-500 >500	8.8 17.6 44 88	1.1 1.5 1.8 **192**	16 6 8 22	0.48 1.18 0.79 34.5	13 5 8 22	0.44 0.87 0.86 **97**	26 8 12 26
Oxygen, dissolved (mg O_2 /L)	≤ 8 > 8-10 > 10-12 >12	0.70 0.88 1.06 2.11	NA 0.12 0.10 0.12	0 6 27 18	NA NA 0.00 0.00	0 0 2 2	No lab splits	
pH	All	0.66	0.11	52	0.04	13	No lab splits	
Phosphorus, soluble reactive (µg P/L^{-1})	≤50 >50-100 >100	4.4 8.8 17.6	3.6 0.5 3.9	40 4 8	0.84 0.88 6.65	35 5 8	0.21 0.30 1.08	84 6 9
Phosphorus, total (µg P/L)	≤50 >50-100 >100	4.4 8.8 17.6	0.93 3.4 9.7	37 4 11	0.69 3.29 4.72	33 4 11	0.14 2.10 1.39	21 4 8
Solids, suspended (mg /L)	≤10 >10-20 >20-50 >50	0.88 1.76 4.4 8.8	**1.3** **4.8** **15.3** **12.9**	35 5 7 6	No field splits		0.64 1.36 2.29 **61**	83 29 21 12
Temperature (ºC)	All	2.64	0.70	51	No field splits		No lab splits	
Turbidity (NTU)	≤10 >10-20 >20-50 >50	0.88 1.76 4.4 8.8	0.42 1.22 0.45 **155**	41 5 5 5	0.28 NA NA NA	1 0 0 0	0.07 0.55 1.46 4.08	31 10 7 3

[a] Maximum permissible standard error to meet QAMP DQOs (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.

One field split constituent/concentration range (out of 24 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. A single upper-range total nitrogen split pair had a particularly high variance. This pair was responsible for most of the variability in its constituent/range.

Seven field sequential constituent categories (out of 36) 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. Most high RMSs occurred in the upper concentration range and can be attributed to a one or two pairs with high variance. However, the variability in sequential samples for all four total suspended solids concentrations ranges did not meet DQO criteria; this underscores the inherent variability in measurements of stream sediment.

The criteria in Table 9 are based on desired trend power. (We want to be able to detect a twenty percent change over a ten year period with 90 percent confidence). Constituents that consistently do not meet the DQO criteria are unlikely to meet our goals for trend detection. The variability in most constituents indicates equivalent or greater trend power than the goal specified in our QAPP (Hallock and Ehinger, 2003). Our ability to detect trends in total suspended solids, however, is likely to be worse than our goal.

Almost all results for analyses of blank samples were "below reporting limits," and less than three µS (micro Siemens) for specific conductivity (Table 10). Temperature, dissolved oxygen, pH, and fecal coliform were not measured on blanks.

Table 10. Results of blind field process blank (deionized water) samples.

Constituent	reporting limit	# above reporting limit (concentration)	sample size, *n*
Metals	Various	1 (dissolved Zn; 1.5)	4 samples x 8 analytes
NH_3-N (µg L^{-1})	10	1 (14)	8
NO_3/NO_2-N (µg L^{-1})	10	0	8
Soluble reactive P (µg L^{-1})	3	0	8
Specific conductivity (µS)	NA	NA (mean: 1.04, std dev: 0.11)	7
Suspended solids (mg L^{-1})	1 and 2	0	3
Total Nitrogen (µg L^{-1})	25	0	8
Total phosphorus (µg L^{-1})	1	0	8
Turbidity (NTU)	0.5	0	5

Few metals blanks are normally collected because many samples are below reporting limits (Table 8). Protocols specify that four dissolved metals blank samples should be submitted annually (one from each run). Each of the samples was analyzed for eight different metals; only one analysis, dissolved zinc, exceeded reporting limits (reporting limit = 1 µg/L, reported concentration = 1.5 µg/L).

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 for all instruments (Ward, 2005).

In a few instances, Tidbit® results were more than 1°C different than associated instantaneous measurements. All instantaneous measurements were from thermister measurements collected during routine monthly monitoring. Two results were from the same station: Okanogan River at Malott (49A070). Based on quality assurance results, Tidbit® results were accurate; it is possible, however, that this tidbit location was not logging stream temperatures that were representative of thalweg temperatures where routine ambient measurements are made. For this station, a remark has been included in the database indicating that results may have been affected by groundwater. The representativeness of the thermister location at this station should be evaluated in August and September 2007. Data from several western Washington stations probably did not include the seasonal maximum due to late July deployments.

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Appendix A

Station description and period of record

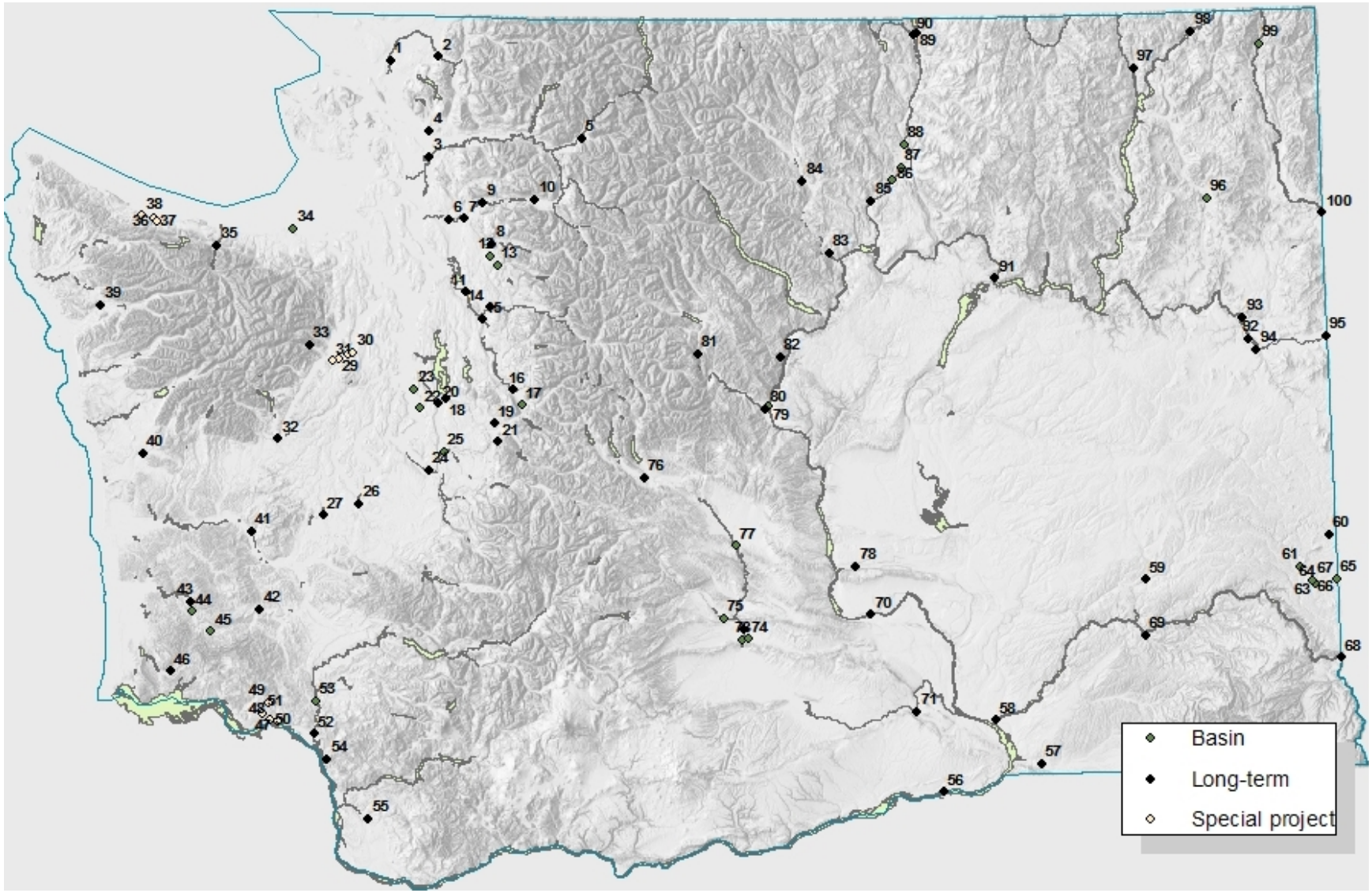

Figure A-1. Map showing stations monitored in Water Year 2006. See Table 1 for the key.

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	XXXXXXXX
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 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 X
01G070	MF Nooksack R	B				X	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. @ Rathbone Rd	B					X
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
01U070	Fishtrap Cr @ Flynn Rd	B					X
03A050	Skagit R @ Conway	B		X X			
03A060	Skagit R nr Mount Vernon	L	X XXXXXXXX X	X XXXXXX	XXXXXXXXXX	XXXXXXXXXX	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	XXXXXXXXXX	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	XXXXXXXXXX	XX X	
04A100	Skagit R @ Marblemount	L	X XXXXXXXX X	X XX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX
04A140	Skagit R @ Newhalem	B		X X			
04B070	Baker R @ Concrete	B	XXXX	XXX	XXXXXXXXXX	XX X	
04B150	Baker Lake @ Boulder Cr	B		XXXXX	X		
04C070	Sauk R nr Rockport	B		XXX	XXXXXXXXXX	XX X	X
04C110	Sauk R @ Darrington	B	X XX				
04C120	Sauk R @ Backman Park	B					X

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
04E050	Finney Cr near Birdsview	B				X	
05A050	Stillaguamish R @ Stanwood	B		X			
05A055	Hat Slough nr Stanwood	B		X			
05A070	Stillaguamish R nr Silvana	L	X XXXXXXXXXX	XX X XXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX
05A090	SF Stillaguamish @ Arlington	L		X X XX	XXXXXXXXXX	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 XXXXXXX	X		X XXXXX	XXXXXXXX
05A150	S.F. Stillaguamish R. @ Verlot	B					
05B070	NF Stillaguamish @ Cicero	L	XXXXXXXX	XX X XX	XXXXXXXXXX	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	XXXXXXXXXX	XXXXXXXXXX	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		

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
07B055	Pilchuck R @ Snohomish	B		X X XX	XXXXXXXXXX	XXX X	
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 XXXXXXXXXX	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 XXXXXXXXXX	X XXX	XXXXXXXXXX	XXX XXXXX	XXXXXXXX
07D150	M F Snoqualmie R nr Ellisville	B				X	X
07E055	Sultan R @ Sultan	B	XXXXXXXX X	XX X		X	X
07F055	Woods Cr @ Monroe	B		X X		X X	
07G070	Tolt R nr Carnation	B	XXXXXXXXXX	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					

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
07V070	Ames Cr @ NE 100th St	B					
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 XXXXXXXXXX	XX X X XX	XXXXXXXXXX	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	XXXXXXXXXX	XXXXXXXXXX	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	XXXXXXXXXX	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 @ Freemont	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

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
08M070	SF Thornton Cr @ 107th Ave NE	B					X
09A060	Duwamish R @ Allentown Br	B			XXXXXXXXXX	XX	
09A070	Duwamish R @ Foster	B	X XXXXXXXX				
09A080	Green R @ Tukwila	L				XXXXXXXXX	XXXXXXXX
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 XXXXXXXXXX	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	XXXXXXXX
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 juctn	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	XXXXXXXX
10A075	Puyallup R @ East Main St.	B					X
10A080	Puyallup R. nr Sumner	B					X
10A090	Puyallup R @ McMillin	B		X X			

Station Number	Name	Long-term or Basin		Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
10A110	Puyallup R @ Orting	B	X	XXX XXXXXX	XXX X XX	XXXXXXXXXX	XX X X	
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	XXXXXXXXXX	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	

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
12A100	Chambers Cr blw Steilacoom Lk	B	XX	X		XXX	
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					XXX
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					XXX

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
15M070	Llt Anderson Cr. @ Anderson Hill Rd	B					XXX
15N070	Stavis Cr. nr Mouth	B					XXX
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 XXXXXXXXXX	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					X
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		

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
18C070	Morse Cr. @ Four Seasons Ranch	B					
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					XXX
19D070	East Twin R. nr Mouth	B					XXX
19E060	Deep Cr. nr mouth	B					XXX
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	

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
20A130	Soleduck R nr Fairholm	B	XXXXXXXX X	X			
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		XXXXXXXXX	XX		
22A070	Humptulips R nr Humptulips	L	X XXXXXXXXXX	X XXX XX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX
22B070	WF Hoquiam R nr Hoquiam	B	XXXXX	XX		X	
22C050	Chehalis R nr Montesano	B		XX XX	XXXXXXXXXX	XXX	
22C070	Chehalis R nr Fuller	B		X X			
22D070	Wishkah R nr Wishkah	B	XXXXX	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	XXXXXXXXXX	XX X XXX	XXXXXXXXXX	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 XXXXXXXXXX	XXXX XXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
23A100	Chehalis R @ Prather Rd	B				XXX	XXXX
23A110	Chehalis R @ Galvin	B		X X X			
23A120	Chehalis R @ Centralia	B		XX	XXXXXXXXXX	XX X	
23A130	Chehalis R @ Claquato	B				X	
23A140	Chehalis R @ Adna	B		X X X			
23A160	Chehalis R @ Dryad	L	X XXXXXXX	XX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX
23B050	Newaukum @ Mouth	B				X	
23B070	Newaukum R nr Chehalis	B	XXXXXXXX	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 XXXXXX	XXX XXXXX	XXXXXXXX
24B095	Willapa R nr Menlo	B					X
24B100	Willapa R. @ Oxbow	B					
24B130	Willapa R @ Lebam	B	X XX X	XX	XXXXXXXXXX	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	

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
24E070	North Nemah R @ Nemah	B		X X			
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					XXX
25E060	Abernathy Cr. nr mouth	B					XXX
25E100	Abernathy Cr. @ DNR	B					XXX
25F060	Mill Cr. nr mouth	B					XXX
25F100	Mill Cr. @ DNR	B					XXX
26B070	Cowlitz R @ Kelso	L	XXXXXXX	XX X XX	XXXXXXXXX	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			

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
26B200	Cowlitz R nr Kosmos	B		X			
26C070	Coweeman R @ Kelso	B	XXXXX	XX X	XXXXXX	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	XXXXXXXX X	X X X XX	XXXXXXXXXX	XXX	
26D090	Toutle R @ Tower Rd	B					
26E070	Cispus R nr Kosmos	B		X	XXX		
26F050	Olequa Cr. at 7th Street	B					X
27A070	Columbia R @ Kalama	B	XX	X XX			
27A110	Columbia River nr St. Helens	B	XX	X			
27B050	Kalama R @ Kalama	B	XXXXXXXXXX	X			
27B070	Kalama R nr Kalama	L		XX XX	XXXXXXXXXX	XXX XXXXX	XXXXXXXX
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	XXXXX 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	XXXXXXXXXX	XXX XXXXX	XXXXXXXX
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			

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
28A100	Columbia R @ Vancouver	B					X X
28A165	Columbia R @ Warrendale	B		XXXXXXX			
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
28I120	Lacamas Creek @ Goodwin Road	B					X
28J070	Little Washougal Cr. @ Blair Road	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 XXXXXXX	X		
30C070	Little Klickitat nr Wahkiacus	B		X		XX	
30C090	Little Klickitat R. @ Olson Rd.	B					X

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
30C150	Little Klickitat R. @ Hwy 97	B					X
31A070	Columbia R @ Umatilla	L	X	XXXXX		XXXXXXXXX	XXXXXXXX
31A090	Columbia R @ McNary Dam	B	X XXXXXXXXXX				
31A130	Columbia R nr Yakima R Mouth	B	X				
32A070	Walla Walla R nr Touchet	L	X XXXXXXX	XX XXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX
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	XXXXXXXXXX	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					

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
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					
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	XXXXXXX X	X		XXXXXXXXX	XXXXXXXX
33A05X	Snake R @ Burbank	B					
33A070	Snake R blw Ice Harbor Dam	B	X	X XXXXXX	XXXXXXXXXX	XX	
33A100	Snake R blw Lower Monumental Dam	B					
34A070	Palouse R @ Hooper	L	X XXXXXXXXXX	X XXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX
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		XXXXXXXX	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					

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
34B090	SF Palouse R nr Pullman	B		X X			
34B110	SF Palouse R @ Pullman	L		X X XX	XXXXXXXXXX	XXX XXXXX	XXXXXXXX
34B130	SF Palouse R blw Sunshine	B		X			XXX
34B140	SF Palouse R @ Busby	B				X	
34B150	SF Palouse R nr Moscow ID	B					
34C060	Paradise Cr at Mouth	B				X	XXX
34C070	Paradise Cr nr Pullman	B		X			
34C100	Paradise Cr @ Border	B				X	XXX
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	XXXXX XX			XXXXXXXXX	XXXXXXXX
35A200	Snake R nr Anatone	B		XXXXXXXX			

Station Number	Name	Long-term or Basin		Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
35B060	Tucannon R @ Powers	L			X XX	XXXXXXXXXX	XXX XXXXX	XXXXXXXX
35B090	Tucannon R @ Smith Hollow	B						X
35B100	Tucannon R @ Territorial Road	B						X
35B110	Tucannon R nr Delaney	B	X	X				
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
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						X
35L140	Almota Cr @ Klemgard Rd	B						X
35M060	Deadman Cr. nr mouth	B						
35M100	Deadman Cr. nr Gould City	B						
35N050	Meadow Cr. @ mouth	B						
35P050	George Cr. @ mouth	B						
35Q050	Little Almota Cr @ Mouth	B						X
35R050	Steptoe Cr @ Mouth	B						X
35R120	Steptoe Cr blw Stewart	B						X

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
35R140	Steptoe Cr abv Stewart	B					X
35S060	Wawawai Cr @ mouth	B					X
35U070	Alkali Flat Cr nr Mouth	B					X
35U090	Alkali Flat Cr abv Hay	B					X
35U140	Alkali Flat Cr @ Little Alkali Rd	B					X
35U190	Alkali Flat Cr @ Penewawa Rd	B					X
35W070	Mud Flat Cr @ Mouth	B					X
35X070	Long Hollow Cr @ Mouth	B					
35Y070	Penewawa Cr nr Mouth	B					X
35Y110	Penewawa Cr @ Looney Br	B					X
35Y170	Penewawa Cr abv Goose cr	B					X
35Z070	Little Penewawa Cr @ Mouth	B					X
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	XXXXXXXXXX	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	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX
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	

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
37A190	Yakima R @ Parker	B		X XXXXXXX	XXXXXXXXXX	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				
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

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
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 XXXXXXXXXX	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 871	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					
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				

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
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	
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	XXXXXXXX X	X X XX XX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX
45A075	Wenatchee River @ Sleepy Hollow Br.	B					X
45A085	Wenatchee R nr Dryden	B		X			
45A100	Wenatchee R @ Leavenworth	B		X			
45A110	Wenatchee R nr Leavenworth	L	X XXXXXXXX	XX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX
45A240	Wenatchee R. blw Lake Wenatchee	B					

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
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					
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 XXXXXXX	X XX XX	XXXXXXXXXX	XX XXXXXX	XXXXXXXX
46A110	Entiat R. @ Dill Creek Bridge	B					
46A150	Entiat R. @ Tommy Creek Bridge	B					

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
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	XXXXXXXX X	X X XX XX	XXXXXXXXXX	XX X	
47B070	Columbia R @ Chelan Station	B				X X	
48A070	Methow R nr Pateros	L	X XXXXXXX	X XX XX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX
48A130	Methow R nr Twisp	B		X XX	XXXXXXXXX		
48A140	Methow R @ Twisp	L			X	XX X XXXXX	XXXXXXXX
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		XXXXXXXX	XX		
49A050	Okanogan R nr Brewster	B	X XXXXXXX X	X			
49A070	Okanogan R @ Malott	L	XXX	X X XX XX	XX XXXXXX	XXXXXXXXXX	XXXXXXXX
49A090	Okanogan R @ Okanogan	B		X XX	XXXXXXXXX	X	X
49A110	Okanogan R @ Omak	B					X
49A130	Okanogan R @ Riverside	B					X
49A170	Okanogan R @ Janis	B		X			
49A180	Okanogan R @ Tonaskat	B				X	
49A190	Okanogan R @ Oroville	L	XXXXXXX	XX XX	XXXXXXXXXX	XX X XXXXX	XXXXXXXX

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
49B070	Similkameen R @ Oroville	L	XXXXXXX	XX XX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX
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					X
49F105	Bonaparte Cr abv Tonasket	B					X
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				
50B070	Foster Cr @ Mouth	B					X
51A070	Nespelem R @ Nespelem	B			XXXXXXXXXX	XX X	
52A070	Sanpoil R @ Keller	B	XXXXXXX	X XX XX	XXXXXXXXXX	XX X	
52A110	Sanpoil R 13 mi S. Republic	B				X	
52A170	Sanpoil R blw Republic	B		X			
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	XXXXXXXXXX	XX		
54A089	Spokane R 2 mi blw Ninemile dam	B		XX			

Station Number	Name	Long-term or Basin	Water Year Sampled <---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
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	XXXXXXX				
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		XXXXXXXXX	XXXXXXXX
57A190	Spokane R nr Post Falls	B		XXXXXXX	XXXXXXXXXX	XX	
59A070	Colville R @ Kettle Falls	B	XXXXXXXXXX	X X XX XX	XXXXXXXXXX	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			XXX
59B070	Little Pend Oreille @ Hwy 395	B					X

Station Number	Name	Long-term or Basin	Water Year Sampled				
			<---1960s--->	<---1970s--->	<---1980s--->	<---1990s--->	<---2000s--->
60A050	Kettle R @ Hedlund Bridge	B	X				
60A070	Kettle R nr Barstow	L	XXXXXXX X	X X XX XX	XXXXXXXXXX	XX XXXXXX	XXXXXXXX
61A070	Columbia R @ Northport	L	X XXXXXXXXXX	XXXXXXXXXX	XX	XXXXXXXXX	XXXXXXXX
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	XXXXXXXX
62A150	Pend Oreille R @ Newport	L	X XXXXXXX X	X XX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX

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)
- 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 NO3 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 NO2+NO3 implemented (status of other nutrients is unknown). (Source of methods prior to 1979: pers. comm. Joe Rinnella, USGS, and Skinner, Earl L. "Chronology of Water Resources Division activities that may have affected water quality values of selected constituents in Watstore, 1970-86. Provisional Report Feb 1989.)
- 1979: For a while, the USGS lab reported nutrient results to the nearest 0.01 units. Values below 0.005 were reported as 0.00. USGS decided to change all Watstore data = 0 to 0.01K back to 1973 for NO2+NO3. Decision on other nutrients is unknown, but they may also have been changed. Most of the 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 NO2+NO3 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: NO3, NH3, and TP analyzed by contract lab.
- Mar 1990: Began using MFS cellulose acetate filters for field filtration of nutrients. Previously use Millipore, type HA (cellulose nitrate?).
- 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 4500NO3I 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_2SO_4 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.
- However, there is an apparent drop in monthly geometric means in late 1985. The may be coincident with moving the lab to 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 17th 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 thermister 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.
- About May, 2006: Began evaluating thermistor calibration at several temperatures and calculation correction coefficients based on a linear regression correction. Corrections are applied upon data entry by the database rather than by the sampler.

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.
- ___ 2003(?): Began calibrating barometer prior to each run using an on-site digital barometer rather than the mercury barometer. Calibration digital barometer to mercury barometer annually.

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 HNO3 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 2006: 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: (vacant position)

Ambient monitoring data from the most recent complete Water Year are available over the Internet on Ecology's web pages (www.ecy.wa.gov). Look under the "Environmental Assessment" program, "Long-term monitoring," and "River and Stream Water Quality."

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 2006.

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
Rivermile: 3.4
Latitude: 48 49 09.1
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
10/19/2005 8:05	10.5	4180	84	10.5	7.42	227	0.46	0.01 U	0.42	0.13	0.0081	160	43 J
11/16/2005 7:50	6	3780	106	11.8	7.52	18	0.628	0.011	0.563	0.025	0.01	12	18 J
12/14/2005 8:30	4.1	1720	132	13.1	7.68	6	0.61	0.025	0.543	0.0169	0.0087	5.8	14 J
1/25/2006 7:55	5.7	4730	117	11.6	7.38	28	0.854	0.033	0.725	0.0277	0.0094	12	21 J
2/15/2006 8:10	3.9	3290	128	12.5	7.39	21	0.799	0.029	0.754	0.0229	0.009	11	49 J
3/15/2006 8:00	6.1	2130	140	11.6	7.58	8	0.803	0.03	0.743	0.0207	0.013	5.5	32 J
4/19/2006 8:25	9.2	3120	111	11.1	7.54	17	0.51	0.012 UJ	0.44	0.0197	0.0078	9.3	19 J
5/17/2006 8:00	10.9	9050	52	11	7.45	380 J	0.12	0.01 U	0.093	0.142	0.0055	200	150
6/21/2006 7:45	11.5	3820	82	10.9	7.53	17	0.17	0.01 U	0.169	0.0188	0.0079	12	29 J
7/19/2006 8:00	15.4	2190	90	9.6	7.66	11	0.13	0.01 U	0.107	0.0158	0.0084	7	18 J
8/23/2006 7:50		1320											
No Access - Bridge damaged													
9/20/2006 8:50	12.6	1210	116	10	7.61	25	0.299	0.01 U	0.253	0.0341	0.013	25	38 J

Conventional Data Report

Nooksack R @ No Cedarville

01A120

Class: A
Rivermile: 30.8
Latitude: 48 50 30.5
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
10/19/2005 8:50	9.9	5040	75	11	7.6	169	0.286	0.01 U	0.268	0.0805	0.0055	100	9 J
11/16/2005 8:35	5.9	3350	87	12.3	7.63	17	0.333	0.01 U	0.3	0.0143	0.0061	9.2	3 J
12/14/2005 9:40	3.2	1310	105	13.2	7.65	7	0.251	0.01 U	0.224	0.0086	0.0048	4.7	6
1/25/2006 8:35	4.9	3840	85	12.4	7.53	21 J	0.279	0.01 U	0.252	0.0136	0.005	9.3	4 J
2/15/2006 9:00	2.7	2680	98	12.9	7.54	18 J	0.283	0.01 U	0.269	0.0116	0.005	8	1 U
3/15/2006 8:50	4.8	1570	106	12.6	7.71	9	0.267	0.01 U	0.248	0.0061	0.0047	3.3	1 UJ
4/19/2006 9:10	6.7	2280	88	12	7.66	12	0.23	0.021 UJ	0.21	0.0106	0.0035	6.3	4 J
5/17/2006 9:40	7.5	9210	48	12.1	7.44	378 J	0.11	0.01 U	0.085	0.169	0.0043	140	23
6/21/2006 8:30	9.1	3490	74	11.6	7.58	14	0.067	0.01 U	0.075	0.013	0.0037	8.9	4 J
7/19/2006 9:55	11.7	2280	81	10.9	7.7	10	0.045	0.01 U	0.038	0.0107	0.0031	9.3	7
8/23/2006 8:30	12.2	1420	88	10.7	7.62	17	0.025 U	0.01 U	0.01 U	0.02	0.003 U	23	17 J
9/20/2006 10:03	10.6	1130	102	10.8	7.7	20	0.11	0.01 U	0.087	0.0147	0.0035	15	35

Conventional Data Report

Skagit R nr Mount Vernon

03A060

Class: A
Rivermile: 15.9
Latitude: 48 26 43.0
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
10/18/2005 15:30	11.8	19600	45	10.5	7.36	260	0.16	0.01 U	0.128	0.0558	0.0037	55	35
11/15/2005 15:40	7.1	16000	63	11.8	7.45	93	0.23	0.01 U	0.183	0.0139	0.0052	8	7
12/13/2005 16:10	6.1	8640	73	12.3	7.57	14	0.14	0.01 U	0.118	0.0078	0.0047	2.6	39
1/24/2006 16:05	5.8	20400	67	12.2	7.18	62 J	0.21	0.01 U	0.181	0.0142	0.0053	11	1 U
2/14/2006 16:00	5.4	17800	66	12.5	7.49	30 J	0.17	0.01 U	0.154	0.0093	0.0037	7.9	1 U
3/14/2006 16:05	5.8	12000	77	12.2	7.5	17 J	0.15	0.01 U	0.12	0.0049	0.0039	2.9	1
4/18/2006 16:00	9.1	10100	68	12.1	7.46	14 J	0.17	0.016 UJ	0.138	0.005	0.0031	2.8	1 U
5/16/2006 15:55	12.1	22000	43	11	7.4	88 J	0.1	0.01 UJ	0.07	0.0121	0.003 U	17	39
6/20/2006 16:20	12.1	18000	43	11.3	7.33	20	0.06	0.01 U	0.062	0.0087	0.003 U	8.1	2
7/18/2006 15:55	15.3	10800	50	10.1	7.34	21 J	0.07	0.01 U	0.055	0.0086	0.0033	5.6	1 U
8/22/2006 16:00	16	8560	51	9.9	7.51	15 J	0.048	0.01 U	0.026	0.0088	0.0051	7.1	17
9/19/2006 15:55	13.3	6690	61	10.4	7.6	17	0.079	0.01 U	0.044	0.0065	0.0041	3.1	13

Conventional Data Report

Samish R nr Burlington

03B050

Class: A
Rivermile: 10.4
Latitude: 48 32 45.4
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
10/18/2005 14:55	12.3	518	69	10.4	7.18	79	1.35	0.01 U	1.21	0.0521	0.0095	55	470
	Very turbid.												
11/15/2005 15:05	7.2	407	68	11.9	7.3	13	0.844	0.015	0.7	0.0158	0.0074	6.7	17
12/13/2005 15:30	5.8	169	83	12.8	7.53	4	0.824	0.014	0.72	0.0152	0.0072	5.2	6
1/24/2006 15:35	6.5	431	65	12.3	7.13	17	0.859	0.01 U	0.788	0.0157	0.0063	9.8	13
2/14/2006 15:05	5.9	284	72	12.7	7.4	10	0.797	0.01 U	0.751	0.0126	0.0059	6.3	17
3/14/2006 15:10	7.4	185	76	12	7.45	6	0.825	0.01 U	0.737	0.0103	0.0068	3.9	7
4/18/2006 15:15	10.3	230	70	11.5	7.38	8	0.699	0.017 UJ	0.6	0.0141	0.0057	5.9	8
5/16/2006 15:30	15.8	101	86	10.4	7.63	4	0.606	0.01 U	0.501	0.0113	0.0066	2.7	32 J
6/20/2006 15:20	14.5	82	91	11	7.72	2	0.618	0.01 U	0.543	0.0123	0.0068	7.9	88
7/18/2006 15:10	15.5	45	116	10.3	7.83	3	0.705	0.01 U	0.629	0.009	0.0058	1.8	31
8/22/2006 15:25	14.3	26	123	10.5	7.75	2	0.726	0.01 U	0.657	0.0099	0.0079	1.1	78
9/19/2006 15:25	13.1	34	119	10.4	7.73	5	0.636	0.01 U	0.55	0.0162	0.0098	2.2	280

Conventional Data Report

Skagit R @ Marblemount

04A100

Class: AA
Rivermile: 78.2
Latitude: 48 31 37.0
Longitude: 121 25 40.0
Waterbody: WA-04-1090

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/19/2005	10:55	9.8	5480	46	11	7.43	4	0.11	0.01 U	0.092	0.0025	0.003 U	2.2	1 U
11/16/2005	10:25	8.6	7490	61	11.4	7.68	3	0.098	0.01 U	0.067	0.002	0.003 U	0.7	4
12/14/2005	11:40	6.8	5850	70	12.4	7.71	1	0.068	0.01 U	0.051	0.0014	0.003 U	0.8	1 U
1/25/2006	10:30	5.2	8320	64	12.1	7.55	2	0.078	0.01 U	0.072	0.0016	0.003 U	1.3	1 U
2/15/2006	11:00	4.4	7820	70	13	7.78	1	0.08	0.01 U	0.065	0.0011	0.003 U	0.6	1 U
3/15/2006	10:55	4.3	7970	74	12.6	7.69	1	0.088	0.01 U	0.06	0.0013	0.003 U	0.5 U	1 U
4/19/2006	11:05	6.4	3490	68	13.1	7.77	1 U	0.083	0.02 UJ	0.072	0.0015	0.003 U	0.6	1 U
5/17/2006	11:20	7.8	9180	33	12.2	7.43	10	0.11	0.01 U	0.087	0.0037	0.003 U	4.4	1
6/21/2006	10:30	9.2	5150	35	12.1	7.51	3	0.044	0.01 U	0.051	0.0021	0.003 U	2.2	2
7/19/2006	12:30	11.5	4920	43	11.4	7.72	2	0.057	0.01 U	0.044	0.0025	0.003 U	2.3	1 U
8/23/2006	10:30	11.7	2780	46	11.4		1 U	0.057	0.01 U	0.046	0.001 U	0.003 U	0.9	1
		No pH recorded												
9/20/2006	12:41	10.4	4080	54	11.5	7.64	1	0.078	0.01 U	0.064	0.0018	0.003 U	1	2 J

Conventional Data Report

Stillaguamish R nr Silvana

05A070

Class: A
Rivermile: 11.1
Latitude: 48 11 49.5
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
10/18/2005	14:10	11.2	5017	38	10.8	7.28	61	0.444	0.01 U	0.404	0.0371	0.0044	40	22
11/15/2005	14:20	5.4	4619	49	12.5	7.35	18	0.447	0.01 U	0.399	0.0169	0.0063	12	1 J
12/13/2005	14:45	3.9	5946	68	13.2	7.5	8	0.381	0.01 U	0.359	0.0154	0.0082	8.9	5
1/24/2006	14:15	5.7	4221	50	12.2	7.21	22	0.387	0.01 U	0.351	0.0221	0.0066	22	9
2/14/2006	14:15	5.3	2103	63	12.8	7.36	9	0.401	0.01 U	0.357	0.0137	0.0071	8.7	1
3/14/2006	14:15	6.5	1621	67	12.3	7.4	7	0.403	0.01 U	0.358	0.0123	0.0071	7.2	1 U
4/18/2006	13:55	7.9	3089	52	12.2	7.3	24	0.307	0.013 UJ	0.266	0.0259	0.0056	28	8
5/16/2006	14:25	11.5	5598	30	11.4	7.2	74	0.11	0.01 UJ	0.085	0.0303	0.0035	34	26 J
6/20/2006	14:25	13.4	1862	52	11.2	7.38	6	0.13	0.01 U	0.111	0.0068	0.004	3.7	2
7/18/2006	14:15	17.6	660	75	11.6	7.92	5	0.11	0.01 U	0.067	0.0083	0.0065	1.4	13
8/22/2006	14:25	18.4	1159	108	9.69	7.71	2	0.16	0.01 U	0.092	0.0154	0.011	1.1	38
9/20/2006	16:00	13		74	10	7.52	20	0.3	0.01 U	0.235	0.0211	0.0065	19	200

Conventional Data Report

SF Stillaguamish @ Arlington

05A090

Class: A
Rivermile: 18.2
Latitude: 48 12 03.2
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
10/18/2005 13:30	11.1	1583 J	34	10.8	7.31	42	0.314	0.01 U	0.265	0.03	0.0036	30	29
11/15/2005 13:45	5.4	1420 J	43	12.7	7.4	15	0.383	0.01 U	0.353	0.0147	0.0047	12	7 J
12/13/2005 14:10	3.6	305 J	59	13.7	7.52	13	0.392	0.01 U	0.363	0.0156	0.0055	16	8
1/24/2006 13:40	5.4	1228 J	44	13	7.16	12	0.369	0.01 U	0.336	0.0139	0.0079	13	5
2/14/2006 13:45	5.2	574 J	55	13	7.43	6	0.379	0.01 U	0.356	0.0106	0.0057	9	1
3/14/2006 13:35	6.3	421 J	59	12.8	7.48	10	0.419	0.01 U	0.376	0.0158	0.0058	17	1 U
4/18/2006 13:15	8	986 J	45	12.4	7.39	18	0.286	0.012 UJ	0.261	0.0168	0.0045	18	1
5/16/2006 13:30	11.2	2266 J	27	11.7	7.24	82	0.18	0.01 UJ	0.09	0.0388	0.003	45	22 J
6/20/2006 13:55	13.3	683 J	44	11.2	7.51	6	0.12	0.01 U	0.109	0.0063	0.0031	2.3	2
7/18/2006 13:40	18.2	159 J	64	10	7.66	2	0.15	0.01 U	0.099	0.0033	0.003 U	1.6	8
8/22/2006 13:40	17.9	88.2 J	94	9.8	7.81	2	0.22	0.01 U	0.167	0.0033	0.003 U	0.9	29
9/19/2006 14:30	14.3	579 J	84	10.6	7.99	15	0.17	0.01 U	0.104	0.0066	0.003 U	3.8	260 J

Conventional Data Report

SF Stillaguamish nr Granite Falls

05A110

Class: AA
Rivermile: 34.6
Latitude: 48 06 10.5
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
10/18/2005 12:30	10.5	1583 J	31	11.3	7.35	61	0.252	0.01 U	0.227	0.0264	0.003 U	29	4
11/15/2005 12:50	4.9	1420 J	36	13	7.46	30	0.23	0.01 U	0.192	0.0179	0.0038	12	3 J
	Noticed moss bits in FC bottle.												
12/13/2005 13:10	3.1	305 J	51	13.6	7.59	65	0.19	0.01 U	0.163	0.0444	0.005	65	2
1/24/2006 12:35	4.2	1228 J	37	13.1	7.18	25	0.17	0.01 U	0.134	0.0231	0.008	25	13
2/14/2006 12:30	3.7	574 J	45	13.5	7.52	30 J	0.15	0.01 U	0.133	0.0323	0.0048	31	1
3/14/2006 12:35	4.3	421 J	49	13	7.55	19 J	0.21	0.01 U	0.145	0.0203	0.0057	22	2
4/18/2006 12:20	5.8	986 J	38	13	7.46	31	0.13	0.01 U	0.113	0.0257	0.0038	29	3
5/16/2006 12:35	8.3	2266 J	24	12.2	7.46	90	0.089	0.01 UJ	0.071	0.0373	0.003 U	45	6 J
6/20/2006 13:00	10.5	683 J	36	11.7	7.52	10	0.039	0.01 U	0.047	0.009	0.003 U	9	9
7/18/2006 12:45	15.6	159 J	50	10.5	7.94	2	0.032	0.01 U	0.01 U	0.0028	0.003 U	1.6	8
8/22/2006 12:25	17.4	88.2 J	78	9.8	8.13	4 J	0.056	0.01 U	0.01 U	0.0044	0.0033	1.2	22
9/19/2006 13:25	12.3	579 J	48	10.9	7.57	97	0.19	0.01 U	0.143	0.0461	0.0037	60	210

Conventional Data Report

NF Stillaguamish @ Cicero

05B070

Class: A
Rivermile: 9.5
Latitude: 48 16 03.0
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
10/19/2005 12:55	11	1450 J	55	10.6	7.51	15	0.432	0.01 U	0.396	0.0173	0.0054	9.8	12
11/16/2005 12:05	6.4	1950 J	55	12.2	7.48	10	0.414	0.01 U	0.367	0.0129	0.0069	5.6	2
12/14/2005 13:40	3.6	824 J	72	13.2	7.73	4	0.285	0.01 U	0.271	0.011	0.0076	2.6	1 U
1/25/2006 12:40	5.2	2350 J	51	12.3	7.33	37	0.297	0.01 U	0.258	0.0367	0.006	27	6
2/15/2006 13:10	3.4	1250 J	63	13.4	7.49	10	0.313	0.01 U	0.269	0.0134	0.008	4.9	1 U
3/15/2006 13:00	5.4	1120 J	66	12.5	7.61	7	0.286	0.01 U	0.247	0.0116	0.0072	5.2	1
4/19/2006 12:40	7.4	1860 J	53	12.1	7.43	10	0.22	0.019 UJ	0.183	0.0129	0.0049	6.7	3
5/17/2006 13:10	9.6	3240 J	28	11.8	7.25	31	0.1	0.01 UJ	0.072	0.0191	0.0038	18	16
6/21/2006 13:25	12.6	1080 J	55	11.7	7.84	3	0.067	0.01 U	0.057	0.0059	0.0044	1.9	10
7/19/2006 15:40	17.1	557 J	76	11.5	9.03	3	0.054	0.01 U	0.01 U	0.0053	0.0043	1.2	6
8/23/2006 12:25	15.3	226 J	103	10.9	8.21	3	0.063	0.01 U	0.017	0.0097	0.0078	1.4	11
9/20/2006 15:09	12.5	421 J	86	10.9	7.65	3	0.18	0.01 U	0.12	0.0106	0.0078	1.4	52

Conventional Data Report

NF Stillaguamish nr Darrington

05B110

Class: A
Rivermile: 30
Latitude: 48 16 48.7
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
10/19/2005 12:05	10.6	258	46	10.9	7.41	2	0.269	0.01 U	0.239	0.0038	0.0032	0.5 U	16
11/16/2005 11:30	6.1	507	45	12.4	7.49	2	0.33	0.01 U	0.299	0.0035	0.0039	0.8	3
12/14/2005 13:00	3.7	187	60	13.1	7.68	1 U	0.2	0.01 U	0.177	0.0039	0.0041	0.6	7
1/25/2006 12:10	5.1	578	44	12.2	7.28	2	0.255	0.01 U	0.224	0.0041	0.0039	1.3	2
2/15/2006 12:30	3.7	321	51	12.7	7.37	1	0.255	0.01 U	0.234	0.0035	0.0047	0.6	1 U
3/15/2006 12:05	4.6	262	54	12.8	7.44	1 U	0.21	0.01 U	0.188	0.0031	0.0044	0.5 U	1 U
4/19/2006 12:10	6.2	475	44	12.6	7.36	2	0.15	0.02 UJ	0.131	0.0028	0.003 U	1	1
5/17/2006 12:25	8.3	949	24	11.8	7.26	8	0.084	0.01 UJ	0.06	0.0059	0.003 U	5	3
6/21/2006 12:50	10.5	271	40	11.5	7.49	1 U	0.058	0.01 U	0.058	0.002	0.0031	0.5 U	6
7/19/2006 14:20	15.4	120	56		7.91	1 U	0.096	0.01 U	0.067	0.0034	0.0041	0.5 U	3
D.O. sample was not properly fixed.													
8/23/2006 11:35	14.3		87	11.8	8.38	1 U	0.092	0.01 U	0.07	0.0049	0.0067	1.6	5
9/20/2006 14:24	11.5	71.4	78	11	7.88	2	0.12	0.01 U	0.068	0.0053	0.0048	0.5 U	65

Conventional Data Report

Snohomish R @ Snohomish

07A090

Class: A
Rivermile: 12.7
Latitude: 47 54 38.7
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
10/18/2005 9:05	11.7	16958	43	10.19	7.32	14	0.25	0.019	0.189	0.0135	0.0066	6.4	73 J
11/15/2005 8:35	6.2	16796	36	12.4	7.16	19	0.459	0.01 U	0.393	0.0138	0.0051	11	10 J
12/13/2005 9:45	4.1	5354	52	13.1	7.38	5	0.394	0.011	0.352	0.0101	0.0063	3.4	5 J
1/24/2006 9:05	5.9	13240	46	12.3	7.19	9	0.511	0.013	0.447	0.014	0.0069	5.9	8 J
2/14/2006 8:50	5.2	7954	54	12.4	7.12	11 J	0.483	0.018	0.44	0.0127	0.0072	5.3	14 J
3/14/2006 8:50	5.8	5430	56	12.3	7.28	3	0.488	0.01 U	0.421	0.0095	0.0066	2.2	2 J
4/18/2006 8:30	7.4	8504	44	12.2	7.25	5	0.326	0.01 U	0.267	0.0087	0.005	3.5	12 J
5/16/2006 8:15	10.8	16880	32	11.2	7.32	31	0.14	0.01 UJ	0.088	0.0108	0.0034	12	58 J
Brown foam patches on water surface.													
6/20/2006 9:05	11.2	9651	34	11.2	7.12	9	0.13	0.01 U	0.114	0.0072	0.0036	3.4	11 J
7/18/2006 8:40	16.4	3346	48	9.9	7.28	4	0.15	0.01 U	0.114	0.0064	0.0034	1.3	12 J
8/22/2006 8:35	19.2	1927	65	9.9	7.41	2 U	0.22	0.01 U	0.163	0.0098	0.0057	1.3	32 J
9/19/2006 9:40	14.3	1974	64	9.5	7.38	4	0.263	0.01 U	0.192	0.0111	0.007	2	47 J

Conventional Data Report

Pilchuck R @ Robe-Menzel Rd.

07B120

Class: A
Rivermile: 21.6
Latitude: 48 03 17.4
Longitude: 121 57 22.2
Waterbody: WA-07-1030

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
10/18/2005 11:50	11.1		39	10.5	7.32	5	0.377	0.01 U	0.336	0.0089	0.0036	3.3	15
11/15/2005 12:05	6		42	12.3	7.27	6	0.471	0.01 U	0.422	0.0086	0.0059	3	1 J
12/13/2005 12:25	4.6		53	13.3	7.44	2	0.382	0.01 U	0.358	0.0081	0.0067	1.5	10
1/24/2006 12:00	5.3		35	12.7	7.2	5	0.284	0.01 U	0.28	0.0078	0.0053	3.1	1
2/14/2006 11:35	4.5		49	13	7.41	3	0.333	0.01 U	0.32	0.0083	0.0065	2.2	5
3/14/2006 11:50	5.4		50	12.8	7.4	3	0.344	0.01 U	0.3	0.0064	0.0064	1.8	3
4/18/2006 11:45	7.7		42	12.3	7.36	4	0.24	0.01 UJ	0.207	0.0074	0.0046	2.7	1
5/16/2006 12:00	12.5		37	11.3	7.6	4	0.12	0.01 UJ	0.074	0.0059	0.004	1.9	12 J
6/20/2006 12:20	12.3		49	11.3	7.58	2	0.15	0.01 U	0.12	0.0052	0.0046	1	11
7/18/2006 11:40	14.3		72	11.4	8.16	1	0.1	0.01 U	0.058	0.0038	0.0033	0.5	15
8/22/2006 11:50	14.4		84	10.7	7.97	2	0.12	0.01 U	0.058	0.0045	0.0034	0.8	38
9/19/2006 12:40	11.6		50	10.7	7.58	52	0.381	0.01 U	0.284	0.026	0.0069	16	340

Conventional Data Report

Pilchuck R @ Menzel Lake Rd.

07B150

Class: A
Rivermile: 26.2
Latitude: 48 01 07.8
Longitude: 121 54 49.2
Waterbody: WA-07-1030

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
10/18/2005 11:20	10.8		38	10.7	7.3	4	0.39	0.01 U	0.345	0.0094	0.0039	3.2	21
11/15/2005 11:10	5.8		40	12.4	7.33	5	0.357	0.01 U	0.373	0.0084	0.0062	3.4	2 J
12/13/2005 12:00	4.6		51	13.3	7.56	1	0.316	0.01 U	0.316	0.0096	0.008	2	13
1/24/2006 11:30	4.9		33	12.6	7.2	4	0.24	0.01 U	0.225	0.0077	0.0051	2.9	5
2/14/2006 11:05	3.9		48	13.1	7.42	3	0.275	0.01 U	0.25	0.0093	0.0071	2.6	5
3/14/2006 11:10	5.1		48	12.7	7.4	2	0.276	0.01 U	0.251	0.0073	0.0072	1.8	3
4/18/2006 11:20	6.6		40	12.5	7.38	4	0.23	0.01 UJ	0.183	0.0076	0.005	2.5	1 U
5/16/2006 11:20	10.4		35	11.2	7.36	3	0.12	0.01 UJ	0.082	0.0069	0.0052	1.7	12 J
6/20/2006 11:50	10.5		47	11.6	7.52	2	0.17	0.01 U	0.128	0.0075	0.0062	1.1	14
7/18/2006 11:05	12.1		73	11.9	8.14	1 U	0.14	0.01 U	0.101	0.0079	0.0067	0.5	12
8/22/2006 11:15	12.8		84	11.2	8	1	0.17	0.01 U	0.122	0.009	0.0074	0.5	130
9/19/2006 12:15	11		41	10.9	7.46	25	0.472	0.01 U	0.363	0.0218	0.0062	12	360

Conventional Data Report

Skykomish R @ Monroe

07C070

Class: A
Rivermile: 25.6
Latitude: 47 51 08.0
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
10/18/2005 10:25	11.1	5603	32	10.8	7.21	5	0.19	0.013	0.139	0.0064	0.0036	3	23
11/15/2005 10:15	6.1	9698	32	12.6	7.14	4	0.329	0.01 U	0.287	0.0046	0.0033	2.1	1 J
12/13/2005 11:10	4.3	4223	38	13.3	7.29	3	0.22	0.01 U	0.191	0.0042	0.003 U	2.7	8 J
1/24/2006 10:35	4.8	7990	34	12.8	7.1	4	0.263	0.01 U	0.246	0.0116	0.0036	5.4	1
2/14/2006 10:20	4.5	4725	39	13.3	7.21	2	0.24	0.01 U	0.229	0.0034	0.0031	2.3	20
3/14/2006 10:35	5.2	3685	42	13.1	7.3	2	0.253	0.01 U	0.237	0.0028	0.0037	1.6	1 U
4/18/2006 10:25	7	5281	36	12.5	7.25	3	0.2	0.01 UJ	0.16	0.0042	0.003 U	2.7	9
5/16/2006 10:00	8.2	13733	22	12.2	7.1	53	0.1	0.01 UJ	0.07	0.0148	0.003 U	27	54 J
6/20/2006 11:00	9.7	6966	27	11.9	7.15	3	0.052	0.01 U	0.05	0.0027	0.003 U	2	3
7/18/2006 10:25	14.2	3090	34	11.1	7.37	1	0.067	0.01 U	0.042	0.0016	0.003 U	0.6	4
8/22/2006 10:15	17	1367	46	9.5	7.37	2	0.094	0.01 U	0.062	0.0026	0.003 U	1.1	8
9/19/2006 11:05	13.8	1386	46	10.4	7.46	3	0.11	0.01 U	0.078	0.0028	0.0032	1.2	56

Conventional Data Report

Snoqualmie R nr Monroe

07D050

Class: A
Rivermile: 2.7
Latitude: 47 48 14.3
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
10/18/2005 9:45	12.1	2856	48	10.4	7.22	26	0.24	0.01 U	0.206	0.0129	0.0053	12	120
11/15/2005 9:20	6.2	6533	34	12	7.06	25	0.518	0.01 U	0.456	0.0162	0.0057	11	14 J
12/13/2005 10:30	3.5	1599	59	12.9	7.25	3	0.418	0.023	0.414	0.0143	0.0077	2.3	7 J
1/24/2006 9:45	6.5	4350	48	11.7	6.92	13	0.555	0.018	0.483	0.0246	0.0087	7.8	4 J
2/14/2006 9:35	5.3	2616	55	11.9	7	6	0.524	0.034	0.443	0.0162	0.0098	4.8	9 J
3/14/2006 9:45	6.3	2756	61	11.6	7.06	3	0.5	0.016	0.425	0.0107	0.0074	2.8	8
	Windy, RP =+-0.5 ft.												
4/18/2006 9:40	7.4	2656	45	11.9	7.14	8	0.382	0.01 U	0.301	0.0091	0.005	5	31 J
5/16/2006 9:10	11.6	10782	30	10.8	7.16	16	0.15	0.01 U	0.117	0.0067	0.0037	6.9	81 J
	A few areas of brown foam on water surface.												
6/20/2006 10:00	12	3057	37	10.8	7.04	9	0.16	0.01 U	0.142	0.0073	0.0041	3.5	12 J
7/18/2006 9:20	17.9	1124	56	9.5	7.26	4	0.2	0.01 U	0.147	0.0105	0.0057	2.6	21 J
8/22/2006 9:30	19.7	644	76	9.19	7.5	5	0.25	0.01 U	0.177	0.0126	0.0076	1.8	19 J
9/19/2006 10:15	14.2	732	73	10	7.41	2	0.3	0.012	0.232	0.0135	0.008	1.8	78

Conventional Data Report

Snoqualmie R @ Snoqualmie

07D130

Class: A
Rivermile: 42.3
Latitude: 47 31 37.5
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
10/17/2005	11:45	10.9	2620	32	10.7	7.15	32	0.17	0.01 U	0.154	0.0091	0.0033	7.8	110
11/14/2005	11:40	6	6490	24	12.3	7.17	28	0.296	0.01 U	0.274	0.0143	0.0036	13	8
12/12/2005	11:40	2.6	1200	42	13	8.08	1	0.255	0.01 U	0.244	0.0049	0.0032	2.4	4
1/23/2006	11:28	5.8	3100	38	12.4	7.04	6	0.316	0.01 U	0.303	0.0076	0.0043	6.2	1 U
2/13/2006	11:00	5.3	1880	44	12.7	7.11	3	0.317	0.01 U	0.305	0.0041	0.0032	1.8	1
3/13/2006	11:40	5	1250	49	12.4	7.19	2	0.31	0.01 U	0.288	0.0033	0.0034	1.6	1 U
4/17/2006	12:30	6.2	2270	36	12.5	7.16	5	0.24	0.01 UJ	0.208	0.0045	0.0034	3	1
5/15/2006	12:50	9.3	3300	23	11.8	7.09	11	0.11	0.01 UJ	0.087	0.007	0.003 U	4.7	6
6/19/2006	12:55	10.2	2710	27	11.6	7.04	3	0.087	0.01 U	0.096	0.0038	0.003 U	1.9	9
7/17/2006	12:10	15.1	885	44	10.4	7.2	5	0.16	0.01 U	0.122	0.0054	0.003 U	0.9	20
8/21/2006	11:20	15.5	361	64	8.9	7.19	2	0.22	0.01 U	0.175	0.0057	0.0037	1.1	61
9/18/2006	12:30	12.4	420	64	9.8	7.06	2	0.264	0.01 U	0.21	0.0064	0.004	1.2	92

Conventional Data Report

SF Snoqualmie R @ 468th Ave. SE

07M120

Class: A
Rivermile: 8.6
Latitude: 47 27 58.2
Longitude: 121 45 27.6
Waterbody: WA-07-1110

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
10/17/2005 10:55	10.5		38	11.2	7.42	1	0.17	0.01 U	0.162	0.0012	0.003 U	0.5 U	13
11/14/2005 10:55	5.4		27	12.6	7.33	2	0.344	0.01 U	0.313	0.002	0.003 U	1	1 U
12/12/2005 10:45	1.7		41	14.1	7.22	1 U	0.19	0.01 U	0.193	0.0016	0.003 U	0.5 U	3
1/23/2006 10:50	4.7		37	13.2	7.33	1 U	0.23	0.01 U	0.209	0.0013	0.003 U	0.7	1 U
2/13/2006 10:10	4.2		40	13.1	7.17	1	0.21	0.01 U	0.19	0.001 U	0.003 U	0.5 U	1
3/13/2006 11:15	3.6		53	13.3	7.36	1 U	0.22	0.01 U	0.208	0.001 U	0.003 U	0.5 U	2
4/17/2006 11:45	5		38	13.1	7.5	1 U	0.19	0.01 UJ	0.163	0.001 U	0.003 U	0.5 U	1 U
5/15/2006 11:40	7.5		22	12	7.4	3	0.11	0.01 U	0.094	0.0012	0.003 U	0.5	1
6/19/2006 11:45	8.7		25	12.1	7.14	1 U	0.067	0.01 U	0.07	0.001 U	0.003 U	0.5 U	1
	Bug seen in grab sample for filtered metals sample.												
7/17/2006 10:55	14.1		39	10.9	7.43	1 U	0.12	0.01 U	0.094	0.0018	0.003 U	0.5 U	32
8/21/2006 10:25	14.8		54	10.4	7.53	1	0.18	0.01 U	0.137	0.0013	0.003 U	0.5 U	9
	TR metals and Hg were inadvertantly run on blank water. Coded "B"												
9/18/2006 11:40	12.2		55	10.8	7.35	1 U	0.17	0.01 U	0.154	0.0012	0.003 U	0.5	24

Metals Data Report

SF Snoqualmie R @ 468th Ave. SE

07M120

Class: A
Rivermile: 8.6
Latitude: 47 27 58.2
Longitude: 121 45 27.6
Waterbody: WA-07-1110

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/17/2005	10:55		12.6	0.1 U	0.02 U	0.5 U	0.25 U	0.52	0.47	0.1 U	0.02 U	0.002 U	0.2	0.6	5 U	2.5
11/14/2005	10:55															
12/12/2005	10:45		14.2	0.1 U	0.02 U	0.5 U	0.25 U	0.37	0.44	0.1 U	0.02 U	0.002 U	0.32	0.42	5 U	2.7
1/23/2006	10:50															
2/13/2006	10:10		13.2	0.1 U	0.02 U	0.5 U	0.25 U	0.43	0.45	0.1 U	0.02 U	0.002 U	0.13	0.39	5 U	1.3
3/13/2006	11:15															
4/17/2006	11:45		11.1	0.1 U	0.02 U	0.5 U	0.25 U	0.57	0.52	0.1 U	0.028	0.002 U	0.18	0.34	5 U	1.1
5/15/2006	11:40															
6/19/2006	11:45		8.53	0.1 U	0.02 U	0.5 U	0.25 U	0.54	0.48	0.1 U	0.02 U	0.002 U	0.14	0.41	5 U	1
7/17/2006	10:55															
8/21/2006	10:25		21.3		0.02 U		0.25 U		0.33		0.02 U		0.19			1.8
9/18/2006	11:40															

Conventional Data Report

Cedar R @ Logan St/Renton

08C070

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

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 #/100/mL
10/17/2005 12:55	13	346	74	11.4	7.75	4	0.2	0.01 U	0.169	0.0112	0.0089	1.4	65
11/14/2005 13:05	8.4	1780	50	11.8	7.45	18	0.432	0.01 U	0.39	0.0133	0.008	4.8	26
12/12/2005 12:50	5.6	406	72	13.2	7.75	2	0.329	0.01 U	0.308	0.0094	0.0085	0.6	19
1/23/2006 13:00	6.9	2330	49	12.3	7.26	29 J	0.362	0.01 U	0.342	0.0144	0.0066	8.6	2
2/13/2006 12:25	6.7	1500	56	12.2	7.35	5	0.334	0.01 U	0.309	0.008	0.0068	2.4	10
3/13/2006 12:40	7.1	829	63	12.7	7.58	6 J	0.302	0.01 U	0.269	0.0056	0.007	0.8	2
4/17/2006 13:35	9.6	490	74	13.3	8.27	4	0.372	0.01 U	0.254	0.0046	0.0049	0.7	6
5/15/2006 13:40	14.3	414	82	11.7	8.09	5	0.24	0.01 U	0.187	0.0079	0.007	0.7	10
6/19/2006 14:05	13.1	458	76	11.5	7.69	2	0.21	0.01 U	0.192	0.0071	0.0069	0.8	61
7/17/2006 13:28	15.9	258	84	12.1	8.33	4	0.18	0.01 U	0.14	0.0067	0.0046	0.5 U	110
8/21/2006 12:45	17	138	100	11.5	8.34	2	0.24	0.01 U	0.209	0.0122	0.011	0.7	120
9/18/2006 13:50	13.8	174	94	12.7	8.46	3	0.23	0.01 U	0.182	0.0086	0.0077	0.8	260

Conventional Data Report

Cedar R nr Landsburg

08C110

Class: AA
Rivermile: 25.1
Latitude: 47 23 29.3
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
10/17/2005 9:45	11.4	427	58	10.6	7.34	1 U	0.15	0.01 U	0.133	0.004	0.0048	0.5 U	1
11/14/2005 9:45	7.6	1340	40	11.8	7.47	4	0.266	0.01 U	0.236	0.0047	0.0054	1.6	3 J
12/12/2005 9:30	5.8	461	55	12.1	7.48	1	0.17	0.01 U	0.18	0.0052	0.0057	0.5 U	1
1/23/2006 9:45	5.7	1970	38	12.4	7.43	3	0.18	0.01 U	0.164	0.0043	0.0045	1.4	1 UJ
2/13/2006 9:30		1270											
No Access - Road blocked.													
3/13/2006 10:05	6.2	774	51	12	7.45	2	0.22	0.01 U	0.177	0.0038	0.0061	0.5 U	1
4/17/2006 10:44	7.7	595	56	11.9	7.53	1 U	0.23	0.01 UJ	0.2	0.0046	0.006	0.5	1 U
5/15/2006 10:40	10.3	368	70	11.1	7.61	2	0.22	0.01 UJ	0.202	0.0054	0.0071	0.5 U	1 U
6/19/2006 10:30	10.5	552	60	11.4	7.58	1	0.16	0.01 U	0.16	0.0047	0.0063	0.5 U	11
Barometric pressure not recorded and and is an estimate.													
7/17/2006 9:39	11.7	432	64	10.9	7.65	3	0.18	0.01 U	0.157	0.0056	0.0052	0.5 U	5
8/21/2006 9:20	11.1	272	73	10.7	7.66	1 U	0.2	0.01 U	0.184	0.0066	0.0077	0.5 U	3
9/18/2006 10:35	10.9	258	71	10.8	7.51	1	0.21	0.01 U	0.183	0.0051	0.0065	0.5 U	21

Conventional Data Report

Green R @ Tukwila

09A080

Class: A
Rivermile: 12.4
Latitude: 47 27 56.0
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
10/17/2005	13:30	13.2	531	105	9.3	7.32	7	0.547	0.098	0.375	0.0501	0.023	2.5 J	17
11/14/2005	13:45	7.6	2410	64	11.3	7.47	15	0.554	0.011	0.458	0.0323	0.017	6.2	27
12/12/2005	13:35	3.8	663	125	12	7.38	2	0.707	0.031	0.608	0.0296	0.012	1.9	14
1/23/2006	13:40	7.2	3130	75	11.6	7.29	29	0.771	0.014	0.691	0.0343	0.018	13	11
2/13/2006	13:00	6.4	1720	96	11.8	7.23	27	0.733	0.015	0.656	0.0283	0.014	7.1	5
3/13/2006	13:35	6.7	1040	114	11.4	7.26	9	0.666	0.019	0.595	0.0249	0.012	5	2
4/17/2006	14:20	7.5	2000	67	11.7	7.64	16	0.388	0.01 UJ	0.301	0.0216	0.013	4.9	20
5/15/2006	14:20	13.3	1020	88	10.1	7.25	9	0.326	0.01 UJ	0.253	0.02	0.01	2.2	6
6/19/2006	15:10	13.9	891	111	9.8	7.25	7	0.452	0.018	0.378	0.027	0.013	2.2	34
7/17/2006	14:15	18.5	349	170	9	7.22	5	0.567	0.054	0.437	0.0421	0.0096	3.1	13
8/21/2006	13:40	19.1	256	168	9.69	7.4	7	0.393	0.034	0.304	0.0437	0.003 U	3.4	37
9/18/2006	14:30	15	279	151	9	7.34	7	0.496	0.049	0.353	0.0426	0.013	3.6	220

Nearly slack water due to tide

Conventional Data Report

Green R @ Kanaskat

09A190

Class: AA
Rivermile: 57.6
Latitude: 47 19 10.0
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
10/17/2005 8:25	11.4	383	52	10.6	7.5	1	0.2	0.01 U	0.147	0.0067	0.0046	0.8	3 J
11/14/2005 8:50	6.2	2030	40	12.3	8.08	8	0.273	0.01 U	0.236	0.0095	0.0077	2.8	6 J
12/12/2005 8:35	2.6	344	52	13.6	7.95	1 U	0.17	0.01 U	0.165	0.0058	0.0061	0.5 U	1 J
1/23/2006 8:35	5.5	1710	42	12.7	7.83	3	0.254	0.01 U	0.235	0.0093	0.01	1.9	3 J
2/13/2006 8:35	4.7	972	44	12.8	7.7	1 U	0.18	0.01 U	0.179	0.0081	0.0091	0.6	3 J
3/13/2006 8:45	4.3	565	47	13.3	7.48	1 U	0.18	0.01 U	0.16	0.0051	0.0078	0.5	3 J
4/17/2006 8:20	5.1	1360	39	12.8	7.7	2	0.12	0.01 UJ	0.096	0.0075	0.0087	0.9	2 J
5/15/2006 8:40	9.1	849	42	11.8	7.72	2	0.06	0.01 UJ	0.044	0.0074	0.0092	0.8	2 J
6/19/2006 8:50	10.9	512	46	12.1	7.58	2	0.068	0.01 U	0.052	0.0052	0.006	0.8	5 J
7/17/2006 8:15	13.1	158	54	10.8	7.59	2	0.13	0.013	0.085	0.0064	0.0042	0.5 U	9 J
8/21/2006 8:10	15.3	141	58	10	7.65	2 U	0.12	0.01 U	0.073	0.0047	0.0051	0.6	24 J
9/18/2006 8:50	14.6	149	57	9.9	7.64	2	0.13	0.01 U	0.071	0.0041	0.0058	1.9	43 J

Conventional Data Report

Miller Cr nr Mouth

09D070

Class: AA
Rivermile: 0.4
Latitude: 47 26 44.1
Longitude: 122 21 03.6
Waterbody: WA-09-2005

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
10/17/2005 15:10	14.6		264	9.3	8.1	1	1.06	0.01 U	0.95	0.0736	0.0522	0.9	120
11/14/2005 15:10	8.5		175	11.4	7.93	6	1.01	0.013	0.797	0.0649	0.0369	3.7	63
12/12/2005 15:20	6.1		274	12	8.17	1	1.44	0.01 U	1.31	0.0504	0.0402	1.6 J	11
1/23/2006 15:15	9		179	11.4	7.86	5	1.73	0.025	1.52	0.0439	0.026	3.9	43
2/13/2006 15:10	7.5		167	12.3	8	7	1.31	0.035	1.09	0.0398	0.02	4.5	81
3/13/2006 15:00	8.1		210	11.9	8.2	2 U	1.43	0.01 U	1.26	0.0317	0.023	1.4	31
4/17/2006 15:55	11.6		216	11.6	8.56	3	1.03	0.011 UJ	0.829	0.0308	0.019	1.5	37
5/15/2006 15:40	14.9		270	9.8	8.2	5	1.59	0.014	1.42	0.0617	0.0489	2.4	51
6/19/2006 16:50	15.2		266	10	7.84	8	1.45	0.01 U	1.14	0.0838	0.0498	5.7	270
7/17/2006 16:25	15.7		273	9.9	8.11	5	1.46	0.01 U	1.33	0.069	0.0565	1.9	80
8/21/2006 16:00	16.1		277	9.8	8.22	1	1.34	0.01 U	1.26	0.0728	0.0618	1.3	140
9/18/2006 16:15	15.2		211	9.4	8.02	8	1.1	0.01	0.882	0.0694	0.049	5	1700 J

Metals Data Report

Miller Cr nr Mouth

09D070

Class: AA
Rivermile: 0.4
Latitude: 47 26 44.1
Longitude: 122 21 03.6
Waterbody: WA-09-2005

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/17/2005	15:10		108	0.1 U	0.02 U	0.53	1.2	1.45	1.34	0.26	0.078	0.0026	1.69	1.2	5 U	4.4
12/12/2005	15:20		117	0.1 U	0.02 U	0.69	1.5	1.24	1.02	0.2	0.066	0.002 U	1.96	1.07	5.3	6.1
2/13/2006	15:10		69.1	0.1 U	0.02 U	0.91	0.93	3.42	2.64	1.53	0.3	0.008	1.56	1.06	16	12.5
4/17/2006	15:55		91.2	0.1 U	0.02 U	0.52	0.85	2.38	2.07	0.51	0.207	0.0054	1.81	1.06	6.6	4.6
6/19/2006	16:50		117	0.1 U	0.02 U	1.3	1.1	2.47	1.75	1.79	0.16	0.005	2.08	1.8	10	3.9
8/21/2006	16:00		128	0.1 U	0.02 U	0.7	1.1	1.01	0.87	0.23	0.067	0.002 U	1.49	1.67	5 U	1.7

Conventional Data Report

Fauntleroy Cr. nr Mouth

09K070

Class: AA
Rivermile: 0.1
Latitude: 47 31 22.0
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
10/17/2005 14:20	13.3		296	10.19	8.14	3	0.82	0.01 U	0.763	0.0629	0.051	1.5	120
11/14/2005 14:30	8.6		277	11.7	8.05	4	1.09	0.012	0.962	0.0542	0.049	2.1	23
12/12/2005 14:25	7		281	12.1	8.13	5	0.998	0.01 U	0.928	0.0467	0.042	2.9	28
1/23/2006 14:35	9.4		261	11.7	7.95	9	1.66	0.015	1.48	0.0497	0.0406	6.5	16
2/13/2006 14:10	7.9		259	12	7.95	11	1.48	0.011	1.41	0.0473	0.0384	7.1	110
3/13/2006 14:20	7.5		263	12	8.02	10	1.34	0.01 U	1.24	0.0447	0.04	5.8	44
4/17/2006 15:15	10		275	11.6	8.25	14	1.2	0.01 U	1.05	0.0526	0.0446	6.8	22
5/15/2006 15:00	12.6		283	10.6	8.12	23	1.12	0.01 U	1.02	0.0638	0.0533	11	220
6/19/2006 16:00	13.2		287	10.7	8.12	26 J	1.05	0.01 U	0.968	0.0803	0.061	12	140
7/17/2006 15:25	13.4		291	10.7	8.11	15	1.03	0.01 U	0.955	0.0722	0.0579	12	280
8/21/2006 15:05	14.4		292	10.5	8.21	17	0.968	0.01 U	0.917	0.0711	0.0622	9.1	280
9/18/2006 15:25	13.4		288	10.4	8.2	15	0.913	0.01 U	0.819	0.0627	0.0573	7.1	410

Metals Data Report

Fauntleroy Cr. nr Mouth

09K070

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

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/17/2005	14:20		124	0.1 U	0.02 U	0.65	1.4	0.83	0.59	0.23	0.035	0.0051	0.96	2.52	5 U	1.7
12/12/2005	14:25		123	0.1 U	0.02 U	0.83	1.4	0.8	0.47	0.37	0.043	0.002 U	1	2.12	5 U	1.1
2/13/2006	14:10		118	0.1 U	0.02 U	1.3	1.2	1.71	1.05	0.99	0.12	0.0094	1.12	2.36	5 U	1
4/17/2006	15:15		121	0.1 U	0.02 U	1.3	1	1.67	0.68	1.19	0.082	0.0091	0.99	2.56	5 U	1.4
6/19/2006	16:00		129	0.1 U	0.02 U	2	1.1	1.73	0.51	2	0.056	0.0089	1.05	3.3	5 U	1 U
8/21/2006	15:05		139	0.1 U	0.02 U	1.6	1.1	1.36	0.41	1.32	0.039	0.0081	0.86	3.3	5 U	1 U

Conventional Data Report

Puyallup R @ Meridian St

10A070

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

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/17/2005	9:55	11.7	1670	87	10.4	7.52	65	0.254	0.031	0.191	0.0829	0.028	23	64
11/14/2005	13:00	7.3	4550	57	11.4	7.41	201	0.314	0.01 U	0.281	0.0879	0.014	17	25
12/12/2005	11:23	3.3	2350	90	12.83	7.42	82	0.393	0.017	0.328	0.038	0.021	4.2 J	15
1/23/2006	14:12	6.4	6020	65	12.1	7.35	114 J	0.427	0.016	0.382	0.0435	0.015	12	12
2/13/2006	12:14	6	2800	84	12.1	7.37	17	0.481	0.024	0.414	0.0327	0.017	3.8	5
3/13/2006	10:45	4.8	1790	96	12.37	7.46	3	0.471	0.01 U	0.372	0.0272	0.02	1.9	4
4/17/2006	11:10	6.5	2930	72	12.6	7.56	15 J	0.35	0.011	0.259	0.0246	0.016	3	18
		No metals collected (sampler forgot).												
5/15/2006	10:30	11.8	2710	72	11.4		30 J	0.14	0.01 U	0.084	0.0176	0.014	2.6	18
		No pH recorded at this station.												
6/19/2006	9:15	11.1	3770	58	10.9	7.33	42	0.15	0.01 U	0.113	0.0492	0.015	15	25 J
7/24/2006	9:55	15.5	2910	52	9.82	7.29	798	0.12	0.01	0.1	0.346	0.021	550	84 J
		Very milky. Sampled extra constituents for Greg P. Couldn't filter DOC through small pp filter. Used usual cellulose acetate filter.												
8/21/2006	10:05	13.8	1690	67	10	7.84	322	0.16	0.01 U	0.121	0.318	0.024	190	64
9/25/2006	12:00	12.3	1150	101	10.6	7.36	95	0.21	0.012	0.182	0.0708	0.035	36	76

Metals Data Report

Puyallup R @ Meridian St

10A070

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

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/17/2005	9:55		32.3	0.1 U	0.02 U	0.76	0.25 U	3.22	0.95	0.39	0.04	0.0035	0.62	0.79	5 U	2.2
12/12/2005	11:23		32.3	0.1 U	0.02 U	0.5 U	0.25 U	1.27	0.79	0.11	0.037	0.002 U	0.5	0.63	5 U	4.1
2/13/2006	12:14		31.6	0.1 U	0.02 U	0.5 U	0.35	1.24	0.87	0.12	0.027	0.0034	0.43	0.53	5 U	2.7
6/19/2006	9:15		23.9	0.1 U	0.02 U	0.5 U	0.25 U	1.83	0.74	0.23	0.031	0.002 U	0.39	0.68	5 U	3.2
8/21/2006	10:05		32.7	0.1 U	0.02 U	4.9	0.25 U	12.7	0.65	2.02	0.029	0.0136	0.45	1.14	13	1.2

Conventional Data Report

White River @ R Street

10C095

Class: A
Rivermile: 8
Latitude: 47 16 31.0
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
10/17/2005 8:50	11.7	710	83	10.6	7.4	65	0.19	0.014	0.149	0.0577	0.02	15	24 J
11/14/2005 12:12	7	2240	57	12	7.16	245	0.362	0.01 U	0.293	0.0839	0.015	13	15
12/12/2005 9:53	3	795	84	13.23	7.15	70	0.489	0.01 U	0.32	0.0254	0.016	3.4 J	5
1/23/2006 13:20	6.1	3380	58	12.1	7.11	71 J	0.347	0.01 U	0.31	0.0474	0.012	11	6
2/13/2006 10:30	5.5	1090	72	12.4	7.19	18 J	0.348	0.01 U	0.328	0.0196	0.014	2.2	12
	Running Clear												
3/13/2006 10:06	4.6	757	82	12.77	7.18	4	0.319	0.01 U	0.259	0.0144	0.012	0.9	5
4/17/2006 10:11	6.1	1110	66	12.8	8.18	24 J	0.2	0.01 U	0.143	0.0171	0.011	1.9	6
5/15/2006 9:40	11.5	1410	68	12	7.79	33 J	0.048	0.01 U	0.01 U	0.0086	0.0055	2.6	9 J
6/19/2006 8:20	10.6	2100	54	10.9	7.63	82 J	0.097	0.01 U	0.075	0.0472	0.012	13	16 J
7/24/2006 8:55	17.7	1130	54	9.22	7.38	646 J	0.1	0.014	0.071	0.572	0.023	390	80 J
	Very milky.												
8/21/2006 9:05	14.4	747	70	9.69	8.23	158	0.091	0.01 U	0.074	0.161	0.022	95	33 J
9/25/2006 11:02	12.3	622	89	11.1	7.61	34	0.11	0.01 U	0.087	0.0394	0.024	19	9
	Couldn't get my key to work on the WWG.												

Conventional Data Report

Nisqually R @ Nisqually

11A070

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

Date/Time	Temp 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
10/17/2005 10:40	12.2	1055 J	71	9.69	7.56	322	0.18	0.01 U	0.139	0.398	0.012	550	14
11/14/2005 13:45	9	2384 J	62	11.5	6.92	25	0.361	0.01 U	0.291	0.0375	0.012	25	9
12/12/2005 12:13	4.7	1341 J	75	12.33	7.49	15	0.275	0.01 U	0.251	0.0266	0.0099	17	6
1/23/2006 15:08	7.2	3840 J	63	11.6	7.42	28 J	0.613	0.01 U	0.54	0.0371	0.015	21	4
2/13/2006 13:13	6.6	3168 J	66	12	7.22	15	0.533	0.01 U	0.515	0.0255	0.012	9.2	2
3/13/2006 11:35	5.4	1881 J	73	12.37	7.61	3 J	0.49	0.01 U	0.424	0.0134	0.011	4	3
4/17/2006 12:01	7.3	1703 J	66	12.5	7.78	6 J	0.443	0.01 U	0.344	0.0158	0.0082	4	1
5/15/2006 11:30	10.8	1221 J	72	12.1	7.62	8	0.301	0.01 UJ	0.215	0.0098	0.0071	3	6
6/19/2006 10:15	11.7	1618 J	64	10.9	7.42	6	0.17	0.01 U	0.127	0.0122	0.0077	2.9	13
7/24/2006 10:55	15.8		63	9.82	7.42	5	0.18	0.01 U	0.117	0.0117	0.0076	6.2	9
	Sampled extra constituents for Greg P.												
8/21/2006 11:10	14.8	917 J	67	10	7.68	5	0.16	0.01 U	0.123	0.0117	0.0096	2.4	17
	A number of salmon fisherman												
9/25/2006 13:36	15.4	809 J	72	10.6	7.48	6	0.16	0.01 U	0.119	0.0173	0.01	11	6

Conventional Data Report

Deschutes R @ E St Bridge

13A060

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

Date/Time	Temp 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
10/17/2005 11:20	12.7	108	153	9.6	7.44	3	0.88	0.01 U	0.817	0.0276	0.017	1.9	56
11/14/2005 14:40	8.9	627	73	10.9	7.34	4	0.696	0.01 U	0.603	0.021	0.015	5.4	21
12/12/2005 12:45	4.6	193	127	12.03	7.24	2	0.947	0.01 U	0.908	0.0196	0.015	2.3	4
1/23/2006 15:37	8	822	87	11.5	7.01	15	0.983	0.01 U	0.879	0.0247	0.017	11	19
2/13/2006 14:07	8.1	611	103	11	7.26	9	0.988	0.01	1.02	0.0241	0.019	5.1	9
3/13/2006 12:13	6.8		105	11.28	7.14	6	0.948	0.01 U	0.855	0.0205	0.016	4.7	4
4/17/2006 13:00	8.4		77	11.2	7.41	12	0.673	0.01 U	0.591	0.0198	0.012	8.8	13
5/15/2006 12:20	14.3		133	10.5	7.51	3	0.995	0.01 U	0.885	0.0154	0.013	1.3	8
6/19/2006 11:00	14.2	167	134	9.9	7.37	4	0.967	0.01 U	0.858	0.0248	0.016	2	22
7/24/2006 11:40	18.9	97	146	8.72	7.36	3	1.12	0.019	0.979	0.0284	0.02	2.5	35
Sampled extra constituents for Greg P.													
8/21/2006 11:55	15.5	85	154	9.4	7.54	3	1.08	0.01 U	0.998	0.0236	0.018	1.6	63
9/25/2006 15:00	13.9	76	156	10.1	7.38	4	1.13	0.017	1.03	0.0233	0.02	1.6	22

Metals Data Report

Deschutes R @ E St Bridge

13A060

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

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/17/2005	11:20		54.1	0.1 U	0.02 U	0.5 U	0.72	0.51	0.42	0.1 U	0.02	0.002 U	0.52	0.37	5 U	3
12/12/2005	12:45		44.5	0.1 U	0.02 U	0.91	0.65	1.03	0.61	0.2	0.033	0.002 U	0.51	0.32	5 U	5.6
2/13/2006	14:07		37	0.1 U	0.02 U	0.54	0.53	1.38	0.69	0.11	0.023	0.003	0.38	0.33	5 U	1.3
4/17/2006	13:00		29.6	0.1 U	0.02 U	0.66	0.39	1.89	0.81	0.19	0.031	0.0046	0.33	0.33	5 U	1 U
6/19/2006	11:00		52.3	0.1 U	0.02 U	0.5 U	0.58	0.74	0.5	0.1 U	0.02 U	0.002 U	0.69	0.52	5 U	1.8
8/21/2006	11:55		58.9	0.1 U	0.02 U	0.5 U	0.56	0.76	0.4	0.1 U	0.02 U	0.002 U	0.48	0.65	5 U	1.6

Conventional Data Report

Big Beef Cr @ Mouth

15F050

Class: AA
Rivermile: 0.2
Latitude: 47 39 02.0
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
10/18/2005	13:03	12.4	3.41	278	9.44	7.34	3	0.2	0.056	0.086	0.0255	0.018	0.9	2
		The conductivity value read 0.278 mS on the meter. Chum, coho, and king salmon adults were present above and below the weir. I sampled at the outfall of the weir.												
11/15/2005	14:40	6.9	18.2	61	11.65	7.22	2 U	0.615	0.024	0.396	0.0104	0.0088	1.4	9
12/13/2005	14:23	7	5	5.69	11.85	6.75	1 U	0.438	0.01 U	0.302	0.018	0.015	1	6
		The conductivity unit was mS on the meter. Numerous coho salmon were present at the weir. Sampled at high tide which could account for the very high conductivity value.												
1/24/2006	13:50	6.7		44	12.2	6.98	4	0.397	0.01 U	0.309	0.0076	0.0074	2.1	2
		Stream was moderate and clear. Flood debris on the weir and walkway. No salmon present at the station.												
2/14/2006	13:22	5.7	24.4	49	12.3	6.97	2	0.365	0.01 U	0.302		0.0075	1.7	1
		Ran out of 60 ml sample bottles (check revised bottle order with Will) so no TPLL samples or TOC samples from here on. Flood debris abundant on the fish rack.												
3/15/2006	13:36	6.9	19.7	57	11.6	7.16	2	0.304	0.01 U	0.211	0.0073	0.0073	1	1
4/18/2006	14:02	10.9	22.3	55	11.35	7.24	2	0.21	0.01 UJ	0.118	0.0081	0.0045	1	2
5/17/2006	13:55	14.5	4.03	76	10.8	7.12	2	0.3	0.01 UJ	0.236	0.0124		0.6	7
		The flow is so low here that WDFW is down to one fan trap for capturing outmigrating coho smolts.												
6/20/2006	15:09	14.2	6.28	84	10.8	7.19	3	0.24	0.01 U	0.178	0.0125	0.01	0.8	45
		Matt Gillam, WDFW biologist on site at Big Beef Creek, counted approximately 36,000 coho smolts outmigrating from Big Beef Creek this spring.												
7/19/2006	13:15	14.9	7.09	540	10.19	7.08	2	0.272	0.034	0.182	0.019	0.012	0.8	17
		Sampled at high tide which may explain the high conductivity (value was 0.54 mSiemens.												
8/22/2006	13:23	14.5	7.09	720	8.85	7.12	2	0.19	0.046	0.097	0.0461	0.018	2.1	18
		Weir is now in place. High conductivity probably due to sampling at high tide. Approximately 20 cutthroat trout just downstream of the weir.												
9/19/2006	14:05	13.4	7.09	167	9.9	6.69	4	0.296	0.058	0.179	0.0227	0.023	1.2	32
		Numerous king and chum salmon at the sampling station. Note: A decision has been made to eliminate the king salmon run from Big Beef Creek so WDFW staff are not passing the king salmon upstream of the weir which limits alls possible spawning area for th												

Conventional Data Report

Seabeck Cr. @ mouth

15L050

Class: AA
Rivermile: 0.2
Latitude: 47 38 09.0
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
10/18/2005 14:05	11.2	16	100	9.4	7.35	1 U	0.506	0.01 U	0.466	0.015	0.011	0.5 U	29
The stage value is the staff gage reading at the flow station.													
11/15/2005 15:23	7.2	21.2	67	11.3	7.09	1	1.2	0.012	1.12		0.013	0.7	10
Stage is the staff gage value at the sampling location.													
12/13/2005 14:48	6.7	14.8	112	10.75	7.23	1 U	0.813	0.037	0.823	0.0206	0.02	0.5	15
The stage value was from the staff gage at the discharge station. Numerous spawned out chum salmon carcasses at the sampling location.													
1/24/2006 14:43	7.2	26.3	47	12	6.77	1 U	0.57	0.01 U	0.557	0.0058	0.0075	1.1	1
The stage was taken from the DOE staff gage at the flow station. Evidence of substrate movement at the station during the high water.													
2/14/2006 14:16	6.7	14.8	56	11.7	6.8	1	0.62	0.01 U	0.61		0.009	0.7	1 U
The stage value is the staff gage reading from the DOE flow station.													
3/15/2006 14:00	7.1	14.1	57	12	7.11	1	0.603	0.01 U	0.563	0.0073	0.0087	0.8	7
The stage value is taken from the DOE staff gage.													
4/18/2006 14:40	9.2	16	53	11.35	6.77	1 U	0.531	0.011 UJ	0.477	0.0063	0.0072	0.5 U	2
Stage was taken from the DOE staff gage.													
5/17/2006 14:25	11.9	2.05	86	11.4	7.05	1	0.658	0.01 U	0.616	0.0115	0.012	0.5 U	6
The stage is taken from the DOE staff gage. This stream is very low.													
6/20/2006 16:08	11.4	1.09	91	10.55	7.22	1	0.693	0.01 U	0.636	0.0163	0.015	0.5 U	20
The stage value was taken from the DOE staff gage. The flow is very low and clear.													
7/19/2006 14:45	12	0.96	95	10.35	6.78	1 U	0.69	0.01 U	0.632	0.0155	0.015	1	19
Stage was taken from the DOE staff gage.													
8/22/2006 13:55	12	0.93	97	10.3	7.12	1 U	0.645	0.01 U	0.619	0.0156	0.017	0.5 U	36
Stage taken from the DOE staff gage.													
9/19/2006 14:51	11.4	0.93	98	10.3	7.13	1 U	0.594	0.01 U	0.572	0.0138	0.016	0.5 U	33
The stage was taken from the DOE staff gage.													

Conventional Data Report

Lt 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
10/18/2005 12:28	10.7	3.12	116	10.6	7.51	1 U	0.305	0.01 U	0.278	0.0473	0.0365	0.5	7
The stage value is corrected and it is the tapedown distance from the reference point on the bridge (26.49 plus 0.31 feet). The staff gage value was 4.05 feet.													
11/15/2005 13:52	7.1	3.12	110	11.8	7.23	1 U	1	0.01 U	0.931	0.036	0.037	0.5 U	3
The stage is the staff gage value at the flow monitoring station just upstream from the bridge.													
12/13/2005 13:43	6.1	2.68	111	12	7	7	0.673	0.01 U	0.64	0.0463	0.0378	4.7	1
The stage value is the staff gage reading from the discharge station just upstream from the bridge.													
1/24/2006 12:32	6.7	11.6	73	12.2	6.77	2	1.06	0.01 U	0.999	0.0179	0.018	2.2	1
The stage value is from the DOE staff gage at the flow monitoring station.													
2/14/2006 12:45	6	14.9	76	12.3	6.91	4	0.994	0.01 U	0.985	0.0189	0.018	2.3	8
Staff gage and slant pipe dewatered at DOE flow station due to channel shift during last high water so no staff gage value available. It was too windy (from the north) to take a tapedown value from the bridge so no stage record for the day.													
3/15/2006 13:04	6.9	5.1	84	11.95	7.15	2	0.829	0.01 U	0.745	0.0238	0.023	1.2	6
The stage value is taken from the DOE staff gage which is now in a new location approximately 50 feet downstream.													
4/18/2006 13:17	8.4	4.38	85	11.7	7.18	2 U	0.653	0.012 UJ	0.586	0.0229	0.02	0.7	1 U
The stage value was taken from the DOE staff gage.													
5/17/2006 13:15	11.7	3.09	101	11.2	7.28	1	0.614	0.01 UJ	0.473	0.0334	0.0307	0.5 U	7
The stage value is taken from the DOE staff gage. John Kiess from Kitsap County Health Department sampled here at the same time. He also sampled Big Beef, Seabeck, and Stavis Creeks today. This is a good opportunity to compare field sampling results.													
6/20/2006 14:23	11.5	2.82	107	10.9	7.85	2	0.466	0.01 U	0.421	0.0374	0.037	0.7	11
The stage value is taken from the recently moved and replaced DOE staff gage.													
7/19/2006 13:00	12	2.29	108	10.8	7.18	2	0.412	0.01 U	0.381	0.0407	0.0368	0.8	26
The stage was taken from the DOE staff gage. Coho fry were observed at the station.													
8/22/2006 12:46	11.2	2.29	109	11.2	7.36	2	0.37	0.01 U	0.346	0.0415	0.042	0.6	16
Coho fry at station. Stage is extemely stable here.													
9/19/2006 13:25	10.9	2.29	113	11.1	7.39	1 U	0.371	0.01 U	0.351	0.0379	0.0385	0.5 U	70
The stage was taken from the DOE staff gage at the flow monitoring station. The stream was low, clear, and very stable.													

Conventional Data Report

Stavis Cr. nr Mouth

15N070

Class: AA
Rivermile: 0.2
Latitude: 47 37 29.0
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
10/18/2005 14:35	11.2	8.74	107	10.3	7.34	11	0.098	0.01 U	0.059	0.0694	0.0448	2.9	4
No salmon present at the station today.													
11/15/2005 15:55	6.7	29.4	58	12	7.16	3	0.515	0.011	0.394		0.024	1.2	9
Stage is the staff gage value at the flow monitoring station.													
12/13/2005 15:15	5.5	11.5	86	12.2	7.38	1	0.24	0.011	0.211	0.0398	0.0349	0.8	2
The stage value is the staff gage reading from the discharge station.													
1/24/2006 15:19	6.8	38.2	50	11.9	6.88	10	0.25	0.01 U	0.234	0.0191	0.018	2.5	2
Stage was taken from the staff gage at the DOE flow monitoring station. Stream flow was moderate and clear. Evidence of abundant substrate movement during the high water, primarily sand sized particles.													
2/14/2006 14:50	6.1	26.1	62	12.1	6.86	12	0.24	0.01 U	0.22		0.021	2.7	3
The stage value is from the staff gage at the DOE flow monitoring station upstream.													
3/15/2006 14:33	6.8	30.5	62	11.7	7.1	5	0.25	0.01 U	0.165	0.0269	0.022	1.6	12
The stage value is taken from the DOE staff gage.													
4/18/2006 15:10	10.1	32.9	54	11.2	6.65	5	0.19	0.01 UJ	0.121	0.0236	0.019	1.7	3
The stage value was taken from the DOE staff gage at the flow monitoring station. QA here today.													
5/17/2006 15:04	13.4	11.7	90		7.17	2	0.19	0.01 U	0.106	0.045	0.0302	0.5 U	11
The stage value is from the DOE staff gage at the flow monitoring station. No dissolved oxygen at this station--botched the lab work.													
6/20/2006 16:34	12.1	8.98	98	10.8	7.21	2	0.17	0.01 U	0.096	0.0475	0.0422	0.7	14
The stage value was taken from the DOE staff gage.													
7/19/2006 15:20	12.9	8.75	102	10.5	7.17	4	0.14	0.01 U	0.094	0.0521	0.0419	2.2	24
The stage was taken from the DOE staff gage.													
8/22/2006 14:27	12.5	8.36	100	10.4	7.4	1	0.13	0.01 U	0.094	0.0532	0.049	0.9	11
Stage was taken from the DOE staff gage.													
9/19/2006 15:25	11.5	8.55	104	10.6	7.23	1	0.12	0.01 U	0.091	0.0491	0.0443	0.9	14
The stage was taken from the DOE staff gage.													

Conventional Data Report

Skokomish R nr Potlatch

16A070

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

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/18/2005	10:05	10.8	628	72	9.9	7.36	5	0.091	0.01 U	0.059	0.0093	0.0058	3.6	15
		The stage value is from the USGS wire weight gage on the bridge. The check factor was 32.61 feet.												
11/15/2005	10:54	7.4	1350	65	11.4	7.18	8	0.14	0.01 U	0.104	0.0104	0.0097	5.2	5
		The stage was taken from the USGS wire weight gage on the bridge.												
12/13/2005	10:22	7.1	408	77	10.8	6.85	2	0.17	0.038	0.106	0.0139	0.011	1.1	8
		The stage value is the check factor minus the distance to the water surface using the USGS wire weight gage.												
1/24/2006	9:56	6.7	2120	58	11.8	6.69	10	0.09	0.01 U	0.075	0.0132	0.009	10	4 J
		The stage value is taken from the USGS wire weight gage 32.61 (check factor) - 13.47 feet. The river was glacial flour green in color.												
2/14/2006	10:20	6.4	1500	62	11.9	6.6	3	0.089	0.01 U	0.07	0.0098	0.0079	3.6	1 U
		The "stage" value is the value of the USGS wire weight gage from the bridge (32.61 - 12.85).												
3/15/2006	9:57	6.6	1190	62	11.7	7.08	2	0.072	0.01 U	0.052	0.0074	0.0081	1.2	2 J
		The stage value is from the USGS wire weight gage on the bridge.												
4/18/2006	10:10	6.6	1410	59	12.1	6.58	3	0.045	0.012 UJ	0.041	0.0069	0.0062	2.3	4
5/17/2006	10:20	10.1	1020	59	11.4	6.84	4	0.032	0.01 UJ	0.02	0.0073	0.0062	1.9	22
		The Skokomish was low and clear--no indication of snowmelt.												
6/20/2006	11:00	10.4	658	69	11.1	6.89	1	0.027	0.01 U	0.02	0.0069	0.0072	0.6	8
		The stage value was taken from the USGS wire weight gage on the bridge.												
7/19/2006	9:55	10.9	430	73	10.4	6.77	1	0.047	0.01 U	0.029	0.0089	0.0086	0.7	22
		The stage was derived from the USGS wire weight gage on the bridge--32.61 - 11.44 = 21.17												
8/22/2006	9:49	10.4	339	74	10.19	6.92	1	0.037	0.01 U	0.025	0.0087	0.0082	0.6	32 J
		The stage value was taken from the USGS wire weight gage on the bridge.												
9/19/2006	10:10	10	350	76	10.1	6.8	1	0.057	0.01 U	0.036	0.01	0.0099	0.7	37
		The stage was calculated from the USGS wire weight gage on the bridge (32.62 feet minus 11.28 feet). The river was very low and clear. 1 chinook salmon below the bridge.												

Conventional Data Report

Duckabush R nr Brinnon

16C090

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

Date/Time	Temp 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
10/18/2005 9:01	10	213	72	11	7.37	2	0.11	0.01 U	0.067	0.0047	0.0032	2.2	15
The stage value is from the USGS staff gage. I do not trust the barometric pressure reading.													
11/15/2005 9:47	5.4	323	77	12.7	7.33	1 U	0.089	0.01 U	0.063	0.0026	0.0049	0.6	1 UJ
The stage is the value of the USGS staff gage. The barometric pressure seems unusually low at this station.													
12/13/2005 9:17	3.9	152	88	12.95	7.14	1 U	0.049	0.01 U	0.047	0.0021	0.003 U	0.7	1
Stage is the USGS staff gage reading.													
1/24/2006 8:45	4.8	394	78	12.8	6.75	2	0.053	0.01 U	0.029	0.0038	0.0043	2	2 J
The stage value is from the USGS staff gage. The stream was moderately high and gin clear.													
2/14/2006 8:57	4.3	333	78	13	6.71	1	0.043	0.01 U	0.025	0.0029	0.0038	2.3	1 UJ
The stage value is the USGS staff gage reading.													
3/15/2006 8:51	4.5	224	79	12.8	7.2	1	0.037	0.01 U	0.015	0.0029	0.0038	0.6	2 J
The stage value is taken from the USGS staff gage at the sampling location.													
4/18/2006 8:56	4.6	287	74	12.9	6.73	1 U	0.031	0.015 UJ	0.016	0.0022	0.003 U	0.6	2 J
The stage value was taken from the USGS staff gage. Elk on the road leading to the station.													
5/17/2006 8:45	5.5	1240	45	12.8	6.44	24	0.076	0.01 UJ	0.051	0.0158	0.0031	15	17 J
The Duckabush was high and turbid from snowmelt.													
6/20/2006 9:45	7.4	505	64	12.4	6.84	3	0.025 U	0.01 U	0.01 U	0.0035	0.003 U	2	9 J
The stage value was taken from the USGS staff gage.													
7/19/2006 8:25	9.5	275	70	11.5	6.84	4	0.025 U	0.01 U	0.01 U	0.0038	0.003 U	1.1	1 J
The stage was taken from the USGS staff gage.													
8/22/2006 8:43	11.1	112	84	11.1	7.05	1 U	0.025 U	0.01 U	0.01 U	0.0027	0.0033	0.5 U	6 J
The stage was taken from the USGS staff gage. The river is very low and clear. Barometric pressure is always suspect here because of rough road approach to the station.													
9/19/2006 9:05	9.3	110	91	11.4	6.82	1	0.036	0.01 U	0.013	0.0035	0.0043	0.5 U	12 J
The stage was taken from the USGS staff gage. The river was very low and clear.													

Conventional Data Report

Dungeness R nr Mouth

18A050

Class: A
Rivermile: 1
Latitude: 48 08 37.7
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
10/18/2005 7:16	10.9	109	164	10.19	7.42	3	0.087	0.01 U	0.055	0.0074	0.0045	1.1	7 J
The stage value is the corrected distance from the reference point on the bridge (24.14 feet plus 0.31). I sampled for metals at this station.													
11/15/2005 7:49	5	148	149	12.3	7.58	2	0.11	0.01 U	0.055	0.0059	0.0051	1.2	26 J
The stage here refers to the tapedown value from the bridge.													
12/13/2005 7:00	3.9	95.8	162	12.2	7.07	1	0.12	0.01 U	0.085	0.0059	0.0047	1	9 J
The stage value is the corrected distance (tapedown) from the reference point on the brdge to the water surface. Sampled for metals here today.													
1/24/2006 6:55	4.5	673	131	13.2	6.59	6	0.12	0.01 U	0.088	0.0085	0.0063	5.4	4 J
The stage value is the tapedown from the reference point on the bridge.													
2/14/2006 7:05	3.6	438	140	13.1	6.54	4	0.13	0.01 U	0.084	0.0073	0.0055	2.4	3 J
The "stage" value is the tapedown value from the bridge (22.85 + 0.31). I sampled for metals before sunrise. The river is low and clear on a cold morning.													
3/15/2006 6:41	3.5	195	153	12.9	6.82	5 J	0.1	0.01 U	0.053	0.0051	0.0044	1.2	2 J
The stage value is the tapedown from the reference point on the bridge.													
4/18/2006 6:53	5.7	198	149	12.2	6.76	3	0.064	0.02 UJ	0.031	0.005	0.0037	1.4 J	16 J
The stage value was taken from the reference point on the bridge (23.43 + 0.31)													
5/17/2006 6:45	7.4	1160	81	12.2	7.3	94	0.12	0.01 UJ	0.065	0.0585	0.0049	70	39 J
The Dungeness was high and turbid from snowmelt.													
6/20/2006 7:45	8.4	785	99	12.1	6.88	7	0.025 U	0.01 U	0.017	0.0069	0.0038	5.1	29 J
The stage value is derived from the reference point on the bridge.													
7/19/2006 7:00	10.3	384	111	11.2	6.77	4	0.028	0.01 U	0.021	0.0052	0.0032	2.7	18 J
The stage value was calculated via a tapedown value from the reference point on the bridge-- 22.81 + 0.31 feet = 23.12. The river is still fairly high with snowmelt.													
8/22/2006 6:49	12.6	107	140	10.3	7.01	2	0.077	0.01 U	0.05	0.0054	0.0039	0.8	52 J
The stage was taken from the reference point on the bridge (tapedown value). Sampled for metals today. Possible feral dog at this station today, had some trouble driving him off in order to get back to the van.													
9/19/2006 7:05	11.4	108	157	10.1	6.97	4	0.074	0.01 U	0.057	0.0066	0.0043	1	20 J
The stage was taken from the reference point on the bridge (23.72 feet plus 0.31 feet). The Dungeness was low with some color in the stream, possibly from snowmelt.													

Metals Data Report

Dungeness R nr Mouth

18A050

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

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/18/2005	7:16		72.2	0.1 U	0.02 U	0.5 U	0.59	0.35	0.28	0.1 U	0.02 U	0.002 U	0.55	0.1 U	5 U	1.4
12/13/2005	7:00		72.4	0.1 U	0.02 U	0.5 U	0.59	0.38	0.35	0.1 U	0.02 U	0.002 U	0.65	0.1 U	5 U	4
2/14/2006	7:05		68.1	0.1 U	0.02 U	0.5 U	0.59	0.54	0.41	0.1 U	0.02 U	0.002 U	0.35	0.15	5 U	1 U
4/18/2006	6:53		69.3	0.1 U	0.02 U	0.5 U	0.32	1.3	0.36	0.1 U	0.02 U	0.002 U	0.4	0.12	5 U	1 U
6/20/2006	7:45		48.8	0.1 U	0.02 U	0.89	0.43	0.66	0.23	0.13	0.02 U	0.002 U	0.42	0.21	5 U	1 U
8/22/2006	6:49		70.2	0.1 U	0.02 U	0.5 U	0.36	0.33	0.26	0.1 U	0.02 U	0.002 U	0.5	0.19	5 U	1.4

Conventional Data Report

Elwha R nr Port Angeles

18B070

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

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/17/2005 15:49	11.8	1110	115	10.6	7.51	4	0.054	0.01 U	0.015	0.0075	0.003 U	5.3	3
This bridge has a very narrow shoulder at road level making it very dangerous to sample.													
11/14/2005 15:30	7	988	103	12.45	7.18	3	0.083	0.01 U	0.044	0.0055	0.0038	2.6	3 U
12/12/2005 15:06	4.4	494	104	13.2	6.98	2	0.045	0.01 U	0.025	0.0044	0.003 U	1.6	1 U
1/23/2006 16:15	5.5	1800	90	13	6.98	13	0.075	0.01 U	0.054	0.0188	0.0064	18	1
The river was glacial flour green in color. The olympics are draped in white, a beautiful sunset…													
2/13/2006 16:28	5.1	1500	97	12.8	6.85	10 J	0.087	0.01 U	0.048	0.0101	0.0054	6.5	1
The river was glacial green in color. A beautiful sunset over the Olympics.													
3/14/2006 16:15	5.4	789	108	13	6.89	19 J	0.05	0.01 U	0.016	0.006	0.0043	12	1 U
4/17/2006 14:48	7.8	840	106	12	7	4 J	0.03	0.011 UJ	0.014	0.0044	0.0036	0.7	1 U
5/16/2006 15:00	9.3	3010	91	11.95	7.05	4	0.039	0.01 U	0.017	0.0046	0.003 U	2.6	2
The Elwha river was surprisingly clear.													
6/19/2006 15:20	10.6	1820	75	11.85	6.73	3	0.025 U	0.01 U	0.01 U	0.0056	0.003 U	3.4	6
This was the QA station today.													
7/18/2006 15:22	13.4	1050	83	10.8	7.08	2	0.025 U	0.01 U	0.01 U	0.004	0.003 U	1.3	1 U
The Elwha was green, cool, and clear.													
8/21/2006 16:00	17.6	472	98	10	7.47	2	0.025 U	0.01 U	0.01 U	0.0039	0.003 U	0.5 U	1
The Elwha was low and very clear.													
9/18/2006 16:11	14.4	451	108	10	7.32	2	0.033	0.01 U	0.01 U	0.0041	0.003 U	0.8	5
The Elwha river was low and clear.													

Conventional Data Report

West Twin R. nr mouth

19C060

Class: AA
Rivermile: 0.2
Latitude: 48 09 51.0
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
10/17/2005 13:53	11.2	163	82	10.35	7.4	12	0.624	0.01 U	0.528	0.015	0.007	5.8	49
The stage reading was taken from the staff gage at the flow monitoring station approximately 1/4 mile upstream from the highway bridge.													
11/14/2005 13:35	7.4	81.2	76	11.95	7.12	4	0.989	0.01 U	0.944	0.0088	0.0076	2.3	2
Stage is the staff gage value at the flow monitoring station upstream from the bridge we sample from.													
12/12/2005 13:20	4.7	32.7	94	12.8	7.16	10	0.644	0.01 U	0.594	0.0081	0.0072	1.5 J	1 U
The stage value was taken from the staff gage at the discharge station upstream.													
1/23/2006 14:15	7.2	74.8	71	11.9	6.82	8	0.585	0.01 U	0.549	0.0096	0.0086	4.4	1 U
The stage value is from the DOE flow monitoring station upstream. I sampled today during low tide! The stream was moderately high and clear at the highway bridge. A surfer was riding a nice gentle left break at the mouth. Chilly.													
2/13/2006 14:20	7	46.7	74	12.1	6.74	5 J	0.433	0.01 U	0.379	0.009	0.0081	2.6	1 U
The "stage" value was taken from the DOE flow monitoring station upstream. The tide was falling however there appeared to still be tidal influence at the highway bridge sampling site.													
3/14/2006 14:21	6.8	46.2	155	11.9	6.75	3	0.509	0.01 U	0.481	0.0084	0.0075	1.9	1 U
The stage value was taken from the DOE staff gage upstream from the sampling location at the bridge.													
4/17/2006 13:02	6.7	51	71	12.15	6.79	5 J	0.361	0.01 U	0.314	0.0068	0.0062	1.2	2
No stage value was recorded because the DOE flow monitoring station is in the process of being re-located.													
5/16/2006 13:04	11.9	18.7	149	11.15	6.65	2	0.13	0.01 U	0.092	0.008	0.0065	1	4
I sampled at the highway bridge at low tide. No stage value was entered because the flow monitoring station upstream is still off-line.													
6/19/2006 13:41	11.9	18.3	101	11.5	6.93	1 U	0.12	0.01 U	0.089	0.0072	0.0065	0.7	49
No stage value was recorded, the DOE flow monitoring station upstream is being relocated due to severe erosion at the site.													
7/18/2006 13:15	17.1	10.4	143	10.4	6.91	3	0.086	0.01 U	0.039	0.0095	0.0082	0.7	6
The DOE flow station is scheduled for removal this September. An alternative site for the gage has not been located. I sampled at the bridge on a rising tide which may explain the elevated conductivity value.													
8/21/2006 14:05	16.8	7.74	240	10.5	7.08	1	0.099	0.01 U	0.059	0.0093	0.0079	0.6	5
The access road to the West Twin river station is blocked by highway construction. I sampled at the bridge at high tide which could account for the exceptionally high conductivity value.													
9/18/2006 13:45	11.7	7.74	108	10.1	7.14	1 U	0.068 J	0.01 UJ	0.035 J	0.008	0.0068	0.5 U	5
The stage was taken from the DOE staff gage upstream of the bridge. I also sampled at the DOE flow monitoring station upstream of the bridge because of the high tide at the highway. I recommend we permanently move the WQ sampling location upstream to t													

Conventional Data Report

East Twin R. nr Mouth

19D070

Class: AA
Rivermile: 1.5
Latitude: 48 09 17.0
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
10/17/2005 14:41	11	35.3	92	10.6	7.45	8	0.522	0.01 U	0.462	0.0143	0.008	5.1	11
Stage value is the staff gage reading at the flow monitoring station.													
11/14/2005 14:25	6.9	103	76	12.2	7.2	4	1.05	0.01 U	0.999	0.0083	0.0082	2.8	1 U
Stage is the staff gage value at the flow monitoring station.													
12/12/2005 13:52	4.4	22	91	13	7.08	1 U	0.669	0.01 U	0.637	0.0088	0.0084	0.8	1
Stage was taken from the staff gage at the discharge station.													
1/23/2006 14:49	7	77	69	12.5	6.9	7	0.533	0.01 U	0.491	0.0099	0.0092	4.8	1
Stage value is the staff gage reading from the DOE flow station. Stream is moderately high and clear. According to Josey Paul the creek did not top it's banks during the long rain event of 30 plus days.													
2/13/2006 15:00	6.1	36	74	12.5	7.01	4	0.367	0.01 U	0.349	0.0094	0.0091	2.8	1 U
The "stage" value is the staff gage reading from the DOE flow station. The stream was moderately high with very little color.													
3/14/2006 14:47	5.6	55.4	71	12.4	6.82	2	0.454	0.01 U	0.443	0.0076	0.0077	2.8	1
The stage value was taken from the DOE staff gage on the Josey Paul property.													
4/17/2006 13:34	6.5	62.4	67	12.3	6.57	3	0.367	0.011 UJ	0.334	0.0069		1.3	3
The stage value was taken from the DOE staff gage.													
5/16/2006 13:45	12.1	14.6	90	11.3	7.29	8	0.17	0.01 U	0.11	0.009	0.0079	2.2	1
The stage value entered is from the DOE staff gage.													
6/19/2006 14:14	12.1	12.9	96	11.4	6.88	2 U	0.19	0.01 U	0.152	0.0087	0.0079	0.5 U	10
The stream was low and clear, the stage value was taken from the DOE staff gage.													
7/18/2006 13:55	13.4	9.33	109	11.05	7.25	2	0.14	0.01 U	0.083	0.0096	0.0079	0.6	6
8/21/2006 14:39	13.7	8.18		11.5	7.6	3	0.16	0.01 U	0.123	0.0106	0.0095	1.2	5
Stage taken from the DOE staff gage. Conductivity not recorded on the field sheet.													
9/18/2006 14:30	11.9	10.3	119	11	7.14	1 U	0.14	0.01 U	0.091	0.0112	0.01	0.5 U	8
The stage was taken from the staff gage at the DOE flow monitoring station. The flow was low and clear. One searun cutthroat trout was holding just below the turbidity probe.													

Conventional Data Report

Deep Cr. nr mouth

19E060

Class: AA
Rivermile: 0.2
Latitude: 48 10 22.0
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
10/17/2005	13:10	11.3	176	72	10.19	7.28	20	0.771	0.01 U	0.677	0.0193	0.0083	9.2	40
		The stage value is the staff gage reading. The tapedown value equals 18.88 feet (corrected) or 18.57 plus 0.31 feet.												
11/14/2005	12:43	7.5	233	75	11.8	7.08	6	1.03	0.01 U	1.02	0.0076	0.0069	2.9	3 J
		The stage is the staff gage reading at the sampling station. The staff gage is secured to the bridge support near the left bank.												
12/12/2005	12:33	4.5	24.9	94	12.45	7.14	2	0.543	0.01 U	0.587	0.008	0.0063	0.9	7 J
		Stage value is from the staff gage under the bridge at the flow monitoring station.												
1/23/2006	12:58	7	181	69	12	6.73	8	0.551	0.01 U	0.5	0.008	0.0081	3.6	1
		Flow is moderately high and clear.												
2/13/2006	13:17	6.9	59.4	75	12.1	6.7	3	0.385	0.01 U	0.349	0.0085	0.0077	1.6	1 U
		The "stage" value is the staff gage reading from the DOE flow station. The stream was moderately high and clear. No SSC sample taken.												
3/14/2006	13:15	6.5	53.1	72	12.2	6.55	3	0.486	0.01 U	0.445	0.0068	0.0074	1.8	1 U
		The pH values seem somewhat low? Is the probe going bad? The stage value was taken from the DOE staff gage under the bridge.												
4/17/2006	12:21	6.4	43.5	70	12.2	6.82	2	0.333	0.01 UJ	0.292	0.0051	0.0048	1.1	3
		The stage value is taken from the DOE flow monitoring staff gage.												
5/16/2006	12:20	11.7	13.7	96	11	6.8	1	0.14	0.01 U	0.087	0.0071	0.0059	0.8	7
		The stage value entered is from the DOE staff gage.												
6/19/2006	13:00	11.6	13.3	98	11.2	6.72	2	0.1	0.01 U	0.078	0.008	0.0059	0.6	24
		The stage value was taken from the DOE staff gage.												
7/18/2006	12:45	13.8	5.23	112	9.8	6.81	2	0.092	0.01 U	0.046	0.0095	0.0081	0.5	23
		The stage value was taken from the DOE staff gage.												
8/21/2006	13:15	13.3	2.96	119	9.69	6.96	9 J	0.088	0.018	0.035	0.0108	0.0076	0.8	10
		The stage was taken from the DOE staff gage.												
9/18/2006	12:55	11.5	6.01	123	9.6	7.16	2	0.054 J	0.01 UJ	0.01 J	0.0087	0.006	0.8	43
		The stage was taken from the DOE staff gage secured to the concrete bridge piling. The samples were collected during high tide.												

Conventional Data Report

Hoh R @ DNR Campground

20B070

Class: AA
Rivermile: 16.5
Latitude: 47 48 36.0
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
10/17/2005 11:13	10.3	5670	66	11	7.37	332	0.22	0.01 U	0.183	0.178	0.0041	180	500 J
Flow at station was moderate and turbid with a heavy load of glacial flour.													
11/14/2005 11:10	7.1	2990	80	12.1	6.88	18	0.19	0.01 U	0.151	0.018	0.0047	12	8 J
Coho salmon present at sampling location.													
12/12/2005 11:00	5.5	805	93	12.2	7.21	2	0.12	0.01 U	0.099	0.0058	0.0037	2.4	3 J
1/23/2006 11:27	7.4	2690	74	12.3	6.8	13	0.12	0.01 U	0.11	0.0167	0.0055	12	1 J
The river was moderately high and greenish white in color (glacial flour) but not turbid.													
2/13/2006 11:08	7.4	2020	78	12.2	6.56	6	0.12	0.01 U	0.09	0.0098	0.0044	5.1	2 J
Moderately high flow with glacial green color. A tree was blocking the access road to the usual sampling location so I sampled at the boat launch approximately 100 meters upstream.													
3/14/2006 11:21	6.3	1450	76	12.4	6.51	4	0.097	0.01 U	0.081	0.006	0.0043	3	1 UJ
The pH values are quite low.													
4/17/2006 10:48	6.2	1910	70	12.25	7.19	6	0.081	0.017 UJ	0.063	0.0085	0.0034	3.5	2 J
5/16/2006 10:45	9.3	2430	84	11.6	6.67	41	0.064	0.01 U	0.023	0.025	0.0056	20	57 J
The Hoh was moderately high and turbid due to snowmelt.													
6/19/2006 11:30	8.6	1820	81	12	6.81	6	0.025 U	0.01 U	0.016	0.0071	0.003 U	3	20 J
The river was low and emerald green with a small amount of color from snowmelt.													
7/18/2006 11:00	11.4	1200	82	11.3	6.82	4	0.027	0.01 U	0.01 U	0.0054	0.003 U	3.2	4 J
The Hoh was low and emerald green in color with very light snowmelt.													
8/21/2006 11:45	12.8	834	84	11.15	6.72	4	0.025 U	0.01 U	0.01 U	0.0054	0.003 U	4.4	8 J
Low and emerald green.													
9/18/2006 11:20	11.6	748	89	10.7	6.88	4	0.029 J	0.01 UJ	0.011 J	0.0057	0.0034	2.8	72 J
The Hoh was low with some color from snowmelt.													

Conventional Data Report

Humptulips R nr Humptulips

22A070

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

Date/Time	Temp 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
10/17/2005 9:40	10.9	3570	49	10.6	7.24	69	0.385	0.01 U	0.35	0.0284	0.0037	40	200 J
Check value on wire weight gauge was 36.22 feet. Flow was moderate and turbid with heavy leaf litter. Heavy fishing pressure at the bridge with coho salmon being caught.													
11/14/2005 9:15	7.3	2260	51	11.7	7.33	7	0.21	0.01 U	0.197	0.0111	0.011	7.6	4 J
The stage was taken from the USGS wire weight gage on the highway bridge.													
12/12/2005 9:06	5.1	405	62	12.15	7.28	1	0.19	0.01 U	0.159	0.0057	0.0054	0.8	13 J
1/23/2006 9:34	7.4	2270	47	11.85	6.78	8	0.15	0.01 U	0.148	0.0107	0.0065	9.2	1 J
The stage value is calculated from the USGS wire weight gauge on the bridge. The flow was moderately high and emerald green (steelhead green actually)! Note: I forgot to calibrate the barometer this morning so I am not entering barometric pressure at a													
2/13/2006 9:28	7.4	1070	51	12.1	6.84	2	0.17	0.01 U	0.131	0.0064	0.0066	2.2	6 J
The stage value is calculated from the USGS wire weight gage on the bridge (36.22 - 2.67). The flow was jade green and surprisingly low.													
3/14/2006 9:37	7.2	986	50	12.2	6.29 J	2	0.12	0.01 U	0.109	0.0054	0.0071	1.5	4 J
The stage value was taken from the USGS wire weight gage. pH J'd because exceed crit and no cal check. Later cal check was low by .05 units.													
4/17/2006 9:01	5.8	1770	48	12.2	6.4	5	0.12	0.013 UJ	0.103	0.0058	0.0045	3.9	2 J
The stage value is taken from the USGS wire weight gage on the bridge (36.22 - 3.39).													
5/16/2006 9:10	12.6	421	59	10.85	6.9	2	0.047	0.01 UJ	0.023	0.0034	0.0039	0.7	3 J
The Humptulips was very low and clear.													
6/19/2006 9:55	12	514	59	11.2	6.4	1	0.042	0.01 U	0.024	0.0031	0.0035	0.5	12 J
The river was low and clear, the stage value is derived from the USGS wire weight gage on the bridge.													
7/18/2006 9:10	15.1	195	67	10.1	6.74	1	0.079	0.01 U	0.03	0.0051	0.0054	0.5 U	38 J
The stage was determined from the USGS wire weight gage--36.22 -1.31 = 34.91feet. The river was very low and clear with numerous suckers (species unidentified) in the pool beneath the bridge.													
8/21/2006 10:12	15.7	130	73	9.9	6.72	1	0.072	0.02	0.014	0.005	0.0064	0.5	63 J
The stage was taken from the USGS wire weight gage on the bridge. Stream is very low and clear with dozens of suckers (fish sp?) at the sampling location.													
9/18/2006 9:40	13.5	142	70	9.75	7.74	1	0.042 J	0.01 UJ	0.012 J	0.0059	0.0048	0.5 U	55 J
Stage equals check factor 36.22 feet minus the stage height 1.13 feet (USGS wire weight gage on bridge). Note: a large rip rap construction project to protect the bridge abutment was completed this past month on the east side of the bridge. The rip rap													

Conventional Data Report

Chehalis R @ Porter

23A070

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

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/19/2005 9:30	14	669	131	9.1	7.44	5	0.636	0.016	0.558	0.0391	0.019	2.5	10 J
11/14/2005 15:58	8.6	5720	73	10.9	6.98	14	0.904	0.013	0.8	0.0292	0.015	8.1	29
12/12/2005 14:10	4.1	2290	89	12.03	7.36	3	0.779	0.012	0.758	0.0256	0.015	3.8	12
1/25/2006 15:17	7.2	8130	79	10.5	6.82	30	0.894	0.02	0.831	0.0291	0.013	15	6
2/13/2006 15:51	7	5160	86	11.2	6.94	34	0.917	0.02	0.899	0.0337	0.012	14	7
3/13/2006 13:17	6	5710	79	11.48	6.98	25 J	0.807	0.01 U	0.755	0.0267	0.012	12	6
4/17/2006 14:31	8.6	5150	80	11.2	7.44	28	0.552	0.01 U	0.469	0.0226	0.0093	11	46
5/15/2006 13:30	16.2	1100	119	10.8	7.56	6	0.663	0.01 U	0.54	0.0151	0.0079	2.5	4
6/19/2006 12:15	17.3	998	92	9.6	7.37	6	0.614	0.012	0.501	0.0284	0.014	3	16
7/24/2006 13:05	25.4	411	114	8.52	7.75	2 U	0.651	0.01 U	0.485	0.0169	0.011	1.3	19
8/21/2006 13:15	20.1	320	120	8.9	7.8	2	0.637	0.01 U	0.504	0.013	0.0075	0.8	12
9/25/2006 16:30	16.3	397	121	10.5	7.76	2	0.725	0.016	0.614	0.0326	0.021	1.4	9

Conventional Data Report

Chehalis R @ Dryad

23A160

Class: A
Rivermile: 101.7
Latitude: 46 37 52.0
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
10/19/2005 16:45	13.4	54	82	10.4	7.76	2	0.24	0.01 U	0.154	0.0128	0.0076	1	43
11/16/2005 15:48	7.4	559	64	12.1	6.94	2	0.706	0.01 U	0.669	0.0107	0.012	1.1	24
12/14/2005 15:10	4.2	253	69	13.53	7.27	3	0.505	0.01 U	0.492	0.0084	0.0064	1.7	5
1/25/2006 14:05	6.9	783	61	11.9	7.22	6	0.65	0.01 U	0.602	0.0139	0.012	3.4	12
2/15/2006 15:17	4.7	394	58	12.8	6.99	2	0.563	0.01 U	0.54	0.0138	0.012	1.8	1
3/15/2006 13:57	6.2	569	60	12.37	7.37	2 U	0.525	0.01 U	0.467	0.0089	0.01	1.3	9
4/19/2006 13:40	7.5	700	58	12.7	7.52	3	0.444	0.01 U	0.389	0.0074	0.006	1.6	4
5/17/2006 11:10	15.1	94	72	10.7	7.57	2	0.321	0.01 U	0.214	0.012	0.0092	1.2	32
6/21/2006 13:10	13.3	90	72	11	7.61	3	0.22	0.01 U	0.135	0.0118	0.0081	1.6	26
7/26/2006 13:06	21.8	28	85	9.18	7.88	2 U	0.23	0.013	0.088	0.0225	0.015	1.4	45
8/23/2006 12:40	17.5	21	88 J	9.5	7.7	3	0.15	0.01 U	0.031	0.0171	0.011	1.5	88
Poor conductivity calibration.													
9/27/2006 14:46	15.4	20	89	10.5	7.75	2	0.16	0.01 U	0.051	0.0161	0.0095	1.4	150

Conventional Data Report

Willapa R nr Willapa

24B090

Class: A
Rivermile: 17.7
Latitude: 46 39 01.0
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
10/19/2005	15:00	14.5	75	72	9.8	7.27	6	0.353	0.01 U	0.251	0.0167	0.007	1.7	33
		Quite a few Chinook Salmon in the river.												
11/16/2005	14:30	8.4	687	62	11.5	7.06	3	1.13	0.01 U	1.06	0.0123	0.0097	2.5	27
12/14/2005	11:39	3.3	271	69	13.13	7.15	2	0.844	0.01 U	0.87	0.0084	0.0047	1.5	4
1/25/2006	13:05	7.7	957	59	11.3	7.02	16	1.05	0.01 U	0.975	0.0151	0.0086	4.7	8
2/15/2006	14:02	5.6	530	56	12.3	6.88	8	0.845	0.011	0.862	0.0144	0.0085	3.2	1
3/15/2006	12:39	6.8	753	58	11.58	7.06	6	0.917	0.01 U	0.84	0.0095	0.008	2.5	17
4/19/2006	12:30	8.5	818	55	12.2	7.35	7	0.749	0.01 U	0.691	0.006	0.0038	2	16
5/17/2006	9:50	15.9	105	66	9.9	7.29	3	0.504	0.012	0.396	0.0115	0.0063	1.5	32
6/21/2006	11:35	14.3	89	65	10.5	7.31	2	0.367	0.013	0.271	0.0107	0.0059	1.3	33
		2 sturgeon carcasses above bridge												
7/26/2006	11:34	21	31	78	7.81	7.29	4	0.277	0.021	0.136	0.0171	0.0077	1.6	84
		Dusty from road sweeper. Moved before processing samples.												
8/23/2006	11:15	18.4	20	84 J	8.19	7.23	4	0.294	0.021	0.134	0.0161	0.0066	2.5	11
		Poor conductivity calibration.												
9/27/2006	13:00	16.7	22	80	9.19	7.24	3	0.367	0.025	0.237	0.0142	0.0077	1.9	31

Conventional Data Report

Willapa R nr Menlo

24B095

Class: A
Rivermile: 22
Latitude: 46 36 44.0
Longitude: 123 38 24.0
Waterbody: WA-24-2030

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
10/19/2005 15:30	14.2		68	10.1	7.39	3	0.393	0.01 U	0.295	0.0169	0.0084	1.4	37
11/16/2005 15:02	8.5		60	11.6	7	2	1.06	0.01 U	0.998	0.0117	0.01	1.3	29
12/14/2005 14:05	4		63	13.63	7	1	0.815	0.01 U	0.808	0.0084	0.005	1.9	6
1/25/2006 13:23	7.8		57	11.3	6.89	7	0.957	0.01 U	0.902	0.0138	0.0095	4.4	7
2/15/2006 14:23	5.7		54	12.3	7	3	0.747	0.01 U	0.805	0.0122	0.0098	1.8	2
3/15/2006 13:04	6.8		56	11.78	7.04	3	0.868	0.01 U	0.798	0.0095	0.0087	2.3	28
4/19/2006 12:50	8.5		54	12.5	7.32	18 J	0.705	0.01 U	0.655	0.0059	0.004	3.3 J	6
5/17/2006 10:25	15.6		63	10.4	7.37	3	0.528	0.013	0.408	0.0114	0.0061	1.1	48
6/21/2006 12:15	14.2		62	10.8	7.46	4	0.385	0.011	0.276	0.0104	0.0057	1.3	20
7/26/2006 12:05	21.4		74	8.82	7.6	3	0.304	0.024	0.207	0.0211	0.012	1.6	39
8/23/2006 11:45	18.5		74 J	9.1	7.41	4	0.333	0.018	0.182	0.0138	0.007	2.4	570
	Poor conductivity calibration.												
9/27/2006 13:40	17.3		75	10	7.47	3	0.366	0.021	0.253	0.0143	0.0078	1.5	71

Conventional Data Report

Willapa R @ Swiss Picnic Rd

24B150

Class: A
Rivermile: 37
Latitude: 46 32 14.0
Longitude: 123 31 28.0
Waterbody: WA-24-2030

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/19/2005 16:00	13.4		60	9.8	7.28	8	0.23	0.01 U	0.173	0.0061	0.0043	0.6	120
Samples were taken one parcel upstream from the Swiss Picnic campground (i.e. about 300 ft from the normal sampling point with no tributaries or discharges inbetween.													
1/25/2006 10:20	7.3		48	11.3	6.91	4	0.816	0.01 U	0.784	0.0075	0.0072	2.1	9

Conventional Data Report

Naselle R nr Naselle

24F070

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

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/19/2005 12:00	12.6	126	64	10	7.1	2	0.52	0.011	0.456	0.0141	0.01	1	84
11/16/2005 11:15	8.3	438	53	11.8	6.96	1	0.712	0.01 U	0.674	0.0114	0.011	0.9	23
12/14/2005 10:40	3	153	57	13.33	7.1	2 U	0.534	0.01 U	0.545	0.0081	0.0076	0.6	21
Coho present													
1/25/2006 11:54	7.6	532	50	11.7	7.2	4	0.524	0.01 U	0.575	0.012	0.011	2.6	20
2/15/2006 11:00	4.4	246	49	12.3	6.97	1	0.525	0.01 U	0.527	0.0107	0.011	0.9	22
3/15/2006 11:25	6.4	346	50	11.98	6.96	1	0.478	0.01 U	0.495	0.0073	0.0086	1	48
4/19/2006 11:18	7.5	387	51	12.3	7.48	2	0.477	0.01 U	0.449	0.0055	0.0053	1	8
5/17/2006 8:40	13.1	87	58	10.4	7.36	2	0.377	0.01 U	0.303	0.0099	0.0089	0.5	20 J
6/21/2006 10:15	11.4	110	55	11.3	7.41	1	0.281	0.01 U	0.239	0.0061	0.0067	0.5	35
1 sturgeon and 2 flatfish carcasses in river below bridge													
7/26/2006 9:55	18.2	42	62	8.82	7.39	1	0.279	0.01 U	0.2	0.0111	0.0096	0.7	32 J
8/23/2006 9:30	15.9	29	63 J	9.3	7.43	2	0.18	0.01 U	0.107	0.007	0.0058	0.9	150 J
Poor conductivity calibration.													
9/27/2006 10:40	13.1	24	68	10	7.01	2	0.323	0.015	0.246	0.0089	0.0069	0.8	29

Conventional Data Report

Germany Cr. @ mouth

25D050

Class: A
Rivermile: 0.6
Latitude: 46 11 29.0
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
10/18/2005	11:55	12	25.2	72	10.19	7.41	2	0.483	0.01 U	0.432	0.0099	0.0068	1.1	36
11/15/2005	11:45	7.2	158	48	12.1	7.34	4	0.914	0.01 U	1.03	0.0091	0.0089	1.4	24
12/13/2005	11:08	3.7	72.9	52	13.13	7.51	1 U	0.727	0.01 U	0.759	0.0068	0.0065	0.7	220 J
1/24/2006	11:08	6.8	154	44	11.4	7.31	12	0.795	0.01 U	0.771	0.0106	0.0091	4.1	6
2/14/2006	12:10	5.7	84.7	46	12.4	7.39	3	0.649	0.01 U	0.666	0.0098	0.0091	2.5	6
3/14/2006	11:17	5.4	91	48	12.27	7.46	2	0.683	0.01 U	0.683	0.0064	0.0071	1.2	15
4/18/2006	12:55	8	75.2	47	12.1	7.86	3	0.525	0.01 U	0.497	0.0046	0.005	1	1 U
5/16/2006	14:30	16.4	20.5	55	10.4	7.32	2	0.434	0.01 U	0.364	0.0132	0.011	1	4
6/20/2006	11:00	10.8	34.9	57	11.2	7.52	3	0.404	0.01 U	0.341	0.0074	0.0076	1	27
7/25/2006	11:37	17.9	7.34	70	9.42	7.52	1	0.384	0.01 U	0.322	0.0125	0.013	1	79
		Fish weir has been removed												
8/22/2006	11:15	15.3	3.79	74	9.9	7.52	1 U	0.22	0.01 U	0.162	0.0091	0.0091	0.5	190
9/26/2006	11:25	12.2	3.26	80	10.19	7.35	1	0.319	0.01 U	0.249	0.0087	0.0088	0.7	240

Conventional Data Report

Abernathy Cr. nr mouth

25E060

Class: A
Rivermile: 0.4
Latitude: 46 11 43.0
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
10/18/2005 12:52	11.7	36.5	52	10.7	7.24	1	0.26	0.01 U	0.217	0.0074	0.005	0.8	44
11/15/2005 12:15	7.4	236	32	12.1	7.2	2	0.419	0.01 U	0.481	0.0054	0.0054	1.2	15
12/13/2005 11:40	4	150	35	12.93	7.36	1 U	0.39	0.01 U	0.375	0.0036	0.004	0.8	13
1/24/2006 11:33	7.1	249	30	11.8	7.17	4	0.458	0.01 U	0.434	0.0065	0.0058	2.5	7
Fish weir blew out; Staff guage leaning, so not an accurate value.													
2/21/2006 14:10	4.1	123	37	13	7.02	1	0.356	0.01 U	0.342	0.0052	0.0047	0.9	5
Sampled a week after rest of run because Hwy 4 bridge was out due to rock slide.													
3/14/2006 11:58	5.7	162	32	12.17	6.93	1	0.42	0.01 U	0.386	0.0026	0.004	1.1	12
Fixed staff; it was leaning.													
4/18/2006 13:30	8.5	119	35	11.8	6.9	3	0.275	0.01 U	0.239	0.0034	0.0036	1.1	2
5/16/2006 12:06	13.9	30.2	40	10.7	7.35	2	0.286	0.011	0.211	0.0086	0.0072	1.4	7
6/20/2006 12:15	11.1	21	43	11.3	7.43	3	0.216	0.01 U	0.181	0.0062	0.0062	1	30
7/25/2006 12:10	17.6	11.1	54	9.62	7.52	2	0.267	0.018	0.201	0.011	0.01	1	40
Fish weir has been removed. No staff. County spraying for knotweed.													
8/22/2006 11:50	14.9	8.25	57	10.3	7.65	2 U	0.18	0.01 U	0.128	0.009	0.0076	0.8	55
Semi-permanent adult fish trap in place. Sampled just upstream.													
9/26/2006 12:17	11.4	7.44	62	10.7	7.38	1	0.23	0.01 U	0.177	0.0082	0.0079	0.9	29

Conventional Data Report

Abernathy Cr. @ DNR

25E100

Class: A
Rivermile: 1
Latitude: 46 15 53.0
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
10/18/2005 13:16	12	3.62	52	10.4	7.16	1 U							
11/15/2005 12:39	7.8	39.1	36	11.8	7.17	1							
12/13/2005 12:20	4	18	39	12.13	7.32	1 U							
1/24/2006 12:00	6.8	42	35	11.7	7.18	3							
2/21/2006 14:53	4.7	17.6	39	12.6	7.22	1 U							
Sampled a week after rest of run because Hwy 4 bridge was out due to rock slide.													
3/14/2006 12:20	5.6	24	37	11.98	7.13	1 U							
4/18/2006 14:12	8.5	23	37	11.6	7.32	2							
5/16/2006 12:44	13	18.4	41		7.34	2							
6/20/2006 13:10	10.7	21.6	45	11	7.43	2	0.17	0.01 U	0.15	0.006	0.0065	0.8	13
Sampled at end of commissioned road, not 0.2 mi upstream as specified in directions. Chad says this is the where he has also been sampling.													
7/25/2006 13:00	15.7	11	48	9.62	7.39	1							
8/22/2006 12:25	13.3	6.64	48	10.19	7.45	1 U							
9/26/2006 12:50	12.5	5.09	52	10.5	7.38	1 U	0.17	0.01 U	0.171	0.0057	0.0057	0.5 U	14

Conventional Data Report

Mill Cr. nr mouth

25F060

Class: A
Rivermile: 0.5
Latitude: 46 11 42.0
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
10/18/2005 13:33	12	20.3	41	10.4	7.05	4	0.16	0.01 U	0.097	0.0057	0.0044	1.1	41
11/15/2005 13:09	7.4	114	27	12.1	7.14	2	0.332	0.01 U	0.306	0.0026	0.0037	1.5	24
12/13/2005 12:45	4.2	62.3	30	12.83	6.97	1 U	0.285	0.01 U	0.29	0.0022	0.003 U	0.8	7
1/24/2006 12:19	7.2	151	28	11.8	6.94	3	0.41	0.01 U	0.384	0.0031	0.0035	1.8	16
2/21/2006 15:20	4.2	71.5	33	11.8	7.22	2	0.334	0.01 U	0.333	0.0023	0.003 U	0.9	4
Sampled a week after rest of run because Hwy 4 bridge was out due to rock slide.													
3/14/2006 12:38	6.2	104	29	12.07	7	2	0.343	0.01 U	0.327	0.002	0.0031	1	1
4/18/2006 14:45	8.7	64.7	30	11.7	7.26	3	0.25	0.01 U	0.216	0.0024	0.003 U	1	10
5/16/2006 13:00	13.4	28.9	34	10.5	7.19	2	0.261	0.01 U	0.195	0.0051	0.0054	1.1	13
6/20/2006 13:40	11.7	33.1	35	10.9	7.42	3	0.2	0.01 U	0.16	0.0048	0.0045	1.4	4
7/25/2006 13:35	16.9	11.3	41	9.55	7.36	2 U	0.23	0.01 U	0.171	0.0062	0.0065	1.2	47 J
8/22/2006 12:50	14.2	6.38	44	10.19	7.38	1 U	0.19	0.01 U	0.14	0.0039	0.0051	0.9	110
RP: 15.33													
9/26/2006 13:25	11.5	5.85	48	10.6	7.22	1	0.2	0.01 U	0.152	0.0067	0.0065	1	160

Conventional Data Report

Mill Cr. @ DNR

25F100

Class: A
Rivermile: 4
Latitude: 46 13 08.0
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
10/18/2005 14:15	12.7	13.3	32	10.1	6.77	2							
11/15/2005 13:37	8.2	69.9	22	11.8	6.97	1							
12/13/2005 13:00		33.2											
Did not sample because of unresolved possible meth lab activity at site													
1/24/2006 12:49	7.2	75.2	24	11.9	7.05	2							
2/21/2006 15:46	5	29.8	27	12.7	6.9	2 U							
Sampled a week after rest of run because Hwy 4 bridge was out due to rock slide.													
3/14/2006 13:16	6.1	50	24	11.78	7.1	1							
4/18/2006 15:50	9	38	24.1	11.4	7.2	2							
5/16/2006 13:40	14.1	14.8	28		6.67	1							
6/20/2006 14:00		18.7											
Could not find station. Skipped.													
7/25/2006 14:15	17.2	7.27	33	9.05 J	6.99 J	1 U							
Road closed. Walked in to station. Time delay could affect DO and pH, so J'ed													
8/22/2006 13:35	14.1	3.75	35		7.08	1 U							
Broke D.O. bottle. Besides tank trap, now have 3 alder felled across road.													
9/26/2006 14:50	13	3.34	38	10.5	7.02	1 U	0.14	0.01 U	0.111	0.0031	0.0037	0.9	26

Conventional Data Report

Cowlitz R @ Kelso

26B070

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

Date/Time	Temp 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
10/18/2005 11:13	12.5	3830	101	10.4	7.58	8	0.1	0.01 U	0.06	0.0102	0.0042	3.2	5
11/15/2005 11:00	8.4	12500	65	11.3	7.37	120	0.412	0.01 U	0.35	0.042	0.0098	6.6	20
12/13/2005 10:19	6.1	7900	83	11.64	7.48	7	0.19	0.01 U	0.179	0.0145	0.0066	3.4	5
1/24/2006 10:28	6.2	21000	61	11.9	7.29	123 J	0.383	0.01 U	0.347	0.069	0.0084	34	4
2/14/2006 11:14	6	12700	72	12.1	7.33	69 J	0.297	0.01 U	0.289	0.0449	0.008	21	6
3/14/2006 10:24	5.9	9400	79	11.78	7.41	44	0.364	0.01 U	0.329	0.0243	0.0082	9.3	2
4/18/2006 12:00	7.9	8770	77	11.8	7.55	93 J	0.25	0.01 U	0.221	0.02	0.0069	17	13
5/16/2006 15:10	13.3	7850	83	11	7.48	28	0.15	0.01 UJ	0.098	0.0079	0.005	3	16
6/20/2006 10:10	12	7650	83	10.9	7.52	25 J	0.13	0.01 U	0.093	0.0132	0.0054	3.3	40
7/25/2006 10:50	16.3	5650	89	9.82	7.59	14	0.11	0.01 U	0.052	0.0116	0.0057	3.1	17
8/22/2006 10:35	14.8	3320	119	9.8	7.55	6	0.11	0.012	0.043	0.0079	0.005	1.6	13
9/26/2006 10:25	13.4	3650	100	10.1	7.55	9	0.084	0.01 U	0.037	0.0062	0.0046	1.4	13

Conventional Data Report

Cowlitz R @ Castle Rock

26B100

Class: A
Rivermile: 17.3
Latitude: 46 16 29.0
Longitude: 122 54 44.0
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
10/18/2005 10:25	11.8	3830	100	10.4	7.31	5	0.083	0.01 U	0.059	0.0083	0.0046	2.7	12
New RP established, but no rating curve.													
11/15/2005 10:15	8.3	12600	65	11.3	7.2	39	0.354	0.01 U	0.295	0.0234	0.0092	6.7	11
12/13/2005 9:30	6.6	7930	80	11.64	7.26	4	0.19	0.01 U	0.16	0.0106	0.006	3.4	9
1/24/2006 9:58	6.2	21000	60		7.12	104 J	0.313	0.01 U	0.308	0.0508	0.0081	30	11 J
Broke DO bottle, no datum for DO													
2/14/2006 10:20	6	12700	71	12.3	7.1	65 J	0.268	0.01 U	0.272	0.0441	0.0083	21	1
3/14/2006 9:55	5.8	9400	80	11.88	7.11	35	0.341	0.01 U	0.287	0.023	0.0079	9.3	3
Discontinue RP, start WWG; Real-time USGS data is on-line.													
4/18/2006 10:50	6.7	8770	79	12	7.15	120 J	0.24	0.01 U	0.21	0.0202	0.0062	15	17
5/16/2006 16:00	12.7	8070	76	11.5	7.33	85	0.14	0.01 U	0.094	0.0083	0.0044	6.2 J	37
6/20/2006 15:20	11.6	7680	84	11.3	7.35	10	0.13	0.01 U	0.093	0.0069	0.0055	2.4	24
7/25/2006 15:40	14.1	5700	88	10.42	7.49	5	0.12	0.01 U	0.061	0.0061	0.003 U	2.1	5
8/22/2006 14:45	14.5	3340	116	10.3	7.59	3	0.099	0.01 U	0.044	0.0051	0.0047	1.4	6
9/26/2006 16:30	13.3	3630	103	11	7.56	5	0.087	0.01 U	0.04	0.0057	0.0049	1.9	3

Conventional Data Report

Kalama R nr Kalama

27B070

Class: A
Rivermile: 2.8
Latitude: 46 02 51.0
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
10/17/2005 14:30	11.9	188	62	11	7.71	3	0.329	0.02	0.285	0.021	0.017	1	29
11/15/2005 16:15	6.4	1119	41	12.4	7.28	3	0.656	0.01 U	0.622	0.0104	0.012	1.5	11
12/13/2005 15:10	4.2	360	52	13.13	7.26	1 U	0.539	0.01 U	0.521	0.0118	0.013	0.6	14
1/24/2006 14:58	6.6	1574	42	12.2	7.28	8	0.694	0.01 U	0.669	0.0136	0.013	4	2
Did not collect barometric pressure value													
2/14/2006 14:45	5.8	817	42	12.6	7.16	2	0.452	0.01 U	0.486	0.0132	0.014	1.9	4
3/14/2006 15:43	6.2	775	46	12.37	7.09	2	0.583	0.01 U	0.62	0.0104	0.013	1.6	4
4/18/2006 18:08	7.8	5113	42	12.2	7.33	4	0.513	0.01 U	0.482	0.0093	0.01	1.9	5
5/16/2006 10:40	12.8	7543	40	11.1	7.32	4	0.18	0.01 U	0.13	0.0093	0.0097	1.5	7 J
6/20/2006 9:33	11	315	48	11.1	7.42	2	0.2	0.01 U	0.159	0.0105	0.011	1.5	22 J
7/25/2006 10:20	18.1	177	61	9.02	7.55	4	0.22	0.024	0.118	0.0166	0.018	1.1	28 J
8/22/2006 10:05	15.1	154	63	9.6	7.55	2	0.14	0.01 U	0.077	0.0147	0.015	0.9	14 J
9/26/2006 9:30	11.2	149	69	10.3	7.38	3	0.23	0.027	0.149	0.0193	0.02	0.9	18 J

Conventional Data Report

EF Lewis R nr Dollar Corner

27D090

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

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/17/2005 13:42	13.6	138	50	10.9	7.81	2	0.367	0.01 U	0.327	0.0048	0.0041	0.8	6
11/15/2005 15:09	7	1110	31	12.3	7.03	2	0.512	0.01 U	0.479	0.0044	0.0054	1.2	6
12/13/2005 14:09	3.9	319	41	13.63	7.44	1 U	0.505	0.01 U	0.484	0.0031	0.0041	0.9	1
1/24/2006 14:05	7.1	1350	32	11.6	7.06	3	0.518	0.01 U	0.544	0.0044	0.0057	2.1	1 U
2/14/2006 13:42	5.7	554	35	12.5	7.01	1 U	0.423	0.01 U	0.424	0.004	0.0054	1.1	3
3/14/2006 14:40	6.4	666	36	12.37	7.08	1	0.525	0.01 U	0.478	0.0033	0.0049	1.3	2
4/18/2006 17:30	8.8	1000	32	12.1	7.19	2	0.388	0.01 U	0.36	0.003	0.0037	1.7	4
5/16/2006 9:25	14.3	316	35	10.6	7.35	4	0.19	0.01 U	0.138	0.0033	0.0041	1.2	10 J
6/20/2006 8:35	11.8	292	38	11	7.58	2	0.19	0.01 U	0.15	0.0031	0.0038	0.9	8 J
	1 man fishing under bridge												
7/25/2006 9:30	21.3	82	58	8.52	7.76	1	0.278	0.011	0.188	0.0056	0.0059	0.7	29 J
8/22/2006 9:05	17.3	55	64	9	7.5	1	0.18	0.01 U	0.112	0.0041	0.0044	0.6	12 J
	No fisherment. Fish flashing in pool below bridge.												
9/26/2006 8:30	13.3	47	68	10.1	7.28	2	0.25	0.01 U	0.19	0.0042	0.0042	0.6	10 J

Conventional Data Report

Columbia R @ Umatilla

31A070

Class: A
Rivermile: 290.5
Latitude: 45 56 02.0
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
10/4/2005 14:40	17.3	237500	152	9.27	8.06	3	0.2	0.01 U	0.116	0.013	0.0075	1.2	3
	pH measured @ 18.7°C												
11/8/2005 15:25	12	241100	164	10.3	8.09	2	0.273	0.01 U	0.208	0.0201	0.014	1.3	4
	pH measured @ 12.7°C.												
12/6/2005 14:47	7.2	231900	162	11.42	8.1	1	0.261	0.01 U	0.211	0.0158	0.012	0.8	4
	pH measured @ 7.8° C												
2/7/2006 14:20	4.3	381800	195	12.95	8.22	2	0.614	0.01 U	0.513	0.0298	0.022	3.3	2
	pH measured @ 7.6°C.												
3/8/2006 14:45	4.4	352800	185	13.4	8.2	3	0.519	0.01 U	0.459	0.0276	0.018	2.4	3
	pH measured @ 7.7° C. Overcast, rain,very windy. Tug with barge operating immediately upstream of site.												
4/11/2006 14:00	7.7	594400	169	14.32	8.1	5	0.369	0.01 UJ	0.286	0.0208	0.012	4.6	1
	pH measured @ 13.9°C. High flows; most of the spillway gates u/s at McNary Dam were open. Scattered clouds, no precip. and warm temps.												
6/7/2006 14:00	15	733400	123	11.95	7.91	6	0.16	0.01 U	0.097	0.0137	0.009	4.5	13
	pH measured @ 17.2°C. Weather clear, dry and warm. DO sample was taken by submerging the sample bottle and allowing bubbles to escape. Water flowing over all spillways at McNary Dam just upstream of site -- somewhat unusual.												
7/18/2006 13:30	20.1	345000	120	10.51	7.9	6	0.13	0.01 U	0.06	0.0101	0.0054	2.9	2
	pH measured @ 21.1°C.												
8/15/2006 13:33	21.3	266100	134	10.1	8.2	4	0.15	0.01 U	0.066	0.0102	0.0056	2.7	1
	pH measured @ 23.1°C. Diss. Metals was spilled. Metals will be collected again next month.												
9/12/2006 14:20	20.6	229400	145	9.17	8.11	2	0.18	0.01 U	0.102	0.0115	0.0072	1.3	1 U
	pH measured @ 21.3°C. Collected metals too since last month's dissolved metals was spilled.												

Metals Data Report

Columbia R @ Umatilla

31A070

Class: A
Rivermile: 290.5
Latitude: 45 56 02.0
Longitude: 119 19 31.0
Waterbody: WA-CR-1020

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/4/2005	14:40		65.6	0.1 U	0.02 U	0.5 U	0.34	0.75	0.67	0.1 U	0.02 U	0.002 U	0.61	0.94	5 U	1.6
12/6/2005	14:47		70.5	0.1 U	0.023	0.5 U	0.49	0.63	0.55	0.1 U	0.058	0.002 U	0.56	0.76	5 U	6.5
2/7/2006	14:20		80.4	0.1 U	0.02 U	0.5 U	0.64	0.87	0.75	0.11	0.035	0.002 U	0.7	1.26	5 U	4.4
4/11/2006	14:00		70	0.1 U	0.02 U	0.5 U	0.44	1.13	0.74	0.21	0.036	0.002	0.58	1.1	9.1	2.4
6/7/2006	14:00		56.2	0.1 U	0.02 U	0.5 U	0.52	1.1	0.78	0.13	0.02 U	0.002 U	0.63	0.93	5 U	2
8/15/2006	13:33		60.4	0.1 U		0.5 U		0.94		0.12		0.002 U		1.08	5 U	
9/12/2006	14:20		62.8	0.1 U	0.02 U	0.5 U	0.25	0.79	0.64	0.1 U	0.02 U	0.002 U	0.47	1	5 U	1.7

Conventional Data Report

Walla Walla R nr Touchet

32A070

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

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/4/2005 11:35	13.1	40	264	10.51	8.11	2	0.848	0.01 U	0.579	0.118	0.0894	1.6	81
	pH measured @ 14.1°C												
11/9/2005 14:15	6.5	107	239	13.26	8.22	1 U	0.631	0.01 U	0.53	0.0812	0.0694	1.4	14
	pH measured @ 13.1°C.												
12/6/2005 12:57	2.2	137	236	14.28	8.18	2	1.04	0.01 U	0.941	0.0952	0.0819	2.5	11
	pH measured @ 4.3° C												
1/10/2006 12:12	6.8	996	119	11.95	7.84	58	0.994	0.01 U	0.714	0.107	0.0764	21	75
	pH measured @ 8.1°C.												
2/7/2006 10:50	4	1410	101	12.75	7.86	76	0.735	0.01 U	0.649	0.101	0.0652	22	27
	pH measured @ 5.8°C. High flows, turbid water.												
3/8/2006 11:45	6.6	1270	105	11.95	7.86	82	0.7	0.01 U	0.652	0.104	0.0692	24	100
	pH measured @ 8.5° C. Overcast, light rain, very windy. No snow on ground. River appears high and turbid.												
4/11/2006 12:25	8.1	3060	90	11.64	7.69	426 J	0.869	0.01 U	0.663	0.187	0.061	80	43
	pH measured @ 9.6°C. High thin overcast, no precip. High flows.												
5/9/2006 13:25	12.3	589	129		8.04	19	0.502	0.01 U	0.385	0.0338	0.026	3.5	28
	pH was measured @ 13.2°C. Weather clear, dry, mild temp and windy. DO bottle spilled -- no DO. Tape-down estimated because of large belly in tape due to high winds.												
6/7/2006 11:25	20.3	423	144	8.45	7.84	63	0.626	0.023	0.417	0.102	0.0702	20	320
	pH measured @ 20.3°C. Water turbid. Weather clear, dry and warm.												
7/18/2006 11:02	22	9.9	512	11.23	8.6	14	1.23	0.01 U	0.941	0.0747	0.0402	7.4	43 J
	ph measured @ 22.1°C.												
8/15/2006 12:01	23.7	7.1	554	12.78	8.55	3	1.38	0.025	1.02	0.0743	0.0519	2.7	4
	pH measured @ 23.9°C.												
9/12/2006 12:55	20.3	13	453	11.95	8.75	2	0.899	0.018	0.629	0.0734	0.056	2.1	2
	pH measured @ 21.1°C.												

Conventional Data Report

Snake R nr Pasco

33A050

Class: A
Rivermile: 2.2
Latitude: 46 13 00.0
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
10/4/2005 12:39	17.1	48100	200	8.35	7.91	3	0.357	0.017	0.22	0.0476	0.0365	1.9	4
pH measured @ 17.2°C													
11/9/2005 15:33	12.3	24700	284	9.59	7.96	2	0.606	0.01 U	0.495	0.0716	0.0617	1.4	2
pH measured @ 12.4°C.													
12/6/2005 11:56	7.6	26100	320	10.61	8.2	3	0.722	0.01 U	0.59	0.0683	0.0564	1.7	6
pH measured @ 7.7° C													
1/10/2006 13:15	4.2	80500	346	12.47	8.24	2	1.15	0.011	0.84	0.0761	0.0642	2.9	2
pH measured @ 7.1°C.													
2/7/2006 11:43	4.3	141800	253	12.55	8.15	4	1.27	0.04	1.09	0.0841	0.0637	9.1	1 U
pH measured @ 6.4°C.													
3/8/2006 13:15	3.8	174000	296	13.71	8.14	4	1.12	0.017	1.05	0.0888	0.0685	4.8	1
pH measured @ 6.9° C. Overcast with light rain. Very windy.													
4/11/2006 11:20	9	270900	185	13.4	7.93	11	0.649	0.028	0.466	0.0512	0.0353	11	3
pH measured @ 11.5°C. High flows, turbid water. High thin overcast, mild temp., no precip.													
5/9/2006 14:35	11.8	221100	137		7.92	10	0.344	0.01 U	0.237	0.041	0.027	9.4	1
pH was measured @ 13.8°C. No DO -- bottle spilled. Warm, clear, dry, windy.													
6/7/2006 12:35	15	232700	109	11.75	7.92	10	0.19	0.01 U	0.107	0.0284	0.018	7.7	6
pH measured @ 19.2°C. Clear, dry and warm.													
7/18/2006 12:08	22.1	51200	114	9.58	8.46	5	0.17	0.012	0.067	0.0234	0.016	4.9	1
ph measured @ 21.5°C.													
9/12/2006 11:50	20	54700	164	8.76	7.91	2	0.27	0.023	0.132	0.0254	0.02	1.4	1 U
pH measured @ 19.9°C.													

Conventional Data Report

Palouse R @ Hooper

34A070

Class: B
Rivermile: 19.5
Latitude: 46 45 32.0
Longitude: 118 08 49.0
Waterbody: WA-34-1010

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/4/2005 8:13	10.8	57	368	10.1	8.25	10	0.788	0.018	0.482	0.0316	0.011	4.8	100
	pH measured @ 11.1°C												
11/9/2005 9:25	4.4	136	372	12.65	8.38	3	2.47	0.01 U	2.88	0.274	0.243 J	2.6	20
	pH measured @ 6.5°C.												
12/6/2005 10:12	0.3	95	336	14.38	8.56	3	2.47	0.01 U	1.88	0.107	0.0852	1.7	10
	pH measured @ 2.8° C. Too windy for tape-down. Broke ice on river to take sample.												
1/10/2006 9:03	5.8	582	224	12.06	8.08	35	3.98	0.021	3.19	0.144	0.105	28	49
	pH measured @ 7.4°C. Too windy, no tape-down.												
2/7/2006 7:55	3.1	1720	185	12.95	8	38	3.75	0.01 U	3.47	0.133	0.0816	35	31
	pH measured @ 4.1°C.												
3/8/2006 8:04	4.2	1710	177	12.57	8.16	83	2.73	0.01 U	2.75	0.13	0.0775	38	31
	pH measured @ 6.4° C. Thin overcast with some sun. No precipitation. No snow on ground. River appears high and turbid.												
4/11/2006 9:46	9.1	1660	164	11.13	7.93	54	3.59	0.01 U	2.18	0.117	0.0686	31	63
	pH measured @ 10.2°C. Clear with mild temp. and no precip. High flows, turbid water.												
5/9/2006 8:46	11.6	421	242	11.34	9.39	6	1.29	0.01 UJ	0.986	0.0217	0.007	3.1	12
	pH was measured @ 12.0°C. Temp mild and weather clear and dry. Some foam noted on water surface and foam clumping in eddies. pH meter checked for calibration and found OK. pH meter then recalibrated and river water retested. All tests comfirmed pH o												
6/7/2006 8:04	22.6	309	255	7.73	8.17	33	1.26	0.032	0.942	0.158	0.112	15	160 J
	pH measured @ 22.1°C. Weather clear, dry and warm.												
7/18/2006 7:50	20.4	51	334	7.73	8.22	15	0.796	0.025	0.546	0.118	0.093	10	51
	ph measured @ 19.8°C.												
8/15/2006 8:40	19.8	20	334	8.24	8.93	17	0.32	0.01 U	0.062	0.0386	0.015	11	23 J
	pH measured @ 21.6°C.												
9/12/2006 10:10	17.4	21	346	9.38	8.67	13	0.55	0.022	0.24	0.0315	0.011	9.7	27
	pH measured @ 18.5°C.												

Conventional Data Report

Palouse R @ Palouse

34A170

Class: A
Rivermile: 121.2
Latitude: 46 54 33.0
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
10/5/2005 10:30	7.7	67	70	9.74	7.68	3	0.24	0.01 U	0.01 U	0.0352	0.011	3.1	76
11/9/2005 10:10	1.8	136	83	12.4	7.94	2	0.16	0.01 U	0.01 U	0.0341	0.013	6.4	16
12/7/2005 9:45		36											
iced over, no sample taken													
1/11/2006 10:05	3.1	1660	59	11	6.91	293	1.71	0.042	1.25	0.215	0.1	240	1500 J
2/8/2006 10:10	2.3	1460	66	12.1	7.3	10	0.876	0.01 U	0.748	0.0564	0.0397	21	29
3/8/2006 10:45	2.9	1670	54	11.58	7.34	32	0.527	0.01 U	0.395	0.0715	0.0377	33	54
4/12/2006 10:05	6.9	1760	54	10.6	7.25	23	0.403	0.01 U	0.268	0.0497	0.0336	18	75
5/3/2006 9:35	9	578	51	11.5	8.07	5	0.12	0.01 U	0.025	0.0201	0.011	5.3	1
6/7/2006 10:30	19.4	348	74	9.6	8.11	14	0.23	0.01 U	0.031	0.0557	0.026	17	45
7/12/2006 10:00		63	72	8.48	8.06	4	0.2	0.01 U	0.01 U	0.0375	0.016	1.5	84
8/9/2006 10:15	21.7	24	82	9.11	9.7	2 U	0.302	0.01 U	0.01 U	0.0192	0.0079	1	64 J
pH read 9.95, above acceptable entry range													
9/13/2006 9:35	14.8	23	95	7.97	8.51	4	0.314	0.01 U	0.01 U	0.0206	0.005	2.8	33
Pressure J'd because off scale (scale ends at 28.40).													

Conventional Data Report

SF Palouse R @ Albion

34B080

Class: A
Rivermile: 14.6
Latitude: 46 47 23.2
Longitude: 117 15 05.5
Waterbody: WA-34-1020

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/5/2005 11:30	10.3		488	10.96	7.79	3	8.64	0.042	7.35	1.61	1.39	2.1	37
11/9/2005 11:05	5.1		568	11.8	8.04	3	6.91	0.087	6.87	1.2	1.08	4.7	11
12/7/2005 10:45	0.2		824	13.4	8.38	7	9.84	0.01 U	9.57	1.59	1.46	3	9 J
1/11/2006 10:45	4.1		191	10.6	7.28	650	6.73	0.206	6.3	0.536	0.136	280	900
2/8/2006 11:10	3.6		316	11.7	7.81	10 J	8.67	0.022	8.81	0.243	0.191	25	200
3/8/2006 11:30	4.5		282	11.38	8	42	5.83	0.012	6.42	0.277	0.196	65	11
4/12/2006 10:40	9.1		276	10	7.88	24 J	5.02	0.055	4.81	0.252	0.189	39	96
5/3/2006 10:20	10.7		397	14.1	8.9	3	5.57	0.01 U	4.97	0.478	0.409	4.3	64
	BP estimated												
6/7/2006 11:20	19.5		394	7.4	7.88	51	5.01	0.066	4.57	0.746		100	40
7/12/2006 10:55			587	9.59	8.37	16	7.05	0.025	6.66	1.55	1.37	26	77
8/9/2006 11:30	20.7		672	9.21	8.62	16	8.75	0.012	8.25	2.07	2.03	3.4	120 J
9/13/2006 10:15	15.6		677	8.68	8.14	1	15.2	0.014	14.9	2.84	2.58	0.9	120
	Pressure J'd because off scale (scale ends at 28.40). Staff=4.26												

Conventional Data Report

SF Palouse R @ Pullman

34B110

Class: A
Rivermile: 22.2
Latitude: 46 43 57.0
Longitude: 117 10 48.0
Waterbody: WA-34-1020

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/5/2005 12:00	9.4	7	477	9.13	7.84	3	3.43	0.022	2.38	0.526	0.44	2.6	4100
11/9/2005 11:35	4.3	10	424	10.8	7.96	2	2.68	0.035	1.98	0.19	0.144	11	2400
12/7/2005 11:30	0.2	6	851	13.6	8.16	3	4.46	0.014	2.67	0.192	0.139	3.4	40
1/11/2006 12:05	3.6	438	172	10.9	7.23	408	6.1	0.096	6.05	0.386	0.142	400	900
2/8/2006 12:10	3.4	96	288	11.6	7.66	7	8.15	0.01	7.13	0.154	0.118	26	28
3/8/2006 12:05	4.1	89	261	11.48	7.99	19	4.75	0.01 U	5.33	0.168	0.112	50	69
4/12/2006 11:15	8.9	103	254	10.3	7.96	16	3.77	0.01 U	3.99	0.164	0.118	33	55
5/3/2006 11:00	9.8	36	352	13	8.83	4	3.28	0.01 UJ	3.19	0.11	0.0804	6.2	80
6/7/2006 11:55	18.3	15	393	7.6	7.96	34	3.59	0.047	2.5	0.428	0.322	80	170
7/12/2006 11:40		2.4	537	8.08	8.13	5	1.87	0.037	1.4	0.229	0.171	4.5	410
8/9/2006 12:10	19	1.8	696	5.98	8.02	4	4.04	0.01 U	3.49	0.218	0.143	4.1	3800 J
9/13/2006 10:50	13	1.7	707	8.78	8.13	5	6.22	0.014	5.38	0.272	0.256	3.4	50

Pressure J'd because off scale (scale ends at 28.40).

Conventional Data Report

SF Palouse R blw Sunshine

34B130

Class: A
Rivermile: 23.75
Latitude: 46 43 05.0
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
10/5/2005 13:00	9.3		341	9.94	7.74	16	0.457	0.01 U	0.036	0.089	0.0614	2.7	91
11/9/2005 12:50	3.5		338	12.6	7.94	2	0.708	0.01 U	0.426	0.0896	0.0616	2.6	15
1/11/2006 13:30	3.3		153	10.9	7.29	330	5.47	0.084	5.82	0.357	0.124	330	180
2/8/2006 13:25	3		235	11.8	7.8	7 J	6.64	0.01 U	7.22	0.146	0.112	27	9
3/8/2006 13:20	3.8		208	11.58	7.88	27	4.82	0.01 U	4.88	0.161	0.104	50	28
4/12/2006 12:40	8.8		194	10.3	7.87	46 J	3.46	0.01 U	3.21	0.148	0.102	70	21
5/3/2006 12:40	11.4		246	14.1	9.02	5	3.21	0.01 U	2.93	0.0853	0.0535	10	18
6/7/2006 13:20	19.2		270	7.1	7.7	52	3.01	0.073	1.96	0.236	0.147	120	220
7/12/2006 13:00			336	8.78	8.07	9	0.44	0.021	0.049	0.0955	0.0562	4.9	290
8/9/2006 13:45	20.6		433	6.86	7.9	1	0.447	0.01 U	0.034	0.0771	0.045	1	120 J
9/13/2006 12:35	13.6		426	7.37 J	7.77 J	1 U	0.328	0.01 U	0.01 U	0.0715	0.024	0.9	11

Pressure J'd because off scale (scale ends at 28.40). Oxygen J'd because overshot endpoint. pH J'd because later calibration check exceeded limits. Staff=3.78

Conventional Data Report

Paradise Cr at Mouth

34C060

Class: A
Rivermile: 0.1
Latitude: 46 43 14.0
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
10/5/2005 13:20	10.4		508	9.64	7.84	1	3.45	0.01 U	2.94	0.685	0.563	2.5	8
11/9/2005 13:10	5.5		562	11.1	8	2	3.6	0.011	3.97	0.219	0.188	9	6
12/7/2005 12:55	0		966	13.6	8.27	4	5.44	0.052	4.27	0.258	0.183	4.1	120 J
	no BP recorded												
1/11/2006 13:45	4.4		205	11	7.38	111	6	0.069	6	0.385	0.204	260	550
2/8/2006 13:45	5		347	11.3	7.94	9	6.18	0.019	6.15	0.171	0.125	34	28
3/8/2006 13:40	4.9		339	10.89	7.97	16	5.54	0.015	6.35	0.191	0.131	50	37
4/12/2006 13:05	10		314	10	8.07	9	3.66	0.01 U	3.43	0.197	0.144	30	150
5/3/2006 13:05	13		503	14.9	9.33	4	2.72	0.01 U	3.1	0.19	0.148	2.9	6
6/7/2006 13:55	19.1		528	8.1	8.16	5	3.98	0.018	3.25	0.644	0.696	22	35
7/12/2006 13:30			679	8.18	8.13	21	4.38	0.013	4.29	0.273	0.229	2.4	61
8/9/2006 14:05	17.6		730	7.94	8.28	2	5.38	0.01 U	4.83	0.196	0.157	1.4	59 J
9/13/2006 13:00	12.6		735	8.88	7.76 J	3	8.72	0.01 U	7.03	0.332	0.298	2.7	110

Pressure J'd because off scale (scale ends at 28.40). pH J'd because later calibration check exceeded limits. Could not find RP marker (so stage is an estimate).

Conventional Data Report

Paradise Cr @ Border

34C100

Class: A
Rivermile: 6.5
Latitude: 46 43 57.0
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
10/5/2005 13:55	15.5		655	8.32	7.87	2	5.8	0.039	4.95	1.21	1.02	1.7	41
11/9/2005 13:40	11.6		671	8.9	7.71	4	4.58	0.03	4.62	0.184	0.146	5.1	110
12/7/2005 13:25	8		870	8.9	7.8	15	5.71	0.078	5.3	0.179	0.111	8.9	3400 J
	no BP recorded												
1/11/2006 14:10	4.6		230	10.3	7.29	54	6.06	0.081	5.26	0.319	0.199	180	510
2/8/2006 14:25	6.8		390	10.3	7.81	11	4.82	0.033	5.28	0.131	0.0951	22	33
3/8/2006 14:10	6.4		369	10.39	7.81	10	5	0.019	5.27	0.156	0.103	34	72
	stage height not recorded												
4/12/2006 13:35	10.6		323	10.1	7.95	10	3.39	0.01 U	2.97	0.159	0.119	28	32
5/3/2006 13:30	15.1		521	14.6	8.86	5	3.95	0.01 UJ	4.17	0.368	0.291	3.9	69
6/7/2006 14:30	19.4		618	7.8	7.88	11	5.68	0.048	5.15	0.969	0.935	19	65
7/12/2006 14:00			718	10.2	8.09	39	5.9	0.014	6.09	0.271	0.187	15	240
8/9/2006 14:35	19.2		718	7.35	7.94	2	5.74	0.014	5.21	0.164	0.123	1.7	260 J
9/13/2006 13:30	16.1		751	6.86	7.61 J	1 U	8.97	0.024	9.47	0.114	0.204	0.9	51

Pressure J'd because off scale (scale ends at 28.40). pH J'd because later calibration check exceeded limits. Staff=4.50

Conventional Data Report

Dry Creek @ Pullman

34M070

Class: A
Rivermile: 0
Latitude: 46 43 50.1
Longitude: 117 10 42.9
Waterbody: WA-34-9999

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
10/5/2005 12:40	12.2		528	7	7.75	8	3.89	0.629	1.03	0.605	0.404	7.6	12000 J
	FC was to numerous to count. Result is an estimate.												
11/9/2005 12:25	6.1		454	10.6	8.17	8	2.95	0.014	2.37	0.105	0.0666	4.3	200
12/7/2005 12:10	0.3		696	12.8	8.33	78	1.36	0.035	1.22	0.165	0.0523	65	280
	no stage height, iced over marker												
1/11/2006 13:05	4.5		398	11.5	7.77	30	15.1	0.087	15	0.35	0.237	110	96
	Smelled like raw sewage												
2/8/2006 12:55	3.8		459	12	8.11	5 J	17.1	0.01 U	17.8	0.142	0.104	11	86
3/8/2006 12:55	4.1		447	11.58	8.25	13	13.3	0.01 U	12.8	0.17	0.12	21	640 J
4/12/2006 12:10	8.3		392	10.5	8.1	16	11.7	0.01 U	10.4	0.211	0.144	45	37
5/3/2006 11:50	8.5		445	10.7	8.53	3	9.46	0.01 U	10.3	0.101	0.0765	3.3	570
6/7/2006 12:50	15.3		445	7.9	8.36	5	3.47	0.01	2.86	0.163	0.123	5.3	240
7/12/2006 12:30			498	8.38	8.49	48	1.42	0.023	1.11	0.185	0.14	8.2 J	920
	staff gage 4.26												
8/9/2006 13:00	18.2		483	7.45	8.5	68	1.77	0.01 U	0.945	0.26	0.186	3.3	3600 J
	staff gage 4.25												
9/13/2006 12:15	15		521	8.38	8.54	1	0.738	0.01 U	0.537	0.143	0.127	1.2	230
	Pressure J'd because off scale (scale ends at 28.40). Staff=4.25												

Conventional Data Report

Missouri Flat Creek @ Pullman

34N070

Class: A
Rivermile: 0.17
Latitude: 46 43 58.9
Longitude: 117 10 46.3
Waterbody: WA-34-1024

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
10/5/2005 12:15	9.7		417	7.71	7.54	5	1.18	0.015	0.99	0.146	0.0861	3	64
11/9/2005 11:55	5		428	9.8	7.84	5	1.65	0.02	1.4	0.123	0.0697	5.5	27
12/7/2005 12:00	0.3												27
FC only, unable to safely sample remainder of parameters													
1/11/2006 12:30	4.3		222	10.8	7.5	141	8.69	0.063	7.28	0.383	0.179	400	760
2/8/2006 12:35	3.3		344	11.8	7.61	4	12.6	0.01 U	12.2	0.142	0.112	22	32
3/8/2006 12:30	4.3		319	11.48	7.84	13	8.57	0.01 U	8.47	0.164	0.107	50	7
4/12/2006 11:40	8.9		314	10.3	8	23 J	6.55	0.01 U	7.22	0.157	0.114	30	26
5/3/2006 11:25	9.7		389	13.5	8.8	3	5.28	0.014 UJ	5.72	0.0451	0.023	3.2	290 J
6/7/2006 12:20	17.6		354	7.2	7.78	52	3.46	0.039	2.38	0.242	0.122	120	440
7/12/2006 12:05			507	7.57	7.98	7	1.95	0.022	1.66	0.194	0.131	7.9	360
8/9/2006 12:30	17.1		519	6.47	7.99	2	1.86	0.01 U	1.58	0.227	0.169	2.7	900 J
9/13/2006 11:15	13.3		513	7.97	8.05	8	2.43	0.011	1.58	0.194	0.157	4.8	180
Pressure J'd because off scale (scale ends at 28.40).													

Conventional Data Report

Snake R @ Interstate Br

35A150

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

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
10/5/2005 15:30	15.4	14100	337	9.44	8.26	4	0.758	0.01 U	0.573	0.0922	0.0846	1.7	14
11/9/2005 15:05	9.9	15900	371	10.6	8.3	4	0.765	0.01 U	0.641	0.0613	0.0475	1.4	4
12/7/2005 14:40	4.6	13100	402	12.4	8.39	2	0.945	0.01 U	0.821	0.072	0.0558	1.2	15
1/11/2006 15:30	3.9	34800	412	12.5	8.39	12	1.51	0.039	1.15	0.159	0.0567	7.8	23
2/8/2006 15:30	4	27700	340	12.4	8.25	2	1.29	0.069	1.06	0.111	0.0884	7.2	3
3/8/2006 15:20	4.9	40000	312	12.17	8.31	6	1.07	0.022	0.894	0.0709	0.0498	6.3	6
4/12/2006 15:35	9.8	99100	202	11.8	8.18	39 J	0.651	0.039	0.443	0.0832	0.0533	21	3
5/3/2006 15:05	11.8	101000	175	11.1	8.15	42 J	0.413	0.012	0.266	0.058	0.0313	19	15
6/7/2006 15:45	15.6		111	9.8	8.11	32	0.2	0.01 U	0.105	0.0371	0.021	13	25
7/12/2006 15:40		28200	184	8.58	8.33	21	0.327	0.011	0.177	0.0406	0.022	20	27
8/9/2006 15:45	23.1	15300	244	7.94	8.41	3	0.515	0.01 U	0.308	0.0454	0.0343	2.2	21 J
9/13/2006 14:45	20.5	15000	336	8.28	8.47	4	0.716	0.01 U	0.496	0.0649	0.0581	1.6	6

Conventional Data Report

Tucannon R @ Powers

35B060

Class: A
Rivermile: 2.3
Latitude: 46 32 16.0
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
10/4/2005 9:35	11.9	74	162	10.72	8.05	5	0.269	0.01 U	0.182	0.0479	0.0408	1.4	23
pH measured @ 12.3°C													
11/9/2005 11:57	6.8	87	147	12.85	8.21	3	0.21	0.01 U	0.167	0.0392	0.0405	1	9
pH measured @ 8.2°C.													
12/6/2005 9:05	5	82	152	12.65	8.04	7	0.287	0.01 U	0.268	0.0424	0.0401	2.1	15
pH measured @ 6.2° C.													
1/10/2006 10:13	8.4	168	128	11.44	7.94	10	0.61	0.01 U	0.414	0.0592	0.0535	3.3	36
pH measured @ 9.6°C.													
2/7/2006 9:05	4.3	185	121	13.06	7.9	7	0.489	0.01 U	0.383	0.053	0.0463	3.1	19
pH measured @ 4.8°C.													
3/8/2006 9:27	6.5	173	120	12.47	7.93	7	0.299	0.01 U	0.234	0.046	0.0383	2.8	12
pH measured @ 9.6° C. Windy, overcast with some sun, no precipitation, no snow on ground.													
4/11/2006 8:34	7.9	332	103	11.44	7.75	39	0.449	0.01 U	0.34	0.0744	0.0496	16	41
pH measured @ 9.0°C. Clear with mild temp. Rain previous night. New RP established for tape-down.													
5/9/2006 10:00	9.5	244	97	12.16	8.17	10	0.14	0.01 U	0.063	0.0379	0.0325	3.1	14
pH was measured @ 11.7°C. weather clear, dry and temp mild.													
6/7/2006 9:14	16	225	92	9.79	7.86	20	0.18	0.01 U	0.102	0.0523	0.0431	5.1	57
pH measured @ 10.0°C. Clear, dry and warm.													
7/18/2006 8:55	17.7	65	150	9.27	8.1	6	0.24	0.01 U	0.171	0.0495	0.0478	1.4	37
ph measured @ 18.3°C.													
8/15/2006 9:57	18.3	58	157	10.3	8.46	5	0.097	0.01 U	0.01 U	0.0222	0.023	1.3	36 J
pH measured @ 18.8°C.													
9/12/2006 9:00	14.2	55	161	10	7.99	5	0.22	0.01 U	0.159	0.0398	0.0428	1.3	13
pH measured @ 15.0°C.													

Conventional Data Report

Columbia R nr Vernita

36A070

Class: A
Rivermile: 405
Latitude: 46 38 30.0
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
10/3/2005 16:25	17.5	72139	138	9.89	8.27	1 U	0.14	0.01 U	0.066	0.0065	0.0031	0.6	2
pH measured @ 18.0°C													
11/8/2005 11:35	12.5	70332	135	10.81	8.21	1	0.14	0.01 U	0.097	0.0073	0.0052	0.5 U	1
pH measured @ 12.2°C.													
12/5/2005 16:00	8.3	81568	139	11.42	8.15	1 U	0.17	0.01 U	0.128	0.0072	0.0058	0.5	1 U
pH measured @ 8.3° C. Snow on ground.													
1/10/2006 15:00	5.8	75212	152	12.57	8.22	1	0.559	0.01 U	0.156	0.0073	0.0049	0.8	1 U
pH measured @ 7.3°C.													
2/6/2006 14:50	4.2	82405	148	13.67	8.2	1 U	0.22	0.01 U	0.179	0.0038	0.003 U	0.9	1 U
pH measured @ 7.7°C.													
3/6/2006 13:55	4.1	77992	145	13.09	8.09	2	0.299	0.01 U	0.267	0.0075	0.0041	0.9	1 U
pH measured @ 7.1C. Sampled from bridge , mid-span. No precipitation. Thin overcast.													
4/10/2006 15:20	5.9	139596	151	13.71	8.48	2	0.17	0.01 UJ	0.127	0.004	0.003 U	1	1 U
pH measured @ 8.4°C. Raining lightly, high flows. Sampled 20' from R/B up-stream of bridge.													
5/8/2006 15:41	10.4	150091	138	12.78	8.23	4	0.24	0.01 U	0.116	0.0075	0.0042	1.9	2
pH was measured @ 12.3°C. Weather clear, dry and very windy. Sample taken near shore (10 ft out) because of high, swift water and strong winds.													
6/6/2006 15:28	13.9	246579	119	12.57	8.06	4	0.12	0.01 U	0.058	0.0071	0.0048	2.7	5
pH measured @ 16.7°C. Sample taken close to bank in submerged riparian vegetation due to high, swift water.													
7/17/2006 15:10	18.8	114933	120	11.03	8.31	4	0.13	0.01 U	0.067	0.0053	0.003 U	1	6
ph measured @ 19.6°C.													
8/14/2006 15:50	20.3	107676	132	10.3	8.34	1	0.15	0.01 U	0.077	0.0051	0.0039	0.8	2
pH measured @ 20.9°C.													
9/11/2006 15:15	20.2	53210	138	10.3	8.28	2	0.2	0.01 U	0.127	0.0072	0.0046	0.5 U	1
pH measured @ 21.2°C.													

Metals Data Report

Columbia R nr Vernita

36A070

Class: A
Rivermile: 405
Latitude: 46 38 30.0
Longitude: 119 43 50.0
Waterbody: WA-CR-1030

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/3/2005	16:25		64.3	0.1 U	0.02 U	0.5 U	0.32	0.6	0.56	0.1 U	0.02 U	0.002 U	0.58	0.64	5 U	1.3
12/5/2005	16:00		66.2	0.1 U	0.02 U	0.5 U	0.44	0.55	0.49	0.1 U	0.02 U	0.002 U	0.51	0.57	5 U	1.2
2/6/2006	14:50		70.6	0.1 U	0.02 U	0.5 U	0.32	0.55	0.52	0.1 U	0.02 U	0.002 U	0.6	0.48	5 U	1.7
4/10/2006	15:20		71.8	0.1 U	0.022	0.5 U	0.27	0.74	0.57	0.1 U	0.02 U	0.002 U	0.56	0.54	5 U	2.7
6/6/2006	15:28		55.6	0.1 U	0.02 U	0.5 U	0.58	1.1	0.96	0.13	0.02 U	0.002 U	0.71	0.77	5 U	6.2
8/14/2006	15:50		64.2	0.1 U	0.02 U	0.5 U	0.25 U	0.78	0.7	0.1 U	0.02 U	0.002 U	0.64	0.69	5 U	2.1

Conventional Data Report

Yakima R @ Kiona

37A090

Class: A
Rivermile: 29.8
Latitude: 46 15 11.0
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
10/4/2005 16:07	14.8	2440	233	10.3	8.13	34	1.28	0.045	1.05	0.101	0.0728	11	40
pH measured @ 16.1°C													
11/8/2005 13:17	7.1	2260	245	12.95	8.33	11	1.31	0.011	1.24	0.136	0.112	4.7	45
pH measured @ 9.8°C.													
12/6/2005 15:55	2.2	1800	261	14.59	8.34	5	1.47	0.015	1.38	0.126	0.104	3.4	19
pH measured @ 4.7° C													
1/9/2006 15:03	4.8	3630	192	12.47	8.06	50	1.4	0.042	0.807	0.108	0.0654	19	28
pH measured @ 6.2°C.													
2/7/2006 15:40	4.9	5490	179	12.85	8.03	23	0.828	0.011	0.67	0.0906	0.0652	11	6
pH measured @ 7.2°C.													
3/8/2006 16:02	6.5	3260	204	13.09	8.67	11	0.726	0.01 U	0.591	0.0824	0.0582	4.5	3
pH measured @ 8.1° C. Overcast and windy. No precipitation.													
4/11/2006 15:31	10.8	6140	151	10.82	7.86	86	0.581	0.01 U	0.4	0.106	0.0547	24	26
pH measured @ 13.0°C. High flows, turbid water. Scat. Clouds, warm temp., no precip.													
5/9/2006 15:52	14.1	4580	151	11.03	8.1	39	0.619	0.01 U	0.489	0.0944	0.0683	13	9
pH was measured @ 15.2°C. Clear, warm, dry.													
6/7/2006 15:13	18.4	1990	130	9.38	7.86	102	0.503	0.01 U	0.401	0.0804	0.0476	26	85
pH measured @ 18.8°C.													
7/18/2006 15:58	25.5	462	260	11.95	8.83	16	1.16	0.013	0.968	0.133	0.106	6.6	11
ph measured @ 24.6°C.													
8/15/2006 14:50	23.8	983	252	12.37	8.79	9	1.14	0.01 U	0.957	0.121	0.105	4.4	19
pH measured @ 24.1°C.													
9/12/2006 13:35	20.8	1480	262	12.47	8.76	7	1.13	0.01 U	0.988	0.117	0.0976	2.2	7
pH measured @ 20.8°C.													

Conventional Data Report

Yakima R @ Nob Hill

37A205

Class: A
Rivermile: 111.3
Latitude: 46 34 54.0
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
10/5/2005 13:01	13.4	1990	120	12.06	8.68	4	0.22	0.01 U	0.159	0.0439	0.0358	2.7	9
	pH measured @ 14.4°C												
11/7/2005 15:45	5.9	1520	135	13.46	8.58	6	0.315	0.01 U	0.248	0.0513	0.0399	2.8	12
	pH measured @ 8.1°C.												
12/7/2005 12:25	1.6	1210	135	15.61	8.69	3	0.268	0.01 U	0.204	0.0495	0.0433	1.5	1
	pH measured @ 3.1° C. Snow on ground.												
1/9/2006 12:38	3.5	3300	117	13.29	8.02	8	0.492	0.01 U	0.252	0.035	0.027	5.2	4
	pH measured @ 6.4°C.												
2/8/2006 13:52	3.6	2950	133	13.67	8.24	4	0.413	0.01 U	0.308	0.0278	0.022	3.3	1
	pH measured @ 6.0°C.												
3/7/2006 12:39	5.8	2130	133	14.22	8.95	3	0.23	0.01 U	0.13	0.0183	0.012	1.7	1 U
	pH measured @ 8.7° C. Sunny, no precipitation, mild air temp., no snow on ground, no apparent run-off. pH meter calibration checked and OK.												
4/12/2006 13:00	8.7	5120	109	12.16	8.07	17	0.188	0.01 U	0.109	0.0383	0.03	9.9	9
	pH measured @ 11.5°C. Scattered clouds with mild temp. and no precip. Geese and ducks u/s of sampling site.												
5/10/2006 12:35	9.6	4420	97	11.75	7.88	9	0.24	0.01 U	0.159	0.0338	0.028	5.5	6
	pH was measured @ 11.5°C.												
6/5/2006 12:25	11.8	8760	80	10.72	7.73	30	0.18	0.01 U	0.12	0.041	0.023	20 J	100
	pH measured @ 14.8°C. High flows, sample taken from bank amid flooded riparian vegetation. Weather clear, warm and dry.												
7/19/2006 15:25	17.1	3640	83	11.13	8.84	11	0.24	0.01 U	0.158	0.0257	0.02	3.5	27
	pH measured @ 18.2°C.												
8/16/2006 14:04	18.3	3610	88	10.3	8.48	7	0.276	0.01 U	0.189	0.0367	0.0309	2.9	36
	pH measured @ 19.4°C.												
9/13/2006 13:40	17.2	2690	89	10.51	8.33	15	0.13	0.01 U	0.053	0.0326	0.022	6.8	31
	pH measured @ 19.3°C.												

Conventional Data Report

Wide Hollow Cr. @ Main Street

37E050

Class: A
Rivermile: 0.5
Latitude: 46 32 37.0
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
10/5/2005 14:17	14.1	21.9	249	11.13	8.14	6	1.16	0.01 U	1.1	0.0799	0.0684	2.3	220
	pH measured @ 15.0°C												
11/7/2005 16:39	11.4	12.4	472	9.69	7.96	3	3.52	0.01 U	2.92	0.195	0.165	1.7	120
	pH measured @ 11.3°C.												
12/7/2005 13:44	7.8	6.98	524	12.34	8.21	3	3.46	0.01 U	3.09	0.202	0.178	2	7
	pH measured @ 8.0° C. Snow on ground.												
1/9/2006 13:38	8.1	9.92	388	11.23	7.93	14	2.81	0.013	2.92	0.261	0.214	8.3	110
	pH measured @ 8.9°C.												
2/8/2006 14:55	7.9	5.19	419	11.83	8.11	7	3.82	0.01 U	3.03	0.212	0.171	3.6	17
	pH measured @ 8.6°C.												
3/7/2006 13:37	10.9	13.1	472	15.15	8.65	2	3.18	0.01 U	3.06	0.167	0.126	0.8	2
	pH measured @ 11.2° C. pH meter calibration checked and OK. Broken clouds, no precipitation, mild air temp., no snow on ground, no apparent run-off. "J" stage height; wood and weed jam approx. 200 feet downstream of staff gage.												
4/12/2006 14:18	12.2 J	35.3	232	13.29	8.67	10	0.905	0.01 UJ	0.764	0.0565	0.0445	5.4	91
	pH measured @ 13.8°C. Scattered clouds, warm. "J" temperature -- temperature estimated from temp of QA sample taken shortly after this event.												
5/10/2006 13:45	12.5	27.4	235	12.68	8.29	13	1.14	0.011 UJ	0.991	0.0761	0.062	5.7	80
	pH was measured @ 13.1°C.												
6/5/2006 13:40	15.5	37	207	10.92	7.99	14	0.92	0.01 U	0.872	0.0807	0.0619	9.5 J	680 J
	pH measured @ 16.4°C. Weather clear, warm and dry.												
7/19/2006 16:18	19	27.4	277	10.51	8.23	4	1.56	0.01 U	1.46	0.0906	0.0874	2.1	230
	ph measured @ 19.3°C.												
8/16/2006 14:55	18.6	22.2	311	10.51	8.14	4	1.83	0.01 U	1.74	0.0994	0.0907	1.8	310
	pH measured @ 19.4°C.												
9/13/2006 14:53	17.2	36.4	247	10.3	8.08	5	1.33	0.01 U	1.21	0.0722	0.0672	2.4	460
	pH measured @ 18.1°C.												

Conventional Data Report

Moxee Drain @ Birchfield Rd.

37I070

Class: A
Rivermile: 2.5
Latitude: 46 32 46.0
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
10/5/2005 13:44	13.4	27.65	396	10.41	8.42	21	1.99	0.01 U	1.9	0.162	0.133	5.4	220
pH measured @ 14.8°C. Stage height = 69.12. "J" gauge height until data is finalized by SHU.													
11/7/2005 16:15	9.1	13	765	10.91	8.55	3	4.63	0.018	4.55	0.389	0.311	2.7	550
pH measured @ 10.4°C.													
12/7/2005 13:02	5.1	11.3	805	13.06	8.67	5	4.7	0.023	4.72	0.295	0.236	3.2	320
pH measured @ 6.3° C. Snow on ground.													
1/9/2006 13:10	8.4	13.25	799	11.23	8.52	11	4.6	0.023	4.81	0.401	0.293	4.9	84
pH measured @ 9.0°C.													
2/8/2006 14:23	8.4	12.5	809	11.32	8.63	5	6.37	0.031	4.58	0.379	0.242	2.8	570
pH measured @ 9.1°C.													
3/7/2006 13:09	10	11.75	811	13.91	8.85	4	4.66	0.023	4.76	0.498	0.409	1.1	96
pH measured @ 10.9° C. pH meter calibration checked and OK. Sunny, no precipitation, mild air temp., no snow on ground, no apparent run-off.													
4/12/2006 13:30	12.2	56.6	202	11.34	8.65	96 J	0.635	0.011	0.459	0.0704	0.042	26	91
pH measured @ 14.0°C. Turbid water. Sunny, warm weather.													
5/10/2006 13:01	13.3	59.6	229	10.82	8.55	104 J	0.961	0.025	0.774	0.0995	0.0751	17	88
pH was measured @ 14.0°C. Warm air temp., clear and dry. Birds nesting under bridge just upstream of sampling site.													
6/5/2006 13:03	17.1	81.2	225	9.38	8.14	79	0.855	0.019	0.686	0.128	0.0909	26 J	840 J
pH measured @ 18.2°C. Weather clear, warm and dry. Birds nesting under bridge just u/s from sampling site.													
7/19/2006 15:52	20.2	35.8	248	8.76	8.23	36	1.45	0.031	1.14	0.12	0.101	8.8	340
ph measured @ 20.3°C.													
8/16/2006 14:31	19.6	38.4	252	8.86	8.14	26	1.2	0.019	0.976	0.115	0.0989	8.6	1400
pH measured @ 20.2°C.													
9/13/2006 14:15	17.6	42.6	285	9.27	8.34	30	1.08	0.01 U	0.922	0.115	0.0917	5.3	350
pH measured @ 19.4°C.													

Conventional Data Report

Cowiche Cr. @ Powerhouse Rd.

38G070

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

Date/Time	Temp	Flow	Conduc-tivity	Oxygen	ph	Suspend. Solids	Total Pers. N.	Ammonia Nitrogen	Nitrate+ Nitrite	Total Phosp.	Soluble Reactive P	Turbid-ity	Fecal Coliforms
	deg. C	CFS	umhos/cm	mg/L	std units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	#/100/mL
10/5/2005 12:30	12.2	8.17	324	11.13	8.02	3	0.863	0.01 U	0.786	0.181	0.161	1.9	63
pH measured @ 13.3°C													
11/7/2005 15:10	7.1	11	367	11.83	8.08	1	0.92	0.01 U	0.873	0.184	0.158	0.9	16
pH measured @ 9.2°C.													
12/7/2005 11:37	2.6	9.27	356	13.57	8.14	3	1.19	0.01 U	1.02	0.229	0.197	1.5	4
pH measured @ 4.1° C. Snow on ground.													
1/9/2006 11:40	4	25.5	251	12.78	8.12	5	1.15	0.01 U	0.95	0.152	0.129	3.1	2
pH measured @ 5.2°C.													
2/8/2006 13:14	4.1	74.4	181	12.65	8.04	6	0.889	0.01 U	0.664	0.103	0.0882	4.3	12
pH measured @ 5.4°C.													
3/7/2006 12:05	5.7	60.1	177	12.68	8.24	4	0.628	0.01 U	0.409	0.0793	0.0607	4.2	11
pH measured @ 7.5° C. Sunny, no precipitation, mild air temp., no snow on ground, no apparent run-off.													
4/12/2006 11:45	7.9	133	121	11.54	7.96	32	0.376	0.01 U	0.218	0.0717	0.0545	14	42
pH measured @ 10.4°C. Sunny, no precip. High flows, turbid. "J" stage -- staff hard to read because of turbulent water around gage.													
5/10/2006 11:58	8.4	125	106	11.44	7.83	50 J	0.482	0.01 U	0.374	0.0655	0.0468	19	120
pH was measured @ 10.4°C. Clear, warm, dry. "J" stage; high fast water created a "hollow" at staff gage.													
6/5/2006 11:18	11.9	106	109	10.41	7.9	29	0.294	0.01 U	0.198	0.0651	0.048	15 J	220
pH measured @ 13.2°C. High thin overcast, warm, dry.													
7/19/2006 14:44	20.9	6.38	270	9.89	8.44	4	0.685	0.01 U	0.506	0.122	0.108	2.4	63
ph measured @ 20.5°C.													
8/16/2006 13:23	17.3	0.33	294	12.16	8.78	2	0.655	0.01 U	0.559	0.106	0.0944	1.5	130
pH measured @ 19.7°C.													
9/13/2006 11:48	16	1.73	346	10.61	8.28	3	2.01	0.01 U	1.45	0.151	0.128	1.9	66
pH measured @ 17.5°C.													

Conventional Data Report

Yakima R nr Cle Elum

39A090

Class: AA
Rivermile: 191
Latitude: 47 11 09.0
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
10/5/2005 9:45	10.7	282	63	10.41	7.76	1 U	0.05	0.01 U	0.01 U	0.0047	0.0042	0.6	4
pH measured @ 11.2°C													
11/8/2005 8:39	5.5	428	71	11.42	7.63	1	0.082	0.01 U	0.043	0.0056	0.0036	1.7	8
pH measured @ 7.6°C.													
12/7/2005 9:03	2.2	248	69	12.85	7.55	1	0.053	0.01 U	0.01 U	0.003	0.003 U	1.1	6 J
pH measured @ 4.2° C. Snow on ground.													
1/9/2006 8:45	3	524	69	12.26	7.24	3	0.27	0.01 U	0.048	0.0051	0.0044	1.5	3
pH measured @ 5.3°C. Snowing. Snow on ground.													
2/8/2006 9:12	2.9	717	79	12.44	7.39	2	0.081	0.01 U	0.044	0.0039	0.0047	0.8	4
pH measured @ 4.8°C.													
3/7/2006 9:10	3.6	431	79	12.98	7.65	1	0.052	0.01 U	0.011	0.0036	0.003 U	0.6	3
pH measured @ 6.1° C. Broken clouds, no precipitation, patchy snow on ground, no ice on river. Snow melting with some run-off.													
4/12/2006 9:10	5.1	1064	71	11.95	7.48	3	0.026	0.01 UJ	0.01 U	0.0037	0.0034	1.6 J	6 J
pH measured @ 7.1°C. Partly cloudy, cool, recent rain													
5/10/2006 10:05	5.9	448	68	11.85	7.58	2	0.032	0.01 U	0.01		0.0043	1	1 U
pH was measured @ 8.0°C. Clear, dry, mild temp.													
6/5/2006 9:13	8.9	423.5	56	10.82	7.61	5	0.035	0.01 U	0.013	0.0055	0.0052	2.7 J	12
pH measured @ 12.2°C. Mild temp. , clear, no precipitation.													
7/19/2006 11:40	13.7	109	55	10.2	8.23	3	0.055	0.01 U	0.013	0.0065	0.0032	1.7	17
ph measured @ 15.6°C.													
8/16/2006 9:45	14.6	289	56	9.48	7.72	3	0.055	0.01 U	0.01 U	0.0056	0.0032	1.6	12
pH measured @ 15.6°C.													
9/13/2006 9:35	14.6	309	61	9.38	7.57	2	0.053	0.01 U	0.01 U	0.0054	0.0035	1	30
pH measured @ 15.2°C.													

Conventional Data Report

Wilson Cr @ Highway 871

39C070

Class: A
Rivermile: 0.1
Latitude: 46 55 02.0
Longitude: 120 30 25.0
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
10/5/2005 10:50	11.8		357	10.41	8.03	20	2.39	0.01 U	1.86	0.161	0.139	6.5	160
	pH measured @ 12.3°C												
11/8/2005 9:43	6.4		409	11.42	8.16	15	2.2	0.013	2.04	0.126	0.107	6.3	63
	pH measured @ 6.9°C.												
12/7/2005 10:45	4.4		401	12.55	8.22	13	2.57	0.01 U	1.92	0.128	0.103	6.5	43 J
	pH measured @ 5.8° C. Snow on ground.												
1/9/2006 10:11	4.7		319	11.75	7.99	34	1.75	0.035	1.35	0.16	0.123	10	45
	pH measured @ 6.4°C. Snow and slush on ground.												
2/8/2006 10:25	4.3		325	12.24	8.04	15	2.76	0.01 U	1.59	0.0993	0.0754	4.3	25
	pH measured @ 5.7°C.												
3/7/2006 11:03	6.5		316	14.53	8.6	6	1.19	0.01 U	1.1	0.0695	0.0521	1.7	10
	pH measured @ 9.4° C. Sunny, no precipitation, no snow on ground. Water appears less turbid than normal. pH meter calibration checked and OK.												
4/12/2006 10:15	7.8		195	11.34	7.86	74	0.805	0.02	0.514	0.104	0.0685	27	370 J
	pH measured @ 10.5°C. Partly cloudy, cool, rain previous night. Baro. pressure estimated.												
5/10/2006 11:07	9.4		258	11.54	7.93	46	1.68	0.099	1.15	0.282	0.243	13	120
	pH was measured @ 10.6°C. Clear, dry, mild temp.												
6/5/2006 10:23	12.5		198	9.79	7.79	58 J	0.887	0.017	0.598	0.16	0.118	22 J	470
	pH measured @ 14.4°C. High thin overcast and warm temp.												
7/19/2006 13:30	17		293	9.89	7.99	24	2.97	0.023	2.33	0.201	0.17	9.4	200
	ph measured @ 18.7°C.												
8/16/2006 10:57	15.6		269	9.58	7.9	23	1.3	0.01 U	0.991	0.16	0.136	10	220
	pH measured @ 17.3°C.												
9/13/2006 10:50	14.6		267	9.79	8	12	2.09	0.01 U	1.67	0.152	0.123	4.4	240
	pH measured @ 15.6°C.												

Conventional Data Report

Crab Cr nr Beverly

41A070

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

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/3/2005 15:32	14.7	313	612	9.48	8.27	11	2.6	0.01 U	2.54	0.12	0.078	4.2	390 J
pH measured @ 16.2°C													
11/8/2005 10:43	6.3	204	755	11.83	8.42	4	3.19	0.013	2.35	0.0812	0.0536	4.5	31
pH measured @ 7.2°C. No barometric pressure taken.													
12/5/2005 15:03	2	175	821	13.87	8.46	10	3.75	0.026	2.8	0.107	0.0724	9.3	8
pH measured @ 3.4° C. No tape-down, too windy. Snow on ground.													
1/11/2006 15:04	6.7	217	858	11.64	8.59	20	3.62	0.013	2.52	0.144	0.0797	12	7
pH measured @ 8.6°C.													
2/6/2006 13:45	5.8	200	839	12.44	8.59	16	4.55	0.01 U	2.73	0.111	0.0663	11	6
pH measured @ 7.6°C.													
3/6/2006 12:50	6	173	802	12.57	8.59	16	3.26	0.01 U	3.32	0.0895	0.0393	0.5 U	10
pH measured @ 7.5° C. No precipitation, thin overcast.													
4/10/2006 14:20	12.2	259	668	10.82	8.5	37 J	3.27	0.01 UJ	2.52	0.069	0.027	10.4	64
pH measured @ 13.3°C. High overcast with moderate winds, cool and no precip.													
5/8/2006 14:40	13.8	205	538	13.09	8.51	33	1.6	0.032 UJ	1.31	0.0594	0.0329	13	44
pH was measured @ 14.8°C. Too windy for tape-down; no stage. Clear and dry.													
6/6/2006 14:16	21.8	251	539	8.24	8.22	79	1.43	0.01 U	1.12	0.0861	0.033	29	120
pH measured @ 21.8°C. High water. Warm temp. with high overcast.													
7/17/2006 13:52	22.7	183	516	9.38	8.29	33	1.69	0.01 U	1.43	0.045	0.015	20	54
ph measured @ 22.5°C.													
8/14/2006 14:40	22.3	196	509	10.82	8.62	29	1.3	0.01 U	1.18	0.0391	0.016	17	67 J
pH measured @ 22.2°C.													
9/11/2006 14:10	18.6	264	534	10.2	8.41	20	2.59	0.01 U	1.89	0.0425	0.022	9.6	44
pH measured @ 19.5°C.													

Conventional Data Report

Columbia River @ Hwy 2 Bridge

44A190

Class: A
Rivermile: 469.36
Latitude: 47 28 17.0
Longitude: 120 18 56.0
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
10/3/2005 12:45	17.6		136	9.17	7.94	1 U	0.13	0.01 U	0.065	0.0058	0.003 U	0.5 U	4
	pH measured @ 16.9°C												
11/7/2005 12:15	13.3		133	9.59	7.9	1	0.13	0.01 U	0.086	0.0064	0.0049	0.5	4
	pH measured @ 12.2°C.												
12/5/2005 12:35	9.1		136	10.4	7.88	2	0.16	0.01 U	0.114	0.0068	0.0053	0.6	3
	pH measured @ 6.6° C. Snow on ground.												
1/11/2006 12:40	5.1		145	12.16	8.13	2	0.349	0.01 U	0.117	0.0064	0.004	0.9	1 UJ
	pH measured @ 6.7°C. Rain previous night.												
2/6/2006 11:11	3.8		144	12.75	8.04	2	0.22	0.01 U	0.186	0.0045	0.003 U	1.1	1 U
	pH measured @ 5.5°C.												
3/6/2006 11:02	3.7		144	12.98	7.99	2	0.283	0.01 U	0.234	0.0077	0.0045	1.8	1 U
	pH measured @ 6.3° C. No precipitation, sky overcast.												
4/10/2006 11:45	4.9		151	13.71	8.27	2	0.21	0.01 U	0.131	0.0046	0.003 U	0.9	1 U
	pH measured @ 10.5°C. Clear with mild air temp.												
5/8/2006 12:24	9.4			12.78									1
	Extremely gusty winds with blowing dirt, sand and debris. All samples contaminated and rejected except for DO, water temperature and FC.												
6/6/2006 11:35	13		118	11.95	7.85	5	0.12	0.01 U	0.054	0.0065	0.0042	3.3	2
	pH measured @ 16.3°C. High water. Warm, clear weather.												
7/17/2006 11:35	17.4		122	10.51	7.77	2	0.12	0.01 U	0.045	0.0056	0.003 U	0.7	1
	ph measured @ 19.4°C.												
8/14/2006 11:59	19.3		127	9.48 J	7.86	1	0.12	0.01 U	0.053	0.0052	0.0038	0.7	1
	pH measured @ 21.1°C. DO was analyzed with small quantity of liquid.												
9/11/2006 12:03	19.6		130	9.07	7.98	1	0.1	0.01 U	0.057	0.0048	0.003 U	0.7	2
	pH measured @ 20.4°C.												

Metals Data Report

Columbia River @ Hwy 2 Bridge

44A190

Class: A
Rivermile: 469.36
Latitude: 47 28 17.0
Longitude: 120 18 56.0
Waterbody:

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/3/2005	12:45		64.3	0.1 U	0.02 U	0.5 U	0.3	0.6	0.55	0.1 U	0.02 U	0.002 U	0.58	0.6	5 U	1.5
12/5/2005	12:35		64.9	0.1 U	0.056	0.5 U	0.44	0.56	0.5	0.1 U	0.02 U	0.002 U	0.49	0.53	5 U	1.2
2/6/2006	11:11		69.1	0.1 U	0.02 U	0.5 U	0.29	0.59	0.56	0.1 U	0.02 U	0.002 U	0.58	0.49	5 U	5.2
4/10/2006	11:45		71.9	0.1 U	0.027	0.5 U	0.25 U	0.81	0.55	0.13	0.02 U	0.002 U	0.54	0.49	5.1	4.6
6/6/2006	11:35		55.2	0.1 U	0.02 U	0.5 U	0.58	1.4	0.96	0.2	0.02 U	0.0029	0.63	0.85	5 U	6.8
8/14/2006	11:59		61.6	0.1 U	0.02 U	0.5 U	0.25 U	0.83	0.63	0.1 U	0.02 U	0.002 U	0.51	0.61	5 U	1.8

Conventional Data Report

Wenatchee R @ Wenatchee

45A070

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

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/3/2005	10:10	10.9	789	68	11.44	7.74	4	0.2	0.01 U	0.123	0.0088	0.0043	1.8	67
		pH measured @ 12.2°C												
11/7/2005	9:35	5.4	1060	67	12.95	7.55	2	0.14	0.01 U	0.097	0.0061	0.005	0.7 J	12
		pH measured @ 8.0°C.												
12/5/2005	10:25	0.1	937	71	14.79	7.42	1 U	0.19	0.01 U	0.163	0.0051	0.0054	0.5 U	3
		pH measured @ 2.9° C. Ice floating in river. Snow on ground. Foggy.												
1/11/2006	10:40	3.4	3890	68	13.09	7.69	30	0.477	0.01 U	0.097	0.0152	0.0053	12 J	16 J
		pH measured @ 5.7°C. Sunny, ground wet from heavy rains previous night.												
2/6/2006	9:26	2.5	1750	83	13.67	7.64	2	0.21	0.01 U	0.146	0.0052	0.0047		2
		pH measured @ 4.2°C. Turbidity sample discarded. "J" TSS. Very dusty conditions due to heavy truck traffic and residual grit from sanding for ice on bridge.												
3/6/2006	9:35	3.2	1210	98	13.6	7.86	2	0.24	0.01 U	0.174	0.0038	0.0034	1.7	5
		pH measured @ 6.1° C. Sky was overcast with no precipitation. No snow on ground.												
4/10/2006	10:13	5.7	3060	88	13.19	8	9	0.09	0.01 UJ	0.025	0.0064	0.0038	3.2	3
		pH measured @ 7.8°C. Weather clear with mild air temp.												
5/8/2006	10:45	7.6	6440	51	12.68	7.93	7	0.11	0.01 U	0.065	0.003	0.003 U	1.6	1
		pH was measured @ 9.4°C.												
6/6/2006	9:29	9	14600	32	11.64 J	7.42	24	0.086	0.01 U	0.062	0.0058	0.0036	6.1	8
		pH measured @ 13.2°C. DO bottle exposed to air -- probably good sample but quality may be compromized.												
7/17/2006	9:13	16.1	2700	45	9.79	7.38	25	0.11	0.01 U	0.082	0.0038	0.003 U	0.9	18
		ph measured @ 18.1°C. Loose gravel on bridge deck with heavy traffic and gusty winds. Samples may be vulnerable to contamination.												
8/14/2006	9:55	17.7	711	73	10.3	7.86	1	0.26	0.01 U	0.192	0.0043	0.0038	0.7	18
		pH measured @ 19.9°C.												
9/11/2006	9:55	15.7	445	93	10.82	7.92	2	0.32	0.01 U	0.242	0.0052	0.0032	0.8	22
		pH measured @ 16.3°C.												

Conventional Data Report

Wenatchee R nr Leavenworth

45A110

Class: AA
Rivermile: 35.6
Latitude: 47 40 35.0
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
10/3/2005 8:31	10.4	514	41	10.41	7.64	2 U	0.047	0.01 U	0.01 U	0.0019	0.003 U	0.7	5
	pH measured @ 10.9°C. No tape-down, dry below RP.												
11/7/2005 7:30	6.1	693	41	11.42	6.95	1	0.041	0.01 U	0.01	0.0022	0.003 U	0.5 U	4 J
	pH measured @ 8.9°C. No tape down. RP dry. Snow on ground. Snow and thaw with some runoff the previous day.												
12/5/2005 8:55	1	559	41	13.46	7.21	1	0.072	0.01 U	0.045	0.0021	0.0034	0.5	2
	pH measured @ 5.4° C. No tape-down, RP covered with snow and ice. Snow on ground.												
1/11/2006 9:35	2.5	2030	36	12.68	7.59	5	0.534	0.01 U	0.074	0.0039	0.003 U	1.8	1 J
	pH measured @ 3.5°C. Raining hard at site. Snow and slush on ground with runoff to stream.												
2/6/2006 8:10	1.8	1010	42	13.06	7.13 J	1 U	0.1	0.01 U	0.056	0.0019	0.003 U	0.6	1
	pH measured @ 4.6°C. pH meter cold and very slow.												
3/6/2006 8:29	2.7	686	47	12.88	7.28	1	0.089	0.01 U	0.05	0.0025	0.003 U	0.6	1 U
	pH measured @ 5.7° C. Stage height was not measured as it was dry below the RP. Raining lightly with snow on the ground during sampling.												
4/10/2006 8:45	3.8	1780	47	12.37	7.44	4	0.061	0.01 U	0.046	0.0047	0.0042	1.7	1 U
	pH measured @ 5.2°C. Foam clumping on water in eddies. Water was swift and shallow -- DO sample taken by allowing sampler to swing u/s. Patchy snow on ground. Low thin fog turning clear during sampling.												
5/8/2006 8:38	5.9	4330	36	11.85	7.62	6	0.11	0.01 U	0.08	0.0026	0.003 U	1.3	3
	pH was measured @ 8.9°C. The pH at this station was measured with pH probe # CPP4. Temperatures were mild. Didymosphenia Geminata, algae, was observed in the river in its "sluffing" stage. Samples of the algae were taken and provide to Jenifer Parsons												
6/6/2006 8:15	6.6	9960	25	11.75	7.57	12	0.09	0.01 U	0.062	0.0047	0.0033	2.9	4
	pH measured @ 10.0°C. Weather was clear with mild temp.												
7/17/2006 7:56	13.4	2060	30	9.79	8.11	18	0.041	0.01 U	0.023	0.0021	0.003 U	0.8	5
	ph measured @ 14.1°C.												
8/14/2006 8:30	15.7	630	38	9.38	7.28	1	0.05	0.01 U	0.013	0.0016	0.003 U	0.7	8
	pH measured @ 17.3°C. Stage height tape down was not taken -- dry below RP.												
9/11/2006 8:25	13.8	368	47	9.58	7.32	1 U	0.041	0.01 U	0.013	0.0024	0.003 U	0.5 U	6
	pH measured @ 13.8°C. No stage taken -- dry under RP.												

Conventional Data Report

Entiat R nr Entiat

46A070

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

Date/Time	Temp 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
10/3/2005 10:57	10.2	93	101	11.64	7.84	3	0.259	0.01 U	0.211	0.0046	0.003 U	4.6	18
pH measured @ 11.5°C													
11/7/2005 11:05	3.7	112	99	13.26	7.87	3	0.2	0.01 U	0.162	0.0036	0.004	1	1
pH measured @ 5.7°C. US Fish & Wildlife wading directly upstream of site doing salmon carcass survey during sampling.													
12/5/2005 11:30	0.1	83	111	14.69	7.81	2	0.24	0.01 U	0.213	0.0031	0.0044	0.7	4
pH measured @ 2.6° C. "J" stage measurement as there was ice on the river. Snow on ground.													
1/11/2006 11:44	2.6	205	83	13.91	8.13	3	0.412	0.01 U	0.091	0.0031	0.0032	1.1	2 J
pH measured @ 5.0°C. Sunny, snow on ground.													
2/6/2006 10:13	1.9	153	110	14.48	8.11	3	0.22	0.01 U	0.175	0.0012	0.0035	0.6	8
pH measured @ 3.5°C.													
3/6/2006 10:24	3.8	130	119	13.91	8.2	2	0.252	0.01 U	0.203	0.0022	0.0033	7.1	1 U
pH measured @ 5.7° C. No ice on river, patchy snow on ground, no precipitation, sky overcast.													
4/10/2006 10:50	6.1	386	110	12.98	8.42	6	0.11	0.01 U	0.046	0.0041	0.0042	1.7	2
pH measured @ 8.1°C. Clear with mild air temp. Debris noted in DO bottle after sampling.													
5/8/2006 11:33	7	940	61	14.02	8.36	6 J	0.057	0.01 U	0.023	0.0036	0.0037	2.7	2
pH was measured @ 10.0°C. Clear, dry, warm.													
6/6/2006 10:33	7	2640	33	12.06	7.34	32 J	0.037	0.01 U	0.03	0.0094	0.0061	5.1	5
pH measured @ 11.3°C. River running high and swift.													
7/17/2006 10:43	13.6	489	55	10.72	7.65	41	0.056	0.01 U	0.031	0.0036	0.0075	1.1	4
ph measured @ 16.4°C.													
8/14/2006 10:54	15.8	172	82	10.2	8	2	0.13	0.01 U	0.11	0.0034	0.005	0.7	23
pH measured @ 17.4°C.													
9/11/2006 11:10	14	110	99	11.13	8.46	2	0.18	0.01 U	0.138	0.003	0.0085	0.7	10
pH measured @ 15.5°C.													

Conventional Data Report

Methow R nr Pateros

48A070

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

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/3/2005 13:01	11	271	190	10.96	8.32	4	0.302	0.01 U	0.222	0.0035	0.003 U	0.6	9
11/7/2005 12:50	4.8	369	181	12.3	8.3	2	0.24	0.01 U	0.196	0.0043	0.0033	0.5 U	1 U
12/5/2005 12:25	0.1	297	204		8.27	1	0.319	0.01 U	0.283	0.0015	0.0035	0.5 U	2
	no DO												
1/9/2006 12:05	3.6	338	162	13.1	8.26	3	0.367	0.01 U	0.187	0.0022	0.003 U	0.5	1 U
2/6/2006 11:10	2.9	334	171	13.5	8.32	2	0.25	0.01 U	0.216	0.0022	0.003 U	0.6	1 U
3/6/2006 11:00	4.7	313	185	12.57	8.3	5	0.255	0.01 U	0.205	0.0031	0.003 U	0.6	1 U
4/10/2006 12:00	8.5	1450	165	11.5	8.54	19 J	0.271	0.01 UJ	0.184	0.006	0.0032	5.4	5
5/1/2006 11:15	7.2	5580	99	11.6	8.07	59 J	0.312	0.01 U	0.205	0.0206	0.0052	21	12
6/5/2006 11:30	8.7	8850	62	11.2	7.76	61 J	0.12	0.01 U	0.069	0.0207	0.0047	20 J	9
7/10/2006 11:15	17.3	1910	110	9.59	8.28	6	0.11	0.01 U	0.064	0.0041	0.003 U	1.4	13
8/7/2006 11:15	18.5	558	167	9.08	8.47	2	0.23	0.01 U	0.181	0.0025	0.003 U	0.7	5
9/11/2006 10:55	15	301	199	10	8.48	1 U	0.345	0.01 U	0.273	0.0027	0.003 U	0.5	6

Smoke due to wildfires in region.

Conventional Data Report

Methow R @ Twisp

48A140

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

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/3/2005 12:10	8.9	242	155	10.96	8.3	2	0.261	0.01 U	0.2	0.0023	0.003 U	0.5 U	49
11/7/2005 11:55	4	312	164	12.2	8.3	2	0.18	0.01 U	0.155	0.0019	0.003 U	0.5 U	1 U
12/5/2005 11:15	0.3		164		8.21	1	0.252	0.01 U	0.216	0.002	0.003 U	0.5 U	1
	no DO												
1/9/2006 11:00	3.1	306	133	12.7	8.08	2	0.323	0.01 U	0.172	0.002	0.0031	0.6	4
2/6/2006 10:10	2.5	289	144	13.1	8.27	2	0.22	0.01 U	0.175	0.0023	0.0031	0.6	4
3/6/2006 10:15	4.3	278	160	12.47	8.34	2	0.21	0.01 U	0.163	0.0026	0.003 U	0.5 U	2
4/10/2006 10:30	6.5	1290	150	11.7	8.12	17 J	0.289	0.01 UJ	0.21	0.0062	0.0035	3.6	11
5/1/2006 10:10	5	5510	93	11.8	8.08	68 J	0.306	0.01 U	0.231	0.0169	0.0053	16	6
6/5/2006 10:15	7.2	8360	60	11.2	7.83	47 J	0.12	0.01 U	0.072	0.0103	0.0046	9.8 J	5
7/10/2006 10:05	13.8	1770	96	10.1	8.15	4	0.098	0.01 U	0.064	0.0034	0.003 U	1.7	16
8/7/2006 10:25	14.5	460	142	9.68	8.17	1	0.23	0.01 U	0.18	0.002	0.0031	0.5 U	23
9/11/2006 9:50	12		166	10.2	8.21	1 U	0.35	0.01 U	0.286	0.0033	0.003 U	0.5 U	12
	Smoke due to wildfires in region.												

Conventional Data Report

Okanogan R @ Malott

49A070

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

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/3/2005 10:15	15.6	1050	313	9.34	8.31	4	0.16	0.01 U	0.016	0.0107	0.003 U	1.1	210 J
10/18/2005 15:08		1090											23
FC sample only.													
11/7/2005 10:35	5.7	1220	278	11.1	8.25	7	0.14	0.01 U	0.022	0.0094	0.0038	1.4	15
11/16/2005 15:13		1240											1 U
FC sample only													
12/5/2005 10:00	0.1	1260	291		8.34	25	0.16	0.01 U	0.057	0.0094	0.0057	1.2	6
no DO													
1/9/2006 9:45	3.4	1250	242	12.3	8.12	5	0.317	0.01 U	0.056	0.0095	0.0052	1.7	16
2/6/2006 9:00	3.4	1000	272	12.3	8.25	4	0.15	0.01 U	0.043	0.0111	0.0051	1.6	2
3/6/2006 9:15	4.5	1360	309	12.77	8.4	6	0.18	0.01 U	0.039	0.0102	0.003 U	1.9	2
4/10/2006 9:15	11.1	1930	263	9.69	8.34	39	0.21	0.01 UJ	0.026	0.0315	0.011	14	19
5/1/2006 9:05	12.6	5410	181	9.8	8.18	96 J	0.14	0.01 U	0.012	0.0308	0.0057	22	86
6/5/2006 8:55	13.2	12000	121	10	8.09	71 J	0.12	0.01 U	0.02	0.0356	0.0058	26 J	43
7/10/2006 9:00	23	2660	176	8.18	8.23	11	0.14	0.01 U	0.01	0.0122	0.0042	5.9	36
8/7/2006 9:10	21.3	682	288	7.89	8.37	3	0.18	0.01 U	0.012	0.0085	0.0057	1.3	19
9/11/2006 8:40	18.5	465	339		8.58	2	0.17	0.01 U	0.02	0.0126	0.0059	1.2	39
Smoke due to wildfires in region. Large irrigation return about 300M upstream, r/b. Oxygen not recorded (sampler error).													

Metals Data Report

Okanogan R @ Malott

49A070

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

Date/Time		Flow	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
		CFS	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
10/3/2005	10:15		133	0.1 U	0.02 U	0.5 U	0.78	1.12	0.93	0.1	0.036	0.002 U	1.08	3.64	5 U	1.5
12/5/2005	10:00		120	0.1 U	0.02 U	0.5 U	0.81	1.29	0.66	0.17	0.02 U	0.002 U	0.66	2.19	5 U	1
2/6/2006	9:00		121	0.1 U	0.02 U	0.5 U	0.61	1.25	0.85	0.33	0.042	0.002 U	0.71	2.27	5 U	4.1
4/10/2006	9:15		112	0.1 U	0.02 U	0.93	0.61	2.79	0.99	0.41	0.024	0.0053	0.81	2.81	5 U	2
6/5/2006	8:55		55.1	0.1 U	0.02 U	3.1	0.51	6.6	1.3	0.65	0.02 U	0.005	0.58	5.52	7.4	2.8
8/7/2006	9:10		131	0.1 U	0.02 U	0.5 U	0.94	1.38	1.14	0.19	0.02 U	0.002 U	1.33	6.36	5 U	1.6

Conventional Data Report

Okanogan R @ Okanogan

49A090

Class: A
Rivermile: 26
Latitude: 48 21 48.0
Longitude: 119 34 36.0
Waterbody: WA-49-1020

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
10/3/2005 9:55													220 J
	Fecal coliform only												
10/18/2005 14:48													20
	Fc sample only.												
11/7/2005 10:15													14
	fecal only												
11/16/2005 15:00													13
	FC sample only												
12/5/2005 9:35													3
	FC only												
1/9/2006 9:30													6
	FC only												

Conventional Data Report

Okanogan R @ Omak

49A110

Class: A
Rivermile: 30.6
Latitude: 48 24 38.0
Longitude: 119 31 36.0
Waterbody: WA-49-1020

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
10/3/2005 9:30													190 J
	Fecal coliform only												
10/18/2005 14:35													6
	FC sample only.												
11/7/2005 10:00													8
	fecal only												
11/16/2005 14:47													3
	FC sample only												
12/5/2005 9:18													5
	FC only												
1/9/2006 9:15													5
	FC only												

Conventional Data Report

Okanogan R @ Riverside

49A130

Class: A
Rivermile: 40.6
Latitude: 48 30 12.0
Longitude: 119 30 19.0
Waterbody: WA-49-1111

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
10/3/2005	9:00													140
		Fecal Coliform only												
10/18/2005	14:13													6
		FC sample only.												
11/7/2005	9:45													2
		fecal only												
11/16/2005	14:29													1 U
		FC sample only												
12/5/2005	9:00													3
		FC only												
1/9/2006	9:00													5
		FC only												

Conventional Data Report

Okanogan R @ Oroville

49A190

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

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/3/2005 7:55	15.2	447	296	8.52	8.16	3	0.291	0.033	0.01 U	0.0103	0.003 U	1.6	6 J
11/7/2005 8:30	8.8	556	313	9.5	8.3	5	0.2	0.016	0.01 U	0.0109	0.0035	1.8	4 J
12/5/2005 8:00	3.6	259	323		8.43	3	0.24	0.01 U	0.017	0.0106	0.003 U	1.4	4
	no DO												
1/9/2006 7:55	2.4	348	298	12.5	8.31	3	0.397	0.01 U	0.01	0.0101	0.0031	1.3	1 UJ
2/6/2006 7:40	2.5	290	311	12.7	8.41	4	0.253	0.01 U	0.014	0.0107	0.003 U	2.1	1
3/6/2006 7:35	2.8	825	332	13.16	8.6	4	0.2	0.01 U	0.01 U	0.0097	0.003 U	1.3	1
4/10/2006 7:45	6.7	756	317	11.1	8.12	6	0.24	0.01 U	0.01 U	0.0101	0.0031	1.8	2
5/1/2006 7:40	12	1170	316	11	8.7	5	0.24	0.01 U	0.01 U	0.0071	0.0034	3.1	1
6/5/2006 7:20	17.3	2890	273	9.6	8.44	4	0.18	0.01 U	0.01 U	0.0093	0.003 U	1.8 J	1
7/10/2006 7:30	24.5	651	259	8.58	8.64	7	0.23	0.013	0.01 U	0.0092	0.003 U	2.5	4
8/7/2006 7:45	22.4	229	269	8.97	8.7	4	0.264	0.01 U	0.01 U	0.0077	0.003 U	1.9	20
9/11/2006 7:10	19.9	300	283	8.58	8.93	3	0.22	0.01 U	0.01 U	0.0077	0.003 U	1.8	11 J
	Smoke due to wildfires in region.												

Conventional Data Report

Similkameen R @ Oroville

49B070

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

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/3/2005 7:20	10.6	548	229	10.45	7.44	3	0.16	0.04	0.01 U	0.0045	0.003 U	1	40 J
11/7/2005 7:20	3.8	585	194	12.5	7.67 J	1	0.046	0.01 U	0.01 U	0.0023	0.003 U	0.5	1 UJ
	first pH reading sig. different than dup. Qualified as estimated.												
12/5/2005 7:30	0.1	1286	205		8.33	7	0.11	0.01 U	0.017	0.0036	0.0034	1	1 UJ
	no DO												
1/9/2006 7:30	3.5	1055	161	13.2	7.95	4	0.17	0.01 U	0.018	0.0047	0.0043	2	2 J
2/6/2006 7:15	3.6	579	194	13.1	8.09	2	0.069	0.01 U	0.011	0.0041	0.0032	1.2	1 U
3/6/2006 7:00	4.7	478	220	12.17	8.11	2	0.067	0.01 U	0.01 U	0.0042	0.003 U	0.6	1 UJ
4/10/2006 7:15	11	889	205	10.7	7.17	3	0.084 J	0.01 UJ	0.01 U	0.0051	0.0032	2.1	2
5/1/2006 7:10	9	5371	107	11.9	7.72	157 J	0.15	0.01 U	0.014	0.0544	0.0039	70	60
6/5/2006 6:55	10.8	9693	81	11.8	7.55	52 J	0.09	0.01 U	0.013	0.0177	0.0053	16 J	20 J
7/10/2006 7:00	20.4	2048	132	9.19	8.02	7	0.089	0.01 U	0.01 U	0.0087	0.0033	4.3	21
8/7/2006 7:20	19.9	420	200	8.85	8.22	2	0.097	0.01 U	0.01 U	0.0061	0.0041	0.6	11
9/11/2006 6:40	16.9	227	233	8.78	8.27	1 U	0.085	0.01 U	0.01 U	0.0046	0.0034	0.7	1 J
	Smoke due to wildfires in watershed.												

Metals Data Report

Similkameen R @ Oroville

49B070

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

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/3/2005	7:20		99.5											2.26		
11/7/2005	7:20		81											1.5		
12/5/2005	7:30		86.7											1.49		
1/9/2006	7:30		78	0.1 U		0.5 U		0.93		0.1 U		0.002 U		1.47	5 U	
2/6/2006	7:15		88.8	0.1 U		0.5 U		0.75		0.1 U		0.002 U		1.95	5 U	
3/6/2006	7:00		95.5											1.94		
4/10/2006	7:15		90.7											2.01		
5/1/2006	7:10		52.1											7.37		
6/5/2006	6:55		38.5											4.5		
7/10/2006	7:00		62.9											3.28		
8/7/2006	7:20		91.1											4.44		
9/11/2006	6:40		109											6.99		

Conventional Data Report

Columbia R @ Grand Coulee

53A070

Class: A
Rivermile: 596
Latitude: 47 57 56.0
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
10/3/2005 14:45	18	136000	139	8.02	8.12	1 U	0.13	0.01 U	0.067	0.0056	0.003 U	0.5 U	2
11/7/2005 14:35	13.5	170200	127	9.1	8.14	1 U	0.13	0.01 U	0.082	0.0055	0.0047	0.5 U	1 U
12/5/2005 14:10	10	171600	142		8.16	1 U	0.16	0.01 U	0.114	0.006	0.0045	0.5 U	1 U
	no DO												
1/9/2006 13:50	4.8	170800	143	11.6	8.07	1	0.399	0.01 U	0.096	0.004	0.0033	0.6	1 U
2/6/2006 12:45	4	268800	143	12.1	8.15	1	0.274	0.01 U	0.253	0.007	0.0052	1.4	1 U
3/6/2006 13:10	3.5	150800	184	12.37	8.22	2	0.25	0.01 U	0.195	0.0065	0.0033	1	1 U
4/10/2006 13:45	4.5	307600	160	12.7	7.84	2 U	0.21	0.01 U	0.152	0.0037	0.003 U	0.8	1 U
5/1/2006 12:50	8.1	302000	143	11.8	8.17	2	0.18	0.01 U	0.102	0.0057	0.0033	1.6	1 U
6/5/2006 13:25	12.5	299000	125	11.4	7.94	2	0.12	0.01 U	0.041	0.0063	0.0034	2 J	1 U
7/10/2006 13:05	15.8	359000	121	10.3	8.08	1	0.12	0.026	0.028	0.0061	0.0034	0.6	1 U
8/7/2006 13:00	19.3	419000	127	8.85	8.11	1 U	0.1	0.01 U	0.043	0.0043	0.003	0.5 U	1 U
9/11/2006 12:40	19.8	241400	130	8.28	8.11	1 U	0.11	0.01 U	0.048	0.0045	0.003 U	0.5 U	1
	No smoke here. Thermistor cable barely reached river												

Conventional Data Report

Spokane R @ Riverside State Pk

54A120

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

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/5/2005 8:15	12	2130	128	9.74	7.94	2	0.692	0.01 U	0.602	0.0119	0.0059	0.8	34
11/9/2005 8:00	7.8	3100	130	10.7	8.06	1	0.573	0.01 U	0.531	0.0226	0.015	0.7	13
12/7/2005 7:50	4.2	3480	126	11.9	8.09	1	0.572	0.01 U	0.517	0.03	0.019	0.6	4 J
1/11/2006 7:55	4.5	10100	103	12.4	7.52	372	3.02	0.041	2.77	0.193	0.053	230	600 J
	High water, sampled from bank												
2/8/2006 7:55	4.1	9380	93	13.5	7.84	3	0.595	0.01 U	0.574	0.0186	0.013	2.4	3 U
3/8/2006 7:40	3.7	7900	94	12.97	7.74	6	0.63	0.01 U	0.596	0.0219	0.015	6.9	3
4/12/2006 7:55	5	16700	68	13.9	7.39	6	0.361	0.01 U	0.273	0.0142	0.0087	3.7	2
5/3/2006 7:45	7.8	18400	67	13.3	7.93	6	0.24	0.01 U	0.149	0.006	0.0048	2.3	5
6/7/2006 7:35	15.6	9710	78	10.19	7.87	3	0.285	0.01 U	0.227	0.0086	0.0051	1.3	11
7/12/2006 7:45		2490	159	8.48	7.98	2 U	0.757	0.01 U	0.691	0.0109	0.0059	0.8	23
8/9/2006 7:45	14.3	741	286	8.82	8.31	2	2.57	0.01	2.27	0.0293	0.014	0.8	33 J
9/13/2006 7:15	12.2	1630	286	9.49	8.35 J	4	1.41	0.01 U	1.32	0.0234	0.0072	1.1 J	120
	J'd pH because later calibration check indicated pH 9 buffer may have been bad.												

Conventional Data Report

Little Spokane R nr Mouth

55B070

Class: A
Rivermile: 1.1
Latitude: 47 46 59.0
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
10/5/2005 7:45	9.3	381	284	8.93	7.52	3	1.33	0.01 U	1.19	0.0109	0.0081	1	37 J
11/9/2005 7:20	6.8	428	293	9.6	8.16	4	1.23	0.01 U	1.18	0.0149	0.01	1.1	33 J
12/7/2005 7:10	3.9	356	304	10.5	8.25	5	1.32	0.01 U	1.3	0.0143	0.011	1.5	17 J
1/11/2006 7:20	5.2	1669	185	10	7.67	80	1.27	0.038	0.896	0.121	0.0902	61	640 J
2/8/2006 7:25	4.3	974	202	10.8	7.91	18	0.93	0.01 U	0.812	0.0382	0.026	8.9	9 J
3/8/2006 7:15	5	978	202	10.29	7.76	19	0.854	0.01 U	0.733	0.0405	0.023	13	15 J
4/12/2006 7:20	9.2	1222	170	8.69	7.74	14 J	0.613	0.01 U	0.432	0.0388	0.024	7.6	48
5/3/2006 7:05	10.6	855	204	9	7.88	16 J	0.804	0.01 U	0.634	0.0277	0.019	5	37 J
6/7/2006 7:00	14.4	579	244	8	7.98	42 J	1.03	0.01 U	0.851	0.0377	0.022	9.8	80 J
7/12/2006 7:10		431	275	7.87	8.09	6	1.09	0.01 U	0.994	0.0151	0.0078	2.1	84
8/9/2006 7:10	13.8	373	288	7.84	8.18	6	1.21	0.01 U	1.09	0.012	0.0089	1.5	180 J
9/13/2006 6:40	11.4	370	296	8.88 J	8.26	6	1.28	0.01 U	1.21	0.0096	0.0079	1.6	120 J

City of Spokane workers collecting TP etc. at same time for study of Long Lake algae problem. Oxygen J'd because spilled sample (topped off using bucket).

Conventional Data Report

Hangman Cr @ Mouth

56A070

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

Date/Time		Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/5/2005	8:50	9	11	327	9.54	7.87	2	0.456	0.01 U	0.212	0.0144	0.0064	0.9	33
11/9/2005	8:35	2.8	36	332	12.1	8.24	1	0.312	0.01 U	0.104	0.0171	0.008	1.1	11
12/7/2005	8:25		12											
		iced over, no sample taken												
1/11/2006	8:30	4.7 J	6370	152	11.2	7.44	1784	8.91	0.135	7.7	0.584	0.101	1100	700
		Thermister was bouncing along top of water due to excessive high flow												
2/8/2006	8:35	2.6	513	178	12.4	7.79	11	5.02	0.01 U	4.95	0.0976	0.0741	2.4	34
3/8/2006	8:25	4	642	167	11.58	7.91	40	4.36	0.014	2.85	0.117	0.0685	85	56
4/12/2006	8:30	9.6	576	159	10.1	7.96	22	2.68	0.01 U	2.57	0.0871	0.0578	30	5
5/3/2006	17:35	15.2	145	241	10.5	9.43	4 J	1.68	0.01 U	1.3	0.0301	0.014	3.4	3
		Bridge maintenance AM, sampled PM												
6/7/2006	8:20	18.3	95	295	8.3	8.14	5	1.04	0.01 U	0.668	0.0526	0.0329	2.7	59
7/12/2006	8:20		34	380	7.67	8.13	8	0.753	0.01 U	0.447	0.0241	0.0072	3.1	80
8/9/2006	8:25	18.9	8.9	408	6.56	8.29	6	1.04	0.021	0.708	0.0274	0.017	3.2	69 J
9/13/2006	7:55	14.3	6.2	408	7.67	8.36 J	3	0.878	0.011	0.689	0.0156	0.011	1.9	290
		J'd pH because later calibration check indicated pH 9 buffer may have been bad.												

Conventional Data Report

Spokane R @ Stateline Br

57A150

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

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/4/2005 7:20	13.8	2010	55	9.13	6.97	1	0.12	0.01 U	0.04	0.0035	0.003 U	0.7	8 J
11/8/2005 7:15	8.5	2620	58	10	7.75	3	0.13	0.02	0.038	0.007	0.0039	0.7	4 J
12/6/2005 6:55	4.6	2980	58	11	7.13	1 U	0.12	0.01 U	0.051	0.007	0.0055	0.8	7 J
1/10/2006 7:05	4.3	8940	61	11.2	7.35	1	0.553	0.015	0.042	0.005	0.0043	1.1	3 J
2/7/2006 7:00	3.4	8850	59	12.5	7.32	1 U	0.12	0.011	0.06	0.0062	0.0051	1.1	6
3/7/2006 6:50	3	7120	59	12.17	7.39	1	0.15	0.01 U	0.082	0.0074	0.0053	1.8	3 J
4/11/2006 7:10	4	15900	56	12.7	7.55	3	0.18	0.01 U	0.111	0.0063	0.004	2.3	1 U
5/2/2006 7:00	7	17800	53	12.2	7.54	2	0.11	0.01 U	0.045	0.005	0.0035	2.5	1 U
6/6/2006 7:05	15.4	8880	43	9.6	7.37	2	0.064	0.01 U	0.013	0.0038	0.0038	1.1	9 J
7/11/2006 6:40	22.7	1850	46	7.87	7.14	2	0.13	0.014	0.043	0.0064	0.004	0.9	18 J
8/8/2006 6:35	22.6	82	56	6.91	7.31	2	0.316	0.024	0.195	0.0078	0.0051	0.7	50 J
9/12/2006 7:00	18.9	60	55	7.77	7.57	2 U	0.387	0.015	0.264	0.0079	0.004	0.8	35 J

Metals Data Report

Spokane R @ Stateline Br

57A150

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

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/4/2005	7:20		23.3	0.13	0.077	0.5 U	0.25 U	0.57	0.48	1.18	0.15	0.002 U	0.32	0.49	36	37.4
12/6/2005	6:55		23.6	0.18	0.16	0.5 U	0.25 U	0.59	0.49	1.06	0.13	0.002 U	0.31	0.4	59.2	58.4
2/7/2006	7:00		23.7	0.22	0.21	0.5 U	0.25 U	0.84	1.01	1.29	0.222	0.002 U	0.45	0.48	61.1	85.9
4/11/2006	7:10		23	0.29	0.24	0.5 U	0.31	0.87	0.63	2.72	0.85	0.0028	0.43	0.45	70.3	72.7
6/6/2006	7:05		19.3	0.23	0.17	0.5 U	0.25 U	0.54	0.42	2.03	0.26	0.002 U	0.27	0.48	48	44
8/8/2006	6:35		21.7	0.13	0.098	0.5 U	0.25 U	0.6	0.61	0.98	0.16	0.002 U	0.44	0.46	33	35

Conventional Data Report

Colville R @ Chewelah

59A130

Class: A
Rivermile: 40.3
Latitude: 48 15 38.0
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
10/4/2005 15:30	11.4		381	13.29	8.46	4	0.24	0.01 U	0.096	0.0183	0.0074	2.7	57
11/8/2005 15:00	4.6		403	12.3	8.21	4	0.446	0.017	0.316	0.0284	0.015	4	55
12/6/2005 16:00	0.1		462	13.1	8.42	3	0.534	0.018	0.396	0.0295	0.02	3.3	11
1/10/2006 14:40	3.2		353	10.6	7.84	118	1.99	0.082	1.43	0.241	0.108	180	960 J
2/7/2006 15:30	2.9		366	11.6	8	21	1.1	0.013	0.825	0.0508	0.023	17	3
3/7/2006 15:00	4.5		308	11.38	8.3	30	0.728	0.014	0.467	0.0532	0.022	25	25
4/11/2006 15:10	10.9		239	9.3	7.84	30 J	0.422	0.01 U	0.078	0.0507	0.02	31	27
5/2/2006 15:15	11.7		223	11	8.19	16	0.309	0.024	0.074	0.0295	0.017	12	27
6/6/2006 15:20	16.7		324	10.1	8.37	15	0.418	0.012	0.141	0.0399	0.021	11	150
7/11/2006 14:35			356	11.11	8.36	4	0.323	0.01 U	0.063	0.0638	0.0381	4.5	170
	BP not recorded												
8/8/2006 15:30	20.5		361	13.23	8.91	4	0.2	0.01 U	0.015	0.0287	0.014	4	200
9/12/2006 14:50	14.9		377	12.62	8.6	4	0.275	0.01 U	0.149	0.0267	0.017	4.3	120
	Smoky haze, but no smell. Water cloudy.												

Conventional Data Report

Kettle R nr Barstow

60A070

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

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/4/2005 14:05	12.9	272	227	11.06	8.34	1	0.14	0.01 U	0.037	0.0036	0.003 U	0.5 U	6
11/8/2005 13:40	3.8	602	165	12.8	8.31	1 U	0.12	0.01 U	0.053	0.0025	0.003 U	0.5 U	1 U
12/6/2005 14:55		378											
iced over, no sample taken													
1/10/2006 13:10	0.4	729	160	13.7	8.13	5	0.308	0.01 U	0.12	0.0036	0.003 U	0.7	1
2/7/2006 14:05	3.2	693	169	14.1	8.37	1	0.12	0.01 U	0.036	0.0026	0.003 U	0.5 U	1
3/7/2006 13:05	4.1	737	170	13.46	8	2	0.11	0.01 U	0.034	0.0038	0.003 U	0.5	1 U
4/11/2006 13:40	6.3	9402	104	12.5	7.94	64 J	0.251	0.01 U	0.06	0.0349	0.0045	17	27
5/2/2006 13:50	6.8	16324	68	12.8	7.98	74 J	0.16	0.01 U	0.03	0.0276	0.0069	15	13
6/6/2006 13:55	11.3	13886	59	11.3	7.84	32 J	0.1	0.021	0.024	0.0195	0.0058	6.9	4
7/11/2006 12:55		2682	115	9.09	8.32	3	0.1	0.01 U	0.014	0.0048	0.003	1	9
8/8/2006 13:50	21.6	563	186	8.92	8.75	1	0.14	0.01 U	0.043	0.0041	0.0038	0.5	7
9/12/2006 13:30	18.1	203	235	10.2	8.8	1	0.13	0.01 U	0.017	0.0042	0.003 U	0.5 U	8
Smoky haze, but no smell.													

Conventional Data Report

Columbia R @ Northport

61A070

Class: AA
Rivermile: 735.1
Latitude: 48 55 21.0
Longitude: 117 46 32.0
Waterbody: WA-CR-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
10/4/2005 13:00	13.5	99700	137	9.64	8.25	2	0.14	0.01 U	0.056	0.0034	0.003 U	0.5 U	7
11/8/2005 12:40	8.1	81100	156	11.6	8.16	2	0.12	0.01 U	0.058	0.0039	0.003 U	0.8	1
12/6/2005 13:40	5.2	96000	153	12.1	8.14	3	0.14	0.01 U	0.088	0.0043	0.003 U	0.9	2
1/10/2006 12:10	4.1	81000	162	12	7.88	2	0.27	0.01 U	0.108	0.0039	0.003 U	0.8	4
2/7/2006 12:55	3.8	70100	159	12.4	8.15	2	0.14	0.01 U	0.098	0.0036	0.003 U	1	14
3/7/2006 11:55	3.5	70400	162		7.97	2	0.13	0.01 U	0.091	0.004	0.003 U	0.9	1 U
DO sample lost													
4/11/2006 12:35	6.5	88100	149	12.5	8.2	4	0.16	0.01 U	0.063	0.0042	0.003 U	1.5	2
5/2/2006 12:50	8.6	122000	141	12.8	8.27	6	0.12	0.01 U	0.057	0.0063	0.003 U	2.4	6
6/6/2006 12:40	12.2	172000	124	11.9	8.27	6	0.1	0.01 U	0.044	0.0069	0.003 U	2.4	25
7/11/2006 11:55		132000	124	9.79	8.31	2	0.088	0.01 U	0.019	0.0042	0.003 U	1	2
8/8/2006 12:40	17.5	102000	129	9.5	8.42	2	0.11	0.01 U	0.045	0.003	0.003 U	0.8	3
9/12/2006 12:10	16.5	93100	124	9.49	8.2	1	0.15	0.011	0.06	0.0037	0.003 U	0.5 U	10
Smoky haze, but no smell.													

Metals Data Report

Columbia R @ Northport

61A070

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

Date/Time		Flow CFS	Hardness mg/L	Tot. Rec. Cadmium ug/L	Dissolved Cadmium ug/L	Tot. Rec. Chromium ug/L	Dissolved Chromium ug/L	Tot. Rec. Copper ug/L	Dissolved Copper ug/L	Tot. Rec. Lead ug/L	Dissolved Lead ug/L	Total Mercury ug/L	Dissolved Nickle ug/L	Tot. Rec. Arsenic ug/L	Tot. Rec. Zinc ug/L	Dissolved Zinc ug/L
10/4/2005	13:00		66.3	0.1 U	0.02 U	0.5 U	0.28	0.6	0.51	0.21	0.021	0.002 U	0.64	0.47	5 U	1.8
12/6/2005	13:40		70.8	0.1 U	0.02 U	0.5 U	0.4	0.63	0.48	1.96	0.04	0.002 U	0.53	0.36	5 U	1.6
2/7/2006	12:55		74.5	0.1 U	0.027	0.5 U	0.3	0.72	0.59	0.21	0.069	0.002 U	0.46	0.51	5 U	2.3
4/11/2006	12:35		72.5	0.1 U	0.031	0.5 U	0.25 U	0.88	0.56	0.38	0.045	0.002 U	0.51	0.46	5 U	3
6/6/2006	12:40		62.3	0.1 U	0.02 U	0.5 U	0.56	0.96	0.9	0.58	0.02 U	0.002	0.69	0.49	5 U	7.4
8/8/2006	12:40		65.4	0.1 U	0.02 U	0.5 U	0.38	0.6	0.45	0.19	0.02 U	0.002 U	0.79	0.19	5 U	2

Conventional Data Report

Pend Oreille R @ Metaline Falls

62A090

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

Date/Time	Temp deg. C	Flow CFS	Conduc-tivity umhos/cm	Oxygen mg/L	ph std units	Suspend. Solids mg/L	Total Pers. N. mg/L	Ammonia Nitrogen mg/L	Nitrate+ Nitrite mg/L	Total Phosp. mg/L	Soluble Reactive P mg/L	Turbid-ity NTU	Fecal Coliforms #/100/mL
10/4/2005 10:45	14.1	21400	170	8.83	8.25	1	0.099	0.01 U	0.01 U	0.0042	0.003 U	0.7	17
11/8/2005 10:30	7.9	28600	175	10.1	8.22	2	0.076	0.01 U	0.01 U	0.0045	0.003 U	0.8	1
12/6/2005 10:20	2.3	15000	188	11.8	8.11	1	0.09	0.01 U	0.01 U	0.005	0.003 U	0.9	1 U
1/10/2006 10:05	3.1	17700	177	11.7	8.34	47	0.288	0.01 U	0.031	0.0046	0.003 U	1.3	1 U
2/7/2006 10:10	3.5	24900	166	12.1	8.32	2	0.096	0.01 U	0.034	0.0049	0.003 U	1.6	6
3/7/2006 9:40	3.3	24600	168	12.37	8.25	2	0.084	0.01 U	0.025	0.0053	0.003 U	1.7	1
4/11/2006 10:20	6.8	37500	153	12.3	8.58	5	0.088 J	0.01 UJ	0.01 U	0.0049	0.003 U	3	1
5/2/2006 10:05	10.2	52300	153	12.3	8.46	6	0.072	0.01 UJ	0.01 U	0.0056	0.003 U	2.9	1 U
6/6/2006 10:15	14.2	58300	129	11.7	8.31	6	0.071	0.01 U	0.01 U	0.0058	0.0034	3.8	2
7/11/2006 9:55		26600	144	8.88	8.52	4	0.084	0.01 U	0.01 U	0.0063	0.003 U	2	3
8/8/2006 9:45	22.1	6690	151	8.43	9.01	2	0.12	0.01 U	0.01 U	0.0056	0.0032	1.2	1
9/12/2006 10:00	19.8	6940	156	8.98	8.79	2	0.099	0.01 U	0.01 U	0.0045	0.003 U	0.7	1 U

Conventional Data Report

Pend Oreille R @ Newport

62A150

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

Date/Time	Temp 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
10/4/2005 8:55	14.5	23300	167	9.03	8.06	2	0.1	0.01 U	0.01 U	0.0044	0.003 U	2	3
11/8/2005 8:45	8.4	29100	173	10	8.12	2	0.069	0.01 U	0.01 U	0.0038	0.003 U	1	1 U
12/6/2005 8:30	2.5	14400	185	11.7	8.22	2	0.086	0.01 U	0.01 U	0.004	0.003 U	1	1 U
1/10/2006 8:25	3.3	16900	170	11.7	8.12	52	0.315	0.01 U	0.044	0.007	0.0031	2.5	1
2/7/2006 8:30	3.5	23900	167	11.6	8.04	2	0.098	0.01 U	0.048	0.0045	0.003 U	1.1	1 U
3/7/2006 8:05	3.1	22700	170	12.17	8.17	4	0.094	0.01 U	0.033	0.005	0.003 U	2.3	1 U
4/11/2006 8:30	5.6	37200	158	11.9	8.27	7	0.097 J	0.01 UJ	0.026	0.0054	0.003 U	2.9	4
5/2/2006 8:20	8.6	50000	165	11.6	8.33	4	0.082	0.01 UJ	0.011	0.0042	0.003 U	2.4	1
6/6/2006 8:35	14.1	59200	136	10.6	8.3	4	0.1	0.056	0.049	0.0046	0.0032	2.5	3
7/11/2006 8:15	21	25400	145	9.29	8.34	2	0.072	0.01 U	0.01 U	0.005	0.003 U	1.3	3
8/8/2006 8:10	22.4	8630	151	8.03	8.7	1	0.12	0.01 U	0.01 U	0.0047	0.003 U	1	2
9/12/2006 8:20	19.4	8020	159	8.58	8.6	1 U	0.083	0.01 U	0.01 U	0.0035	0.003 U	0.9	1

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Appendix D

Water Year 2006: Missing data (12 standard constituents only)

Station	Date	Remarks	Temperature	Conductivity	Oxygen	pH	Suspended Solids, total	Total Persulfate Nitrogen	Ammonia-nitrogen	Nitrate+nitrite-nitrogen	Phosphorus, total	Orthophosphate	Turbidity	Fecal Coliform Bacteria
01A050	2006-08-23	Inaccessible: Bridge damaged	X	X	X	X	X	X	X	X	X	X	X	X
04A100	2006-08-23	Sampler error: result not recorded				X								
05B110	2006-07-19	Sampler Error: sample not properly fixed.			X									
08C110	2006-02-13	Inaccessible: Road blocked.	X	X	X	X	X	X	X	X	X	X	X	X
10A070	2006-05-15	Sampler error: result not recorded				X								
15F050	2006-02-14	Sampler error: Insufficient sampling containers.									X			
15L050	2005-11-15	Sampler error: Insufficient sampling containers.									X			
15L050	2006-02-14	Sampler error: Insufficient sampling containers.									X			
15N070	2005-11-15	Sampler error: Insufficient sampling containers.									X			
15N070	2006-02-14	Sampler error: Insufficient sampling containers.									X			
15N070	2006-05-17	Sampler error: titration error			X									
19D070	2006-08-21	Sampler error: result not recorded		X										
25E100	2006-05-16	Sampler error: no sample collected			X			-	-	-	-	-	-	-
25F100	2005-12-13	Inaccessible: possible meth lab activity	X	X	X	X	X	-	-	-	-	-	-	-
25F100	2006-05-16	Sampler error: no sample collected			X			-	-	-	-	-	-	-
25F100	2006-06-20	Sampler Error: New sampler could not find station.	X	X	X	X	X	-	-	-	-	-	-	-
25F100	2006-08-22	Sampler Error: Broken sample bottle.			X			-	-	-	-	-	-	-
26B100	2006-01-24	Sampler Error: Broken sample bottle.			X									
31A070	2006-01-10	Ran out of daylight due to short day length and sampling schedule	X	X	X	X	X	X	X	X	X	X	X	X
31A070	2006-05-09	Sampler ill.	X	X	X	X	X	X	X	X	X	X	X	X
32A070	2006-05-09	Sampler error: bottle spilled			X									
33A050	2006-05-09	Sampler error: bottle spilled			X									
33A050	2006-08-14	Ran out of daylight due to highway construction delays	X	X	X	X	X	X	X	X	X	X	X	X
34A170	2005-12-07	Frozen	X	X	X	X	X	X	X	X	X	X	X	X
34A170	2006-07-12	Equip. malfunction: thermister failed	X											

Station	Date	Remarks	Temperature	Conductivity	Oxygen	pH	Suspended Solids, total	Total Persulfate Nitrogen	Ammonia-nitrogen	Nitrate+nitrite-nitrogen	Phosphorus, total	Orthophosphate	Turbidity	Fecal Coliform Bacteria
34B080	2006-07-12	Equip.malfunction: thermister failed	X											
34B110	2006-07-12	Equip.malfunction: thermister failed	X											
34B130	2005-12-07	Frozen	X	X	X	X	X	X	X	X	X	X	X	X
34B130	2006-07-12	Equip.malfunction: thermister failed	X											
34C060	2006-07-12	Equip.malfunction: thermister failed	X											
34C100	2006-07-12	Equip.malfunction: thermister failed	X											
34M070	2006-07-12	Equip.malfunction: thermister failed	X											
34N070	2005-12-07	FC only due to snow; unable to safely get down bank to stream		X	X	X	X	X	X	X	X	X	X	
34N070	2006-07-12	Equip.malfunction: thermister failed	X											
35A150	2006-07-12	Equip.malfunction: thermister failed	X											
39A090	2006-05-10	Sample lost either in field or at lab									X			
44A190	2006-05-08	Wind-blow dirt and debris contaminated samples.		X		X	X	X	X	X	X	X	X	
45A070	2006-02-06	Turbidity sample discarded due to very dusty conditions and residual grit from sanding for ice on bridge.											X	
48A070	2005-12-05	Sampler error: oxygen bottles froze when left in van.			X									
48A140	2005-12-05	Sampler error: oxygen bottles froze when left in van.			X									
49A070	2005-12-05	Sampler error: oxygen bottles froze when left in van.			X									
49A070	2006-09-11	Sampler error: result not recorded			X									
49A190	2005-12-05	Sampler error: oxygen bottles froze when left in van.			X									
49B070	2005-12-05	Sampler error: oxygen bottles froze when left in van.			X									
53A070	2005-12-05	Sampler error: oxygen bottles froze when left in van.			X									
54A120	2006-07-12	Equip.malfunction: thermister failed	X											
55B070	2006-07-12	Equip.malfunction: thermister failed	X											
56A070	2005-12-07	Frozen	X	X	X	X	X	X	X	X	X	X	X	X
56A070	2006-07-12	Equip.malfunction: thermister failed	X											
59A130	2006-07-11	Equip.malfunction: thermister failed	X											
60A070	2005-12-06	Frozen	X	X	X	X	X	X	X	X	X	X	X	X
60A070	2006-07-11	Equip.malfunction: thermister failed	X											
61A070	2006-03-07	Sampler error: oxygen sample spilled			X									
61A070	2006-07-11	Equip.malfunction: thermister failed	X											
62A090	2006-07-11	Equip.malfunction: thermister failed	X											