SNOHOMISH COUNTY PUD
PUBLIC UTILITY DISTRICT NO. 1

Your Northwest renewables utility

June 18, 2013

VIA ELECTRONIC FILING

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission (FERC)
888 First Street NE
Washington, DC 20426

Re: Jackson Hydroelectric Project, FERC No. P-2157
Water Quality Monitoring Plan – 2012 Annual Report
License Article 401(b)

Dear Secretary Bose:

Enclosed is Public Utility District No. 1 of Snohomish County's Water Quality Monitoring Plan Annual Report for 2012 pursuant to License Article 401(b) for the Jackson Hydroelectric Project. The draft report was provided to the Aquatic Resource Committee for a 30-day review and comment period. Consultation documentation is included in the report's appendices.

If you have any questions on the Water Quality Monitoring Plan Annual Report for 2012, please contact Keith Binkley, Natural Resources Manager, at (425) 783-1769 or KMBinkley@snopud.com.

Sincerely,

Kim D. Moore, P.E.
Assistant General Manager of Generation, Water, and Corporate Services
KDMoore@snopud.com
(425) 783-8606

Enclosed: Water Quality Monitoring Plan Annual Report for 2012

cc: Monika Kannadaguli, Ecology Northwest Regional Office Water Quality Program
Keith Binkley, District

Henry M. Jackson Hydroelectric Project
(FERC No. 2157)

License Article 401:
Water Quality Monitoring Plan –
Final 2012 Annual Report

SNOHOMISH COUNTY PUD
PUBLIC UTILITY DISTRICT NO. 1

Everett, WA

June 2013

Final – This document has been prepared for the District. It has been peer-reviewed by the District for accuracy and formatting based on information known at the time of its preparation and with that understanding is considered complete by the District. The document may be cited as:

Public Utility District No. 1 of Snohomish County (District). 2013. Water Quality Monitoring Plan Final 2012 Annual Report, Pursuant to License Article 401 for the Henry M. Jackson Hydroelectric Project, FERC No. 2157. June 2013.

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List of Acronyms and Abbreviations

7-DAD Max	seven-day average of the daily maximum
ARC	Aquatic Resource Committee
District	Public Utility District No. 1 of Snohomish County
Ecology	Washington Department of Ecology
FERC	Federal Energy Regulatory Commission
Project	Henry M. Jackson Hydroelectric Project, FERC No 2157
RM	river mile
USGS	U.S. Geological Survey
WQMP	Water Quality Monitoring Plan

1. INTRODUCTION

The Public Utility District No. 1 of Snohomish County (District) received a license on September 2, 2011 (License), from the Federal Energy Regulatory Commission (FERC) for the Henry M. Jackson Hydroelectric Project (Project). The FERC approved the Water Quality Monitoring Plan (WQMP) on March 30, 2012, pursuant to License Article 401(a). The District is to file a report with the FERC by June 30 of each year detailing the monitoring efforts of the previous calendar year.

This WQMP Annual Report covers activities conducted in calendar year 2012. Monthly measurements of reservoir water quality are presented in Appendix A. Appendices B, C, and D present the data from continuous monitoring of water temperature in the river and tributary systems. Appendix B shows graphical data, Appendix C shows tabular data, and Appendix D shows seven-day average of the daily maximum water temperature in tabular format. This WQMP Annual Report was provided to the Aquatic Resources Committee (ARC) [consisting of the City of Everett, City of Sultan, Snohomish County, Washington Department of Ecology (Ecology), Washington Department of Fish and Wildlife, Tulalip Tribes, U.S. Forest Service, National Marine Fisheries Service, U.S. Fish and Wildlife Service and American Whitewater] for a 30-day review and comment period. Consultation documentation is included in Appendix E; response to comments on the draft annual report is included in Appendix F.

The annual reports fulfill monitoring and reporting requirements as stipulated in Ecology's 401 Water Quality Certification Order (Order No. 7918, October 18, 2010). As described in the 401 Certification Order (section 9.0, Monitoring and Reporting Requirements), the report includes summaries of the water quality data, and includes sample dates, times, locations, and results. Compliance with state water quality standards is discussed, as well. The reports will be submitted to the hydropower certification manager at Ecology's Water Quality Program Northwest Regional Office, and the FERC.

The WQMP requires the District to collect various water quality data in and around Spada Lake Reservoir, Sultan River between river mile (RM) 16.2 and RM 0.2, and Skykomish River at RM 14.1 and RM13.2 (Table 1-1).

Table 1-1. Parameters to be monitored, locations and sampling frequency.

Parameter	South Fork Skykomish River	Spada Lake Reservoir (near log boom)	RM 16.1	RM 9.8	RM 9.6	RM 4.9	RM 4.4	RM 0.2	Skyko. RM 14.1	Skyko. RM 13.2	Frequency
Water temperature	●	●	●	●	●	●	●	●	●	●	Year-round (hourly) in stream reaches. Monthly between May 1 and October 31 for lake profile.
Dissolved oxygen	●	●		●			●				May 1 to October 31. Monthly in stream reaches. Monthly for lake profile.
Turbidity	●	●		●			●				May 1 to October 31. Monthly in stream reaches. Monthly for lake profile.
pH	●	●		●			●				May 1 to October 31. Monthly in stream reaches. Monthly for lake profile.
Secchi transparency		●									May 1 to October 31. Monthly.
Flow discharge	●		●	●	●	●	●				Year-round. Daily.
Reservoir elevation		●									Year-round. Daily.

The following sections of this report are organized and structured as water flows, beginning in the upper portion of the Sultan watershed.

2. RESERVOIR MONITORING

2.1. Climatic Conditions

2.1.1. Rainfall Data

During 2012, a total rainfall of 168.84 inches was recorded at the Culmback Dam Weather Station. The rainfall measured during 2012 was slightly greater than the historical annual average of 161.78 inches. Monthly rainfall averaged 14.07 inches and ranged between a historic low of 0.11 inches in August and 25.13 inches in October (Table 2-1). During 2012, the highest recorded daily rainfall (7.2 inches) occurred on February 22.

Table 2-1. Monthly rainfall recorded at the Culmback Dam Weather Station, 2012.

Month	Rainfall (inches)
January	23.03
February	22.63
March	21.64
April	8.82
May	7.48
June	12.59
July	4.72
August	0.11
September	1.37
October	25.13
November	16.71
December	24.61

2.1.3. Snow Survey Measurements

The District conducts surveys of the snowpack annually during late March. During the March 2012 survey, a snow depth of 143.8 inches was recorded at Stickney Ridge at 3,600 feet elevation. This depth was 142% of the historical mean (Figure 2-1). In terms of water content, a depth of 58.2 inches was recorded equating to 135% of the historic mean (Figure 2-1).

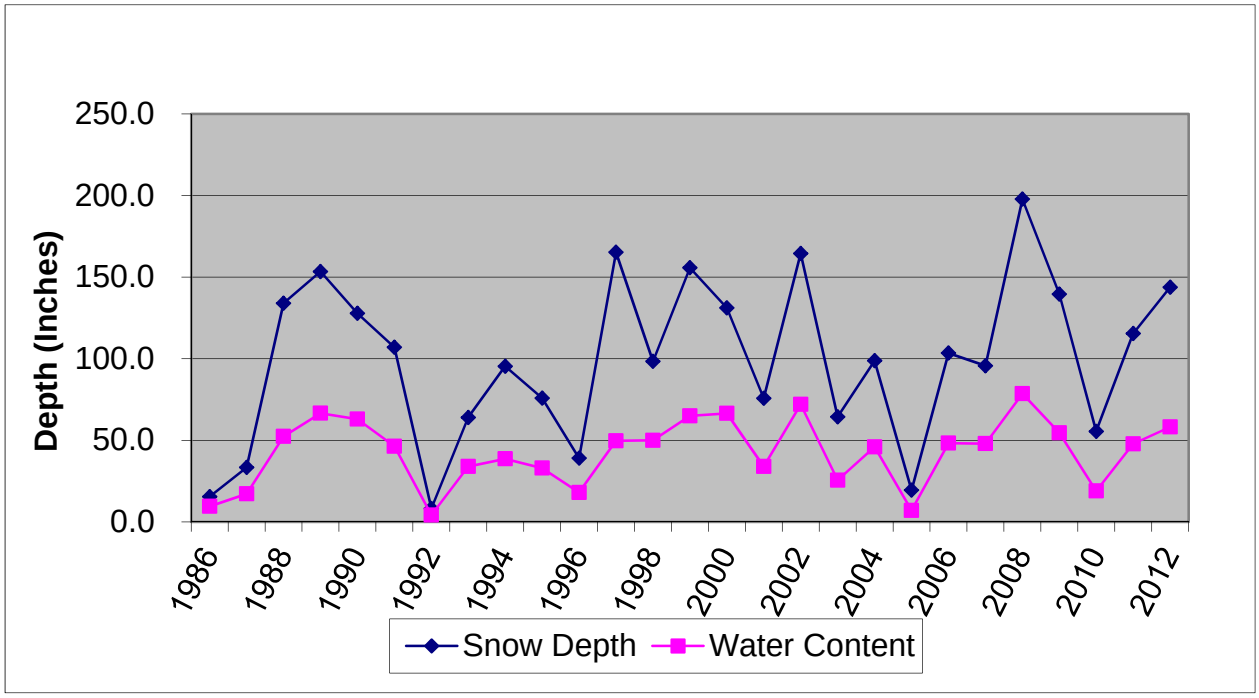

Figure 2-1. Historic snow surveys, Stickney Ridge (Elevation 3,600 feet), Sultan Watershed, 1986-2012.

2.1.5. Reservoir Inflows

Three tributaries feed into Spada Lake Reservoir; the South Fork Sultan River, Williamson Creek, and the mainstem Sultan River, including Elk Creek. Historically, the U.S. Geological Survey (USGS) has operated gages at several locations within the basin. Currently, the South Fork Sultan River is the only tributary that is actively gaged. At this location, the USGS operates Station No. 12137290, South Fork Sultan River near Sultan, WA, which provides real time information for Project operations. Hydrologic modeling indicates that the South Fork Sultan River accounts for between 14 and 22% of inflow into the reservoir, depending on conditions. The 2012 hydrograph for this station is presented in Figure 2-2. Instantaneous flow during 2012 averaged 154.3 cfs and ranged between a low of 4.6 cfs and a peak flow of 1,910 cfs. The average mean annual flow for this station is 127.1 cfs, based on the USGS Water Year.

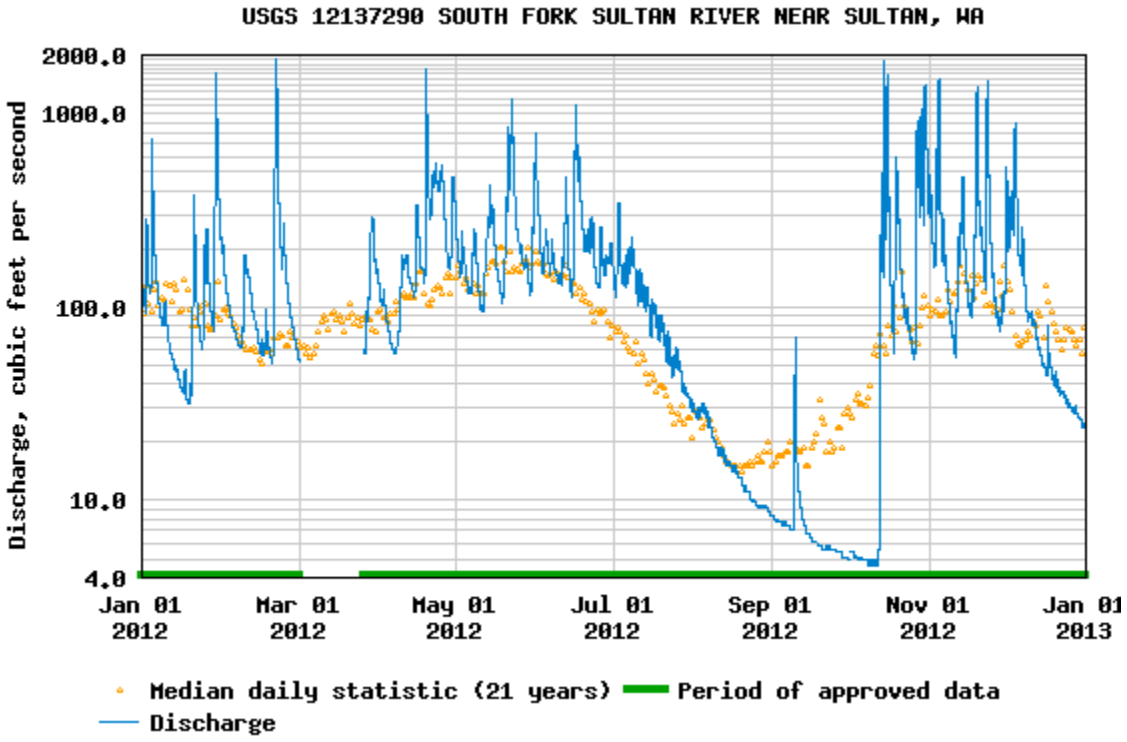

Figure 2-2. Hydrograph for the South Fork Sultan River, USGS Station No. 12137290, 2012 calendar year.

2.3. Reservoir Operations

2.3.1 Project Outflow

In absence of reservoir spill, the vast majority of project outflow occurs through the power tunnel as indexed by daily plant generation. Daily plant generation during 2012 closely mimicked Project inflows (Figure 2-3). A total of 495,568 megawatts were produced during 2012 equating to 123% of the historic annual average of 402,927 megawatts.

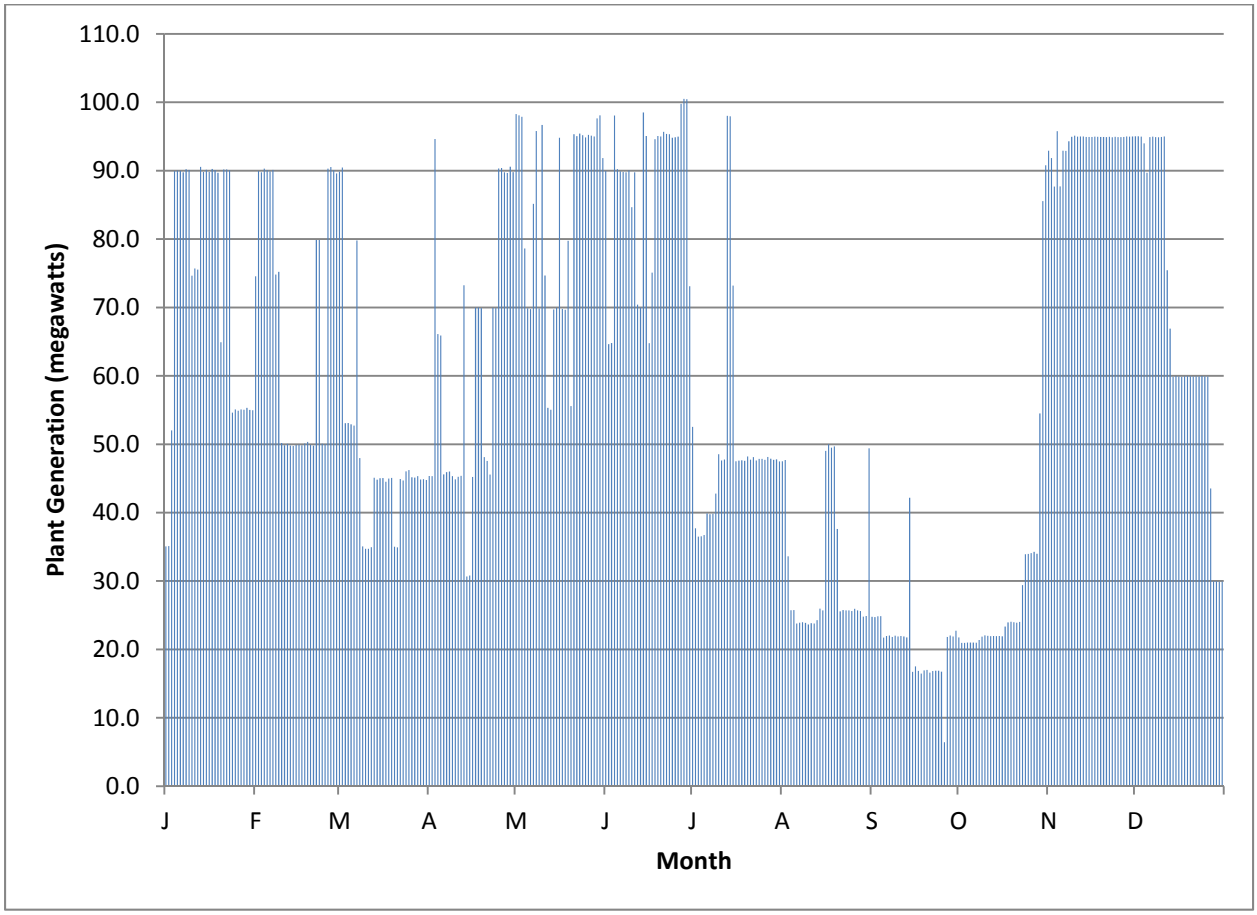

Figure 2-3. Daily plant generation at the Project, 2012.

2.3.2. Reservoir Elevation

Water surface elevations in Spada Lake Reservoir are partitioned into four states, which define how the project is to be operated. States 1 and 2 require full power operation to withdraw 1,300 cfs for flood control. State 3 is a discretionary zone, which allows the District to operate in a range defined by the maximum of States 1, and 2 or minimum defined by State 4. State 4 requires minimum power operations to maintain the instream flows for fish and habitat protection and water supply for the City of Everett. During 2012, Spada Lake Reservoir was drafted and filled in accordance with established Spada Lake Reservoir Rule Curves for the Project (Figure 2-4, District 2012).

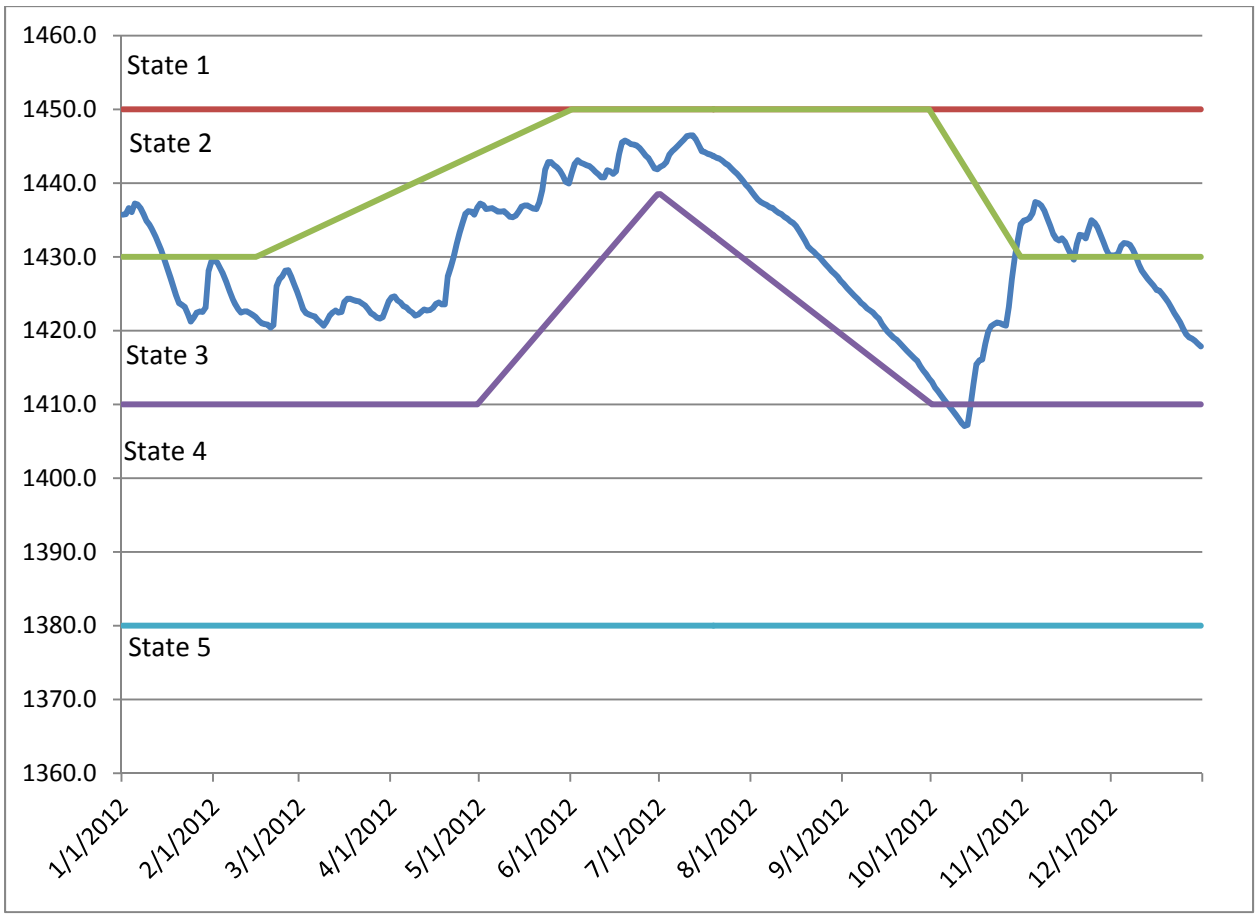

Figure 2-4. Daily water surface elevation, Spada Lake Reservoir, 2012.

2.4. Water Quality

Monthly sampling of Spada Lake Reservoir water quality occurred on the following dates during 2012: May 17, June 21, July 26, August 29, September 25, and October 23. Sampling included profiles measurements of conventional parameters including temperature, pH, dissolved oxygen, and turbidity. Sampling was conducted cooperatively with the City of Everett during 2012, and included measurements of nutrients, phytoplankton, and zooplankton.

By summary, Spada Lake Reservoir was cold and turbid in May, especially at depth. The highest phytoplankton biovolume of the year was recorded in May. By July, a thermocline was set at around 25 feet in depth. Zooplankton, in particular *Holopedium* and *Conochilus*, had reached their summer maximum in July. By the end of August, the warmest water was documented and the effects of the thermocline on pH and dissolved oxygen were apparent. By October, the thermocline was mostly gone and the surface was turbid. Below saturation oxygen and slightly lowered pH persisted near the bottom of the reservoir during October. During the course of the year, most biological activity took place in the epi- and metalimnion. Additional information is provided below, by parameter.

2.4.1. Temperature

Spada Lake Reservoir temperatures ranged from 4 to 19°C depending on season and depth (Table 2-2, Appendix A). The end of August had the warmest temperatures. The thermocline was strongest in July and August. September also had a high resistance to mixing. The strongest point in the thermocline dropped from 23 to 36 feet over the course of the summer. By the end of October, the thermocline had almost completely broken down.

Table 2-2. Monthly measurements of water temperature, Spada Lake Reservoir, June through October 2012.

	Temperature (ºC) at Elevation in Reservoir										
	Surface		Instrument Elevation								
Date	Elevation	Temperature	1440'	1430'	1420'	1410'	1400'	1390'	1380'	1370'	1360'
6/1	1440'	15.6	12.7	12.6	12.4	8.7	8.3	7.4	6.8	6.8	6.8
7/2	1440'	10.1	13.5	14.3	12.1	10.7	9.8	9.3	8.1	7.0	6.6
8/3	1438'	18.1		18.2	18.4	17.5	12.8	10.1	8.2	7.8	7.2
8/31	1427'	16.4			19.1	18.9	17.0	13.2	11.2	8.1	7.4
9/28	1415'	12.8				16.9	16.9	16.6	16.8	10.8	8.6
10/30	1428'				11.4	11.0	10.2	10.5	10.2	10.0	10.6

2.4.2. pH

The highest measured pH was 7.3 in August. The lowest pH of 6.4 was measured the same day at a depth of 70 feet, just below the thermocline, likely due to bacterial decomposition of organic material falling through the thermocline.

2.4.3. Dissolved Oxygen

Dissolved oxygen ranged from 11.9 mg/L in May to 8.6mg/L in September. By saturation values, the maximum of 108% in July was likely due to primary production, and the minimum of 68% of saturation at depth in October due to bacterial degradation.

2.4.4. Turbidity

In May, the surface was less turbid than at depth. Turbidities at the surface and at depth decreased through July. In August, there was a slight increase at the surface which disappeared by the next sampling in September. In October, the turbidity profile was the reverse of May as higher turbidity water from the creeks entered at the surface and did not mix with the still cold waters at depth. Through most of the season the cut-off points between higher and lower turbidities can be traced back to the thermal structure of the reservoir.

2.4.5. Secchi Transparency

As shown in Table 2-3, Secchi transparency ranged from 16 feet (in July) to 5 feet (in October).

Table 2-3. Secchi transparency in Spada Lake Reservoir, 2012.

Date	Result (feet)
5/17/2012	13
6/21/2012	14
7/26/2012	16
8/29/2012	15
9/25/2012	14
10/23/2012	5

2.4.6. Nutrients

Total phosphorus concentrations were around 5 µg/L for most the summer, both at the surface and at depth. Total nitrogen was also reasonably constant around 140 µg/L. Nitrate showed variability over time and depth, with values between 30 and 60 µg/L, dropping to close to zero below the thermocline in both July and September. Nitrogen and phosphorus parameters increased dramatically in October (10 fold for total phosphorus, 8 fold for total nitrogen). Silica concentrations were similar at the surface and below the thermocline (1500 µg/L), except in July when they fell to 900 µg/L. Nutrient variations over the season support conclusions from turbidity values, that there may have been some type of mixing event between the July and August sampling dates. Wind action most likely caused mixing or re-suspension as there was wind speed maxima both in the morning and at night during this time. During other periods of the summer, a single maximum wind speed occurred during the day.

2.4.7. Phytoplankton

The largest number and biovolume of phytoplankton occurred in the May sample. Over the course of the summer phytoplankton declined in number and increased in size and species diversity concurrent with the rise in zooplankton. Chrysophyta was the predominant taxon by biovolume for the entire summer, though it was outnumbered in July (by colonial cyanobacteria) when grazing pressure from zooplankton was the highest. Small phytoplankton (unicellular

chrysophytes and nanoplanktonic chlorophytes) made up the bulk of the biovolume of phytoplankton for most of the year. In situ chlorophyll and DO readings indicate that primary productivity took place predominantly between 5 and 35 feet.

2.4.8. Zooplankton

Holopedium were the dominant zooplankter in all samples but the May sample, when *Epischura* was the most common. *Holopedium* had a peak density in mid-July (4/L), along with an almost equivalent amount of *Conochilus* (a colonial rotifer). The largest diversity in zooplankton species also occurred in the mid-July sample. *Daphnia* first appeared in July and was a significant portion of the total zooplankton for the rest of the summer. The total number of zooplankton/L was less than two on all sample dates but mid- July, which was the peak at eight zooplankton/L. *Daphnia* were clearly producing resting eggs in October.

3. RIVER MONITORING

3.1. Background

Maintaining suitable water temperatures in the Sultan River is an important aspect of the Project operation. Water temperature influences fish behavior, especially anadromous fish during the freshwater phase of their life cycle. The Sultan River produces chinook, coho, chum and pink salmon, and steelhead trout plus resident fish species.

The Project's water storage and conveyance system is a complex of conduits moving water between two reservoirs with discharge into the Sultan River occurring at three facilities – Culmback Dam, Diversion Dam, and powerhouse (Figure 3-1). Briefly, an annual water budget of 20,362 acre feet is variably released into the river at Culmback Dam through a 10-inch cone valve while water to meet instream flow requirements (at the Diversion Dam) is routed through the Francis turbine units at the powerhouse, then the Lake Chaplain pipeline to a former City Water diversion tunnel connected to another water line discharging into the river at the diversion dam. Except for infrequent spill at Culmback Dam, these releases, plus tributary flows to the river, provide the instream flow for fish species throughout five river miles upstream from the powerhouse. Pelton turbines, which discharge directly to the river at RM 4.5, provide additional water when needed to meet minimum instream flow requirements below the powerhouse.

Water temperatures in Reach 3, immediately downstream of Culmback Dam, are seasonally influenced to a variable extent by releases through an auxiliary line down the face of Culmback Dam. The releases are described in detail in the annual reporting for the Water Temperature Conditioning Plan for Reach 3 (District 2010). Downstream, water temperatures at the Diversion Dam are influenced by the amount and depth of release at Culmback Dam (whether through the intake structure, cone or Howell-Bunger valves, or by spill), by tributary flows, and by meteorological conditions. Moveable panels at the Spada Lake Reservoir intake structure control the level and, hence, the temperature at which water is withdrawn from the reservoir to the powerhouse intake when conditions allow. When isothermal conditions exist in the reservoir, no change in water temperature can be achieved through moving the panels on the intake structure to a different level in the reservoir. The degree of temperature control possible by panel

manipulation varies seasonally with the degree of temperature stratification in the reservoir. Panel position during 2012 is presented in Table 3-1.

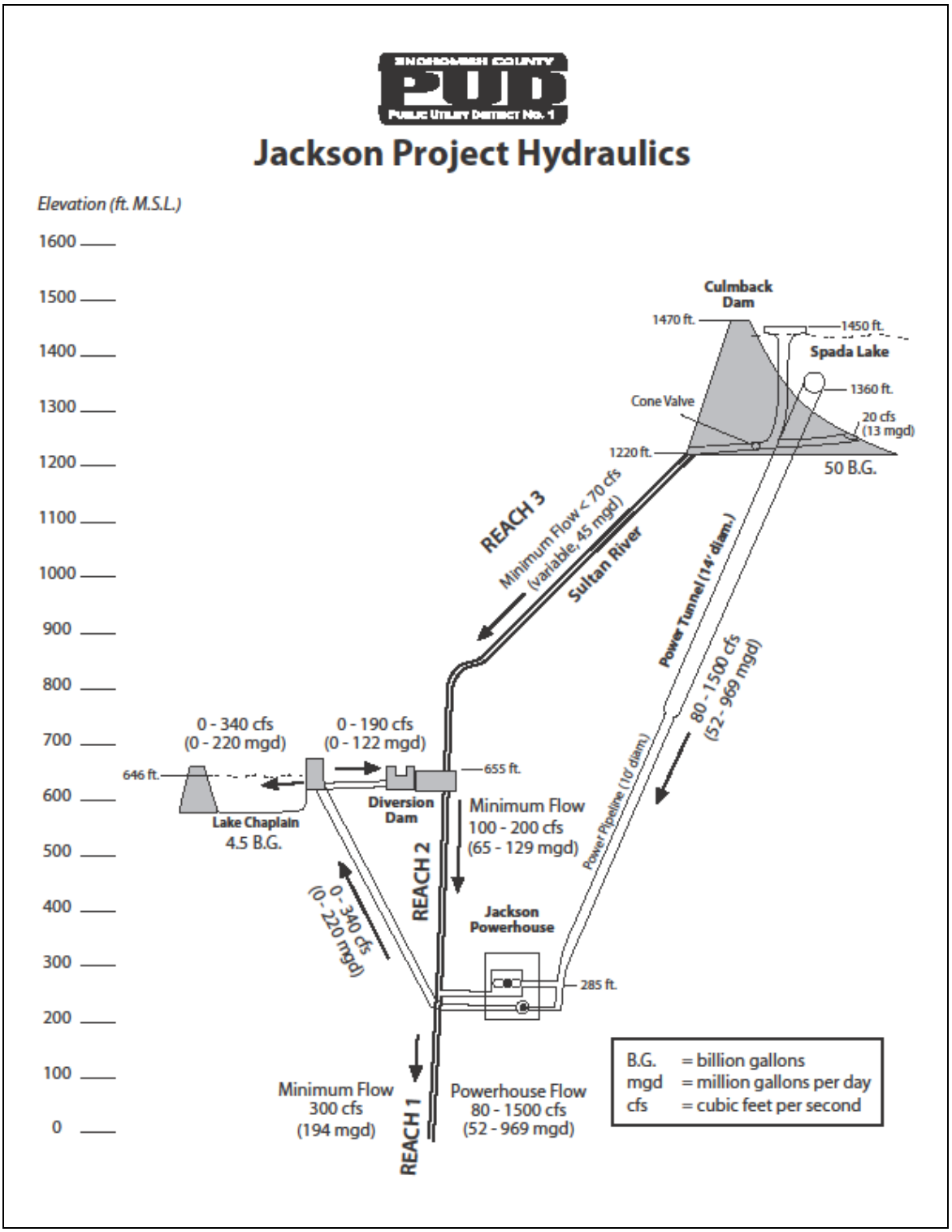

Figure 3-1. Schematic of water conveyance system associated with the Jackson Hydroelectric Project.

Table 3-1. Settings for selective temperature withdrawal panels, Spada Lake Reservoir, 2012.

Dates	Panel Setting	Upper Opening (elevation in feet msl)	Lower Opening (elevation in feet msl)
January 1 to May 9	E	1360 to 1380	None
May 10 to May 17	C	1405 to 1427.5	None
May 18 to July 10	D	1385 to 1410	None
July 11 to August 11	D – E	1400 to 1410	1360 to 1372.5
August 12 to December 31	E	1360 to 1385	None

3.2. Continuous Temperature Monitoring

Water temperature was continuously monitored at 13 locations with the Project area during 2012 (Figure 3-2). Monitoring at 10 of these locations was conducted by the District. The remaining monitoring was conducted by the USGS through a cooperative agreement. These locations, in order from upstream to downstream, include:

- South Fork Sultan River, upstream of Culmback Dam, near RM 18.2 (USGS Gage No. 12137290);
- Sultan River, within the bypass reach immediately downstream of Culmback Dam, at RM 15.8;
- Sultan River, within the bypass reach, near RM 14.3;
- Sultan River, within the bypass reach, near RM 12.8;
- Sultan River, within the bypass reach, near RM 11.3;
- Big Four Creek, tributary to Sultan River, near RM 11.3;
- Sultan River, within the bypass reach immediately upstream of the Diversion Dam, near RM 9.8;
- Sultan River, immediately downstream of the Diversion Dam, near RM 9.6 (USGS Gage No. 12137800);
- Sultan River, upstream of the Powerhouse, near RM 4.9;
- Sultan River, downstream of the Powerhouse, near RM 4.4,
- Sultan River, near the confluence with the Skykomish River, at RM 0.2;
- Skykomish River, upstream of the confluence with the Sultan River, at RM 14.1; and
- Skykomish River, downstream of the confluence with the Sultan River, at RM 13.2.

Water temperature monitoring at Sultan River RM 14.3, 12.8 and 11.3, are part of the Water Temperature Conditioning Plan monitoring sites; the others are requirements under the Fisheries and Habitat Monitoring Plan.

In general, water temperatures observed during 2012 were consistent with those collected during 2008 and 2009 by CH2M Hill and presented in the Water Quality Final Technical Report (CH2M Hill, 2009). No exceedances of state water temperature criteria were documented during 2012. Figures depicting water temperatures during 2012 are presented in Appendix B. A tabulation of all mean daily temperature data for 2012 is presented in Appendix C. The seven-day average of the daily maximum temperature (7-DAD Max) is presented in Appendix D. Data gaps are attributed to malfunctioning equipment or equipment lost due to vandalism.

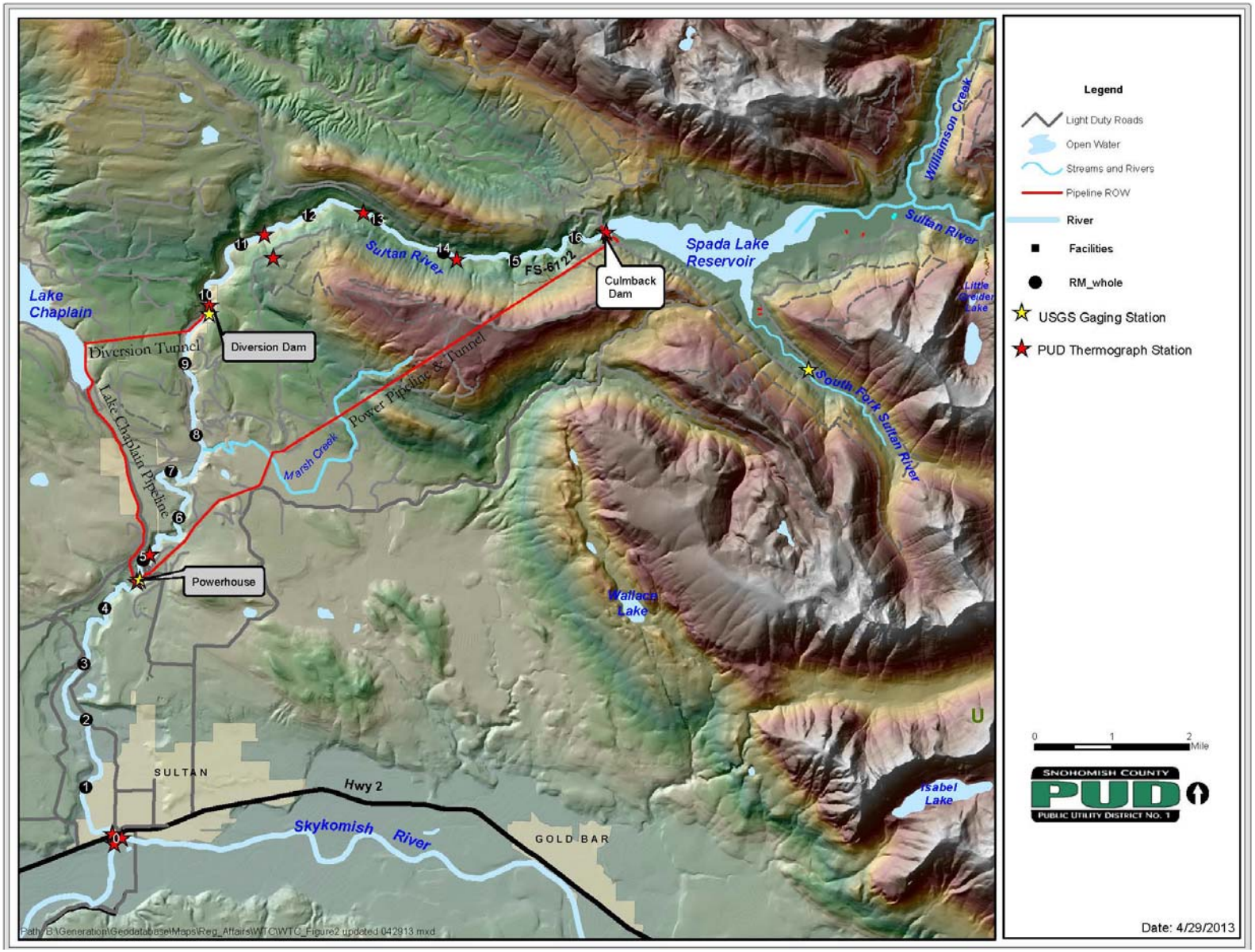

Figure 3-2. Locations of water temperature monitoring.

3.3. Synoptic Measurements of Water Quality

Synoptic measurements of water quality were collected during summer / early fall 2012 at the South Fork Sultan River (tributary to Spada Lake Reservoir) and at two locations in the Sultan River downstream of Culmback Dam (Table 3-2).

Table 3-2. Synoptic monthly measurements of water quality, Sultan River, 2012.

Location	Date	Temp ºC	pH Units	TurbSC NTU	LDO mg/l
South Fork Sultan River (SF)	5/22/2012	4.5	6.8	0.2	12.8
	6/22/2012	6.6	7.0	0.2	11.1
	7/30/2012	11.0	6.9	0.8	10.6
	8/29/2012	11.4	6.2	0.1	10.0
	9/26/2012	10.2	7.0	0.7	10.3
	10/23/2012	5.6	6.9	8.7	10.9
Sultan River upstream of Diversion Dam (RM 9.8)	5/22/2012	8.9	7.1	0.2	11.7
	6/22/2012	10.5	7.9	0.4	10.4
	7/30/2012	11.6	7.7	0.9	10.3
	8/30/2012	11.1	6.6	0.3	10.2
	9/27/2012	12.0	7.0	0.3	10.2
	10/29/2012	9.3	6.9	3.2	11.3
Sultan River downstream of Powerhouse (RM 4.4)	5/22/2012	8.4	7.0	0.2	12.3
	6/22/2012	8.7	7.7	0.2	10.8
	7/30/2012	10.5	7.5	2.1	10.5
	8/30/2012	11.1	6.7	0.4	10.4
	9/27/2012	13.1	7.1	1.1	10.2
	10/23/2012	9.4	6.9	9.9	10.2

4. DATA QUALITY AND COMPLIANCE

Monitoring of water quality during 2012 adhered to the protocols and procedures outlined in the WQMP. All surveys locations and parameters of measurement were consistent with those outlined in the WQMP. All data were reviewed and accepted to accurately represent conditions at the time of sampling. No exceedances of state water quality criteria were observed in the data. Project operations were conducted in accordance with License conditions throughout the sampling period.

5. REFERENCES

CH2M Hill. 2009. Water Quality Final Technical Report. Henry M. Jackson Hydroelectric Project (FERC No. 2157) Water Quality Parameter Study (RSP 1). Prepared for Public Utility District No. 1 of Snohomish County. August 2009.

District. 2012. Operation Compliance Monitoring Plan (Article 407). Henry M. Jackson Hydroelectric Project (FERC No. 2157). 2012.

District. 2010. Water Temperature Conditioning Plan for Reach 3. Henry M. Jackson Hydroelectric Project (FERC No. 2157). 2010.

APPENDIX A

Monthly Reservoir Water Quality Sampling

Appendix A

Date Time	Depth	Depth	Temperature	Conductivity	pH	Dissolved Oxygen	Chlorophyll	Turbidity
M/D/Y	meters	feet	degrees C	mS/cm		mg/L	RFU	NTU
	0.5							
5/17/2012 10:26	1	3	11.3	0.023	7.3	11.3	0.2	1.9
	2							
5/17/2012 10:28	3	9	10.8	0.023	7.2	11.4	0.4	2.0
5/17/2012 10:28	4	12	10.7	0.023	7.2	11.4	0.5	1.8
5/17/2012 10:29	5	15	10.4	0.023	7.2	11.4	0.6	1.9
5/17/2012 10:29	5	18	9.9	0.023	7.2	11.5	0.7	2.0
5/17/2012 10:30	6	21	9.5	0.023	7.2	11.6	0.7	1.9
	7							
5/17/2012 10:31	8	27	8.5	0.023	7.1	11.8	0.8	1.7
5/17/2012 10:32	9	30	8.1	0.023	7.1	11.8	0.6	1.7
5/17/2012 10:33	10	33	7.8	0.023	7.1	11.9	0.6	2.0
5/17/2012 10:34	11	36	7.3	0.023	7.1	11.9	0.8	1.9
5/17/2012 10:34	12	39	6.8	0.023	7.1	11.9	0.8	1.9
5/17/2012 10:36	13	42	6.4	0.023	7.1	11.8	0.6	1.9
5/17/2012 10:36	14	45	6.1	0.023	7.1	11.8	0.4	1.7
5/17/2012 10:37	15	51	5.7	0.024	7.0	11.8	0.3	1.8
5/17/2012 10:38	17	57	5.6	0.024	7.0	11.8	0.4	1.8
5/17/2012 10:39	19	63	5.5	0.024	7.0	11.8	0.2	2.0
5/17/2012 10:40	21	69	4.9	0.024	7.0	11.9	0.2	2.2
5/17/2012 10:41	23	75	4.2	0.025	7.0	11.9	0.0	4.3
5/17/2012 10:43	25	81	4.1	0.025	6.9	11.9	0.2	4.6
5/17/2012 10:43	26	87	4.0	0.025	6.9	11.9	0.3	4.7
5/17/2012 10:44	28	93	4.0	0.026	6.9	11.8	0.3	5.2
5/17/2012 10:46	30	99	3.9	0.026	6.9	11.8	0.2	5.8
5/17/2012 10:48	35	115	3.9	0.026	6.9	11.7	0.3	7.3
5/17/2012 10:49	39	130	3.8	0.026	6.9	11.5	0.2	9.5
5/17/2012 10:50	44	145	3.8	0.026	6.8	11.3	0.5	17.9
5/17/2012 10:51	48	160	3.8	0.026	6.8	11.2	0.3	23.6

Appendix A

Date Time	Depth	Depth	Temperature	Conductivity	pH	Dissolved Oxygen	Chlorophyll	Turbidity
M/D/Y	meters	feet	degrees C	mS/cm		mg/L	RFU	NTU
6/21/2012 10:12	0.5	2	12.0	0.021	7.1	10.8	0.1	0.7
6/21/2012 10:14	1.0	3	11.8	0.021	7.1	10.8	0.1	0.7
6/21/2012 10:18	2.0	7	11.2	0.021	7.2	11.0	0.0	0.8
6/21/2012 10:20	3.0	10	11.1	0.021	7.2	11.0	0.3	0.8
6/21/2012 10:22	4.0	13	11.1	0.021	7.2	11.0	0.4	0.9
6/21/2012 10:23	5.0	16	10.8	0.021	7.2	11.0	0.5	0.8
6/21/2012 10:25	5.9	20	10.4	0.022	7.2	11.1	0.5	0.9
6/21/2012 10:26	7.0	23	9.8	0.022	7.2	11.3	1.3	0.9
6/21/2012 10:27	8.0	26	9.2	0.021	7.2	11.3	0.9	1.0
6/21/2012 10:29	8.9	29	8.8	0.021	7.1	11.3	0.8	1.0
6/21/2012 10:30	10.0	33	8.5	0.021	7.1	11.2	0.7	1.0
6/21/2012 10:31	10.9	36	8.2	0.02	7.0	11.2	0.4	1.0
6/21/2012 10:33	11.9	39	8.0	0.021	7.0	11.2	0.3	0.9
6/21/2012 10:35	12.9	43	7.7	0.021	7.0	11.2	0.3	0.9
6/21/2012 10:36	13.9	46	7.6	0.021	7.0	11.2	0.1	0.9
6/21/2012 10:37	14.9	49	7.5	0.021	7.0	11.2	0.2	0.9
6/21/2012 10:39	16.9	56	7.3	0.021	7.0	11.2	0.0	0.9
6/21/2012 10:40	18.9	62	7.0	0.022	7.0	11.2	0.1	1.0
6/21/2012 10:43	20.9	69	6.7	0.021	7.0	11.2	0.0	1.1
6/21/2012 10:44	22.9	75	6.1	0.022	6.9	11.2	0.1	1.6
6/21/2012 10:45	24.8	82	5.4	0.023	6.9	11.3	0.0	1.9
6/21/2012 10:47	26.9	89	5.1	0.024	6.8	11.2	0.0	2.8
6/21/2012 10:48	28.8	95	5.0	0.024	6.8	11.1	0.0	3.3
6/21/2012 10:50	30.8	102	4.9	0.024	6.8	11.1	0.1	3.8
6/21/2012 10:52	33.9	112	4.6	0.024	6.8	11.1	0.0	3.6
6/21/2012 10:54	36.7	121	4.4	0.025	6.8	11.3	0.1	3.7
6/21/2012 10:55	39.7	131	4.2	0.025	6.8	11.2	0.2	4.5
6/21/2012 11:00	42.8	141	4.1	0.025	6.8	11.1	0.0	5.1
6/21/2012 11:01	45.7	151	4.1	0.025	6.8	11.1	0.0	5.9
6/21/2012 11:03	48.8	161	4.0	0.026	6.8	10.9	0.0	6.9
6/21/2012 11:11	50.1	165	3.9	0.026	6.5	10.7	0.0	8.3

Appendix A

Date Time	Depth	Depth	Temperature	Conductivity	pH	Dissolved Oxygen	Chlorophyll	Turbidity	
M/D/Y	meters	feet	degrees C	mS/cm		mg/L	RFU	NTU	
7/26/2012 9:48	1.0	3.2	18.7	0.021	7.1	9.5	0.6	0.8	
7/26/2012 9:49	0.5	1.6	18.7	0.021	7.1	9.5	0.4	0.8	
7/26/2012 9:50	2.0	6.7	18.5	0.021	7.2	9.6	0.5	0.9	
7/26/2012 9:52	3.0	9.8	18.2	0.021	7.2	9.6	0.8	0.9	
7/26/2012 9:53	4.0	13.2	18.2	0.021	7.3	9.6	0.7	0.9	
7/26/2012 9:54	5.0	16.4	17.5	0.022	7.3	9.8	0.8	0.9	
7/26/2012 9:55	6.0	19.7	16.1	0.022	7.3	10.7	1	0.9	
7/26/2012 9:56	6.9	22.9	14.4	0.021	7.2	11.0	1.1	0.9	
7/26/2012 9:58	8.0	26.2	13.5	0.02	7.3	11.3	1.1	0.8	
7/26/2012 9:59	8.9	29.5	12.5	0.02	7.2	11.2	1	0.8	
7/26/2012 10:00	9.9	32.7	11.7	0.02	7.2	11.2	1	0.8	
7/26/2012 10:03	11.0	36.2	10.9	0.02	7.1	11.1	0.9	0.9	
7/26/2012 10:04	11.9	39.4	9.9	0.02	7.1	11.1	0.8	0.7	
7/26/2012 10:05	13.0	42.8	9.5	0.02	7.0	11.0	0.5	0.6	
7/26/2012 10:07	13.9	45.9	9.0	0.02	7.0	10.9	0.4	0.7	
7/26/2012 10:09	14.9	49.2	8.3	0.02	7.0	10.9	0.5	0.6	
7/26/2012 10:11	16.9	55.9	7.6	0.02	6.9	10.9	0.5	0.5	
7/26/2012 10:12	18.9	62.3	6.8	0.021	6.9	10.9	0.2	0.7	
7/26/2012 10:14	20.9	68.9	6.3	0.022	6.8	10.8	0.4	1.1	
7/26/2012 10:17	22.9	75.5	6.0	0.023	6.8	10.7	0.4	1.2	
7/26/2012 10:20	24.9	82.3	5.8	0.023	6.7	10.8	0.3	1.3	
7/26/2012 10:22	26.9	88.8	5.6	0.023	6.7	10.7	0.4	1.4	
7/26/2012 10:24	28.8	95.2	5.5	0.023	6.7	10.8	0.4	1.4	
7/26/2012 10:26	30.8	101.8	5.4	0.023	6.7	10.8	0.3	1.5	
7/26/2012 10:28	33.8	111.6	5.2	0.024	6.7	10.8	0.4	1.7	
7/26/2012 10:29	36.8	121.4	4.9	0.024	6.7	10.8	0.4	1.9	
7/26/2012 10:31	39.8	131.2	4.8	0.024	6.7	10.9	0.5	1.9	
7/26/2012 10:32	42.8	141.3	4.6	0.024	6.7	10.8	0.3	2.4	
7/26/2012 10:34	45.6	150.4	4.5	0.024	6.7	10.8	0.2	2.5	
7/26/2012 10:35	48.7	160.8	4.4	0.025	6.7	10.8	0.4	2.5	
7/26/2012 10:36	52.2	172.1	4.3	0.025	6.7	10.7	0.4	11.2	Probably in the mud
7/26/2012 10:40	50.4	166.3	4.3	0.025	6.5	10.7	0.5	3	

Appendix A

Date Time	Depth	Depth	Temperature	Conductivity	pH	Dissolved Oxygen	Chlorophyll	Turbidity
M/D/Y	meters	feet	degrees C	mS/cm		mg/L	RFU	NTU
8/29/2012 9:50	0.5	1.6	18.7	0.024	7.3	8.9	0.5	1.3
8/29/2012 9:51	1.0	3.3	18.7	0.024	7.3	8.8	0.4	1.3
8/29/2012 9:53	2.0	6.6	18.7	0.024	7.3	8.8	0.4	1.3
8/29/2012 9:56	2.9	9.7	18.7	0.024	7.3	8.8	0.5	1.3
8/29/2012 9:57	4.0	13.1	18.7	0.024	7.3	8.8	0.5	1.3
8/29/2012 9:57	5.0	16.4	18.7	0.024	7.3	8.8	0.5	1.3
8/29/2012 10:01	6.0	19.9	18.7	0.024	7.3	8.8	0.5	1.4
8/29/2012 10:03	7.0	23.0	17.6	0.025	7.2	9.3	0.4	1.4
8/29/2012 10:06	7.9	26.2	16.6	0.024	7.1	9.6	0.4	1.1
8/29/2012 10:09	9.0	29.6	15.5	0.023	7.0	9.7	0.3	1.1
8/29/2012 10:12	9.9	32.7	14.7	0.022	7.0	10.0	0.5	1
8/29/2012 10:16	10.9	36.1	13.9	0.022	6.9	9.9	0.4	1.2
8/29/2012 10:18	11.9	39.4	12.6	0.021	6.8	9.9	0.4	1.4
8/29/2012 10:20	12.9	42.7	11.6	0.021	6.7	9.9	0.4	1.3
8/29/2012 10:21	13.9	45.9	10.2	0.021	6.7	10.0	0.3	1.6
8/29/2012 10:22	14.9	49.1	8.8	0.022	6.7	10.1	0.4	1.4
8/29/2012 10:24	16.9	55.8	7.1	0.024	6.5	10.0	0.4	1.2
8/29/2012 10:26	18.9	62.3	6.5	0.024	6.4	10.1	0.3	1.1
8/29/2012 10:27	20.9	69.0	6.2	0.024	6.4	10.1	0.5	1.1
8/29/2012 10:29	22.9	75.5	6.1	0.024	6.4	10.1	0.2	1.1
8/29/2012 10:32	24.9	82.1	6.0	0.024	6.6	10.2	0.3	1.1
8/29/2012 10:34	26.8	88.6	5.8	0.024	6.6	10.2	0.4	1.1
8/29/2012 10:36	28.8	95.1	5.7	0.024	6.6	10.3	0.3	1.1
8/29/2012 10:37	30.8	101.7	5.6	0.024	6.6	10.3	0.2	1.1
8/29/2012 10:38	33.8	111.5	5.4	0.025	6.6	10.3	0.3	1.1
8/29/2012 10:40	36.8	121.4	5.1	0.025	6.6	10.4	0.3	1.3
8/29/2012 10:41	39.8	131.3	5.0	0.025	6.5	10.4	0.4	1.4
8/29/2012 10:42	42.8	141.2	4.8	0.025	6.6	10.2	0.2	1.5
8/29/2012 10:43	45.7	150.8	4.7	0.025	6.5	10.2	0.3	1.6
8/29/2012 10:47	44.3	146.0	4.8	0.025	6.6	10.1	0.4	1.6

Appendix A

Date Time	Depth	Depth	Temperature	Conductivity	pH	Dissolved Oxygen	Chlorophyll	Turbidity
M/D/Y	meters	feet	degrees C	mS/cm		mg/L	RFU	NTU
9/25/2012 9:59	0.5	1.6	16.6	0.027	7.3	9.2	0.1	0.9
9/25/2012 10:00	1.0	3.3	16.6	0.027	7.3	9.2	0.1	0.8
9/25/2012 10:02	2.0	6.6	16.6	0.027	7.3	9.1	0.2	0.9
9/25/2012 10:04	3.0	9.9	16.6	0.027	7.2	9.1	0.3	0.9
9/25/2012 10:06	4.0	13.1	16.5	0.027	7.2	9.1	0.1	0.9
9/25/2012 10:08	5.0	16.4	16.5	0.028	7.2	9.1	0.3	0.9
9/25/2012 10:09	6.0	19.7	16.5	0.027	7.2	9.1	0.3	0.9
9/25/2012 10:10	7.0	23.0	16.5	0.028	7.2	9.1	0.3	0.8
9/25/2012 10:12	8.0	26.2	16.5	0.028	7.2	9.1	0.3	0.9
9/25/2012 10:15	9.0	29.6	15.4	0.027	6.9	8.6	0.2	1.2
9/25/2012 10:16	10.0	32.9	14.4	0.025	6.9	8.6	0.2	1.2
9/25/2012 10:17	11.0	36.1	13.1	0.024	6.8	8.8	0.1	1.3
9/25/2012 10:18	11.0	36.2	13.0	0.024	6.6	8.8	0.1	1.2
9/25/2012 10:19	11.9	39.4	11.8	0.024	6.6	8.9	0.2	1.6
9/25/2012 10:21	13.0	42.7	10.6	0.024	6.5	9.1	0.1	1.5
9/25/2012 10:22	13.9	45.9	9.2	0.025	6.5	9.2	0.1	1.8
9/25/2012 10:24	14.9	49.2	8.3	0.025	6.5	9.4	0.3	1.9
9/25/2012 10:25	16.9	55.9	6.9	0.025	6.5	9.6	0.2	1.5
9/25/2012 10:27	18.9	62.4	6.3	0.026	6.5	9.8	0.1	1.4
9/25/2012 10:29	20.9	68.9	6.0	0.026	6.5	9.9	0.1	1.3
9/25/2012 10:30	23.0	75.8	5.9	0.026	6.5	10.0	0.0	1.3
9/25/2012 10:31	24.9	82.1	5.9	0.026	6.6	10.0	0.1	1.2
9/25/2012 10:32	26.8	88.6	5.7	0.026	6.6	10.1	0.1	1.4
9/25/2012 10:33	28.8	95.2	5.6	0.026	6.6	10.1	0.2	1.2
9/25/2012 10:34	30.8	101.5	5.4	0.026	6.6	10.2	0.1	1.4
9/25/2012 10:36	33.8	111.7	5.3	0.026	6.6	10.1	0.2	1.4
9/25/2012 10:37	36.8	121.4	5.1	0.026	6.6	10.0	0.2	1.5
9/25/2012 10:38	39.8	131.2	5.0	0.027	6.6	9.8	0.2	1.7
9/25/2012 10:44	41.9	138.3	4.9	0.027	6.4	9.6	0.1	2.7

Appendix A

Date Time	Depth	Depth	Temperature	Conductivity	pH	Dissolved Oxygen	Chlorophyll	Turbidity
M/D/Y	meters	feet	degrees C	mS/cm		mg/L	RFU	NTU
10/23/2012 10:14	0.4	1.4	10.5	0.027	7.1	9.7	0.3	6.6
10/23/2012 10:15	1.0	3.2	10.5	0.027	7.1	9.7	0.4	6.5
10/23/2012 10:16	2.0	6.5	10.6	0.027	7.1	9.7	0.2	6.5
10/23/2012 10:18	3.0	9.8	10.6	0.027	7.1	9.7	0.2	6.5
10/23/2012 10:20	4.0	13.2	10.6	0.027	7.0	9.7	0.3	6.6
10/23/2012 10:22	5.0	16.5	10.6	0.027	7.0	9.7	0.2	6.4
10/23/2012 10:25	6.0	20.0	10.5	0.027	7.0	9.7	0.2	6.7
10/23/2012 10:27	7.0	23.1	10.5	0.027	7.0	9.6	0.2	6.4
10/23/2012 10:29	8.0	26.4	10.5	0.027	7.0	9.6	0.2	6.6
10/23/2012 10:31	9.0	29.7	10.5	0.027	7.0	9.6	0.2	6.6
10/23/2012 10:37	10.1	33.4	10.5	0.027	7.0	9.6	0.5	6.4
10/23/2012 10:39	11.1	36.6	10.4	0.027	6.9	9.5	0.2	7.2
10/23/2012 10:41	12.1	39.9	9.6	0.025	6.8	9.3	0.2	7.5
10/23/2012 10:42	13.1	43.3	9.4	0.025	6.8	9.3	0.2	8.5
10/23/2012 10:44	14.0	46.3	9.1	0.025	6.8	9.7	0.2	7.5
10/23/2012 10:45	15.1	49.8	8.9	0.025	6.8	9.8	0.2	8.1
10/23/2012 11:44	16.9	55.6	8.7	0.026	6.9	9.9	0.1	8.5
10/23/2012 11:45	18.9	62.4	8.2	0.025	6.8	9.8	0.2	6.8
10/23/2012 11:46	20.9	68.8	7.7	0.026	6.7	9.1	0.1	5.5
10/23/2012 11:50	22.8	75.3	6.3	0.026	6.6	9.4	0.0	2.8
10/23/2012 11:52	24.9	82.1	6.0	0.026	6.6	9.6	0.1	2.3
10/23/2012 11:55	26.9	88.7	5.8	0.026	6.6	9.7	0.1	2.2
10/23/2012 11:58	28.9	95.5	5.7	0.026	6.6	9.7	0.2	1.7
10/23/2012 11:59	30.8	101.7	5.6	0.026	6.6	9.8	0.1	1.5
10/23/2012 12:01	33.8	111.4	5.4	0.026	6.6	9.7	0.1	2.5
10/23/2012 12:02	36.8	121.4	5.2	0.027	6.6	9.5	0.0	3.0
10/23/2012 12:03	39.8	131.3	5.1	0.027	6.5	9.3	0.2	5.5
10/23/2012 12:06	42.8	141.2	5.0	0.027	6.5	8.9	0.1	5.1
10/23/2012 12:10	43.8	144.4	5.0	0.027	6.5	8.7	0.2	6.0

APPENDIX B

Continuous Water Temperature Monitoring - Figures

Figure B-1. Mean Daily Water Temperature in the South Fork Sultan River, upstream of Culmback Dam (RM 18.2), and in the Sultan River immediately downstream of Culmback Dam (RM 15.8) during 2012

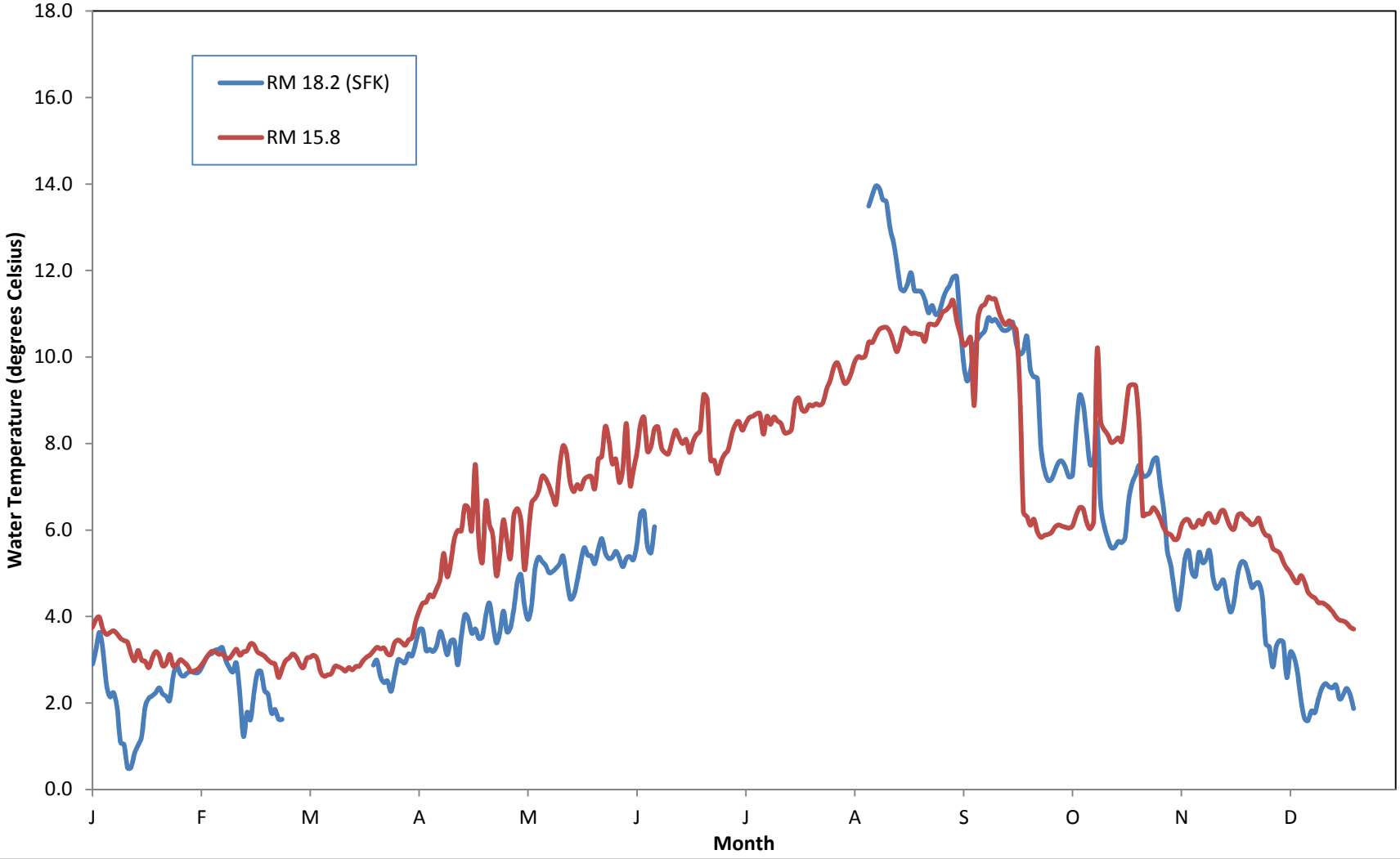

Figure B-2. Mean Daily Water Temperature in the Bypass Reach (Reach 3) of the Sultan River during 2012

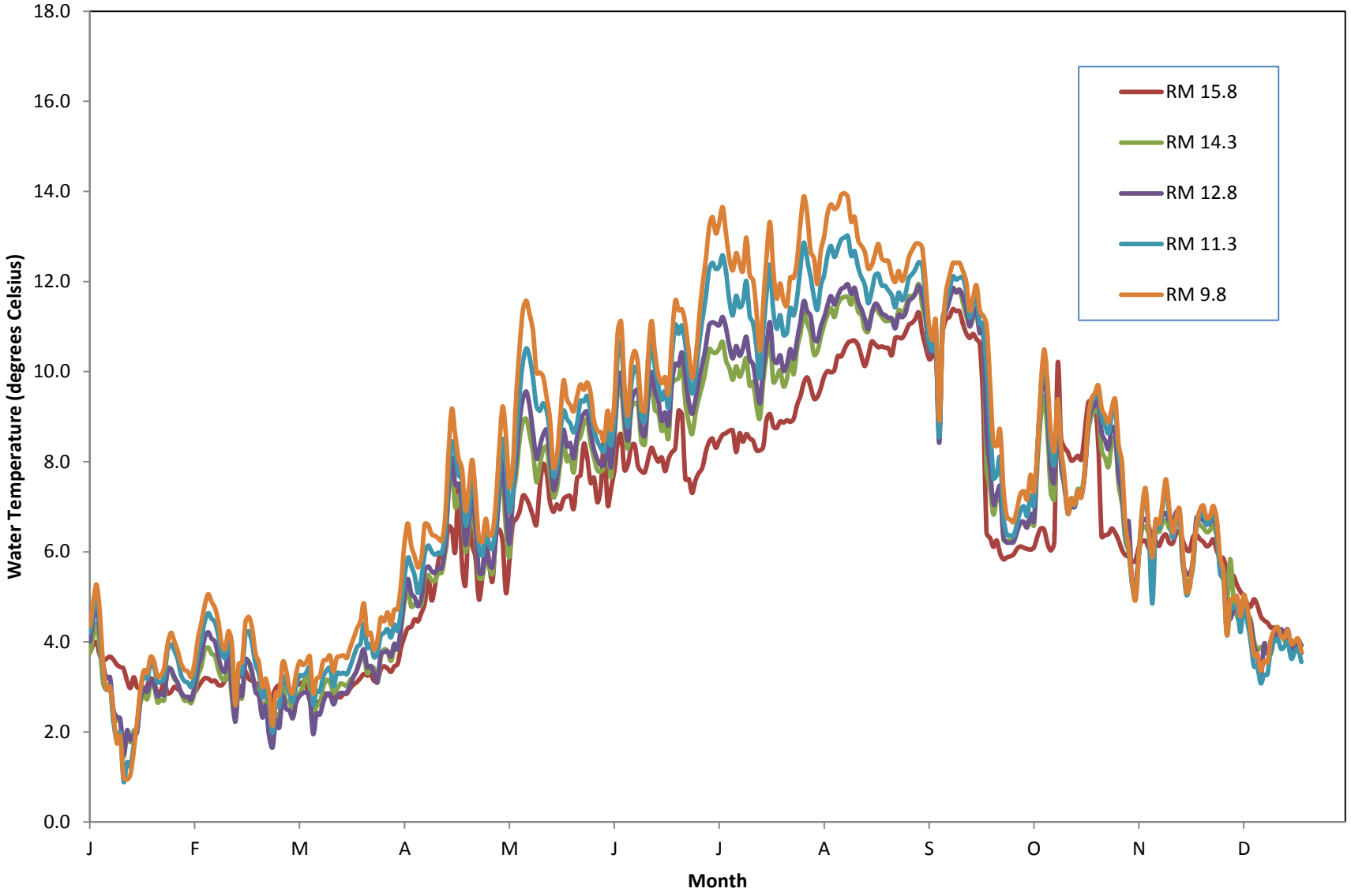

Figure B-3. Longitudinal Depiction of Mean Daily Water Temperature, Sultan River downstream of Culmback Dam, 2012

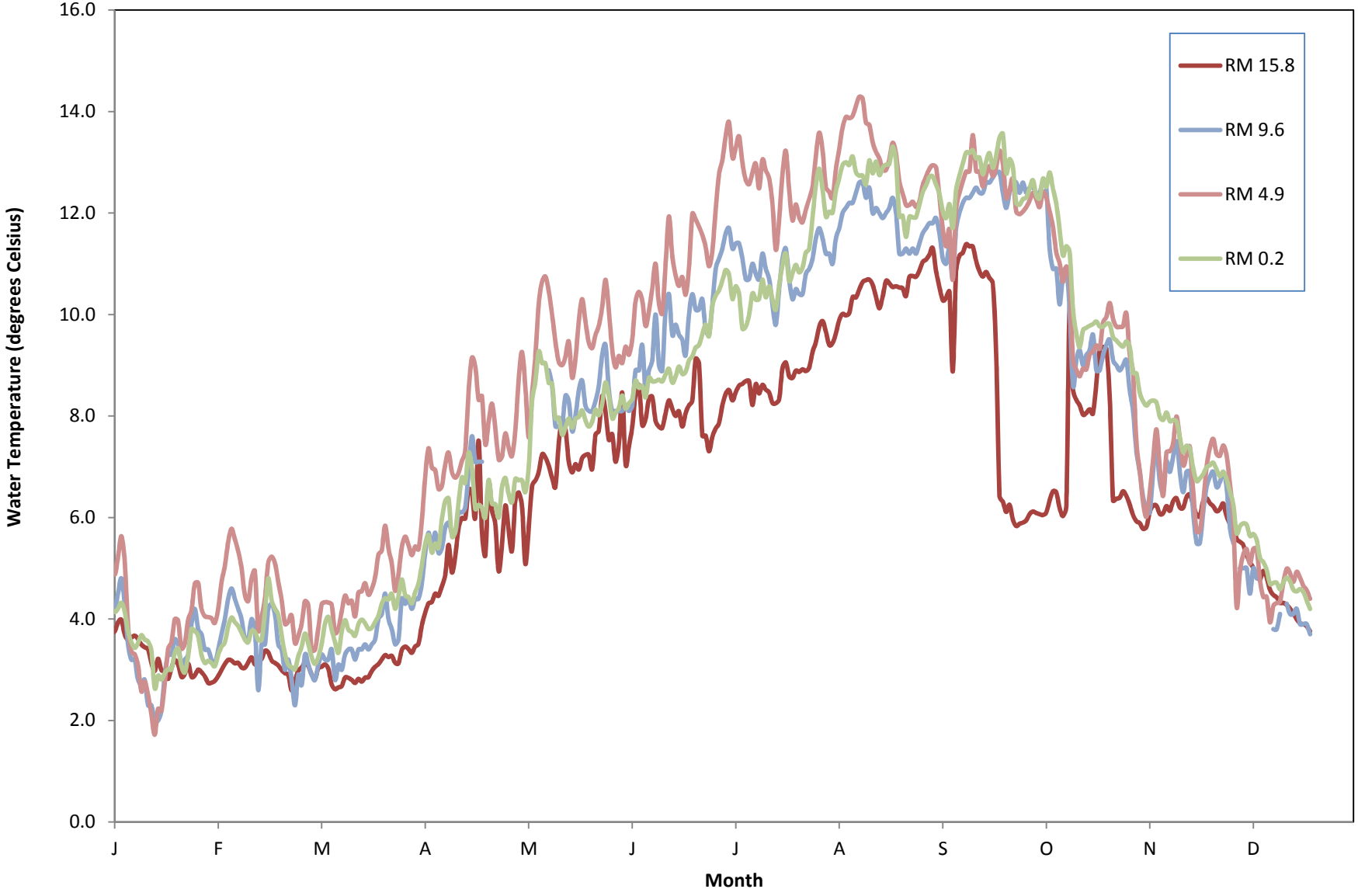

Figure B-4. Mean Daily Water Temperature near confluence of Sultan and Skykomish rivers, 2012

APPENDIX C

Continuous Daily Water Temperature Data in Tabular Format

Appendix C

	Sultan River											Skykomish River	
DATE	RM 18.2 (SFK)	RM 15.8	RM 14.3	RM 12.8	RM 11.3	RM 9.8	RM 9.6	RM 4.9	RM 4.4	RM 0.2	Big Four Creek	RM 14.1	RM 13.2
1/1	2.7	3.8	3.6	3.8	3.9	4.0	4	4.4		4.3	4.2	4.1	4.3
1/2	3.2	3.9	4.0	4.3	4.3	4.4	4.2	4.7		4.4	5.0	4.2	4.3
1/3	3.4	4.0	4.5	4.7	5.0	5.2	4.8	5.4		4.5	5.4	4.8	4.9
1/4	3.7	4.1	4.6	5.0	5.2	5.4	5.2	5.7		4.4	5.8	5.2	5.2
1/5	3.3	3.9	4.7	4.9	5.4	5.7	5.6	6.2		4.5	5.4	5.1	5.2
1/6	3	3.8	3.8	4.0	4.3	4.5	4.4	5.3		4.2	4.6	4.5	4.6
1/7	2.9	3.8	3.8	4.0	4.2	4.4	4.2	4.9		4.1	4.6	4.3	4.4
1/8	3.2	3.9	4.1	4.5	4.6	4.9	4.5	5.2		4.2	5.1	4.8	4.8
1/9	3.6	4.0	4.4	4.8	5.0	5.3	4.8	5.6		4.3	5.6	5.3	5.2
1/10	3.2	3.7	3.9	4.2	4.4	4.6	4.3	5.2		4.2	4.5	4.9	4.9
1/11	2.4	3.6	3.1	3.5	3.3	3.4	3.5	3.9		3.8	3.7	3.5	3.7
1/12	2.1	3.6	2.9	3.2	2.9	2.9	3.2	3.4		3.6	3.5	2.8	3.1
1/13	2.2	3.7	3.1	3.2	3.0	3.0	3.2	3.3		3.4	3.6	2.9	3.1
1/14	1.9	3.6	2.2	2.5	2.2	2.4	2.8	3.1		3.5	3.1	3.0	3.2
1/15	1.1	3.5	2.3	2.3	1.8	1.8	2.7	2.6		3.7	2.4	2.1	2.6
1/16	1	3.4	2.2	2.3	2.0	1.9	2.8	2.8		3.6	2.0	2.5	2.8
1/17	0.5	3.4	1.4	1.5	0.9	1.0	2.3	2.5		3.6	1.7	1.7	2.4
1/18	0.5	3.1	2.0	2.0	1.3	0.9	2.3	2.1		3.4	1.3	0.8	1.7
1/19	0.8	3.0	1.8	1.8	1.2	1.0	2	1.7		2.6	1.0	0.5	1.2
1/20	1	3.2	2.0	1.9	1.7	1.6	2	2.2		2.9	1.3	1.4	1.9
1/21	1.2	3.0	2.1	2.0	2.2	2.2	2.2	2.2		2.8	3.0	2.8	2.7
1/22	1.9	3.0	2.7	2.8	2.9	3.0	2.9	2.7		2.9	3.2	3.2	3.2
1/23	2.1	2.8	2.8	3.0	3.3	3.4	3.3	3.4		3.0	3.5	3.3	3.3
1/24	2.2	3.0	2.7	2.9	3.2	3.3	3.3	3.5		3.0	3.6	3.5	3.5
1/25	2.2	3.2	3.0	3.1	3.5	3.7	3.6	4.0		3.3	3.8	3.7	3.7
1/26	2.4	3.1	3.0	3.1	3.4	3.6	3.5	4.0		3.4	3.6	3.6	3.7
1/27	2.2	2.9	2.7	2.8	3.1	3.2	3.1	3.4		3.1	3.4	3.4	3.4
1/28	2.2	2.9	2.7	2.9	3.1	3.3	3.2	3.5		2.9	3.4	3.4	3.3
1/29	2.1	3.1	2.7	2.8	3.2	3.4	3.3	4.0		3.3	3.8	3.9	3.9
1/30	2.6	2.9	3.4	3.4	3.8	3.9	3.9	4.2		3.8	3.9	3.7	3.9
1/31	2.9	2.9	3.4	3.4	3.9	4.2	4.2	4.7		3.8	3.7	4.3	4.4

Appendix C

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
2/1	2.7	3.0	3.2	3.2	3.8	4.0	3.8	4.7		3.7	3.4	4.5	4.5
2/2	2.6	3.0	3.1	3.1	3.6	3.8	3.7	4.2		3.3	2.2	4.1	4.1
2/3	2.7	2.9	2.9	2.9	3.3	3.5	3.4	4.1		3.1	3.0	4.1	4.0
2/4	2.7	2.7	2.7	2.8	3.1	3.4	3.4	4.0		3.2	3.1	4.2	4.1
2/5	2.7	2.7	2.7	2.8	3.1	3.3	3.2	4.0		3.1	3.6	4.2	3.9
2/6	2.7	2.8	2.6	2.7	3.0	3.2	3.1	3.9		3.1	4.3	4.1	3.9
2/7	2.8	2.9	2.9	3.0	3.3	3.5	3.4	4.2		3.3	5.5	4.4	4.2
2/8	3	3.0	3.3	3.4	3.7	4.1	3.7	4.7		3.5	4.9	4.7	4.5
2/9	3.1	3.1	3.5	3.7	4.1	4.4	4	5.0		3.5	5.2	5.0	4.7
2/10	3.1	3.2	3.8	4.1	4.5	4.8	4.4	5.5		3.9	6.1	5.3	5.1
2/11	3.2	3.2	3.9	4.2	4.6	5.1	4.6	5.8		4.0	5.4	5.4	5.3
2/12	3.2	3.1	3.7	4.1	4.5	4.9	4.4	5.6		3.9	4.6	5.4	5.2
2/13	3.3	3.1	3.7	4.0	4.4	4.8	4.2	5.3		3.9	4.2	5.4	5.2
2/14	3	3.0	3.4	3.7	4.1	4.4	4	5.0		3.7	2.6	5.1	4.9
2/15	2.8	3.0	3.2	3.4	3.8	4.0	3.6	4.5		3.6	2.5	4.8	4.6
2/16	2.7	3.1	3.2	3.3	3.6	3.8	3.6	4.4		3.5	2.7	4.6	4.4
2/17	2.9	3.2	3.5	3.7	4.0	4.2	4	4.8		3.8	4.0	5.0	4.8
2/18	2.2	3.1	2.8	2.9	3.7	4.0	3.8	4.9		3.7	2.4	4.8	4.7
2/19	1.2	3.2	2.3	2.2	2.6	2.6	2.6	3.8		3.6	1.3	3.5	3.6
2/20	1.8	3.2	3.0	3.0	3.3	3.5	3.5	4.1		3.6	2.0	3.7	3.8
2/21	1.6	3.4	2.8	2.8	3.3	3.5	3.5	4.4		4.1	3.6	4.3	4.4
2/22	2.2	3.3	3.6	3.6	4.2	4.4	4.2	5.1		4.8	4.1	4.1	4.3
2/23	2.7	3.2	3.6	3.6	4.2	4.6	4.3	5.2		4.4	4.0	4.3	4.5
2/24	2.7	3.1	3.3	3.3	3.9	4.3	4.1	5.1		4.2	4.0	4.4	4.6
2/25	2.3	3.1	3.0	2.9	3.5	3.7	3.5	4.7		4.1	3.7	4.1	4.3
2/26	2.2	3.0	2.9	2.8	3.3	3.5	3.4	4.4		3.7	3.3	3.3	3.6
2/27	1.8	2.9	2.4	2.3	2.8	3.0	3	3.9		3.3	2.8	3.6	3.6
2/28	1.9	2.9	2.7	2.6	3.0	3.2	3.2	3.9		3.1	2.9	3.5	3.5
2/29	1.6	2.6	2.0	1.9	2.6	2.8	2.8	4.1		3.1	2.5	3.6	3.6

Appendix C

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
3/1	1.6	2.8	1.9	1.7	2.0	2.1	2.3	3.5		3.0	2.4	3.5	3.4
3/2		3.0	2.4	2.3	2.6	2.9	2.9	3.7		3.3	2.4	3.8	3.7
3/3		3.0	2.3	2.1	2.6	2.8	2.7	3.9		3.5	2.8	4.1	4.1
3/4		3.1	3.0	2.8	3.2	3.5	3.3	4.4		3.7	3.3	4.8	4.6
3/5		3.1	2.7	2.5	3.1	3.4	3.1	4.3		3.5	3.2	4.7	4.6
3/6		2.9	2.7	2.5	2.8	3.0	2.9	3.4		3.2	2.8	3.6	3.6
3/7		2.8	2.4	2.3	2.7	2.9	2.8	3.4		3.1	2.5	3.7	3.6
3/8		3.0	2.8	2.7	3.0	3.3	3.1	3.8		3.3	3.0	4.2	4.1
3/9		3.1	2.9	2.8	3.3	3.6	3.3	4.3		3.5	3.4	4.7	4.6
3/10		3.1	3.0	2.9	3.2	3.5	3.2	4.3		3.9	3.5	5.1	4.9
3/11		3.0	3.3	2.9	3.3	3.6	3.2	4.3		4.0	3.5	4.9	4.8
3/12		2.7	3.0	2.8	3.4	3.7	3.4	4.3		3.8	3.3	4.1	4.1
3/13		2.6	2.3	2.0	2.6	2.9	2.8	3.7		3.5	3.0	3.9	4.0
3/14		2.7	2.6	2.4	2.9	3.2	3.1	3.8		3.3	2.8	3.6	3.6
3/15		2.7	2.6	2.4	2.9	3.2	3	4.2		3.7	3.2	3.9	4.0
3/16		2.8	3.0	2.7	3.2	3.6	3.3	4.5		4.0	3.4	4.2	4.4
3/17		2.8	3.2	2.8	3.4	3.6	3.4	4.3		3.8	3.2	4.5	4.6
3/18		2.8	3.1	2.8	3.4	3.7	3.4	4.4		3.7	3.2	4.6	4.6
3/19		2.7	2.9	2.6	3.0	3.3	3.2	4.1		3.7	2.9	4.9	4.7
3/20		2.8	2.9	2.8	3.3	3.6	3.4	4.5		3.9	3.2	4.9	4.8
3/21		2.8	3.1	2.9	3.3	3.7	3.4	4.5		4.0	3.0	4.6	4.6
3/22		2.8	3.1	2.9	3.3	3.7	3.5	4.7		3.9	2.9	5.3	5.1
3/23		2.9	3.0	2.9	3.3	3.6	3.4	4.5		3.8	3.0	5.4	5.1
3/24		3.0	3.2	3.0	3.5	3.9	3.5	4.6		3.8	3.7	5.6	5.3
3/25		3.1	3.2	3.2	3.7	4.1	3.6	4.8		3.9	4.0	5.8	5.4
3/26		3.1	3.4	3.4	3.9	4.3	4	5.3		4.1	4.1	5.7	5.4
3/27		3.2	3.6	3.6	4.0	4.5	4.1	5.4		4.3	4.2	5.9	5.6
3/28		3.3	3.7	3.8	4.4	4.9	4.5	5.8		4.4	4.4	6.3	6.0
3/29		3.3	3.3	3.4	3.9	4.2	4	5.4		4.4	4.1	5.4	5.3
3/30		3.3	3.4	3.5	4.0	4.2	3.8	5.1		4.5	4.1	4.8	4.9
3/31		3.1	3.4	3.3	3.7	3.8	3.5	4.6		4.2	3.9	4.7	4.8

Appendix C

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
4/1		3.1	3.1	3.1	3.7	4.0	3.6	4.9		4.5	3.8	5.2	5.2
4/2		3.4	3.7	3.7	4.1	4.5	4.4	5.4		4.8	4.2	5.8	5.7
4/3		3.5	3.8	3.8	4.2	4.5	4.3	5.6		4.5	4.4	6.0	5.8
4/4		3.4	3.8	3.8	4.3	4.7	4.4	5.5	4.4	4.4	4.1	6.0	5.8
4/5		3.3	3.6	3.7	4.1	4.4	4.2	5.3	4.2	4.3	3.9	6.0	5.7
4/6		3.5	3.8	4.0	4.4	4.7	4.4	5.4	4.2	4.5	3.9	6.0	5.8
4/7		3.5	3.9	3.8	4.2	4.7	4.4	5.4	4.2	4.7	3.9	6.5	6.2
4/8		3.9	4.3	4.4	4.7	5.3	4.7	5.9	4.4	5.1	4.6	7.1	6.8
4/9		4.1	4.9	5.0	5.4	6.2	5.3	6.8	4.8	5.5	5.4	8.0	7.6
4/10		4.3	5.1	5.4	5.9	6.6	5.7	7.4	5.0	5.7	5.9	8.2	7.8
4/11		4.3	4.8	5.1	5.7	6.1	5.4	7.0	4.9	5.3	5.9	6.8	6.7
4/12		4.5	4.8	5.0	5.5	5.9	5.7	6.9	5.1	5.5	5.5	6.3	6.3
4/13		4.5	4.8	4.8	5.1	5.7	5.3	6.6	5.3	5.4	5.0	6.6	6.4
4/14		4.6	4.8	5.0	5.4	5.8	5.4	6.6	5.7	6.0	5.3	6.9	6.8
4/15		4.9	5.4	5.6	6.0	6.6	5.8	7.0	6.1	6.3	5.6	7.1	7.0
4/16		5.5	5.5	5.7	6.1	6.6	5.9	7.3	5.9	6.4	5.9	7.2	7.2
4/17		4.9	5.4	5.6	6.0	6.4	5.7	6.9	5.4	5.6	5.4	5.9	5.9
4/18		5.2	5.4	5.5	5.9	6.4	5.7	6.8	5.5	5.7	5.5	6.3	6.2
4/19		5.8	5.5	5.6	6.0	6.3	6.1	6.9	6.1	6.3	5.5	6.3	6.3
4/20		6.0	5.5	5.6	6.0	6.2	6.1	7.1	6.6	6.8	5.8	5.9	6.1
4/21		6.0	6.0	6.1	6.4	6.7	6.2	7.3	6.2	6.7	5.9	6.2	6.3
4/22		6.6	7.3	7.4	7.7	8.2	6.9	8.5	6.9	7.3	6.8	7.3	7.4
4/23		6.5	7.8	8.1	8.4	9.2	7.6	9.1	6.9	7.0	7.4	6.9	7.0
4/24		6.0	7.0	7.5	8.2	8.6	7.1	9.0	6.3	6.2	7.3	5.5	5.7
4/25		7.5	7.2	7.5	7.7	8.1	7.1	8.3	6.1	6.2	7.4	5.7	5.8
4/26		5.7	6.9	7.1	7.6	7.8	7.1	8.4	6.2	6.2	7.0	5.6	5.8
4/27		5.3	6.0	6.2	6.6	6.9		7.4	5.9	6.0	6.4	5.6	5.8
4/28		6.7	6.5	6.7	6.9	7.4		7.9	6.4	6.7	6.6	6.3	6.5
4/29		6.1	6.9	7.3	7.6	8.0		8.2	6.1	6.3	7.0	6.7	6.8
4/30		5.9	6.3	6.6	7.1	7.3		7.8	6.2	6.3	6.6	6.4	6.6

Appendix C

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
5/1		4.9	5.4	5.5	6.1	6.3		7.1	5.9	6.0	6.0	5.7	5.9
5/2		5.5	5.4	5.5	5.9	6.2		7.2	6.3	6.6	5.8	6.4	6.5
5/3		6.2	5.9	6.1	6.4	6.7		7.7	6.5	6.8	6.1	6.5	6.7
5/4		5.7	5.6	5.7	6.2	6.4		7.4	6.4	6.5	5.8	6.3	6.5
5/5		5.3	5.5	5.7	6.1	6.4		7.2	6.3	6.3	5.7	6.5	6.6
5/6		6.4	6.3	6.3	6.7	7.1		7.7	6.6	6.8	6.0	7.2	7.3
5/7		6.5	7.2	7.4	7.7	8.3		8.7	6.7	6.7	6.8	8.2	8.2
5/8		6.2	7.6	8.0	8.5	9.2		9.3	6.7	6.7	7.3	8.3	8.3
5/9		5.1	6.5	6.9	7.9	8.6		8.6	6.6	6.5	6.3	7.2	7.3
5/10		5.8	5.9	6.2	6.9	7.4		7.6	6.9	7.0	5.8	6.4	6.6
5/11		6.6	7.2	7.2	7.3	7.9		8.4	8.1	8.3	5.7	6.9	7.2
5/12		6.7	7.7	8.0	8.6	9.4		9.2	8.6	8.7	6.7	8.2	8.4
5/13		6.9	8.5	8.9	9.5	10.5		10.2	9.3	9.3	7.8	8.8	9.0
5/14		7.2	8.9	9.4	10.2	11.4		10.6	9.0	9.0	8.7	8.5	8.6
5/15		7.2	9.0	9.6	10.5	11.6		10.7	9.0	9.0	9.0	7.6	7.7
5/16		7.0	8.6	9.2	10.3	11.3	8.9	10.5	8.6	8.7	8.7	7.2	7.4
5/17		6.8	8.2	8.6	9.8	10.9	8.6	10.0	8.6	8.6	8.3	7.3	7.5
5/18		6.6	7.5	8.1	9.2	10.0	7.8	9.5	8.0	8.0	7.8	7.3	7.4
5/19		7.5	7.9	8.3	9.1	10.0	7.8	9.1	8.1	8.0	7.5	7.6	7.8
5/20		7.9	8.3	8.6	9.3	9.9	7.8	9.0	7.7	7.6	8.0	7.4	7.6
5/21		7.8	8.3	8.7	9.1	9.4	8.4	9.2	7.7	7.8	8.6	6.8	7.0
5/22		7.1	7.7	8.1	8.6	8.9	8.3	9.5	8.0	8.0	7.9	6.2	6.4
5/23		6.9	7.2	7.4	7.7	7.9	7.7	8.8	7.7	7.8	7.5	6.0	6.2
5/24		7.1	7.4	7.6	7.8	8.1	8	9.1	7.6	7.9	7.4	6.9	7.1
5/25		6.9	8.0	8.2	8.6	9.0	8.5	9.9	7.8	8.0	7.6	7.4	7.6
5/26		7.2	8.4	8.7	9.1	9.8	8.7	10.3	7.9	8.1	8.1	7.9	8.1
5/27		7.2	8.0	8.3	9.0	9.4	8.2	9.9	7.7	7.9	8.1	7.3	7.6
5/28		7.2	8.1	8.4	8.8	9.3	8.1	9.4	7.6	7.8	8.1	7.2	7.4
5/29		7.0	7.8	8.1	8.6	9.1	8.1	9.3	7.6	7.9	7.8	7.5	7.6
5/30		7.6	8.4	8.6	8.9	9.5	8.3	9.6	7.8	8.1	8.1	7.6	7.8
5/31		7.7	8.5	8.9	9.4	9.7	8.6	9.8	7.8	8.0	8.5	7.9	8.0

Appendix C

	Sultan River										Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
6/1		8.4	8.8	9.1	9.3	9.6	9.2	10.1	8.2	8.2	8.8	7.3	7.5
6/2		8.1	8.9	9.1	9.5	9.8	9.4	10.7	9.1	8.7	8.6	6.8	7.0
6/3		7.5	8.4	8.6	9.1	9.5	8.5	10.1	8.5	8.4	8.2	6.8	7.0
6/4		7.6	8.1	8.3	8.7	8.9	8.1	9.3	7.8	8.0	8.0	6.7	6.9
6/5		7.1	7.8	8.1	8.5	8.7	8.1	9.0	7.8	8.1	7.8	6.8	7.0
6/6		7.4	7.8	7.9	8.3	8.6	8.1	9.2	7.9	8.2	7.6	6.9	7.1
6/7		8.5	7.9	7.9	8.2	8.5	8.1	9.0	8.1	8.4	7.8	6.8	7.2
6/8		7.1	8.4	8.4	8.8	9.1	8.2	9.4	7.9	8.2	7.7	7.2	7.5
6/9		7.4	7.7	7.9	8.4	8.7	8.1	9.2	8.0	8.3	7.6	7.0	7.3
6/10		7.8	8.5	8.6	9.0	9.3	8.2	9.5	8.1	8.3	7.9	7.8	8.0
6/11		8.4	9.6	9.8	10.4	10.9	8.9	10.3	8.4	8.7	8.4	9.0	9.1
6/12		8.6	9.7	10.0	10.7	11.1	8.9	10.4	8.6	8.6	9.0	8.6	8.8
6/13		7.8	8.8	9.0	9.4	9.7	9.4	10.3	8.7	8.6	8.6	7.7	7.9
6/14		7.9	8.3	8.5	8.8	9.0	8.5	9.8	8.3	8.4	8.2	7.2	7.4
6/15		8.3	9.2	9.3	9.7	10.1	8.9	10.1	8.5	8.8	8.4	8.4	8.6
6/16		8.4	9.3	9.6	10.1	10.5	9.1	10.5	8.9	8.7	9.1	8.4	8.6
6/17		7.9	9.3	9.6	9.9	10.2	10	11.0	8.7	8.7	9.3	7.8	8.0
6/18		7.8	8.4	8.7	9.0	9.2	9	10.2	8.6	8.7	8.7	7.1	7.4
6/19		7.8	8.4	8.6	8.9	9.1	8.9	10.0	8.4	8.7	8.5	7.5	7.7
6/20		8.1	9.4	9.5	10.0	10.4	10.1	11.0	8.5	8.8	8.9	8.4	8.6
6/21		8.3	9.7	10.0	10.6	11.1	10.4	11.9	8.7	8.9	9.4	9.1	9.3
6/22		8.1	9.2	9.6	10.1	10.4	9.6	11.2	8.5	8.7	9.3	8.1	8.3
6/23		8.0	9.1	9.3	9.7	9.9	9.8	10.8	8.5	8.8	9.1	7.7	8.0
6/24		8.1	8.7	8.9	9.4	9.7	9.6	10.6	8.7	9.0	8.9	7.9	8.1
6/25		7.8	8.8	9.1	9.6	9.9	9.5	10.7	8.5	8.8	8.9	8.4	8.6
6/26		8.1	8.5	8.8	9.2	9.5	9.2	10.4	8.7	8.9	8.8	7.9	8.1
6/27		8.2	9.7	9.8	10.3	10.7	10	10.9	8.7	9.1	9.0	8.5	8.7
6/28		8.3	9.8	10.2	11.0	11.6	10.4	12.0	8.8	9.2	9.6	9.4	9.5
6/29		9.1	9.9	10.1	10.8	11.4	10.1	11.9	9.0	9.3	9.9	9.0	9.2
6/30		9.0	10.2	10.4	11.0	11.4	10.1	11.7	9.4	9.4	10.2	9.0	9.2

Appendix C

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
7/1		7.6	9.3	9.9	10.6	11.1	10.3	11.6	9.8	9.6	10.0	9.0	9.2
7/2		7.6	8.9	9.3	9.9	10.4	9.7	11.3	9.3	9.8	9.8	8.9	9.1
7/3		7.3	8.6	9.1	9.5	9.9	9.6	11.0	9.2	9.6	9.6	9.0	9.2
7/4		7.6	9.1	9.4	9.9	10.3	10.2	11.3	9.4	10.2	9.4	9.1	9.3
7/5		7.8	9.4	9.8	10.6	11.1	10.9	12.1	9.6	10.4	9.7	10.2	10.3
7/6		7.9	9.7	10.2	11.1	11.9	11.1	12.8	9.7	10.5	10.2	10.6	10.8
7/7		8.2	10.0	10.5	11.6	12.5	11.3	13.0	9.8	10.7	10.7	11.0	11.1
7/8		8.4	10.5	11.0	12.3	13.2	11.6	13.5	9.9	10.9	11.4	11.3	11.4
7/9		8.5	10.4	11.1	12.4	13.4	11.7	13.8	9.9	10.8	11.8	11.2	11.3
7/10		8.3	10.4	11.1	12.3	13.1	11.3	13.1	9.5	10.3	11.6	11.0	11.1
7/11		8.5	10.5	11.0	12.3	13.3	11.4	13.3	9.5	10.6	11.6	11.5	11.6
7/12		8.6	10.7	11.2	12.6	13.7	11.4	13.5	9.5	10.4	11.9	12.1	12.2
7/13		8.6	10.2	11.0	12.2	13.1	11.1	13.0	9.4	9.7	12.0	12.2	12.1
7/14		8.7	10.1	10.6	11.6	12.5	10.7	12.7	9.4	9.8	12.0	12.1	11.9
7/15		8.7	9.8	10.3	11.2	12.2	10.7	12.6	9.7	10.0	12.0	11.9	11.8
7/16		8.2	10.1	10.6	11.7	12.6	11	12.8	9.3	10.4	11.8	12.3	12.3
7/17		8.6	9.9	10.4	11.4	12.4	10.8	13.0	9.6	10.3	12.3	12.5	12.5
7/18		8.4	10.1	10.5	11.5	12.2	10.7	12.5	9.4	10.3	12.4	12.5	12.4
7/19		8.6	10.3	10.8	12.0	13.0	11.2	13.1	9.7	10.7	12.4	13.6	13.5
7/20		8.5	9.7	10.3	11.2	12.2	10.9	12.8	9.7	10.3	12.6	12.8	12.7
7/21		8.5	9.8	10.2	11.1	12.0	10.7	12.7	9.6	10.6	12.3	12.5	12.4
7/22		8.3	9.2	9.7	10.5	11.3	10.2	12.2	9.7	10.3	11.9	12.4	12.4
7/23		8.3	9.0	9.3	9.9	10.5	9.8	11.3	9.5	10.1	11.1	11.4	11.4
7/24		8.3	9.8	10.0	10.9	11.5	10.5	11.9	9.7	10.6	11.1	12.2	12.3
7/25		8.9	10.4	10.6	11.7	12.6	11.1	12.8	10.0	11.0	11.5	13.6	13.7
7/26		9.1	10.7	11.1	12.4	13.3	11.3	13.2	10.3	11.2	12.2	14.1	14.5
7/27		8.8	9.8	10.3	11.3	12.2	10.7	12.5	10.1	10.7	12.2	13.6	13.7
7/28		8.8	9.9	10.2	11.0	11.6	10.3	11.9	10.0	10.8	12.0	14.3	13.9
7/29		8.9	10.0	10.4	11.3	12.0	10.5	12.2	10.2	11.0	12.0	14.7	14.4
7/30		8.9	9.7	10.0	10.8	11.6	10.4	11.9	10.2	10.8	11.9	14.2	13.8
7/31		8.9	9.8	10.2	10.9	11.5	10.4	11.8	10.3	10.9	11.8	14.7	

Appendix C

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
8/1		8.9	10.3	10.5	11.4	12.1	10.8	12.1	10.4	11.2	11.7	15.2	
8/2		9.0	9.9	10.3	11.2	12.1	10.9	12.3	10.6	11.3	11.7	15.3	
8/3		9.3	10.5	10.7	11.6	12.5	11.1	12.5	11.2	11.9	11.8	15.4	
8/4		9.5	10.8	11.1	12.3	13.3	11.5	13.1	11.9	12.5	12.4	16.5	
8/5		9.8	11.3	11.6	12.9	13.9	11.7	13.6	12.2	12.9	13.1	17.2	
8/6		9.9	11.1	11.3	12.5	13.5	11.5	13.2	12.0	12.5	13.4	16.8	
8/7		9.7	10.8	11.2	12.1	12.7	11.2	12.5	11.6	11.9	13.2	15.7	
8/8		9.4	10.4	10.7	11.6	12.5	11.2	12.4	11.5	12.0	13.0	15.6	
8/9		9.4	10.4	10.7	11.4	11.9	11	12.3	11.4	12.0	12.6	16.0	
8/10		9.6	10.8	11.0	11.9	12.7	11.5	12.9	11.7	12.4	12.5	16.4	
8/11		9.9	11.0	11.2	12.1	13.0	11.7	13.3	12.0	12.7	12.5	16.9	
8/12		10.0	11.3	11.5	12.6	13.5	12	13.7	12.2	12.9	12.8	17.5	
8/13		10.0	11.4	11.7	12.8	13.7	12.1	13.9	12.4	13.0	13.0	17.8	
8/14		10.0	11.2	11.5	12.5	13.6	12.2	13.9	12.3	12.9	12.7	17.5	
8/15		10.3	11.5	11.7	12.7	13.7	12.2	13.9	12.4	13.1	12.9	17.9	
8/16		10.3	11.6	11.8	12.9	13.9	12.4	14.1	12.0	12.8	13.1	18.3	
8/17		10.5	11.7	11.9	13.0	14.0	12.6	14.3	11.9	12.7	13.4	18.2	
8/18		10.6	11.7	11.9	13.0	13.9	12.6	14.3	12.1	12.7	13.4	17.9	
8/19		10.7	11.5	11.7	12.6	13.3	12.3	13.8	12.0	12.6	13.1	17.0	
8/20		10.7	11.8	11.9	12.7	13.4	12.5	13.7	12.3	13.0	12.9	16.9	
8/21		10.6	11.3	11.6	12.3	12.9	12	13.4	12.4	12.8	12.5	16.4	
8/22		10.3	11.3	11.4	12.1	12.8	12.1	13.2	12.3	13.0	12.2	16.3	
8/23		10.1	10.9	11.2	11.9	12.7	12	13.1	12.3	12.7	11.9	16.1	
8/24		10.4	10.9	10.9	11.5	12.3	11.9	12.9	12.3	12.9	11.4	15.4	
8/25		10.7	11.3	11.2	11.8	12.4	12	12.8	12.4	13.0	11.3	15.7	
8/26		10.6	11.5	11.5	12.1	12.6	12.1	13.1	12.5	13.0	11.4	15.9	
8/27		10.5	11.3	11.5	12.2	12.8	12.3	13.4	12.7	13.3	11.5	16.1	
8/28		10.6	11.2	11.3	11.9	12.5	12	13.2	12.4	13.0	11.4	15.8	
8/29		10.5	11.1	11.3	11.9	12.5	11.2	12.6	11.5	11.9	11.3	15.2	
8/30		10.5	11.1	11.2	11.8	12.5	11.2	12.4	11.4	11.9	11.3	15.4	
8/31		10.4	11.1	11.2	11.7	12.1	11.3	12.2	11.2	11.5	10.9	15.5	

Appendix C

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
9/1		10.7	11.0	11.0	11.4	12.0	11.2	12.2	11.4	11.9	10.6	15.4	
9/2		10.8	11.4	11.3	11.8	12.2	11.3	12.2	11.5	11.9	10.6	15.4	
9/3		10.7	11.3	11.2	11.6	12.0	11.2	12.1	11.5	11.9	10.4	15.3	
9/4		10.9	11.4	11.3	11.7	12.2	11.4	12.2	11.6	12.2	10.4	15.5	
9/5		11.0	11.7	11.6	12.1	12.5	11.6	12.6	11.8	12.4	10.8	16.1	
9/6		11.1	11.7	11.6	12.2	12.7	11.7	12.7	12.0	12.5	10.9	16.4	
9/7		11.2	11.8	11.7	12.3	12.8	11.8	12.9	12.0	12.7	11.2	16.6	
9/8		11.3	11.9	11.9	12.4	12.8	11.8	12.9	12.1	12.7	11.5	16.6	
9/9		10.9	11.5	11.7	12.4	12.7	11.9	12.9	12.1	12.6	11.5	16.0	
9/10		10.5	11.1	11.2	11.6	11.9	11.6	12.3	11.9	12.4	11.0	14.7	
9/11		10.3	10.5	10.5	10.6	11.0	11.1	11.7	11.6	12.0	10.1	13.8	
9/12		10.3	10.5	10.4	10.5	10.7	11	11.3	11.5	11.9	9.7	13.3	
9/13		10.4	10.8	10.7	10.9	11.1	11.3	11.7	11.7	12.2	10.1	13.6	
9/14		8.9	8.6	8.4	8.6	8.9	10.7	10.7	11.0	11.7	10.6	14.3	
9/15		10.9	11.2	11.1	11.0	10.8	11.7	12.1	12.0	12.5	10.7	14.5	
9/16		11.2	11.4	11.3	11.5	11.8	12	12.4	12.3	12.7	10.6	14.7	
9/17		11.2	11.6	11.6	11.8	12.1	12.2	12.6	12.5	13.0	10.8	14.9	
9/18		11.4	11.9	11.9	12.1	12.4	12.3	12.8	12.7	13.2	11.1	15.2	
9/19		11.3	11.8	11.8	12.0	12.4	12.3	12.8	12.7	13.2	11.1	15.3	
9/20		11.3	11.8	11.8	12.1	12.4	12.4	13.5	12.8	13.2	11.1	15.2	
9/21		11.1	11.5	11.7	12.1	12.2	12.5	12.8	12.7	13.1	11.0	14.5	
9/22		10.8	11.2	11.4	11.8	12.0	12.4	12.8	12.7	13.1	10.7	13.8	
9/23		10.7	11.0	11.0	11.2	11.4	12.4	12.5	12.5	12.8	10.3	13.4	
9/24		10.8	11.2	11.2	11.5	11.6	12.6	12.8	12.7	13.0	10.3	13.7	
9/25		10.7	11.3	11.4	11.7	11.9	12.6	12.9	12.9	13.2	10.4	13.9	
9/26		10.6	10.9	10.9	11.1	11.4	12.7	12.7	12.7	12.9	10.1	13.5	
9/27		9.2	10.9	10.9	11.1	11.2	12.8	12.9	12.9	13.1	10.1	13.7	
9/28		6.4	7.9	8.6	10.1	11.0	12.8	13.2	13.2	13.5	10.4	13.7	13.7
9/29		6.3	7.4	7.9	8.9	9.8	12.4	13.0	13.0	13.6	10.5	14.0	14.0
9/30		6.1	6.8	7.1	7.6	8.4	12.1	12.3	12.5	12.8	9.8	13.1	13.1

Appendix C

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
10/1		6.3	7.2	7.3	7.7	8.3	12.4	12.5	12.6	13.1	9.8	13.2	13.2
10/2		6.0	7.3	7.4	8.1	8.7	12.6	12.7	12.8	12.9	9.5	13.4	13.4
10/3		5.8	6.3	6.3	6.8	7.4	12.6	12.0	12.3	12.2	8.6	11.7	12.0
10/4		5.9	6.2	6.2	6.4	6.8	12.4	12.0	12.2	12.2	8.4	11.0	11.5
10/5		5.9	6.3	6.2	6.4	6.7	12.6	12.0	12.3	12.3	8.4	10.7	11.4
10/6		5.9	6.3	6.2	6.4	6.7	12.4	12.1	12.3	12.3	8.6	10.5	11.3
10/7		6.1	6.5	6.4	6.6	7.0	12.5	12.2	12.4	12.5	8.8	10.7	11.5
10/8		6.1	6.6	6.6	6.9	7.3	12.5	12.4	12.6	12.6	8.9	11.0	11.8
10/9		6.1	6.6	6.7	7.0	7.3	12.4	12.3	12.4	12.4	8.8	10.6	11.4
10/10		6.1	6.5	6.5	6.8	7.2	12.4	12.1	12.3	12.3	8.5	10.3	11.1
10/11		6.0	6.8	6.8	7.3	7.7	12.6	12.4	12.6	12.7	8.5	11.1	11.9
10/12		6.1	6.6	6.7	7.0	7.3	12.5	12.3	12.5	12.5	8.5	10.4	11.4
10/13		6.3	7.9	8.2	8.3	8.3	11.3	12.0	12.2	12.8	9.2	10.7	11.5
10/14		6.5	9.0	9.4	9.6	9.6	10.9	11.7	12.0	12.5	10.5	10.7	11.1
10/15		6.5	9.4	10.0	10.3	10.5	10.9	11.2	11.5	12.2	10.6	10.9	11.1
10/16		6.2	8.6	9.1	9.5	9.8	10.2	11.0	11.1	11.7	10.0	10.3	10.4
10/17		6.0	7.3	7.8	8.2	8.6	10.8	10.6	10.9	11.2	9.2	9.4	9.6
10/18		6.2	7.2	7.5	7.9	8.2	10.9	10.9	11.1	11.3	9.3	9.6	9.9
10/19		10.2	9.3	9.3	9.4	9.4	10.1	10.7	10.8	11.2	9.9	10.1	10.3
10/20		8.5	7.9	8.0	8.2	8.3	8.6	9.1	9.6	10.1	8.6	8.6	8.6
10/21		8.3	7.5	7.4	7.6	7.7	9.1	8.9	9.4	9.6	7.9	8.2	8.0
10/22		8.2	7.0	6.9	6.8	6.9	9.3	8.8	9.3	9.4	7.5	8.0	7.5
10/23		8.0	7.1	7.0	7.1	7.2	9	8.9	9.4	9.7	7.4	8.0	7.9
10/24		8.1	7.1	7.0	7.0	7.0	9.2	8.9	9.5	9.7	7.3	7.8	7.9
10/25		8.1	7.4	7.3	7.3	7.4	9.3	9.2	9.6	9.8	7.3	7.9	8.1
10/26		8.1	7.3	7.2	7.2	7.2	9.6	9.3	9.7	9.8	7.2	7.9	8.1
10/27		8.6	7.8	7.7	7.8	7.8	8.9	9.4	9.5	9.9	7.8	7.6	7.9
10/28		9.3	8.6	8.8	8.9	8.9	8.9	9.3	9.4	9.8	8.6	8.0	8.2
10/29		9.4	9.0	9.2	9.3	9.4	9.2	9.8	9.4	9.8	9.1	8.5	8.7
10/30		9.3	9.1	9.3	9.4	9.5	9.4	10.0	9.6	9.8	9.3	8.5	8.7
10/31		8.4	9.2	9.4	9.6	9.7	9.5	10.2	9.6	9.8	9.5	8.7	8.9

Appendix C

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
11/1		6.3	8.3	8.6	9.0	9.2	9.1	9.9	9.4	9.6	9.3	8.8	9.0
11/2		6.4	8.1	8.5	8.8	9.0	9	9.8	9.3	9.5	9.3	8.8	9.0
11/3		6.4	7.9	8.3	8.6	8.9	8.9	9.8	9.2	9.4	9.4	8.9	9.1
11/4		6.5	8.4	8.8	9.0	9.2	9	9.8	9.2	9.4	9.6	9.0	9.2
11/5		6.4	8.5	8.7	9.2	9.4	9.1	10.0	9.4	9.5	9.4	9.3	9.4
11/6		6.3	7.5	7.7	8.2	8.4	8.5	9.2	9.2	9.4	9.0	8.4	8.6
11/7		6.0	7.1	7.3	7.8	8.0	8.1	8.9	8.7	8.9	8.4	8.2	8.4
11/8		5.9	6.2	6.4	6.4	6.6	7.3	7.5	8.7	8.8	7.3	6.8	7.3
11/9		5.9	6.0	6.7	6.0	6.1	6.9	6.9	8.4	8.5	6.6	6.3	6.8
11/10		5.8	5.3	5.3	5.3	5.4	6.4	6.3	8.2	8.3	5.8	5.8	6.5
11/11		5.8	5.1	5.3	5.0	4.9	6.2	6.0	8.1	8.2	5.3	5.2	6.1
11/12		6.1	5.9	6.0	5.9	6.0	6.1	6.5	8.1	8.3	6.6	5.4	6.3
11/13		6.2	6.5	6.7	6.9	7.0	6.9	7.1	8.1	8.3	7.4	5.9	6.6
11/14		6.2	6.5	6.7	7.3	7.4	7.4	7.7	8.1	8.3	7.5	6.5	7.0
11/15		6.1	6.4	6.5	6.3	6.4	6.7	7.0	7.9	8.0	6.9	6.1	6.5
11/16		6.1	6.2	6.1	4.9	5.9	6.5	6.4	7.8	7.9	6.6	5.6	6.2
11/17		6.2	6.5	6.7	6.6	6.7	7.1	7.3	7.9	8.1	7.2	6.3	6.9
11/18		6.1	6.4	6.6	6.5	6.6	6.9	7.3	7.7	7.9	6.8	6.5	6.9
11/19		6.3	6.6	6.8	7.0	7.1	7.2	7.5	7.7	7.9	7.4	6.5	6.9
11/20		6.4	6.7	6.9	7.5	7.6	7.5	8.0	7.7	7.9	7.6	6.5	6.8
11/21		6.2	6.5	6.7	6.8	6.9	6.9	7.5	7.4	7.6	7.0	6.5	6.7
11/22		6.2	6.5	6.7	6.3	6.4	6.5	7.0	7.1	7.3	6.7	6.0	6.3
11/23		6.4	6.7	6.9	6.7	6.8	6.9	7.2	7.2	7.4	7.0	6.2	6.5
11/24		6.5	6.8	6.9	6.8	7.0	6.9	7.4	7.2	7.4	6.9	6.1	6.3
11/25		6.2	5.7	5.7	5.9	6.0	6.1	6.5	6.8	7.0	6.2	5.9	6.1
11/26		6.1	5.4	5.5	5.1	5.1	5.5	5.7	6.6	6.7	5.8	5.1	5.4
11/27		6.0	5.3	5.5	5.2	5.2	5.5	5.7	6.6	6.8	5.8	5.0	5.4
11/28		6.3	5.6	5.8	5.8	5.9	6.1	6.3	6.7	6.9	6.2	5.4	5.8
11/29		6.4	6.7	6.8	6.5	6.6	6.6	7.0	6.8	7.0	6.9	6.0	6.4
11/30		6.3	6.6	6.8	6.8	6.9	6.8	7.4	6.8	7.0	7.1	6.3	6.7

Appendix C

	Sultan River										Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
12/1		6.2	6.5	6.7	6.9	7.0	6.9	7.5	6.9	7.1	7.0	6.6	6.8
12/2		6.1	6.4	6.6	6.6	6.8	6.6	7.3	6.8	6.9	6.8	6.3	6.5
12/3		6.2	6.5	6.6	6.7	6.8	6.7	7.2	6.7	6.8	6.8	5.8	5.6
12/4		6.3	6.6	6.8	6.9	7.0	6.9	7.4	6.8	6.9	7.0	6.1	5.5
12/5		6.0	6.3	6.5	6.6	6.7	6.6	7.2	6.7	6.8	6.5	5.9	6.2
12/6		5.9	5.6	5.6	5.5	5.9	5.8	6.7	6.3	6.5	6.1	5.5	6.5
12/7		5.8	5.6	5.6	5.4	5.5	5.5	6.0	6.1	6.3	5.9	5.0	6.6
12/8		5.6	4.9	4.5	4.2	4.2		4.2	5.4	5.7	4.6	4.2	6.3
12/9		5.5	5.8	4.5	4.8	4.9	5	4.9	5.6	5.8	4.8	4.5	5.9
12/10		5.5	4.9	4.7	4.7	4.9	5	5.3	5.6	5.9	4.9	4.9	6.1
12/11		5.3	4.6	4.7	4.8	5.0	5	5.4	5.7	5.9	5.0	5.0	5.9
12/12		5.1	4.4	4.6	4.2	4.6	4.5	5.1	5.3	5.6	5.0	4.9	5.4
12/13		5.0	4.8	4.8	4.8	5.0	5	5.4	5.4	5.7	5.0	5.1	5.0
12/14		4.9	4.6	4.6	4.5	4.8	4.8	5.4	5.4	5.6	4.7	4.8	4.1
12/15		4.8	4.5	4.4	4.0	4.2		4.8	5.0	5.2	4.3	4.1	4.6
12/16		4.9	4.0	3.9	3.5	3.7		4.4	4.8	5.1	3.8	3.7	5.0
12/17		4.8	3.8	3.7	3.4	3.7	4	4.4	4.5	5.0	3.9	3.6	5.0
12/18		4.6	3.9	3.2	3.1	3.4		3.9	4.3	4.7	3.7	3.4	5.0
12/19		4.5	3.8	4.0	3.3	3.6	3.8	4.3	4.5	4.7	3.6	3.4	5.2
12/20		4.4	3.7	3.7	3.3	3.6	3.8	4.3	4.4	4.7	3.9	3.3	4.9
12/21		4.3	3.7	3.8	3.9	4.1	4.1	4.3	4.4	4.6	4.1	3.5	4.2
12/22		4.3	4.1	4.2	4.0	4.3		4.7	4.6	4.7	4.2	4.0	3.9
12/23		4.3	4.2	4.2	4.1	4.3	4.3	5.0	4.7	4.8	4.1	4.3	3.6
12/24		4.2	4.2	4.3	3.8	4.1	4.1	4.9	4.7	4.7	3.9	4.5	3.6
12/25		4.1	4.0	4.2	3.9	4.1	4.1	4.7	4.5	4.6	3.8	4.1	3.5
12/26		4.0	4.0	4.3	4.0	4.3	4.2	4.9	4.5	4.5	3.9	4.2	3.6
12/27		3.9	4.0	3.8	3.6	4.0	3.9	4.8	4.5	4.6	4.0	4.4	3.8
12/28		3.9	4.0	3.9	3.8	4.0	3.9	4.7	4.4	4.5	4.1	4.4	4.3
12/29		3.9	4.1	4.0	3.8	4.1	3.9	4.6	4.3	4.4	4.0	4.1	4.6
12/30		3.8	3.9	3.9	3.6	3.8	3.7	4.4	4.1	4.2	3.6	3.9	4.7
12/31		3.7	3.7	3.8	3.2	3.4	3.4	3.9	3.8	3.8	3.4	3.2	4.3

APPENDIX D

Seven-Day Average of the Daily Maximum (7-DAD Max) Water Temperature in Tabular Format

Appendix D

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
1/1		4.1	4.5	4.9	5.1	5.2	5.0	5.6		4.5	5.3	4.9	4.9
1/2		4.1	4.5	4.8	5.1	5.2	5.1	5.6		4.6	5.3	5.0	5.0
1/3		4.0	4.4	4.7	4.9	5.1	5.1	5.6		4.8	5.2	4.9	5.0
1/4	3.4	4.0	4.4	4.7	4.9	5.1	5.1	5.5		4.5	5.3	4.9	5.0
1/5	3.5	4.0	4.5	4.8	5.0	5.2	4.8	5.6		4.7	5.4	5.0	5.1
1/6	3.5	4.0	4.5	4.9	5.1	5.3	4.5	5.8		4.3	5.5	5.1	5.1
1/7	3.6	4.0	4.5	4.9	5.1	5.3	4.3	5.8		4.2	5.4	5.2	5.2
1/8	3.4	3.9	4.3	4.6	4.8	5.0	4.2	5.5		4.4	5.1	5.0	5.0
1/9	3.2	3.9	4.0	4.4	4.4	4.6	3.9	5.1		4.4	4.8	4.7	4.7
1/10	3.1	3.9	3.9	4.3	4.3	4.4	3.6	4.8		4.4	4.7	4.4	4.5
1/11	3.0	3.9	3.8	4.2	4.1	4.3	3.3	4.6		4.0	4.6	4.3	4.3
1/12	2.7	3.8	3.5	3.9	3.7	3.8	3.1	4.2		3.7	4.1	3.9	4.0
1/13	2.3	3.7	3.2	3.5	3.3	3.3	3.0	3.8		3.6	3.6	3.5	3.7
1/14	1.9	3.7	2.9	3.1	2.8	2.8	2.8	3.4		3.8	3.2	3.1	3.4
1/15	1.6	3.6	2.7	2.9	2.5	2.5	2.7	3.1		3.7	2.8	2.7	3.0
1/16	1.4	3.5	2.5	2.7	2.3	2.3	2.8	2.9		3.7	2.5	2.4	2.8
1/17	1.2	3.5	2.4	2.6	2.1	2.1	2.9	2.8		3.7	2.3	2.3	2.6
1/18	1.1	3.4	2.3	2.5	2.1	2.0	3.0	2.6		3.6	2.2	2.2	2.6
1/19	1.2	3.3	2.3	2.5	2.2	2.2	3.1	2.7		3.1	2.4	2.3	2.6
1/20	1.4	3.2	2.4	2.6	2.4	2.4	3.3	2.8		3.0	2.6	2.5	2.7
1/21	1.6	3.2	2.6	2.7	2.6	2.6	3.5	2.9		2.9	2.8	2.7	2.9
1/22	1.8	3.2	2.7	2.9	2.9	3.0	3.6	3.2		3.1	3.2	3.2	3.2
1/23	2.0	3.2	2.9	3.0	3.2	3.3	3.7	3.4		3.3	3.5	3.5	3.5
1/24	2.2	3.2	3.0	3.1	3.4	3.5	3.7	3.6		3.3	3.6	3.8	3.7
1/25	2.3	3.2	3.0	3.1	3.4	3.6	3.9	3.8		3.5	3.7	3.8	3.8
1/26	2.4	3.2	3.0	3.2	3.5	3.6	3.9	3.9		3.7	3.8	4.0	3.9
1/27	2.5	3.2	3.1	3.2	3.5	3.7	4.0	4.1		3.3	3.9	4.0	4.0
1/28	2.6	3.1	3.2	3.3	3.6	3.8	4.0	4.2		3.1	4.0	4.1	4.1
1/29	2.7	3.1	3.2	3.3	3.7	3.9	4.1	4.3		3.6	4.0	4.2	4.2
1/30	2.7	3.1	3.2	3.3	3.7	3.9	4.1	4.4		4.0	4.1	4.3	4.2
1/31	2.8	3.1	3.2	3.3	3.7	4.0	4.0	4.5		3.9	4.1	4.4	4.4

Appendix D

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
2/1	2.8	3.1	3.2	3.3	3.7	4.0	3.9	4.6		3.9	4.2	4.6	4.7
2/2	2.9	3.0	3.2	3.3	3.7	4.0	3.8	4.6		3.5	4.5	4.7	4.5
2/3	2.9	3.0	3.1	3.2	3.6	3.9	3.9	4.5		3.4	4.8	4.7	4.6
2/4	2.9	3.0	3.1	3.1	3.5	3.9	4.0	4.5		3.5	5.1	4.8	4.6
2/5	2.9	3.0	3.1	3.2	3.5	3.9	4.2	4.5		3.4	5.4	4.9	4.3
2/6	3.0	3.0	3.1	3.3	3.6	4.0	4.3	4.6		3.4	5.7	5.0	4.5
2/7	3.0	3.0	3.3	3.5	3.8	4.2	4.4	4.8		3.6	6.2	5.1	4.8
2/8	3.1	3.1	3.5	3.7	4.0	4.4	4.5	5.0		3.6	6.5	5.2	4.7
2/9	3.2	3.1	3.6	3.9	4.2	4.6	4.5	5.2		3.7	6.6	5.3	4.9
2/10	3.3	3.2	3.8	4.0	4.4	4.8	4.4	5.4		4.3	6.5	5.5	5.6
2/11	3.3	3.2	3.9	4.2	4.5	5.0	4.4	5.5		4.4	6.1	5.5	5.5
2/12	3.3	3.2	3.9	4.2	4.5	4.9	4.3	5.5		4.3	5.8	5.5	5.4
2/13	3.2	3.2	3.8	4.1	4.4	4.8	4.2	5.4		4.1	5.4	5.5	5.4
2/14	3.2	3.2	3.8	4.1	4.4	4.7	4.1	5.3		4.1	5.2	5.4	5.1
2/15	3.2	3.2	3.7	4.0	4.3	4.6	4.1	5.1		4.1	4.8	5.4	5.1
2/16	2.9	3.2	3.6	3.8	4.1	4.3	4.1	5.0		3.7	4.2	5.2	4.5
2/17	2.7	3.2	3.5	3.6	4.0	4.2	4.3	4.9		4.2	4.0	4.9	5.3
2/18	2.5	3.3	3.4	3.5	3.9	4.1	4.2	4.8		3.9	4.0	4.8	5.0
2/19	2.5	3.3	3.5	3.5	3.9	4.2	4.2	4.9		3.8	4.0	4.7	4.3
2/20	2.5	3.4	3.5	3.6	4.0	4.3	4.3	5.0		3.8	4.1	4.7	4.2
2/21	2.4	3.3	3.5	3.5	4.0	4.3	4.2	5.0		4.7	3.8	4.5	4.6
2/22	2.4	3.3	3.4	3.4	3.9	4.2	4.1	5.0		5.0	3.9	4.4	4.5
2/23	2.5	3.3	3.5	3.5	4.0	4.3	4.0	5.0		4.6	4.0	4.4	4.8
2/24	2.5	3.3	3.4	3.4	3.9	4.2	3.7	5.0		4.3	3.9	4.4	4.7
2/25	2.6	3.2	3.3	3.3	3.8	4.2	3.5	4.9		4.2	3.8	4.3	4.7
2/26	2.4	3.1	3.2	3.2	3.7	4.0	3.4	4.8		4.0	3.6	4.3	3.9
2/27	2.3	3.0	3.0	2.9	3.4	3.7	3.3	4.6		3.6	3.3	4.1	4.2
2/28		3.0	2.9	2.8	3.2	3.5	3.4	4.4		3.4	3.1	4.1	3.8
2/29		3.0	2.8	2.7	3.1	3.3	3.3	4.2		3.4	2.9	4.0	3.9

Appendix D

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
3/1		3.0	2.8	2.7	3.1	3.3	3.3	4.3		3.2	2.9	4.3	4.1
3/2		3.1	2.9	2.7	3.1	3.4	3.5	4.3		3.4	3.0	4.4	4.3
3/3		3.0	2.9	2.7	3.1	3.4	3.5	4.2		3.7	3.0	4.5	4.3
3/4		3.1	2.9	2.7	3.1	3.4	3.6	4.2		4.1	3.0	4.6	4.4
3/5		3.1	3.0	2.8	3.2	3.6	3.6	4.3		3.8	3.1	4.8	4.6
3/6		3.2	3.1	2.9	3.3	3.7	3.6	4.3		3.9	3.3	4.9	4.7
3/7		3.1	3.2	3.0	3.4	3.8	3.6	4.4		3.4	3.4	5.0	4.8
3/8		3.1	3.3	3.0	3.4	3.8	3.6	4.4		3.9	3.4	5.0	4.8
3/9		3.1	3.3	3.0	3.4	3.8	3.5	4.3		3.7	3.4	4.8	4.7
3/10		3.0	3.2	3.0	3.4	3.7	3.5	4.4		4.0	3.4	4.9	4.7
3/11		3.0	3.1	2.9	3.4	3.7	3.6	4.5		4.4	3.4	4.8	4.7
3/12		3.0	3.1	2.9	3.3	3.7	3.6	4.4		4.0	3.4	4.6	4.6
3/13		2.9	3.1	2.8	3.3	3.7	3.6	4.5		3.9	3.4	4.6	4.6
3/14		2.9	3.1	2.9	3.4	3.7	3.7	4.5		3.5	3.4	4.5	4.6
3/15		2.9	3.1	2.9	3.4	3.8	3.8	4.5		4.2	3.4	4.5	4.6
3/16		2.8	3.1	2.9	3.4	3.8	4.0	4.5		4.4	3.3	4.8	4.7
3/17		2.9	3.2	3.0	3.4	3.9	4.0	4.5		4.1	3.3	4.8	4.8
3/18		2.9	3.3	3.1	3.5	4.0	4.0	4.7		4.2	3.4	5.1	5.1
3/19		2.9	3.4	3.3	3.6	4.1	4.1	4.8		4.4	3.3	5.4	5.3
3/20		2.9	3.4	3.3	3.6	4.2	4.2	4.8		4.3	3.3	5.7	5.5
3/21		3.0	3.5	3.4	3.7	4.4	4.4	4.9		4.9	3.4	6.0	5.7
3/22		3.0	3.6	3.5	3.8	4.5	4.4	5.0		4.5	3.6	6.2	5.9
3/23		3.1	3.6	3.6	3.9	4.6	4.5	5.1		4.9	3.7	6.2	5.9
3/24		3.2	3.8	3.8	4.0	4.8	4.5	5.3		4.8	3.9	6.5	6.1
3/25		3.2	3.8	3.9	4.2	4.9	4.5	5.5		4.7	4.1	6.7	6.3
3/26		3.3	3.8	3.9	4.2	4.9	4.4	5.6		4.5	4.3	6.6	6.2
3/27		3.3	3.8	3.9	4.3	4.9	4.6	5.6		5.1	4.4	6.4	6.1
3/28		3.3	3.7	3.9	4.3	4.8	4.6	5.6		5.1	4.4	6.1	5.9
3/29		3.3	3.7	3.9	4.3	4.7	4.6	5.5		4.7	4.3	6.0	5.9
3/30		3.4	3.9	4.0	4.4	4.9	4.7	5.7		4.9	4.4	6.2	6.0
3/31		3.5	3.8	3.9	4.4	4.8	4.8	5.7		4.5	4.4	6.1	6.0

Appendix D

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
4/1		3.5	3.9	4.0	4.4	4.9	5.0	5.8		5.0	4.4	6.1	6.0
4/2		3.5	4.0	4.1	4.5	5.0	5.3	5.8		5.8	4.3	6.3	6.1
4/3		3.6	4.1	4.2	4.6	5.1	5.4	5.8		4.8	4.3	6.5	6.3
4/4		3.7	4.3	4.3	4.8	5.3	5.7	6.0		5.3	4.3	6.9	6.7
4/5		3.8	4.6	4.6	5.0	5.7	5.8	6.2		4.8	4.5	7.3	7.0
4/6		3.9	4.9	4.8	5.2	6.0	6.0	6.4	4.8	5.1	4.7	7.6	7.3
4/7		4.1	5.2	5.2	5.4	6.4	6.2	6.6	4.9	6.0	4.9	8.0	7.6
4/8		4.2	5.3	5.4	5.6	6.6	6.2	6.8	4.9	6.4	5.2	8.2	7.8
4/9		4.4	5.5	5.6	5.8	6.8	6.3	7.1	5.0	6.7	5.4	8.2	7.9
4/10		4.6	5.7	5.8	6.0	7.1	6.3	7.3	5.2	7.0	5.6	8.3	8.0
4/11		4.7	5.8	5.9	6.2	7.2	6.3	7.5	5.5	5.5	5.8	8.3	8.0
4/12		4.8	5.9	6.0	6.4	7.4	6.3	7.6	5.8	6.4	5.9	8.3	8.0
4/13		5.0	5.9	6.0	6.4	7.3	6.4	7.7	5.9	6.4	5.9	8.0	7.9
4/14		5.1	5.8	5.9	6.4	7.1	6.4	7.5	5.9	7.6	5.9	7.6	7.5
4/15		5.3	5.9	6.0	6.3	7.2	6.6	7.5	6.0	7.7	5.8	7.5	7.4
4/16		5.5	6.0	6.1	6.4	7.2	6.8	7.4	6.2	7.4	5.8	7.4	7.4
4/17		5.6	6.0	6.1	6.4	7.1	7.2	7.4	6.3	5.9	5.9	7.2	7.2
4/18		5.9	6.2	6.4	6.7	7.3	7.4	7.6	6.4	6.5	6.0	7.2	7.2
4/19		6.1	6.6	6.7	7.0	7.6	7.6	7.9	6.5	6.8	6.3	7.2	7.3
4/20		6.4	7.1	7.2	7.4	8.1	7.9	8.2	6.8	7.3	6.5	7.3	7.3
4/21		6.6	7.4	7.6	7.8	8.5	8.1	8.6	6.9	7.9	6.8	7.4	7.5
4/22		7.0	7.7	7.9	8.1	8.7	8.2	8.8	7.0	8.6	7.1	7.3	7.4
4/23		7.0	8.0	8.2	8.4	8.9	8.3	9.0	7.0	7.8	7.3	7.2	7.4
4/24		6.9	8.1	8.3	8.5	9.0	8.0	9.1	6.9	6.3	7.4	7.2	7.4
4/25		7.0	8.1	8.3	8.4	9.0	8.2	9.1	6.9	6.6	7.5	7.1	7.3
4/26		6.9	7.8	8.1	8.3	8.8	8.3	9.0	6.7	6.6	7.4	6.9	7.1
4/27		6.9	7.4	7.8	8.0	8.4		8.7	6.5	6.3	7.3	6.8	6.9
4/28		6.7	7.1	7.4	7.7	8.1		8.3	6.4	7.6	7.1	6.6	6.8
4/29		6.3	6.9	7.2	7.4	7.9		8.2	6.5	6.7	6.9	6.8	6.9
4/30		6.4	6.7	7.0	7.2	7.7		8.1	6.6	6.8	6.7	6.9	7.0

Appendix D

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
5/1		6.4	6.6	6.9	6.6	7.6		8.2	6.6	6.4	6.6	6.9	7.0
5/2		6.3	6.4	6.7	6.6	7.5		8.0	6.6	7.1	6.5	7.0	7.1
5/3		6.4	6.5	6.7	7.0	7.5		8.1	6.7	7.3	6.4	7.2	7.3
5/4		6.4	6.8	7.0	6.7	7.9		8.3	6.8	6.9	6.5	7.5	7.6
5/5		6.6	7.3	7.4	6.7	8.5		8.7	6.9	6.8	6.7	7.9	8.0
5/6		6.6	7.4	7.6	8.8	8.8		8.9	7.0	7.8	6.8	8.1	8.1
5/7		6.7	7.5	7.7	9.2	9.1		8.9	7.2	7.7	6.7	8.1	8.2
5/8		6.8	8.0	8.1	9.6	9.6		9.1	7.5	7.6	6.8	8.4	8.5
5/9		7.0	8.5	8.6	8.8	10.2		9.5	7.9	7.4	7.0	8.7	8.8
5/10		7.1	8.9	9.0	7.4	10.8	10.3	9.9	8.4	8.4	7.3	8.9	9.0
5/11		7.2	9.2	9.3	9.2	11.3	10.2	10.2	8.8	9.6	7.5	9.0	9.1
5/12		7.4	9.5	9.5	10.2	11.6	10.0	10.4	9.3	10.3	7.7	8.9	9.1
5/13		7.8	9.9	9.9	11.3	12.1	9.8	10.8	9.7	11.0	8.0	8.9	9.1
5/14		8.0	10.3	10.3	11.9	12.6	9.5	11.2	9.9	11.3	8.4	9.1	9.2
5/15		8.1	10.3	10.3	11.6	12.7	9.5	11.4	10.0	11.4	8.6	9.1	9.2
5/16		8.2	10.3	10.3	11.5	12.8	9.4	11.4	9.9	11.0	8.7	8.9	9.1
5/17		8.4	10.0	10.1	10.8	12.5	9.1	11.2	9.5	11.0	8.6	8.7	8.8
5/18		8.5	9.7	9.8	10.0	11.9	9.0	10.8	9.2	10.4	8.6	8.4	8.5
5/19		8.4	9.3	9.5	10.5	11.3	9.0	10.5	9.0	9.5	8.5	8.1	8.2
5/20		8.2	8.9	9.1	9.6	10.7	9.1	10.2	8.7	8.5	8.3	7.8	7.9
5/21		8.2	8.8	9.0	9.4	10.2	9.2	10.0	8.4	8.0	8.2	7.7	7.9
5/22		8.1	8.8	9.0	9.2	10.0	9.1	10.1	8.3	8.7	8.2	7.7	7.9
5/23		8.0	8.9	9.1	8.1	10.0	9.0	10.2	8.3	8.4	8.3	7.8	8.0
5/24		7.8	8.8	9.0	9.0	9.8	9.1	10.3	8.3	8.7	8.3	7.8	8.0
5/25		7.6	8.8	9.0	10.1	9.9	9.0	10.3	8.2	9.0	8.2	7.9	8.1
5/26		7.6	8.8	8.9	10.5	10.0	9.1	10.3	8.2	9.4	8.2	8.1	8.3
5/27		7.6	9.1	9.3	9.7	10.3	9.1	10.5	8.2	8.5	8.3	8.4	8.6
5/28		7.6	9.1	9.3	9.2	10.4	9.1	10.5	8.2	8.3	8.4	8.4	8.6
5/29		7.8	9.1	9.3	9.0	10.4	9.1	10.5	8.2	8.6	8.5	8.4	8.5
5/30		7.9	9.0	9.2	9.8	10.2	9.0	10.4	8.4	8.8	8.5	8.1	8.2
5/31		8.0	9.0	9.2	9.6	10.2	9.0	10.4	8.5	8.6	8.5	7.9	8.1

Appendix D

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
6/1		8.1	9.0	9.2	9.5	10.1	9.0	10.4	8.6	8.7	8.5	7.9	8.0
6/2		8.1	9.0	9.2	9.5	10.0	8.8	10.4	8.6	9.6	8.5	7.7	7.9
6/3		8.1	8.8	9.0	9.4	9.8	8.6	10.2	8.6	9.0	8.4	7.6	7.7
6/4		8.2	8.7	8.9	9.2	9.6	8.6	10.1	8.7	8.6	8.3	7.4	7.6
6/5		8.1	8.7	8.8	9.3	9.7	8.8	10.0	8.6	8.5	8.2	7.4	7.7
6/6		8.0	8.5	8.7	9.1	9.5	8.9	9.8	8.4	9.0	8.1	7.5	7.7
6/7		8.0	8.7	8.8	9.3	9.6	9.2	9.8	8.4	9.1	8.1	7.8	8.0
6/8		8.2	9.1	9.2	9.8	10.2	9.2	10.0	8.4	8.8	8.2	8.3	8.5
6/9		8.5	9.4	9.5	10.2	10.6	9.4	10.3	8.5	9.0	8.3	8.7	8.9
6/10		8.5	9.6	9.7	10.4	10.7	9.6	10.4	8.7	9.0	8.5	8.8	8.9
6/11		8.4	9.6	9.8	10.4	10.8	9.8	10.5	8.7	9.8	8.6	8.9	9.0
6/12		8.7	9.9	10.0	10.7	11.1	9.8	10.7	8.8	9.3	8.7	9.1	9.2
6/13		8.8	10.1	10.3	11.0	11.3	9.8	10.9	8.9	9.2	9.0	9.4	9.4
6/14		8.8	10.1	10.3	11.0	11.3	10.1	11.1	9.0	8.7	9.1	9.1	9.3
6/15		8.6	9.6	9.9	10.4	10.8	10.5	11.0	9.0	9.9	9.1	8.7	8.9
6/16		8.4	9.5	9.7	10.2	10.5	10.5	10.9	8.9	9.3	9.0	8.6	8.8
6/17		8.5	9.7	9.9	10.5	10.8	10.6	11.2	8.9	9.3	9.1	8.8	9.0
6/18		8.6	10.1	10.2	10.9	11.2	10.6	11.5	8.9	9.2	9.3	9.1	9.3
6/19		8.4	9.9	10.1	10.8	11.0	10.7	11.6	8.9	9.3	9.4	9.1	9.3
6/20		8.4	9.9	10.1	10.7	10.9	10.7	11.6	8.9	9.8	9.4	9.0	9.1
6/21		8.4	9.9	10.0	10.7	11.0	10.6	11.6	9.0	9.8	9.3	9.1	9.2
6/22		8.5	10.0	10.1	10.9	11.2	10.7	11.6	8.9	9.2	9.4	9.3	9.4
6/23		8.5	10.0	10.1	10.9	11.2	10.7	11.6	9.0	9.4	9.4	9.3	9.4
6/24		8.5	10.0	10.2	11.0	11.3	10.8	11.6	9.0	9.6	9.4	9.3	9.5
6/25		8.5	10.1	10.2	11.0	11.4	10.8	11.7	9.0	9.6	9.5	9.3	9.5
6/26		8.6	10.2	10.3	11.1	11.5	10.8	11.7	9.1	9.2	9.5	9.4	9.5
6/27		8.7	10.4	10.4	11.3	11.7	10.9	11.9	9.3	9.9	9.7	9.5	9.6
6/28		8.8	10.5	10.5	11.3	11.8	10.9	11.9	9.4	10.2	9.8	9.6	9.7
6/29		8.8	10.4	10.6	11.4	11.9	11.0	12.0	9.6	9.9	9.9	9.7	9.8
6/30		8.6	10.5	10.6	11.4	12.0	11.4	12.1	9.6	10.0	10.1	9.8	9.9

Appendix D

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
7/1		8.6	10.3	10.5	11.2	11.8	11.8	12.1	9.8	10.3	10.1	9.9	10.0
7/2		8.5	10.3	10.5	11.3	11.9	12.1	12.1	9.9	10.6	10.2	10.1	10.3
7/3		8.3	10.4	10.6	11.6	12.2	12.4	12.3	10.0	10.2	10.2	10.4	10.6
7/4		8.2	10.7	10.8	11.9	12.5	12.8	12.7	10.0	11.8	10.4	10.8	10.9
7/5		8.2	11.0	11.2	12.4	13.1	12.9	13.1	10.0	12.4	10.6	11.2	11.4
7/6		8.3	11.3	11.5	12.9	13.6	12.8	13.5	10.1	12.2	10.9	11.6	11.7
7/7		8.6	11.8	11.9	13.5	14.2	12.7	13.9	10.2	12.4	11.2	12.0	12.1
7/8		8.7	12.2	12.2	14.0	14.6	12.4	14.3	10.3	12.5	11.5	12.3	12.4
7/9		8.8	12.3	12.4	14.3	14.9	12.1	14.6	10.4	11.9	11.8	12.5	12.6
7/10		8.9	12.3	12.4	14.2	14.9	12.1	14.5	10.4	11.1	11.9	12.7	12.7
7/11		9.0	12.1	12.3	14.0	14.7	12.0	14.4	10.4	11.9	12.1	12.7	12.8
7/12		9.1	11.8	12.0	13.6	14.4	11.8	14.2	10.5	11.8	12.1	12.7	12.7
7/13		9.1	11.8	11.9	13.6	14.4	11.7	14.1	10.4	10.2	12.1	13.0	12.9
7/14		9.1	11.5	11.7	13.3	14.1	11.7	14.0	10.4	10.7	12.2	13.1	13.1
7/15		9.0	11.4	11.6	13.0	13.8	11.8	13.7	10.3	10.6	12.3	13.2	13.1
7/16		9.0	11.3	11.5	12.9	13.7	11.7	13.7	10.2	12.2	12.3	13.4	13.3
7/17		9.0	11.1	11.3	12.8	13.6	11.4	13.7	10.2	10.6	12.4	13.6	13.4
7/18		8.9	11.1	11.3	12.9	13.7	11.4	13.7	10.2	10.9	12.5	13.8	13.6
7/19		8.9	11.0	11.2	12.8	13.6	11.5	13.6	10.1	11.9	12.5	13.9	13.7
7/20		8.8	10.6	10.9	12.3	13.0	11.5	13.2	10.1	10.6	12.4	13.6	13.5
7/21		8.8	10.8	11.0	12.4	13.0	11.5	13.2	10.1	11.9	12.2	13.8	13.6
7/22		8.8	10.9	11.1	12.7	13.3	11.3	13.4	10.2	10.6	12.1	14.0	13.9
7/23		8.9	11.0	11.1	12.7	13.3	11.4	13.4	10.2	10.6	12.1	14.1	14.1
7/24		9.0	11.0	11.2	12.8	13.3	11.5	13.4	10.3	12.0	12.1	14.1	14.2
7/25		9.0	11.0	11.2	12.7	13.2	11.3	13.2	10.4	12.2	12.0	14.3	14.3
7/26		9.0	11.2	11.3	12.8	13.3	11.2	13.2	10.5	12.6	12.0	14.6	14.6
7/27		9.1	11.3	11.4	13.0	13.4	11.1	13.4	10.6	11.1	12.1	15.0	14.9
7/28		9.2	11.1	11.3	12.8	13.3	11.2	13.3	10.7	12.1	12.2	15.2	
7/29		9.2	11.0	11.2	12.6	13.1	11.4	13.1	10.8	12.0	12.2	15.4	
7/30		9.2	10.8	11.0	12.3	12.8	11.6	12.9	10.9	11.3	12.1	15.6	
7/31		9.2	11.2	11.2	12.5	12.9	11.7	13.0	11.0	11.7	12.0	16.0	

Appendix D

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
8/1		9.3	11.5	11.4	12.8	13.3	11.8	13.3	11.3	12.6	12.1	16.4	
8/2		9.4	11.8	11.6	13.2	13.7	11.9	13.6	11.7	12.1	12.3	16.9	
8/3		9.6	12.1	11.9	13.5	14.0	11.9	13.8	11.9	13.8	12.6	17.3	
8/4		9.7	12.3	12.1	13.6	14.1	11.9	13.9	12.1	14.6	12.8	17.4	
8/5		9.8	12.2	12.0	13.5	14.0	12.0	13.9	12.2	14.9	12.9	17.3	
8/6		9.9	12.3	12.1	13.5	14.0	12.1	13.9	12.3	13.6	13.1	17.4	
8/7		10.0	12.2	12.0	13.5	14.0	12.3	13.9	12.3	12.6	13.2	17.6	
8/8		10.0	12.3	12.1	13.4	13.9	12.5	13.9	12.3	13.1	13.1	17.6	
8/9		10.1	12.3	12.1	13.4	13.8	12.7	13.9	12.3	13.1	13.1	17.7	
8/10		10.1	12.4	12.2	13.5	13.9	12.9	14.0	12.4	14.5	13.0	17.9	
8/11		10.2	12.5	12.3	13.7	14.1	13.1	14.4	12.5	14.7	13.0	18.4	
8/12		10.3	12.9	12.6	14.0	14.4	13.2	14.6	12.6	15.0	13.0	18.9	
8/13		10.4	13.2	12.7	14.3	14.7	13.2	15.0	12.8	14.9	13.1	19.2	
8/14		10.5	13.3	12.9	14.4	14.9	13.2	15.2	12.8	14.8	13.2	19.5	
8/15		10.6	13.3	12.9	14.4	15.0	13.1	15.3	12.9	14.9	13.4	19.6	
8/16		10.8	13.1	12.8	14.3	14.8	13.0	15.1	12.9	14.5	13.4	19.4	
8/17		10.9	13.1	12.8	14.3	14.8	12.9	15.1	12.9	14.0	13.4	19.3	
8/18		11.0	13.0	12.7	14.1	14.6	12.7	15.0	12.9	13.8	13.3	19.0	
8/19		10.9	12.8	12.6	13.9	14.4	12.7	14.8	12.9	13.3	13.2	18.7	
8/20		10.9	12.6	12.4	13.6	14.1	12.6	14.6	12.8	14.6	13.0	18.3	
8/21		10.9	12.4	12.2	13.3	13.9	12.5	14.3	12.9	13.7	12.7	17.9	
8/22		10.9	12.4	12.1	13.3	13.7	12.6	14.2	12.8	14.3	12.4	17.7	
8/23		10.9	12.5	12.2	13.2	13.7	12.4	14.1	12.8	13.8	12.2	17.6	
8/24		10.8	12.4	12.1	13.1	13.5	12.4	14.0	12.8	14.5	12.0	17.5	
8/25		10.8	12.4	12.1	13.0	13.5	12.3	14.0	12.9	14.8	11.8	17.4	
8/26		10.8	12.3	12.0	13.0	13.4	12.1	13.9	12.7	14.3	11.6	17.1	
8/27		10.8	12.4	12.0	13.0	13.5	12.1	13.9	12.7	14.8	11.5	17.1	
8/28		10.8	12.3	12.0	13.0	13.6	11.9	13.7	12.5	14.4	11.5	17.1	
8/29		10.8	12.2	11.9	12.9	13.5	11.8	13.6	12.4	12.9	11.4	17.1	
8/30		10.8	12.2	11.8	12.9	13.6	11.9	13.5	12.3	13.6	11.2	17.0	
8/31		10.8	12.2	11.8	12.9	13.6	11.9	13.3	12.1	12.5	11.1	16.9	

Appendix D

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
9/1		10.9	12.2	11.8	12.9	13.6	12.0	13.2	12.0	13.3	11.0	16.9	
9/2		11.0	12.4	11.9	13.0	13.7	12.1	13.3	12.1	13.3	10.9	17.2	
9/3		11.1	12.5	12.0	13.0	13.7	12.2	13.3	12.1	13.4	10.9	17.3	
9/4		11.2	12.6	12.1	13.1	13.8	12.3	13.5	12.2	13.6	10.9	17.5	
9/5		11.3	12.8	12.3	13.2	13.9	12.3	13.5	12.2	14.0	11.1	17.6	
9/6		11.3	12.7	12.3	13.2	13.8	12.2	13.5	12.3	14.2	11.2	17.6	
9/7		11.3	12.6	12.2	13.1	13.7	12.2	13.4	12.5	14.4	11.3	17.4	
9/8		11.2	12.4	12.1	12.9	13.5	12.1	13.3	12.5	14.2	11.3	17.1	
9/9		11.1	12.2	11.9	12.6	13.2	12.0	13.1	12.4	13.0	11.2	16.7	
9/10		11.1	12.0	11.8	12.4	13.0	12.0	12.9	12.4	13.7	11.1	16.3	
9/11		11.0	11.8	11.6	12.1	12.5	12.0	12.7	12.3	13.6	11.0	15.9	
9/12		11.0	11.6	11.5	11.9	12.4	12.1	12.6	12.4	13.5	10.8	15.6	
9/13		11.0	11.7	11.5	11.8	12.4	12.3	12.6	12.4	13.7	10.7	15.4	
9/14		11.1	11.9	11.6	11.9	12.4	12.4	12.7	12.5	12.3	10.7	15.6	
9/15		11.2	12.1	11.8	12.1	12.6	12.6	12.9	12.6	13.9	10.8	15.7	
9/16		11.4	12.2	12.0	12.3	12.8	12.6	13.0	12.8	14.1	11.0	16.0	
9/17		11.5	12.3	12.2	12.4	13.0	12.7	21.2	13.0	14.3	11.1	16.1	
9/18		11.5	12.4	12.3	12.5	13.2	12.7	21.4	13.2	14.5	11.1	16.1	
9/19		11.5	12.3	12.2	12.5	13.1	12.7	21.4	13.2	14.4	11.1	15.9	
9/20		11.4	12.2	12.2	12.5	13.0	12.8	21.4	13.2	14.5	11.1	15.7	
9/21		11.3	12.1	12.1	12.4	12.9	12.8	21.4	13.2	13.4	11.0	15.5	
9/22		11.2	12.0	12.0	12.3	12.8	12.9	21.4	13.2	13.9	10.8	15.2	
9/23		11.1	11.8	11.8	12.1	12.6	12.9	21.4	13.2	13.8	10.7	14.9	
9/24		11.0	11.7	11.7	11.9	12.4	12.9	13.3	13.2	14.1	10.6	14.7	
9/25		10.3	11.3	11.6	11.8	12.2	12.9	13.4	13.3	13.9	10.5	14.6	
9/26		9.7	10.8	11.1	11.4	12.0	13.0	13.5	13.4	14.1	10.4	14.6	
9/27		9.0	10.2	10.5	10.9	11.5	13.0	13.4	13.3	14.4	10.4	14.6	
9/28		8.4	9.6	10.0	10.4	11.1	13.0	13.4	13.3	14.7	10.3	14.5	
9/29		7.7	9.0	9.4	9.9	10.7	13.0	13.4	13.4	14.5	10.3	14.5	
9/30		7.0	8.4	8.8	9.3	10.2	13.0	13.4	13.3	13.9	10.1	14.2	

Appendix D

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
10/1		6.3	7.7	8.1	8.6	9.6	13.0	13.2	13.2	14.3	9.8	13.8	14.1
10/2		6.2	7.4	7.5	7.9	9.0	13.0	13.0	13.1	13.9	9.6	13.4	13.8
10/3		6.2	7.3	7.3	7.6	8.6	13.0	12.9	13.0	13.5	9.3	12.9	13.4
10/4		6.2	7.2	7.2	7.4	8.5	12.9	12.9	13.0	13.4	9.1	12.6	13.2
10/5		6.1	7.1	7.1	7.2	8.3	12.9	12.9	13.0	13.5	9.0	12.2	13.0
10/6		6.1	7.0	6.9	7.1	8.1	12.9	12.8	12.9	13.5	8.8	11.9	12.6
10/7		6.1	7.0	6.9	7.0	8.0	12.8	12.7	12.9	13.7	8.8	11.6	12.5
10/8		6.2	7.1	6.9	7.1	8.1	12.7	12.8	12.9	13.8	8.8	11.6	12.5
10/9		6.2	7.1	7.0	7.2	8.1	12.5	12.8	12.9	13.0	8.8	11.6	12.3
10/10		6.3	7.4	7.4	7.5	8.3	12.3	12.8	12.9	13.0	9.0	11.5	12.2
10/11		6.3	7.8	7.8	8.0	8.6	12.0	12.7	12.8	13.5	9.3	11.4	12.0
10/12		6.4	8.2	8.3	8.4	8.9	11.7	12.6	12.7	12.9	9.5	11.3	11.8
10/13		6.4	8.4	8.7	8.8	9.3	11.4	12.4	12.5	12.9	9.8	11.2	11.7
10/14		6.4	8.5	8.9	9.1	9.4	11.0	12.2	12.3	12.6	9.9	11.1	11.5
10/15		6.5	8.7	9.1	9.2	9.4	10.6	12.0	12.1	12.6	10.1	10.8	11.2
10/16		7.2	9.1	9.4	9.5	9.7	10.4	11.8	11.9	12.3	10.3	10.7	11.0
10/17		7.5	9.1	9.4	9.6	9.7	10.1	11.5	11.6	11.9	10.2	10.5	10.7
10/18		7.8	8.8	9.1	9.2	9.4	9.9	11.0	11.2	11.7	9.8	10.1	10.3
10/19		8.1	8.4	8.6	8.7	8.9	9.6	10.6	10.8	11.7	9.4	9.7	9.8
10/20		8.3	8.2	8.3	8.3	8.5	9.5	10.3	10.5	10.7	8.9	9.3	9.4
10/21		8.7	8.2	8.2	8.1	8.3	9.6	10.0	10.3	10.2	8.6	9.0	9.1
10/22		8.9	8.1	8.0	8.0	8.2	9.5	9.7	10.0	9.7	8.3	8.8	8.8
10/23		8.6	7.7	7.6	7.7	7.8	9.5	9.5	9.8	10.2	7.9	8.4	8.5
10/24		8.6	7.6	7.5	7.6	7.7	9.6	9.4	9.7	10.3	7.8	8.2	8.3
10/25		8.7	7.7	7.7	7.8	7.9	9.6	9.4	9.7	10.2	7.8	8.2	8.3
10/26		8.9	8.0	8.0	8.1	8.2	9.6	9.6	9.7	10.1	8.0	8.2	8.4
10/27		9.1	8.3	8.3	8.4	8.5	9.5	9.7	9.7	10.1	8.3	8.3	8.5
10/28		9.3	8.6	8.6	8.8	8.9	9.4	9.9	9.8	9.9	8.6	8.4	8.6
10/29		9.0	8.7	8.9	9.0	9.1	9.3	10.0	9.7	10.6	8.9	8.5	8.7
10/30		8.7	8.8	9.1	9.2	9.4	9.3	10.0	9.6	10.0	9.2	8.6	8.8
10/31		8.3	8.9	9.1	9.3	9.5	9.2	10.1	9.6	10.0	9.3	8.8	9.0

Appendix D

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
11/1		7.9	8.9	9.1	9.3	9.5	9.1	10.1	9.5	9.7	9.5	8.9	9.1
11/2		7.5	8.9	9.2	9.4	9.5	8.8	10.1	9.6	9.7	9.6	9.0	9.2
11/3		7.0	8.6	9.2	9.2	9.4	8.5	10.0	9.5	9.5	9.6	9.0	9.2
11/4		6.6	8.4	8.6	9.0	9.2	8.2	9.9	9.4	9.5	9.5	9.0	9.2
11/5		6.5	6.8	7.0	8.7	8.8	7.8	9.6	9.3	9.6	9.3	8.8	9.0
11/6		6.5	6.8	7.0	8.3	8.4	7.4	9.2	9.2	9.7	8.9	8.4	8.7
11/7		6.4	6.7	6.9	7.8	8.0	7.2	8.8	9.0	9.1	8.5	8.0	8.3
11/8		6.2	6.5	6.7	7.3	7.4	7.1	8.3	8.9	9.1	7.8	7.5	7.9
11/9		6.1	6.5	6.6	6.8	6.9	7.0	7.8	8.6	8.7	7.4	6.9	7.4
11/10		6.1	6.4	6.6	6.6	6.7	7.0	7.5	8.4	8.6	7.2	6.6	7.1
11/11		6.1	6.4	6.6	6.5	6.6	7.1	7.3	8.3	8.4	7.0	6.4	6.9
11/12		6.1	6.4	6.6	6.6	6.6	7.1	7.2	8.2	8.3	6.9	6.2	6.8
11/13		6.2	6.5	6.7	6.6	6.6	7.3	7.2	8.1	8.4	6.9	6.1	6.7
11/14		6.2	6.5	6.7	6.7	6.8	7.4	7.3	8.0	8.5	7.1	6.2	6.8
11/15		6.3	6.6	6.8	6.9	7.0	7.3	7.4	8.0	8.1	7.3	6.4	6.9
11/16		6.3	6.6	6.8	7.1	7.2	7.2	7.6	8.0	8.0	7.4	6.5	6.9
11/17		6.3	6.6	6.8	7.1	7.2	7.5	7.7	7.9	8.2	7.4	6.5	6.9
11/18		6.3	6.6	6.8	7.1	7.2	7.5	7.6	7.8	8.0	7.3	6.5	6.9
11/19		6.3	6.6	6.8	7.0	7.1	7.4	7.6	7.7	8.0	7.3	6.5	6.9
11/20		6.4	6.7	6.9	7.1	7.2	7.1	7.6	7.6	8.0	7.3	6.5	6.9
11/21		6.4	6.7	6.9	7.1	7.2	6.9	7.7	7.6	7.7	7.3	6.5	6.8
11/22		6.4	6.7	6.9	7.1	7.2	6.7	7.6	7.4	7.4	7.2	6.4	6.7
11/23		6.4	6.7	6.9	6.8	6.8	6.8	7.3	7.3	7.5	7.0	6.2	6.5
11/24		6.3	6.6	6.8	6.5	6.5	6.5	7.1	7.1	7.5	6.8	6.1	6.3
11/25		6.4	6.7	6.9	6.4	6.4	6.5	6.9	7.0	7.2	6.6	5.9	6.2
11/26		6.5	6.8	7.0	6.4	6.4	6.5	6.9	6.9	6.9	6.7	5.9	6.2
11/27		6.4	6.7	6.9	6.4	6.4	6.7	6.9	6.9	7.0	6.6	5.9	6.3
11/28		6.4	6.7	6.9	6.3	6.4	6.8	6.9	6.8	7.0	6.6	6.0	6.3
11/29		6.4	6.7	6.9	6.4	6.5	6.9	7.0	6.8	7.1	6.7	6.1	6.4
11/30		6.4	6.7	6.9	6.6	6.7	6.8	7.1	6.8	7.1	6.8	6.1	6.4

Appendix D

	Sultan River											Skykomish River	
DATE	**RM 18.2 (SFK)**	**RM 15.8**	**RM 14.3**	**RM 12.8**	**RM 11.3**	**RM 9.8**	**RM 9.6**	**RM 4.9**	**RM 4.4**	**RM 0.2**	**Big Four Creek**	**RM 14.1**	**RM 13.2**
12/1		6.4	6.7	7.0	6.8	6.9	6.6	7.4	6.8	7.3	7.0	6.2	6.5
12/2		6.3	6.6	6.8	6.9	7.0	6.6	7.5	6.9	7.0	7.0	6.3	6.5
12/3		6.2	6.6	6.8	6.8	7.0	6.3	7.4	6.8	6.9	6.9	6.3	6.5
12/4		6.2	6.5	7.0	6.6	6.8	6.0	7.2	6.7	7.0	6.7	6.1	6.5
12/5		6.1	6.4	6.5	6.3	6.5	5.7	6.9	6.5	6.9	6.5	5.8	6.4
12/6		6.0	6.3	6.1	6.1	6.2	5.4	6.6	6.4	6.6	6.2	5.5	6.5
12/7		5.9	6.2	5.9	5.8	6.0	5.2	6.4	6.2	6.4	5.9	5.4	6.5
12/8		5.7	6.0	4.6	5.5	5.7	5.1	6.1	6.1	6.0	5.6	5.2	6.5
12/9		5.6	5.9	4.8	5.2	5.4	5.1	5.8	5.9	5.9	5.4	5.1	6.5
12/10		5.5	5.8	4.9	5.0	5.2	5.1	5.6	5.7	5.9	5.2	5.0	6.2
12/11		5.3	5.6	5.0	4.9	5.1	4.9	5.5	5.7	5.9	5.0	5.0	5.9
12/12		5.2	5.5	5.0	4.8	5.0	4.9	5.4	5.6	5.8	4.9	5.0	5.7
12/13		5.1	5.4	5.0	4.7	4.9	4.7	5.3	5.5	5.8	4.8	4.8	5.4
12/14		5.1	5.4	4.7	4.5	4.7	4.4	5.3	5.4	5.7	4.7	4.7	5.2
12/15		5.0	5.3	4.3	4.3	4.5	4.2	5.1	5.2	5.3	4.5	4.5	5.1
12/16		4.9	5.2	3.8	4.2	4.4	4.2	4.9	5.0	5.2	4.4	4.3	5.1
12/17		4.8	5.1	3.9	4.0	4.1	4.2	4.7	4.9	5.2	4.2	4.1	5.1
12/18		4.7	5.0	3.7	3.9	4.0	4.2	4.6	4.7	4.8	4.1	3.9	5.0
12/19		4.6	4.9	3.6	3.8	4.0	4.2	4.6	4.7	4.8	4.1	3.9	4.9
12/20		4.5	4.9	3.9	3.9	4.1	4.3	4.7	4.6	4.8	4.1	4.0	4.8
12/21		4.4	4.8	4.1	3.9	4.1	4.3	4.7	4.6	4.8	4.1	4.1	4.6
12/22		4.4	4.7	4.2	4.0	4.2	4.2	4.8	4.7	4.9	4.1	4.1	4.5
12/23		4.3	4.6	4.1	4.0	4.3	4.2	4.9	4.7	4.9	4.1	4.2	4.2
12/24		4.2	4.5	3.9	4.1	4.4	4.2	5.0	4.7	4.9	4.1	4.4	4.1
12/25		4.1	4.5	3.8	4.1	4.3	4.1	5.0	4.7	4.6	4.1	4.5	4.1
12/26		4.1	4.4	3.9	4.0	4.3		5.0	4.6	4.7	4.1	4.5	4.2
12/27		4.0	4.3	4.0	4.0	4.3		4.9	4.6	4.7	4.0	4.4	4.3
12/28		4.0	4.3	4.1	3.9	4.2		4.8	4.5	4.8	4.0	4.3	4.4
12/29		3.9	4.2	4.0	3.8	4.1		4.7	4.3	4.5	3.9	4.1	4.5
12/30		3.9	4.2	3.6	3.6	3.8		4.4	4.2	4.4	3.7	3.8	4.6
12/31		3.8	4.1	3.4	3.4	3.6		4.2	4.0	4.2	3.5	3.4	4.7

APPENDIX E

Consultation Documentation on Draft Report

Presler, Dawn

From: Presler, Dawn
Sent: Tuesday, April 30, 2013 10:11 AM
To: 'Tim_Romanski@fws.gov' (Tim_Romanski@fws.gov); 'Steven Fransen' (steven.m.fransen@noaa.gov); 'Loren Everest - USFS' (leverest@fs.fed.us); 'Anne Savery' (asavery@tulaliptribes-nsn.gov); 'Maynard, Chris (ECY)' (cmay461@ecy.wa.gov); 'brock.applegate@dfw.wa.gov' (brock.applegate@dfw.wa.gov); 'Leonetti, Frank' (frank.leonetti@snoco.org); 'Jim Miller' (JMiller@ci.everett.wa.us); 'mick.matheson@ci.sultan.wa.us' (mick.matheson@ci.sultan.wa.us); 'Thomas O'Keefe' (okeefe@americanwhitewater.org)
Cc: Binkley, Keith; Moore, Kim; Spangler, Bradley
Subject: JHP - ARC - draft WQMP Annual Report 2012 for your 30-day review and comments
Attachments: DRAFT 2012 WQMP Annual Report.pdf

Dear ARC,
Attached is the draft Water Quality Monitoring Plan Annual Report for 2012. Please take the next 30 days to review and provide comments, if any, to me by May 30. If you have no comments, an email stating so is appreciated. Thanks!

Dawn Presler
Sr. Environmental Coordinator
Generation Resources
(425) 783-1709
****
PUD No. 1 of Snohomish County
PO Box 1107
Everett, WA 98206-1107

Presler, Dawn

From: Steven Fransen - NOAA Federal <steven.m.fransen@noaa.gov>
Sent: Wednesday, May 01, 2013 8:28 AM
To: Presler, Dawn
Subject: Re: JHP - ARC - draft WQMP Annual Report 2012 for your 30-day review and comments

Hi Dawn,

I reviewed the draft WQMP report and have no comments.

SF

On Tue, Apr 30, 2013 at 10:11 AM, Presler, Dawn <DJPresler@snopud.com> wrote:

Dear ARC,

Attached is the draft Water Quality Monitoring Plan Annual Report for 2012. Please take the next 30 days to review and provide comments, if any, to me by May 30. If you have no comments, an email stating so is appreciated. Thanks!

Dawn Presler

Sr. Environmental Coordinator

Generation Resources

(425) 783-1709

****

PUD No. 1 of Snohomish County

PO Box 1107

Everett, WA 98206-1107

Presler, Dawn

From: Julie Sklare <JSklare@everettwa.gov>
Sent: Wednesday, May 08, 2013 11:28 AM
To: Presler, Dawn
Cc: Jim Miller
Subject: WQ Monitoring Annual Report

Dawn,

The City has no comments on the draft Water Quality Monitoring 2012 Annual Report under License Article 401.

Best regards,

Julie

Presler, Dawn

From: Applegate, Brock A (DFW) <Brock.Applegate@dfw.wa.gov>
Sent: Thursday, May 30, 2013 4:06 PM
To: Presler, Dawn; 'Tim_Romanski@fws.gov' (Tim_Romanski@fws.gov); 'Steven Fransen' (steven.m.fransen@noaa.gov); 'Loren Everest - USFS' (leverest@fs.fed.us); 'Anne Savery' (asavery@tulaliptribes-nsn.gov); Maynard, Chris (ECY); 'Leonetti, Frank' (frank.leonetti@snoco.org); 'Jim Miller' (JMiller@ci.everett.wa.us); 'mick.matheson@ci.sultan.wa.us' (mick.matheson@ci.sultan.wa.us); 'Thomas O'Keefe' (okeefe@americanwhitewater.org)
Cc: Binkley, Keith; Moore, Kim; Spangler, Bradley
Subject: RE: Jackson Hydroproject - ARC - draft Water Quality Management Plan Annual Report 2012 for your 30-day review and comments

Hi Dawn, WDFW has reviewed the Water Quality Management Plan. We do not have any substantial comments, but a couple of editorial ones.

1) **2.2.2. Reservoir Elevation, Figure 4--** The paragraph above Figure 4 mentions State 1 and 4, but are not shown in the Figure 4. Perhaps the SnoPUD could list the States in an area, instead of a line, so that Figure 4 can show all the States (1-4).

2) **3.1. Background, Figure 5--** I have problems understanding and visualizing all the entrances points of flows into the river in the second paragraph. If SnoPUD labeled the entrance points on Figure 5, a reader may have a clearer idea all the entrance points mentioned in paragraph 2 and 3.

Thanks for distributing the annual report for comment.

Sincerely, Brock

Brock Applegate
Major Projects Mitigation Biologist
Washington Department of Fish and Wildlife
16018 Mill Creek Boulevard
Mill Creek, WA 98012-1541

(425) 775-1311 x310
(360) 789-0578 (cell)
(425) 338-1066 (fax)

From: Presler, Dawn [mailto:DJPresler@SNOPUD.com]
Sent: Tuesday, April 30, 2013 10:11 AM
To: 'Tim_Romanski@fws.gov' (Tim_Romanski@fws.gov); 'Steven Fransen' (steven.m.fransen@noaa.gov); 'Loren Everest - USFS' (leverest@fs.fed.us); 'Anne Savery' (asavery@tulaliptribes-nsn.gov); Maynard, Chris (ECY); Applegate, Brock A (DFW); 'Leonetti, Frank' (frank.leonetti@snoco.org); 'Jim Miller' (JMiller@ci.everett.wa.us); 'mick.matheson@ci.sultan.wa.us' (mick.matheson@ci.sultan.wa.us); 'Thomas O'Keefe' (okeefe@americanwhitewater.org)
Cc: Binkley, Keith; Moore, Kim; Spangler, Bradley
Subject: JHP - ARC - draft WQMP Annual Report 2012 for your 30-day review and comments

Dear ARC,
Attached is the draft Water Quality Monitoring Plan Annual Report for 2012. Please take the next 30 days to review and provide comments, if any, to me by May 30. If you have no comments, an email stating so is appreciated. Thanks!

Dawn Presler
Sr. Environmental Coordinator

Generation Resources
(425) 783-1709
****
PUD No. 1 of Snohomish County
PO Box 1107
Everett, WA 98206-1107

APPENDIX F

Response to Comments Regarding Draft Report

No.	Comment	District Response
WDFW, Email from Brock Applegate dated 5/30/2013		
1	2.2.2. Reservoir Elevation, Figure 4-- The paragraph above Figure 4 mentions State 1 and 4, but are not shown in the Figure 4. Perhaps the SnoPUD could list the States in an area, instead of a line, so that Figure 4 can show all the States (1-4).	Figure updated to include States 1 and 4.
2	3.1. Background, Figure 5-- I have problems understanding and visualizing all the entrances points of flows into the river in the second paragraph. If SnoPUD labeled the entrance points on Figure 5, a reader may have a clearer idea all the entrance points mentioned in paragraph 2 and 3.	Figure already includes facilities that discharge water ("entrance points") into each reach. Added text to introductory sentence of paragraph 2 indicating which facilities discharge the water as a lead-in to paragraphs 2 and 3 discussion.