SNOHOMISH COUNTY PUD
PUBLIC UTILITY DISTRICT NO. 1

Your Northwest renewables utility

June 4, 2015

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. 2157
Water Quality Monitoring Plan – 2014 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 2014 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; no comments were received. Consultation documentation is included in the report's Appendix E.

If you have any questions on the Water Quality Monitoring Plan Annual Report for 2014, please contact Keith Binkley, Natural Resources Manager, at (425) 783-1769 or KMBinkley@snopud.com.

Sincerely,

Craig W. Collar, P.E.
Assistant General Manager of Generation
CWCollar@snopud.com
(425) 783-1825

Enclosed: Water Quality Monitoring Plan Annual Report for 2014

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 – 2014 Annual Report

SNOHOMISH COUNTY PUD
PUBLIC UTILITY DISTRICT NO. 1

Everett, WA

May 2015

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:

District. 2015. Water Quality Monitoring Plan 2014 Annual Report, License Article 401, for the Henry M. Jackson Hydroelectric Project, FERC No. 2157. May 2015.

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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

Public Utility District No. 1 of Snohomish County (the 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, pursuant to License Article 401(b).

This WQMP Annual Report covers activities conducted in calendar year 2014. 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 regarding the draft report is included in Appendix E; no comments were received.

The annual report fulfills 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 report 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 RM 13.2 (Table 1-1).

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

Parameter	South Fork Sultan[1] 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.

[1] The 2012 and 2013 annual reports incorrectly labeled this location as the South Fork Skykomish River. The sampling was conducted at the South Fork Sultan River in 2012 and 2013 consistent with the WQMP.

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 2014, a total rainfall of 191.62 inches was recorded at the Culmback Dam Weather Station. The rainfall measured during 2014 was more than the historical annual average of

161.83 inches. Monthly rainfall averaged 15.97 inches and ranged between a low of 4.09 inches in July and 39.31 inches in March (Table 2-1). During 2014, the highest recorded daily rainfall (3.99 inches) occurred on November 3, 2014.

Table 2-1. Monthly rainfall recorded at the Culmback Dam Weather Station, 2014.

Month	Rainfall (inches)
January	25.41
February	17.11
March	39.31
April	17.70
May	11.48
June	5.89
July	4.09
August	5.42
September	7.88
October	23.34
November	21.34
December	12.65

2.1.3. Snow Survey Measurements

The District conducts surveys of the snowpack annually during late March. During the March 2014 survey, a snow depth of 103.7 inches was recorded at Stickney Ridge at 3,600 feet elevation. This depth was 102% of the historical mean (Figure 2-1). In terms of water content, a depth of 43.0 inches was recorded equating to 97% of the historic mean (Figure 2-1).

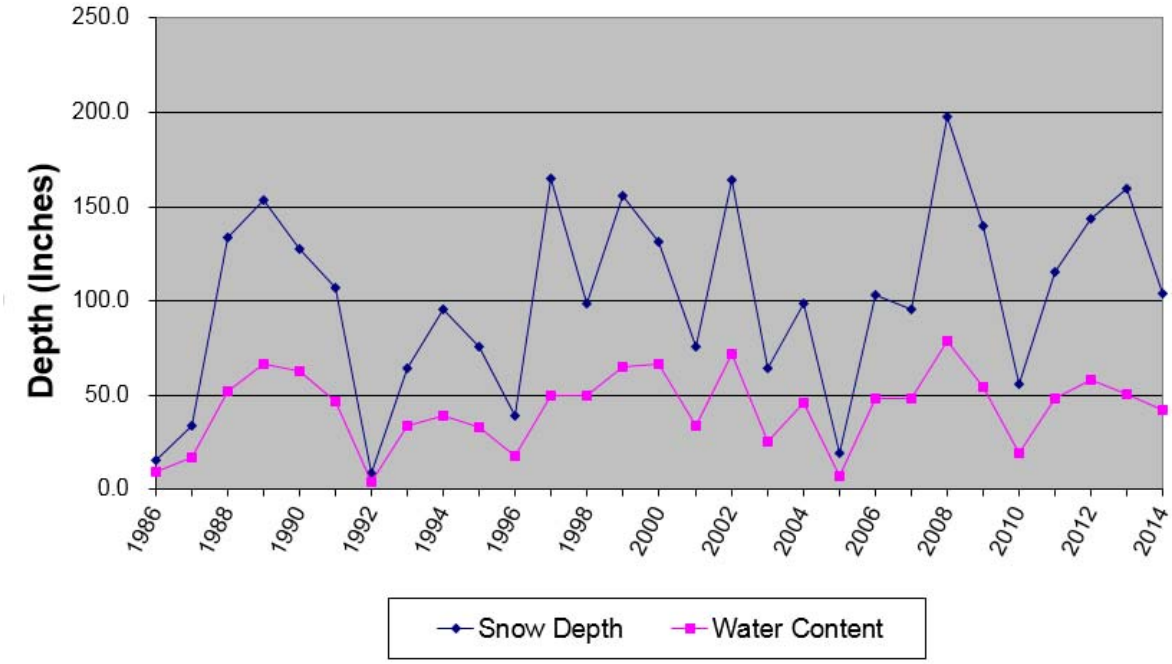


Figure 2-1. Historic snow surveys, Stickney Ridge (elevation 3,600 feet), Sultan Watershed, 1986-2014.

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 2014 hydrograph for this station is presented in Figure 2-2. Instantaneous flow values ranged from 12 to 7,410 cfs. Mean daily flow during 2014 averaged 202 cfs and ranged between a low of 12 cfs and a high flow of 3,310 cfs. The average mean annual flow, based on the USGS Water Year, for this station is 132 cfs (Period of Record 1992-2014).

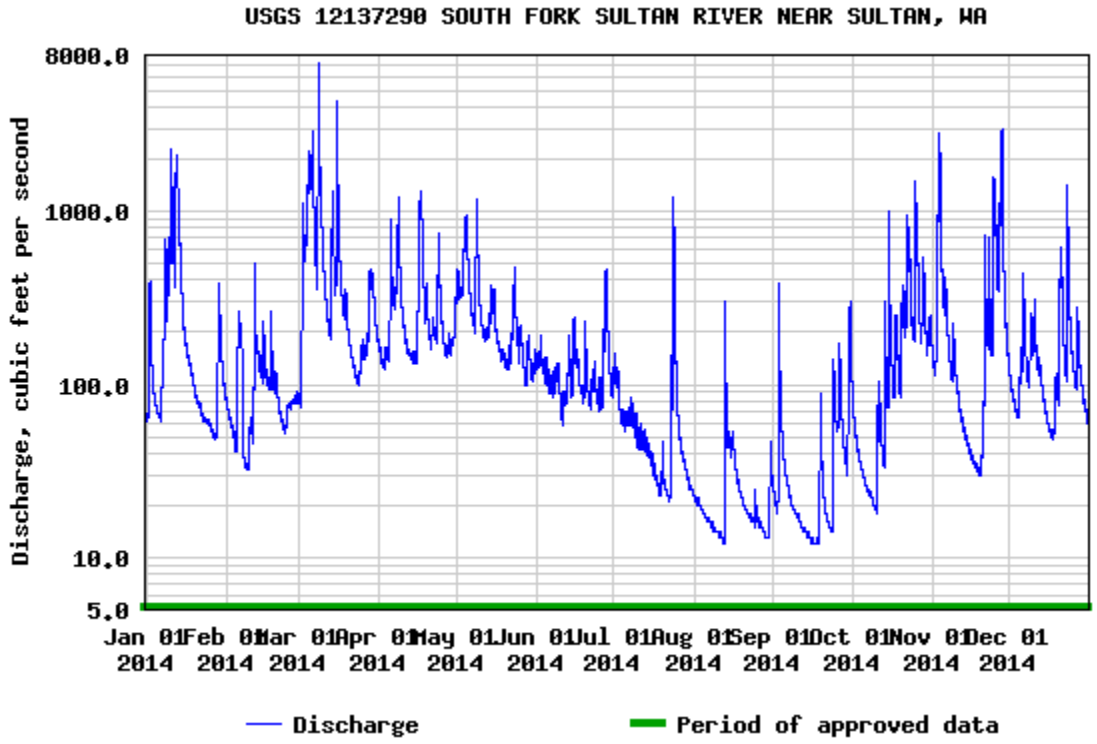


Figure 2-2. Hydrograph for the South Fork Sultan River, USGS Station No. 12137290, 2014 calendar year.

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 2014 closely mimicked Project inflows (Figure 2-3). A total of 518,489 megawatts were produced during 2014 equating to 118% of the historic annual average of 437,328 megawatts.

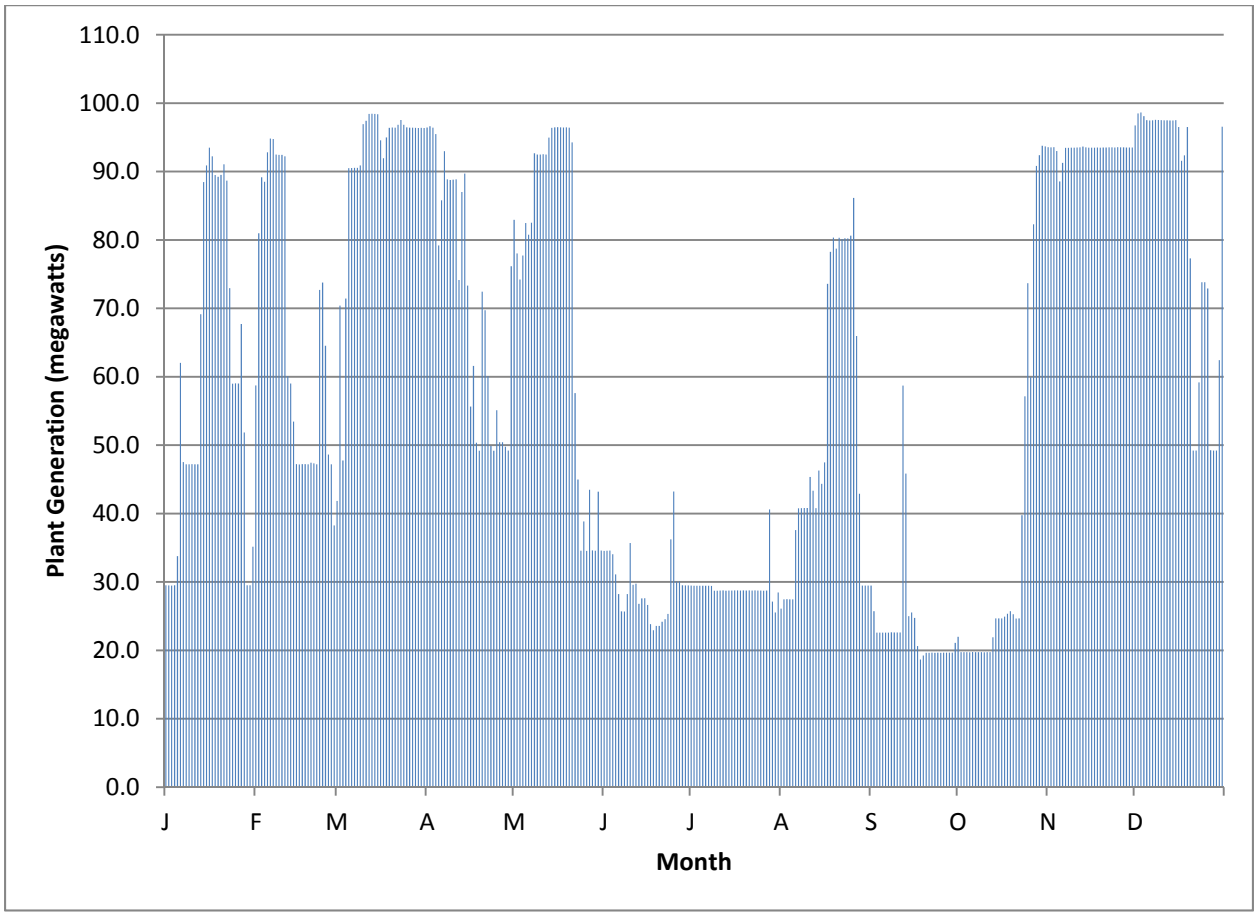


Figure 2-3. Daily plant generation at the Project, 2014.

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. A fifth state (State 5) lies below reservoir elevation 1,380 feet msl. The Project does not operate in this state. During 2014, Spada Lake Reservoir was drafted and filled in accordance with established Spada Lake Reservoir Rule Curves for the Project (Figure 2-4).

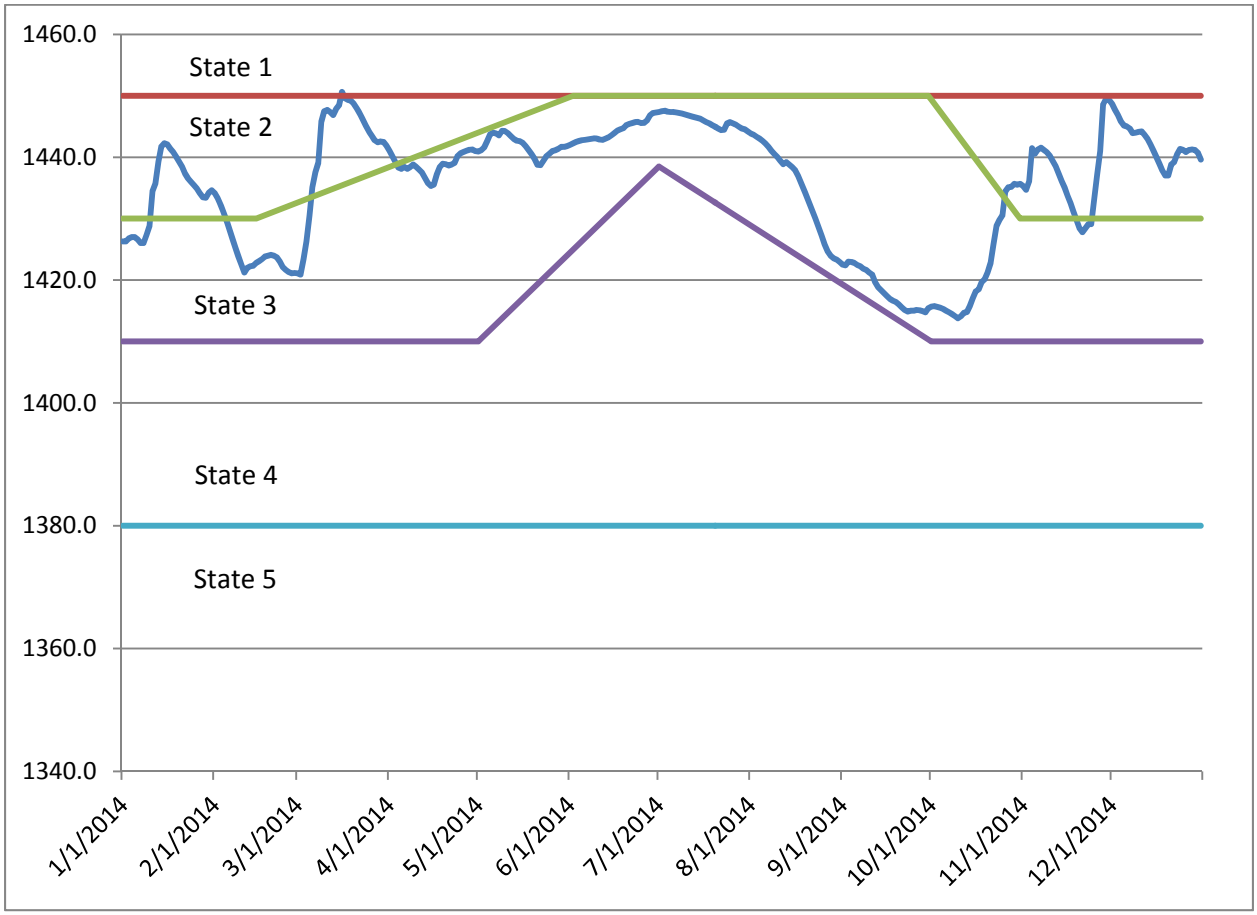


Figure 2-4. Daily water surface elevation, Spada Lake Reservoir, 2014.

2.4. Water Quality

Monthly sampling of Spada Lake Reservoir water quality occurred on the following dates during 2014: June 3, June 25, July 16, August 20, September 24, and October 16. Due to boat problems, there was no sampling during May; however, the May sampling was replaced with the addition of an early June sampling. Sampling included profiles measurements of conventional parameters including temperature, pH, dissolved oxygen, and turbidity. Sampling was conducted cooperatively with the City of Everett during 2014, and included measurements of nutrients, phytoplankton, and zooplankton.

By summary, Spada Lake Reservoir was cold and turbid during June, especially at depth. The highest phytoplankton biovolume of the year was recorded during June. By July, a thermocline was set at around 25 feet in depth. Zooplankton, in particular *Holopedium*, had reached their summer maximum in July. By the end of August, the warmest water was documented and the effects of the thermocline on dissolved oxygen were apparent. Dissolved oxygen levels below saturation persisted near the bottom of the reservoir during late summer / early fall. 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 4.2 to 22.7°C depending on season and depth (Appendix A). The middle of July 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 20 to 35 feet over the course of the summer. The thermocline was still present in October at the completion of the sampling season.

2.4.2. pH

The highest measured pH was 7.4 in early June. The lowest pH of 6.2 was measured in October at a depth of 157 feet, likely due to bacterial decomposition of organic material falling through the thermocline.

2.4.3. Dissolved Oxygen

Dissolved oxygen ranged from 11.7 in early June to 7.6 mg/L in September. By saturation values, the maximum of 103% in June 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 early June, the surface was less turbid than at depth. Turbidities at the surface and at depth decreased through August. In September, there was a slight increase at depth. In October, turbidity increased throughout the water column. 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 2-2, Secchi transparency ranged from 23 feet in July to 8 feet in October.

Table 2-2. Secchi transparency in Spada Lake Reservoir, 2014.

Date	Result (feet)
6/3/2014	11
6/25/2014	19
7/16/2014	23
8/20/2014	15
9/24/2014	11
10/16/2014	8

2.4.6. Nutrients

Total phosphorus concentrations were around 2.2 to 4.4 µg/L for most the summer, both at the surface and at depth. An increase in total phosphorous concentration was noted during August sampling. Total nitrogen was also reasonably constant around 69.8 to 159.6 µg/L for most of the summer with an increase noted in October. Nitrate showed variability over time and depth, with values between 2.2 and 50.4 µg/L. Silica concentrations were similar throughout the water column, ranging from 1,408.7 to 1,664.1 µg/L).

2.4.7. Phytoplankton

The largest number and biovolume of phytoplankton occurred in the June 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. 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 dissolved oxygen readings indicate that primary productivity took place predominantly between 0 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. In terms of peak density, *Holopedium* was highest in mid-July (6.1/L) and *Conochilus* was highest (2.7/L) in August. The largest diversity in zooplankton species occurred in the August sample. The total number of zooplankton/L was less than four on all sample dates but late June (4.0/L) and mid-July (10.9/L).

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 2014 is presented in Table 3-1.

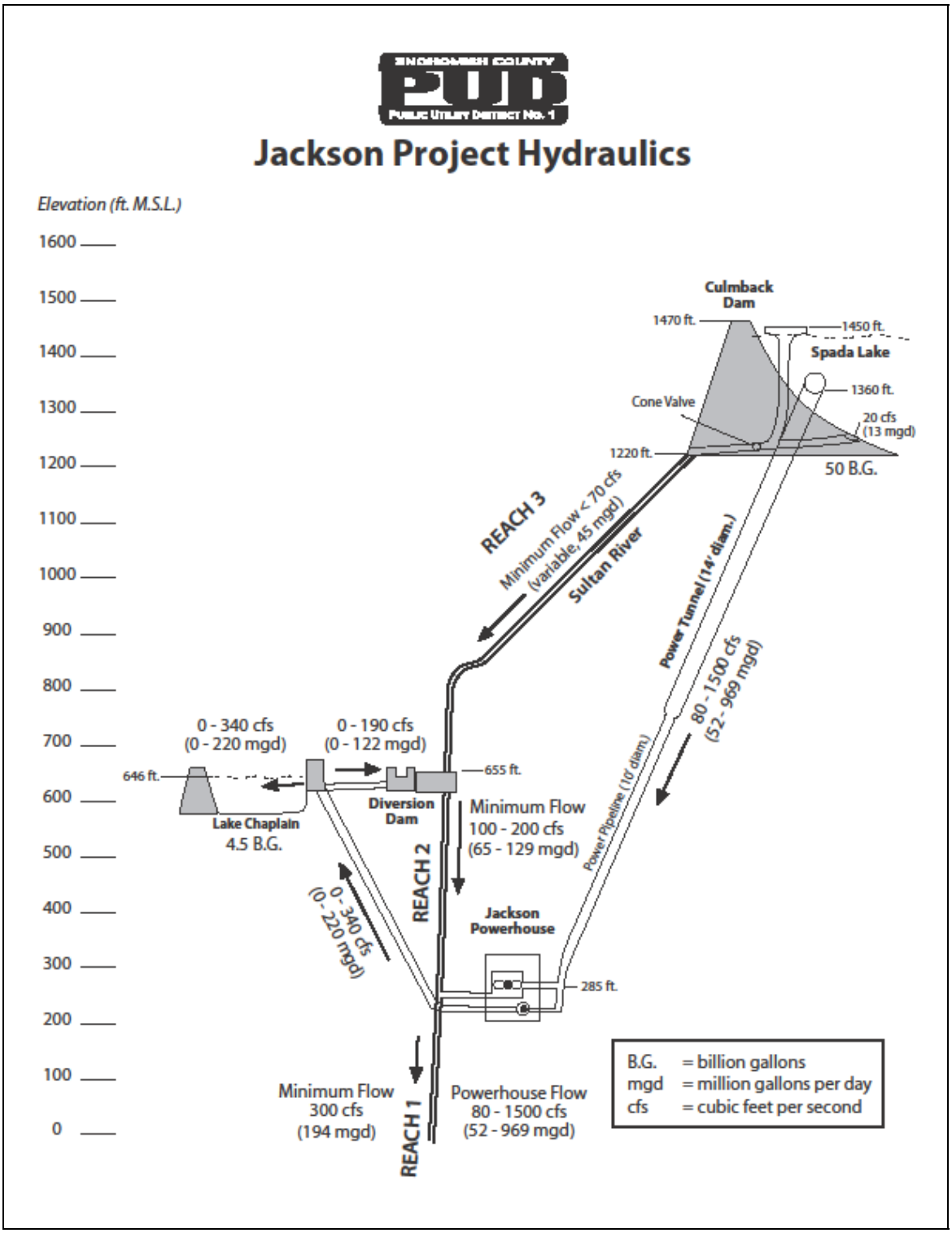


Figure 3-1. Schematic of water conveyance system associated with the Jackson Hydroelectric Project.

Table 3-1. Settings for selective temperature withdrawal panels, Spada Lake Reservoir, 2014.

Dates	Panel Setting	Upper Opening (elevation in feet msl)	Lower Opening (elevation in feet msl)
Beginning of year to 4/29/14	E	1385 to 1360	none
4/29/14 to 5/22/14	C	1422.5 to 1395	none
5/22/14 to 7/9/14	D	1407 to 1385	none
7/9/14 to 9/2/14	D-E	1407.5 to 1397.5	1370 to 1360
9/2/14 to end of year	E	1385 to 1360	none

3.2. Continuous Temperature Monitoring

Water temperature was continuously monitored at 13 locations within the Project area during 2014 (Figure 3-2). Monitoring at 11 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 2014 were consistent with those collected during 2008 and 2009 by CH2M Hill and presented in the Water Quality Final Technical Report (CH2M 2009). During 2014, temperature exceeded the state water temperature criteria for a seven day period from July 9 to July 15 at RM 9.8, the downstream end of the bypass reach. Figures depicting water temperatures during 2014 are presented in Appendix B. A tabulation of

all mean daily temperature data for 2014 is presented in Appendix C. The seven-day average of the daily maximum temperature (7-DAD Max) is presented in Appendix D.

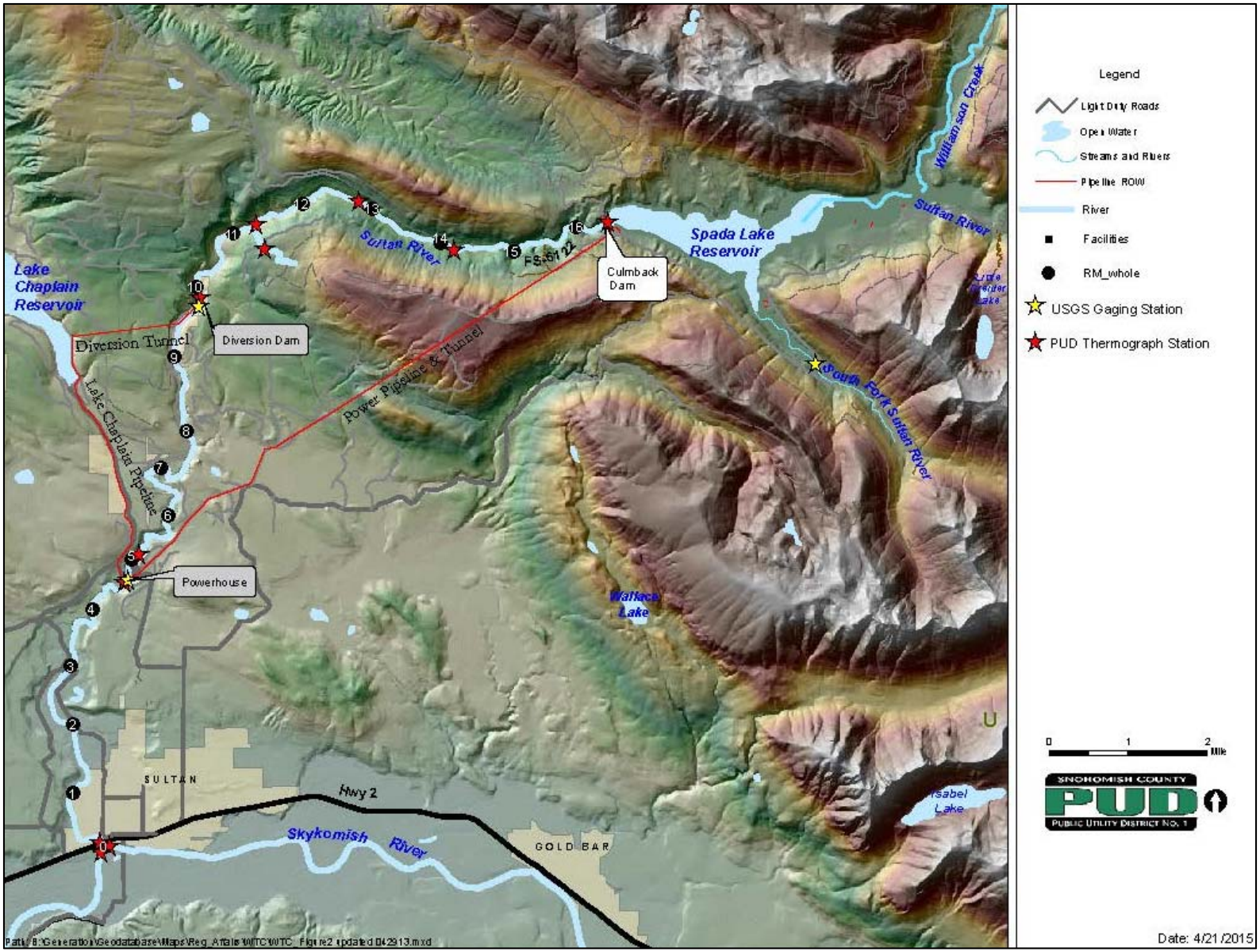


Figure 3-2. Locations of water temperature monitoring.

3.3. Synoptic Measurements of Water Quality

Synoptic measurements of water quality were collected during late spring, summer, and early fall 2014 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, 2014.

Location	Date	Temp ºC	pH Units	TurbSC NTU	LDO mg/l
South Fork Sultan River (SF)					
	5/28/14	5.8	6.9	0.9	12.2
	6/27/14	8.3	7.0	0.7	9.1
	7/16/14	15.7	6.8	0.4	10.5
	8/23/14	11.9	7.0	0.5	10.2
	9/14/14	9.0	7.2	0.9	11.1
	10/22/14	8.6	7.3	5.4	9.9
Sultan River upstream of Diversion Dam (RM 9.8)					
	5/28/14	9.6	7.0	5.0	11.2
	6/27/14	9.9	7.1	1.3	9.2
	7/16/14	15.6	6.9	3.2	10.4
	8/23/14	11.9	7.1	2.9	9.8
	9/14/14	10.1	7.0	3.5	10.7
	10/22/14	8.2	6.8	8.3	9.8
Sultan River downstream of Powerhouse (RM 4.4)					
	5/28/14	8.2	6.9	4.0	11.1
	6/27/14	13.6	7.1	2.9	9.0
	7/16/14	11.4	6.9	2.7	9.9
	8/23/14	13.7	7.0	2	10.1
	9/14/14	12.2	7.0	1.1	9.9
	10/22/14	10.6	7.9	6.7	9.7

4. DATA QUALITY AND COMPLIANCE

Monitoring of water quality during 2014 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. At one location, state water quality criteria were exceeded for a seven day period during July. 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. 2010. Water Temperature Conditioning Plan for Reach 3. Henry M. Jackson Hydroelectric Project (FERC No. 2157). 2010.

APPENDIX A

Monthly Reservoir Water Quality Sampling

Date Time	Depth	Depth	Temperature	Conductivity	pH	Dissolved Oxygen	Chlorophyll	Turbidity
M/D/Y	meters	feet	degrees C	mS/cm		mg/L	RFU	NTU
6/3/2014	0.5	1.6	13.9	20	7.37	10.4	0.2	0.8
6/3/2014	1.0	3.3	13.8	20	7.38	10.4	0.0	0.8
6/3/2014	2.0	6.6	13.3	20	7.37	10.7	0.3	0.8
6/3/2014	3.0	9.8	12.8	20	7.37	10.8	0.3	0.9
6/3/2014	4.0	13.1	12.3	20	7.35	11.0	0.2	0.9
6/3/2014	5.0	16.4	11.5	19	7.34	11.2	0.4	0.9
6/3/2014	6.0	19.7	10.1	19	7.29	11.7	0.6	1.0
6/3/2014	7.0	23.0	9.4	19	7.29	11.7	0.7	1.1
6/3/2014	8.0	26.2	8.9	19	7.22	11.6	0.8	1.1
6/3/2014	9.0	29.5	8.6	19	7.19	11.5	0.5	1.0
6/3/2014	10.0	32.8	8.0	19	7.13	11.5	0.4	0.9
6/3/2014	11.0	36.1	7.5	19	7.10	11.5	0.4	0.9
6/3/2014	12.0	39.4	7.1	19	7.03	11.4	0.2	0.8
6/3/2014	13.0	42.7	6.5	20	6.98	11.4	0.0	1.2
6/3/2014	14.0	45.9	6.2	20	6.94	11.5	0.0	1.3
6/3/2014	15.0	49.2	5.9	20	6.92	11.5	-0.1	1.5
6/3/2014	17.0	55.9	5.7	20	6.89	11.5	-0.1	1.6
6/3/2014	19.0	62.4	5.4	20	6.82	11.4	0.0	2.2
6/3/2014	21.0	68.9	5.3	20	6.83	11.5	-0.1	2.4
6/3/2014	23.0	75.5	5.2	20	6.83	11.5	-0.1	2.3
6/3/2014	25.0	82.0	5.0	20	6.80	11.5	-0.1	2.5
6/3/2014	27.0	88.6	5.0	20	6.80	11.5	0.0	2.6
6/3/2014	29.0	95.1	4.9	20	6.79	11.5	-0.1	3.2
6/3/2014	31.0	101.7	4.8	20	6.78	11.5	0.0	3.3
6/3/2014	34.0	111.6	4.6	20	6.77	11.5	0.0	3.3
6/3/2014	37.0	121.4	4.4	20	6.76	11.6	0.0	3.7
6/3/2014	40.0	131.2	4.3	20	6.74	11.3	0.0	6.1
6/3/2014	43.0	141.1	4.2	20	6.71	11.2	0.0	7.5
6/3/2014	46.0	150.9	4.2	20	6.68	11.0	0.1	9.5

Date Time	Depth	Depth	Temperature	Conductivity	pH	Dissolved Oxygen	Chlorophyll	Turbidity
M/D/Y	meters	feet	degrees C	mS/cm		mg/L	RFU	NTU
6/25/2014	0.5	1.6	16.9	21	7.07	9.8	0.1	0.8
6/25/2014	1.0	3.3	16.6	21	7.09	9.8	0.3	0.8
6/25/2014	2.0	6.6	16.6	21	7.08	9.8	0.2	0.8
6/25/2014	3.0	9.8	16.5	21	7.12	9.8	0.2	0.9
6/25/2014	4.0	13.1	16.4	21	7.12	9.8	0.2	0.9
6/25/2014	5.0	16.4	15.4	21	7.13	10	0.3	0.9
6/25/2014	6.0	19.7	14.0	20	7.12	10.5	0.2	1.0
6/25/2014	7.0	23.0	13.2	21	7.12	10.7	0.5	1.1
6/25/2014	8.0	26.2	12.0	19	7.11	11.1	0.6	1.1
6/25/2014	9.0	29.5	11.4	19	7.09	11.0	0.6	1.0
6/25/2014	10.0	32.7	11.0	19	7.06	11.1	0.7	0.9
6/25/2014	11.0	36.1	10.6	19	6.95	11.1	0.7	0.9
6/25/2014	12.0	39.5	10.4	19	6.94	11.0	0.5	0.8
6/25/2014	13.0	42.8	9.8	19	6.90	11.1	0.7	1.2
6/25/2014	14.0	45.9	9.2	19	6.90	11.1	0.5	1.3
6/25/2014	15.0	49.3	8.8	19	6.84	11.1	0.4	1.5
6/25/2014	17.0	55.9	7.6	20	6.75	11.1	0.2	1.6
6/25/2014	19.0	62.3	6.8	20	6.74	11.2	0.2	2.2
6/25/2014	21.0	68.9	5.9	20	6.70	11.2	0.1	2.4
6/25/2014	23.0	75.5	5.7	20	6.68	11.3	0.0	2.3
6/25/2014	25.0	82.0	5.6	20	6.68	11.3	0.2	2.5
6/25/2014	27.0	88.6	5.4	20	6.66	11.2	0.2	2.6
6/25/2014	29.0	95.1	5.4	20	6.63	11.2	0.1	3.2
6/25/2014	31.0	101.7	5.3	20	6.62	11.2	0.2	3.3
6/25/2014	34.0	111.6	5.1	20	6.60	11.3	0.0	3.3
6/25/2014	37.0	121.4	5.0	20	6.60	11.3	0.1	3.7
6/25/2014	40.0	131.2	4.8	20	6.60	11.3	0.1	6.1
6/25/2014	43.0	141.1	4.6	20	6.58	11.2	0.2	7.5
6/25/2014	46.0	150.9	4.5	21	6.55	11.1	0.1	9.5

Date Time	Depth	Depth	Temperature	Conductivity	pH	Dissolved Oxygen	Chlorophyll	Turbidity
M/D/Y	meters	feet	degrees C	mS/cm		mg/L	RFU	NTU
7/16/2014	0.5	1.6	22.7	21	7.05	8.5	0.0	0.3
7/16/2014	1.0	3.3	22.5	21	7.07	8.5	0.0	0.4
7/16/2014	2.0	6.6	22.3	21	7.08	8.5	0.0	0.4
7/16/2014	3.0	9.8	22.1	21	7.12	8.6	-0.1	0.3
7/16/2014	4.0	13.1	22.0	21	7.13	8.5	0.0	0.4
7/16/2014	5.0	16.4	20.9	22	7.06	8.8	0.0	0.4
7/16/2014	6.0	19.7	17.2	21	7.13	10.2	0.1	0.5
7/16/2014	7.0	22.9	15.6	20	7.13	10.6	0.1	0.5
7/16/2014	8.0	26.2	14.4	19	7.10	10.8	0.2	0.5
7/16/2014	9.0	29.5	13.7	19	7.11	10.9	0.1	0.5
7/16/2014	10.0	32.8	13.1	19	7.11	10.8	0.2	0.5
7/16/2014	11.0	36.1	12.5	19	7.07	10.8	0.3	0.4
7/16/2014	12.0	39.4	11.9	19	7.03	10.7	0.3	0.5
7/16/2014	13.0	42.7	11.3	19	6.82	10.6	0.2	0.4
7/16/2014	14.0	45.9	10.7	19	6.79	10.5	0.0	0.4
7/16/2014	15.0	49.3	10.3	19	6.77	10.5	0.2	0.4
7/16/2014	17.0	55.8	8.6	19	6.67	10.6	0.0	0.5
7/16/2014	19.0	62.3	7.0	20	6.64	10.7	0.0	0.9
7/16/2014	21.0	68.9	6.6	20	6.58	10.7	0.0	1.2
7/16/2014	23.0	75.5	6.3	20	6.54	10.9	0.0	1.2
7/16/2014	25.0	82.0	6.1	20	6.52	10.9	0.0	1.5
7/16/2014	27.0	88.7	5.9	20	6.50	10.9	0.0	1.4
7/16/2014	29.0	95.1	5.8	20	6.48	10.9	0.0	1.7
7/16/2014	31.0	101.7	5.7	20	6.47	10.9	0.0	1.7
7/16/2014	34.0	111.6	5.5	20	6.46	10.9	0.0	1.9
7/16/2014	37.0	121.5	5.4	20	6.46	11.0	0.0	2.0
7/16/2014	40.0	131.3	5.2	20	6.45	11.0	0.0	2.1
7/16/2014	43.0	141.2	5.0	20	6.44	11.0	0.0	2.6
7/16/2014	46.0	150.9	4.8	20	6.41	10.9	-0.1	3.0

Date Time	Depth	Depth	Temperature	Conductivity	pH	Dissolved Oxygen	Chlorophyll	Turbidity
M/D/Y	meters	feet	degrees C	mS/cm		mg/L	RFU	NTU
8/20/2014	0.5	1.6	20.8	23	7.27	8.5	0.0	ND
8/20/2014	1.0	3.3	20.8	23	7.26	8.5	0.3	ND
8/20/2014	2.0	6.6	20.8	23	7.26	8.5	0.1	ND
8/20/2014	3.0	9.8	20.8	23	7.26	8.5	0.2	ND
8/20/2014	4.0	13.1	20.8	23	7.25	8.5	0.3	ND
8/20/2014	5.0	16.4	20.8	23	7.23	8.5	0.3	ND
8/20/2014	6.0	19.7	19.9	24	7.17	8.9	0.4	ND
8/20/2014	7.0	22.9	19.4	24	7.12	9.0	0.1	ND
8/20/2014	8.0	26.2	18.4	22	7.07	9.5	0.2	ND
8/20/2014	9.0	29.5	17.1	21	7.03	9.4	0.5	ND
8/20/2014	10.0	32.9	15.8	20	6.94	9.6	0.2	ND
8/20/2014	11.0	36.1	15.0	20	6.93	9.6	0.2	ND
8/20/2014	12.0	39.3	14.3	20	6.88	9.5	0.2	ND
8/20/2014	13.0	42.7	13.2	20	6.81	9.5	0.2	ND
8/20/2014	14.0	45.9	12.6	20	6.77	9.4	0.1	ND
8/20/2014	15.0	49.2	12.2	20	6.73	9.4	0.2	ND
8/20/2014	17.0	55.8	10.7	20	6.66	9.5	0.0	ND
8/20/2014	19.0	62.3	9.2	20	6.61	9.6	0.2	ND
8/20/2014	21.0	68.9	7.3	21	6.56	9.7	0.1	ND
8/20/2014	23.0	75.5	6.7	21	6.51	9.9	0.2	ND
8/20/2014	25.0	82.0	6.5	21	6.50	9.9	0.2	ND
8/20/2014	27.0	88.6	6.4	21	6.46	10.0	0.2	ND
8/20/2014	29.0	95.1	6.2	21	6.46	10.0	0.2	ND
8/20/2014	31.0	101.7	6.1	21	6.45	10.1	0.2	ND
8/20/2014	34.0	111.6	5.9	21	6.48	10.2	0.1	ND
8/20/2014	37.0	121.4	5.7	20	6.48	10.3	0.2	ND
8/20/2014	40.0	131.2	5.4	20	6.49	10.5	0.5	ND
8/20/2014	43.0	141.1	5.2	20	6.48	10.5	0.2	ND
8/20/2014	46.0	151.0	5.0	21	6.47	10.3	0.0	ND

Date Time	Depth	Depth	Temperature	Conductivity	pH	Dissolved Oxygen	Chlorophyll	Turbidity
M/D/Y	meters	feet	degrees C	mS/cm		mg/L	RFU	NTU
9/24/2014	0.5	1.6	17.9	25	7.12	8.9	0.2	1.5
9/24/2014	1.0	3.3	17.9	25	7.17	8.9	0.2	1.6
9/24/2014	2.0	6.6	17.9	25	7.11	8.9	0.3	1.5
9/24/2014	3.0	9.9	17.9	25	7.12	8.9	0.2	1.5
9/24/2014	4.1	13.4	17.9	25	7.13	8.9	0.1	1.5
9/24/2014	5.0	16.5	17.9	25	7.16	8.9	0.2	1.7
9/24/2014	6.0	19.7	17.9	25	7.14	8.9	0.2	1.7
9/24/2014	7.0	23.0	17.9	25	7.11	8.8	0.2	1.6
9/24/2014	8.0	26.2	17.9	25	7.10	8.8	0.2	1.9
9/24/2014	9.0	29.5	17.8	25	7.12	8.8	0.2	3.8
9/24/2014	10.0	32.8	17.2	26	7.01	8.3	0.2	11.2
9/24/2014	11.0	36.1	15.8	24	6.85	7.6	0.0	2.2
9/24/2014	12.0	39.4	15.3	24	6.80	7.6	0.0	2.2
9/24/2014	13.0	42.7	14.5	23	6.77	7.6	0.1	1.8
9/24/2014	14.0	45.9	13.7	23	6.65	7.6	0.1	1.8
9/24/2014	15.0	49.2	11.7	22	6.68	7.8	0.0	2.0
9/24/2014	17.0	55.8	7.8	21	6.36	8.9	0.0	2.2
9/24/2014	19.0	62.3	7.1	21	6.35	9.2	0.1	2.2
9/24/2014	21.0	68.9	6.5	21	6.38	9.5	0.0	2.0
9/24/2014	23.0	75.5	6.4	21	6.41	9.6	0.0	1.9
9/24/2014	25.0	81.9	6.3	21	6.50	9.7	0.0	1.8
9/24/2014	27.0	88.6	6.2	21	6.51	9.8	-0.1	1.9
9/24/2014	29.0	95.2	6.0	21	6.49	9.8	0.0	2.5
9/24/2014	31.0	101.7	5.8	21	6.51	9.9	0.0	2.3
9/24/2014	34.0	111.6	5.6	21	6.52	9.9	0.1	2.7
9/24/2014	37.0	121.5	5.5	21	6.51	9.8	0.0	3.0
9/24/2014	40.0	131.3	5.4	21	6.50	9.8	0.1	3.3
9/24/2014	43.0	141.1	5.3	22	6.48	9.4	0.0	4.5
9/24/2014	46.0	150.9	5.3	22	6.45	9.1	-0.1	5.2

Date Time	Depth	Depth	Temperature	Conductivity	pH	Dissolved Oxygen	Chlorophyll	Turbidity
M/D/Y	meters	feet	degrees C	mS/cm		mg/L	RFU	NTU
10/16/2014	0	1.6	14.8	25	7.11	9.0	0.1	2.7
10/16/2014	1	3.2	14.8	25	7.14	9.0	0.2	2.8
10/16/2014	2	6.6	14.8	25	7.11	9.0	0.2	2.7
10/16/2014	3	9.8	14.8	25	7.09	9.0	0.2	2.8
10/16/2014	4	13.1	14.8	25	7.05	9.0	0.3	2.7
10/16/2014	5	16.4	14.8	25	7.03	9.0	0.2	2.8
10/16/2014	6	19.7	14.8	25	7.03	9.0	0.3	2.9
10/16/2014	7	23.0	14.8	25	7.01	9.0	0.4	3.3
10/16/2014	8	26.2	14.8	25	6.98	9.0	0.1	3.1
10/16/2014	9	29.5	14.7	26	6.97	9.0	0.2	4.0
10/16/2014	10	32.8	14.6	26	6.95	8.8	0.1	5.5
10/16/2014	11	36.1	14.6	26	6.94	8.6	0.1	6.1
10/16/2014	12	39.4	14.5	26	6.87	8.4	0.0	4.9
10/16/2014	13	42.7	14.0	25	6.80	8.4	0.1	4.3
10/16/2014	14	45.9	13.6	25	6.77	8.4	0.0	4.4
10/16/2014	17	55.8	11.2	22	6.54	7.7	0.0	4.2
10/16/2014	19	62.4	7.1	21	6.53	8.8	0.0	2.7
10/16/2014	21	68.9	6.7	21	6.34	9.2	0.1	2.5
10/16/2014	23	75.5	6.5	21	6.29	9.4	0.0	2.5
10/16/2014	25	82.0	6.4	21	6.28	9.5	0.2	2.3
10/16/2014	27	88.6	6.2	21	6.28	9.5	0.1	2.8
10/16/2014	29	95.1	6.1	21	6.28	9.6	0.0	2.6
10/16/2014	31	101.7	6.0	21	6.30	9.8	0.1	2.7
10/16/2014	34	111.6	5.8	21	6.29	9.6	0.0	3.8
10/16/2014	37	121.4	5.6	21	6.27	9.6	0.0	3.7
10/16/2014	40	131.2	5.6	21	6.26	9.5	0.0	4.3
10/16/2014	43	141.1	5.5	21	6.25	9.1	0.0	4.8
10/16/2014	46	151.0	5.5	22	6.24	8.8	0.0	7.4
10/16/2014	49	160.8	5.4	22	6.22	8.6	0.2	11.7
10/16/2014	48	157.0	5.5	22	6.20	8.6	0.0	7.6

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 mainstem Sultan River immediately downstream of Culmback Dam (RM 15.8) during 2014

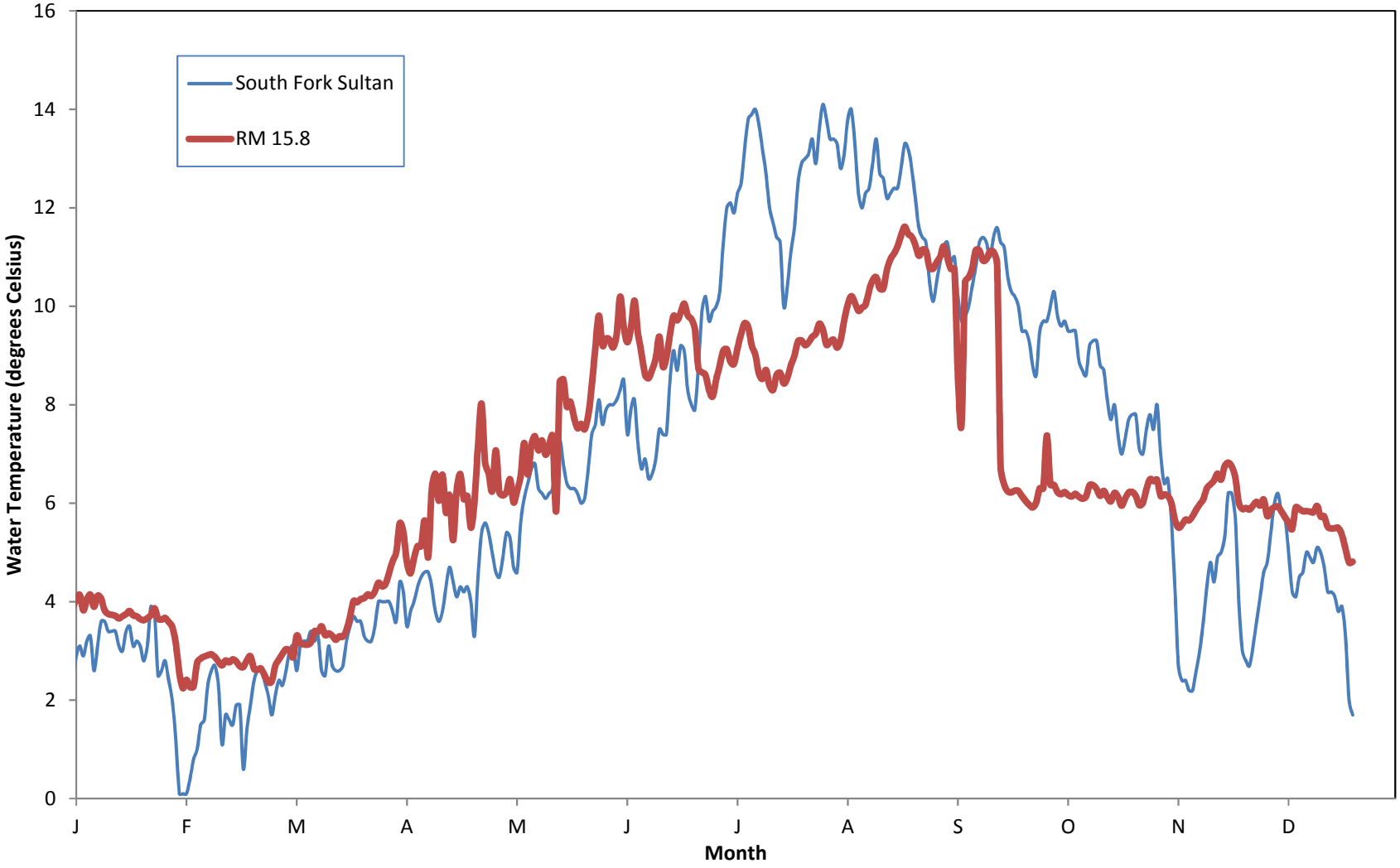


Figure B-2. Longitudinal Depiction of Mean Daily Water Temperature in the Bypass Reach (Reach 3) of the Sultan River during 2014

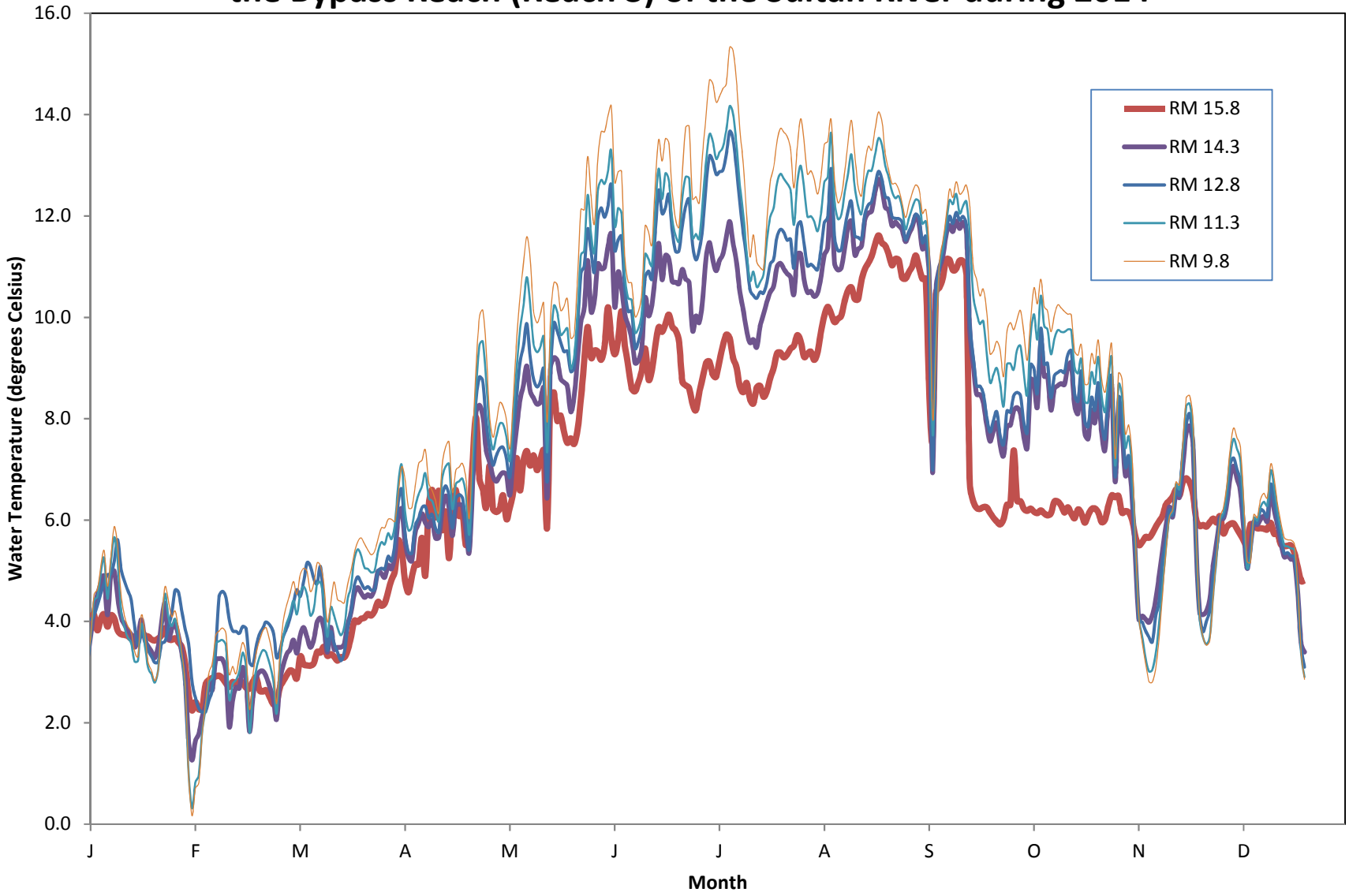


Figure B-3. Longitudinal Depiction of Mean Daily Water Temperature, Sultan River downstream of Culmback Dam, 2014

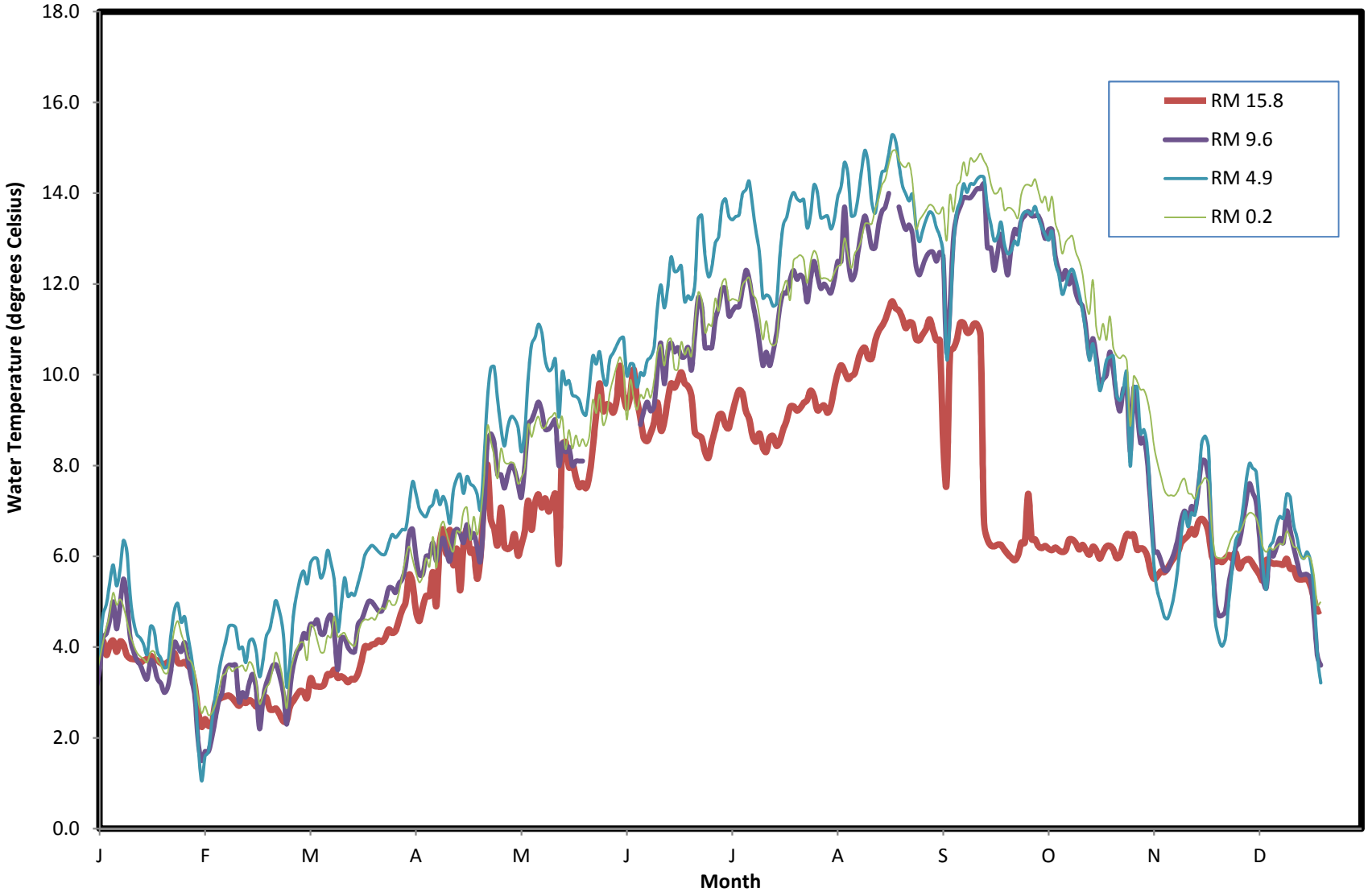
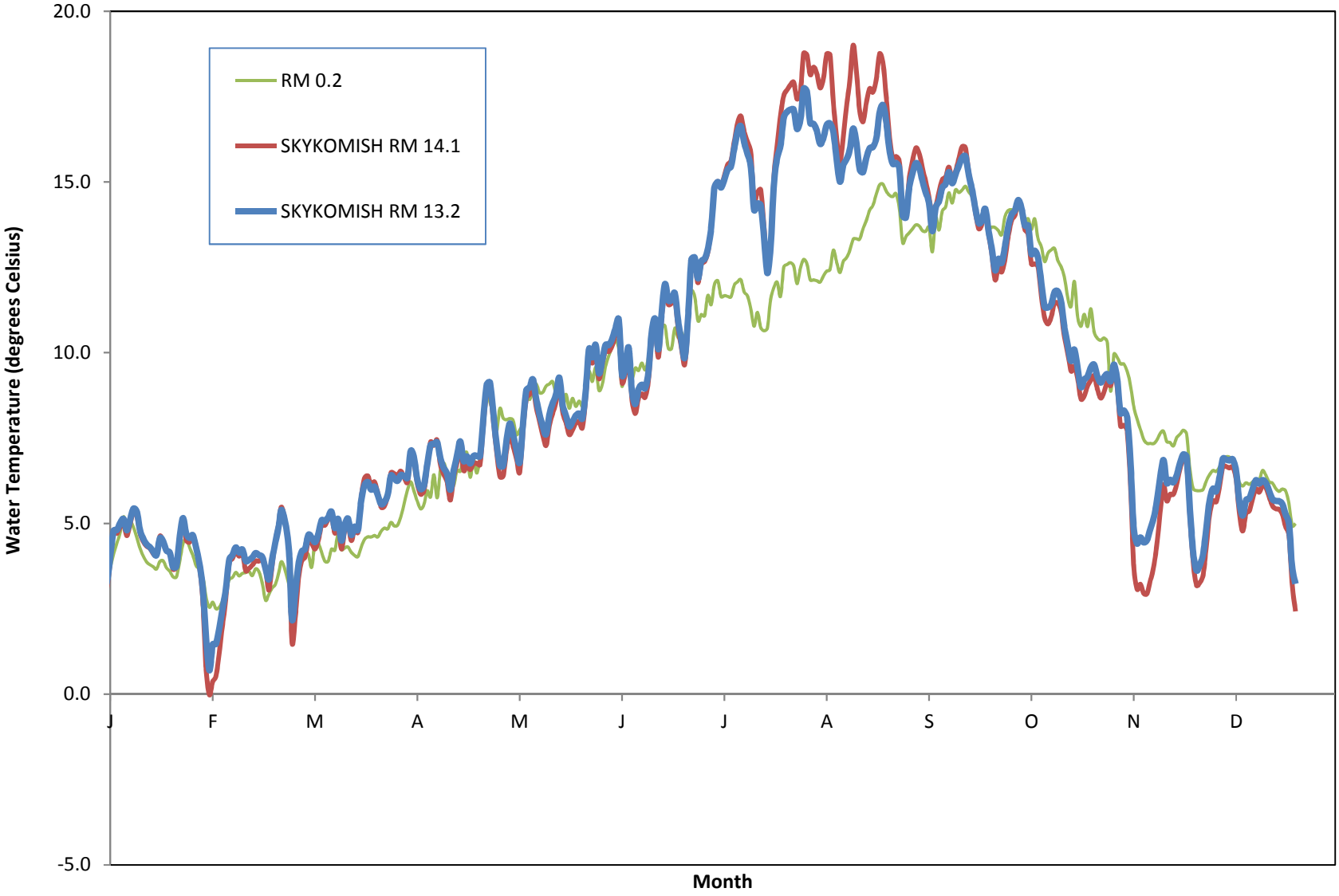


Figure B-4. Mean Daily Water Temperature near confluence of Sultan and Skykomish rivers, 2014



APPENDIX C

Continuous Daily Water Temperature Data in Tabular Format

		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	3.2	4.1	4.3	4.4	4.3	4.6	4.1	4.8	4.4	4.4	4.5	4.8	4.9
1/2	3.5	4.2	4.5	4.3	4.6	4.7	4.2	5.0	4.5	4.5	5.0	4.9	5.0
1/3	3.0	3.8	4.3	4.6	4.5	4.7	4.2	5.0	4.7	4.6	4.6	4.9	5.0
1/4	2.3	3.7	3.4	4.7	3.5	4.1	3.6	4.1	4.0	4.0	3.9	4.0	4.1
1/5	2.0	3.8	3.0	4.3	2.9	3.3	3.1	3.3	3.4	3.4	3.5	3.0	3.2
1/6	2.4	3.9	3.3	4.0	3.0	3.2	3.1	3.3	3.4	3.4	3.7	3.1	3.3
1/7	2.9	4.0	3.7	4.0	3.7	3.7	3.5	4.0	3.7	3.7	4.3	4.0	4.1
1/8	3.1	4.1	4.2	4.1	4.4	4.5	4.2	4.7	4.3	4.1	4.8	4.7	4.8
1/9	2.9	3.8	4.5	4.3	4.5	4.6	4.3	4.9	4.7	4.4	4.7	4.7	4.8
1/10	3.2	4.0	4.7	4.5	4.9	5.1	4.6	5.4	5.0	4.7	5.0	4.9	5.0
1/11	3.3	4.1	4.9	4.8	5.3	5.4	5.0	5.8	5.6	5.2	5.2	5.0	5.1
1/12	2.6	3.9	4.1	4.9	4.4	4.7	4.4	5.4	5.1	4.9	4.7	4.6	4.8
1/13	3.1	4.1	4.9	4.9	5.1	5.3	4.9	5.7	5.3	5.1	5.3	5.0	5.1
1/14	3.6	4.1	5.0	5.2	5.7	5.9	5.5	6.3	5.0	4.9	5.6	5.3	5.4
1/15	3.6	3.8	4.5	5.6	5.2	5.5	5.1	6.1	4.6	4.6	5.3	5.3	5.4
1/16	3.4	3.7	4.1	5.0	4.2	4.5	4.2	5.1	4.2	4.3	5.0	4.7	4.8
1/17	3.4	3.7	3.9	4.8	3.9	4.1	3.9	4.6	3.9	4.0	4.9	4.5	4.5
1/18	3.4	3.7	3.8	4.6	3.7	3.9	3.7	4.3	3.7	3.9	4.8	4.3	4.4
1/19	3.1	3.7	3.7	4.4	3.6	3.8	3.6	4.2	3.7	3.8	4.4	4.3	4.3
1/20	3.0	3.7	3.5	3.9	3.2	3.4	3.4	4.0	3.6	3.7	4.0	4.1	4.2
1/21	3.4	3.7	3.7	3.5	3.2	3.3	3.3	3.8	3.6	3.7	4.3	4.1	4.1
1/22	3.5	3.8	4.0	3.7	4.0	4.1	3.7	4.5	3.7	3.9	4.7	4.6	4.6
1/23	3.1	3.7	3.7	3.8	3.6	3.8	3.6	4.4	3.8	3.9	4.3	4.4	4.5
1/24	3.2	3.7	3.5	3.4	3.1	3.2	3.3	3.9	3.7	3.7	4.5	4.2	4.2
1/25	3.1	3.6	3.4	3.3	3.0	3.0	3.2	3.8	3.6	3.6	4.5	4.2	4.1
1/26	2.8	3.6	3.3	3.2	2.8	2.8	3.0	3.5	3.4	3.4	4.2	3.7	3.7
1/27	3.1	3.7	3.5	3.2	3.1	3.0	3.1	3.6	3.4	3.4	4.2	3.7	3.7
1/28	3.9	3.7	4.0	3.6	3.9	4.0	3.5	4.3	3.8	3.9	4.7	4.6	4.6
1/29	3.8	3.9	4.4	3.6	4.5	4.7	4.1	4.8	4.3	4.4	5.2	5.1	5.2
1/30	2.5	3.7	3.7	3.9	4.1	4.4	4.0	5.0	4.5	4.6	4.9	4.5	4.7
1/31	2.6	3.6	3.8	4.2	3.9	4.1	3.9	4.6	4.2	4.3	4.6	4.4	4.6

		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	3.7	4.0	4.6	4.1	4.2	4.1	4.7	4.1	4.1	4.4	4.7	4.7
2/2	2.4	3.6	3.7	4.6	3.7	3.9	3.7	4.2	3.7	3.8	3.9	4.3	4.3
2/3	2.0	3.5	3.4	4.2	3.3	3.4	3.3	3.8	3.6	3.7	3.2	3.7	3.8
2/4	1.2	3.2	2.8	3.8	2.6	2.7	2.9	3.1	3.4	3.4	2.4	2.8	3.1
2/5	0.1	2.6	1.6	3.5	1.0	1.0	1.9	1.8	3.0	2.8	0.8	0.7	1.6
2/6	0.1	2.2	1.3	2.8	0.3	0.2	1.5	1.1	2.6	2.5	0.4	0.0	0.7
2/7	0.1	2.4	1.6	2.5	0.8	0.7	1.7	1.6	2.6	2.7	0.6	0.4	1.5
2/8	0.4	2.3	1.8	2.3	1.0	0.8	1.7	1.7	2.4	2.5	0.8	0.5	1.5
2/9	0.8	2.3	2.1	2.2	1.8	1.8	2.0	2.4	2.4	2.6	1.2	1.2	1.9
2/10	1.0	2.8	2.4	2.2	2.3	2.4	2.4	2.9	2.5	2.7	1.7	2.0	2.5
2/11	1.5	2.8	2.8	2.4	2.8	3.0	2.8	3.4	2.8	3.0	2.3	2.8	3.1
2/12	1.6	2.9	2.6	2.7	2.9	3.2	3.0	3.8	3.3	3.3	2.9	3.9	3.9
2/13	2.3	2.9	3.2	3.4	3.6	3.7	3.5	4.1	3.4	3.4	3.4	4.0	4.1
2/14	2.6	2.9	3.3	4.5	3.6	3.8	3.6	4.4	3.6	3.6	3.6	4.2	4.3
2/15	2.7	2.9	3.3	4.6	3.6	3.9	3.6	4.5	3.6	3.5	3.7	4.0	4.1
2/16	2.3	2.8	3.0	4.5	3.5	3.8	3.6	4.4	3.8	3.5	3.5	4.1	4.2
2/17	1.1	2.7	1.9	4.0	2.5	3.0	2.8	4.0	3.6	3.6	3.4	3.6	3.9
2/18	1.7	2.8	2.4	3.8	2.8	3.1	3.0	4.0	3.7	3.6	3.4	3.7	3.9
2/19	1.6	2.8	2.7	3.8	2.8	3.0	2.9	3.7	3.4	3.5	3.1	3.8	4.0
2/20	1.5	2.8	2.7	3.8	3.0	3.3	3.2	4.1	3.7	3.7	3.2	3.9	4.1
2/21	1.9	2.8	3.1	3.9	3.4	3.6	3.4	4.2	3.7	3.6	3.3	3.9	4.1
2/22	1.9	2.7	2.8	3.9	3.1	3.4	3.1	3.9	3.4	3.3	3.0	4.0	4.0
2/23	0.6	2.7	1.8	3.2	1.8	2.3	2.2	3.4	2.7	2.8	2.3	3.7	3.7
2/24	1.4	2.8	2.5	3.1	2.6	2.9	2.8	3.7	2.9	2.9	3.0	3.0	3.4
2/25	1.9	2.9	2.9	3.5	3.1	3.4	3.2	4.2	3.2	3.1	3.3	3.8	3.9
2/26	2.4	2.6	3.0	3.8	3.3	3.6	3.4	4.4	3.5	3.2	3.6	4.5	4.4
2/27	2.6	2.6	3.0	3.9	3.4	3.8	3.6	4.7	3.9	3.5	3.7	5.0	4.9
2/28	2.6	2.6	2.9	4.0	3.4	3.9	3.6	5.0	4.2	3.9	4.0	5.5	5.4

		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	2.1	2.4	2.5	3.8	2.8	3.2	3.0	4.3	3.6	3.2	3.4	4.3	4.3
3/2	1.7	2.4	2.1	3.3	2.2	2.4	2.3	3.1	2.7	2.7	2.9	1.5	2.2
3/3	2.1	2.7	2.8	3.4	3.2	3.4	3.1	3.7	3.5	3.4	3.8	2.2	2.9
3/4	2.4	2.8	3.1	3.7	3.7	4.0	3.6	4.7	3.9	3.7	4.2	3.4	3.8
3/5	2.3	2.9	3.4	3.9	4.0	4.3	3.9	5.2	4.1	4.0	4.7	3.9	4.2
3/6	2.6	3.0	3.4	4.1	4.2	4.6	4.0	5.5	4.2	4.1	4.9	4.0	4.3
3/7	3.0	3.0	3.6	4.4	4.4	4.8	4.3	5.7	4.1	4.1	5.0	4.5	4.7
3/8	3.1	2.9	3.4	4.6	4.1	4.5	4.2	5.4	3.6	3.7	5.0	4.4	4.6
3/9	2.6	3.3	3.7	4.5	4.5	4.9	4.5	5.8	4.9	4.5	5.4	4.3	4.5
3/10	3.1	3.2	3.9	4.8	4.7	5.0	4.5	6.0	4.4	4.4	5.2	4.5	4.7
3/11	3.2	3.1	3.7	5.2	4.5	5.0	4.6	5.9	4.0	4.2	5.0	5.0	5.1
3/12	3.2	3.1	3.5	5.1	4.1	4.6	4.3	5.5	3.7	3.9	4.9	4.9	5.1
3/13	3.4	3.2	3.6	4.8	4.2	4.7	4.3	5.7	3.7	3.9	5.0	5.1	5.2
3/14	3.2	3.4	4.0	4.7	4.8	5.2	4.6	6.1	4.2	4.2	5.5	5.2	5.3
3/15	3.3	3.4	4.1	5.1	4.8	5.1	4.7	5.9	4.1	4.2	5.4	4.7	4.9
3/16	2.6	3.5	3.9	4.3	4.4	4.7	4.3	5.5	4.8	4.7	5.3	5.0	5.1
3/17	2.5	3.3	3.4	3.4	3.7	4.0	3.5	4.4	4.1	4.2	4.4	4.3	4.5
3/18	3.1	3.4	3.9	3.8	4.3	4.3	4.2	4.9	4.1	4.3	4.7	4.8	5.0
3/19	2.7	3.3	3.5	3.6	4.1	4.8	4.2	5.5	4.2	4.3	4.6	5.0	5.1
3/20	2.6	3.2	3.5	3.4	3.9	4.4	4.0	5.1	4.0	4.2	4.2	4.5	4.7
3/21	2.6	3.3	3.5	3.2	3.7	4.4	3.9	5.2	3.9	4.1	4.0	4.8	4.9
3/22	2.7	3.3	3.6	3.4	3.9	4.4	3.9	5.1	3.8	4.0	4.1	4.7	4.8
3/23	3.2	3.4	3.9	3.9	4.4	4.7	4.5	5.4	4.0	4.3	4.4	5.8	5.7
3/24	3.5	3.7	4.2	4.2	4.7	5.0	4.6	5.7	4.2	4.5	4.9	6.3	6.1
3/25	3.7	4.0	4.6	4.7	5.2	5.4	4.8	6.0	4.4	4.6	5.6	6.4	6.2
3/26	3.6	4.0	4.7	4.9	5.4	5.6	5.0	6.1	4.4	4.6	5.4	6.1	6.0
3/27	3.6	4.1	4.6	4.8	5.3	5.6	5.0	6.2	4.4	4.6	5.3	6.2	6.1
3/28	3.3	4.1	4.5	4.6	5.1	5.5	4.9	6.2	4.4	4.6	5.4	5.9	5.8
3/29	3.2	4.1	4.5	4.7	5.0	5.4	4.8	6.1	4.6	4.8	5.3	5.5	5.6
3/30	3.2	4.1	4.5	4.6	5.0	5.3	4.8	6.0	4.7	4.9	5.2	5.5	5.6
3/31	3.5	4.2	4.6	4.6	5.0	5.4	5.0	6.1	4.6	4.8	5.1	5.8	5.8

		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	4.0	4.4	5.0	5.0	5.4	5.6	5.3	6.3	4.7	5.0	5.5	6.5	6.4
4/2	4.0	4.3	4.9	5.0	5.6	5.8	5.3	6.5	4.7	4.9	5.5	6.5	6.3
4/3	4.0	4.4	4.9	5.0	5.5	5.8	5.2	6.4	4.7	4.9	5.5	6.4	6.2
4/4	4.0	4.6	5.1	5.3	5.7	6.0	5.4	6.5	5.0	5.2	5.7	6.5	6.4
4/5	3.8	4.8	5.0	5.2	5.6	6.0	5.5	6.6	5.4	5.6	5.7	6.3	6.4
4/6	3.6	5.0	5.3	5.5	5.9	6.0	5.8	6.6	5.8	6.0	5.9	6.2	6.3
4/7	4.4	5.6	6.1	6.4	6.7	6.5	6.5	7.1	5.9	6.2	6.6	7.0	7.1
4/8	4.2	5.4	6.2	6.6	7.1	7.0	6.6	7.6	5.7	5.9	7.0	6.8	6.9
4/9	3.5	4.8	5.6	5.7	6.2	6.8	6.0	7.4	5.5	5.6	6.1	6.2	6.3
4/10	3.8	4.6	5.3	5.4	5.8	6.2	5.6	7.0	5.2	5.4	5.7	5.9	6.0
4/11	4.0	4.9	5.2	5.3	5.9	6.2	5.6	6.9	5.4	5.6	5.9	5.9	6.1
4/12	4.3	5.1	5.8	5.9	6.3	6.7	6.0	6.9	5.7	6.0	5.9	6.7	6.7
4/13	4.5	5.1	5.9	6.0	6.5	7.1	6.0	7.1	5.5	5.8	6.0	7.4	7.3
4/14	4.6	5.6	6.1	6.2	6.7	7.2	6.3	7.2	6.1	6.4	6.4	7.3	7.3
4/15	4.6	4.9	5.9	6.3	6.9	7.4	5.9	7.5	5.6	5.7	6.3	7.4	7.4
4/16	4.3	6.3	5.9	6.0	6.4	6.7	6.2	7.1	6.6	6.6	6.4	6.7	6.9
4/17	3.8	6.6	6.0	6.1	6.4	6.6	6.4	7.3	6.8	6.8	6.4	6.4	6.6
4/18	3.6	6.1	5.6	5.8	6.2	6.4	6.1	7.1	6.6	6.5	6.0	6.2	6.4
4/19	3.8	6.6	5.7	5.8	6.0	6.2	5.9	6.7	6.2	6.3	6.0	5.7	6.0
4/20	4.3	5.8	6.2	6.5	6.8	7.1	6.5	7.4	6.0	6.1	6.3	6.4	6.5
4/21	4.7	6.2	6.5	6.7	7.1	7.4	6.6	7.7	6.6	6.6	6.5	6.8	7.0
4/22	4.4	5.3	6.2	6.5	7.1	7.5	6.5	7.8	6.6	6.5	6.2	7.2	7.4
4/23	4.1	6.3	5.7	5.8	6.2	6.6	6.3	7.4	6.9	7.0	6.1	6.6	6.8
4/24	4.3	6.6	6.3	6.4	6.7	7.0	6.7	7.8	7.1	7.1	6.4	6.7	7.0
4/25	4.2	6.1	6.3	6.5	6.8	7.0	6.4	7.6	6.5	6.4	6.3	6.6	6.8
4/26	4.3	6.1	6.3	6.4	6.8	7.1	6.5	7.5	6.8	6.9	6.1	6.7	7.0
4/27	4.0	5.5	5.8	5.9	6.5	6.8	6.2	7.4	6.5	6.5	5.9	6.8	7.0
4/28	3.3	6.0	5.4	5.4	5.7	6.0	5.9	7.0	6.7	6.9	5.7	6.7	7.0
4/29	4.5	7.2	6.7	6.9	7.2	7.6	7.0	8.1	7.5	7.7	6.7	7.9	8.1
4/30	5.4	8.0	8.1	8.4	8.6	9.0	8.5	9.4	8.4	8.9	7.7	8.8	9.1

		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	5.6	6.8	8.3	8.8	9.5	10.0	8.7	10.1	8.2	8.6	8.5	8.9	9.1
5/2	5.4	6.6	8.1	8.7	9.5	10.1	8.5	10.2	8.0	8.2	8.9	8.0	8.2
5/3	5.0	6.2	7.4	7.9	8.7	9.4	7.8	9.5	7.8	7.7	8.4	7.1	7.3
5/4	4.6	7.1	7.1	7.4	7.8	8.1	7.8	8.8	8.1	8.4	7.7	6.4	6.7
5/5	4.5	6.2	6.9	7.1	7.4	7.6	7.5	8.4	7.9	8.1	7.4	6.4	6.7
5/6	4.9	6.2	6.8	7.3	7.7	7.9	7.8	8.9	7.8	8.0	7.5	7.1	7.4
5/7	5.4	6.2	6.9	7.4	7.9	8.3	8.0	9.1	7.8	8.1	7.5	7.7	7.9
5/8	5.3	6.5	6.9	7.4	7.9	8.2	7.9	9.0	7.8	8.0	7.8	7.3	7.6
5/9	4.7	6.0	6.9	7.2	7.6	8.0	7.6	8.8	7.4	7.6	7.5	6.9	7.2
5/10	4.6	6.3	6.5	6.8	7.2	7.4	7.3	8.3	7.5	7.7	7.2	6.5	6.8
5/11	5.6	6.6	7.2	7.7	8.1	8.4	8.0	8.8	7.6	7.9	7.4	7.7	7.9
5/12	6.1	7.2	7.8	8.4	9.0	9.6	8.9	9.9	8.5	8.9	8.1	8.7	8.9
5/13	6.4	6.6	8.4	9.1	9.8	10.4	9.0	10.7	8.2	8.6	8.7	8.8	9.0
5/14	6.7	7.2	8.7	9.4	10.2	11.0	9.2	10.8	8.4	8.9	9.4	9.0	9.2
5/15	6.8	7.4	9.0	9.9	10.8	11.6	9.4	11.1	8.6	9.1	10.2	8.4	8.6
5/16	6.3	7.1	8.5	9.2	10.3	11.2	9.2	10.9	8.4	8.8	9.9	8.0	8.2
5/17	6.2	7.3	8.4	8.8	9.5	10.1	8.8	10.3	8.5	8.8	9.5	7.6	7.8
5/18	6.1	7.0	8.3	8.6	9.3	9.9	8.8	10.1	8.6	9.0	9.1	7.3	7.6
5/19	6.2	7.2	8.3	8.7	9.4	10.1	8.9	10.1	8.7	9.1	9.2	7.9	8.2
5/20	6.3	7.4	8.6	9.0	9.6	10.3	9.0	10.3	8.7	9.1	9.0	8.2	8.5
5/21	6.9	5.8	6.4	6.8	7.3	7.9	8.0	9.1	8.4	8.8	9.1	8.6	8.8
5/22	7.3	8.5	9.0	8.9	9.3	10.0	8.5	10.1	8.7	9.1	9.4	9.1	9.3
5/23	6.8	8.5	9.2	9.9	10.2	10.7	8.3	9.8	8.1	8.4	10.0	8.3	8.5
5/24	6.4	8.0	9.2	9.7	10.1	10.6	8.4	9.9	8.2	8.8	9.9	8.0	8.2
5/25	6.3	8.1	8.8	9.5	9.7	10.1	8.0	9.6	7.9	8.4	9.6	7.6	7.8
5/26	6.3	7.7	8.7	9.3	9.7	10.2	8.1	9.5	8.1	8.7	9.4	7.7	8.0
5/27	6.2	7.5	8.6	9.3	9.8	10.4	8.1	9.4	7.8	8.4	9.1	7.9	8.2
5/28	6.0	7.6	8.1	8.9	9.0	9.6	8.1	9.2	8.1	8.6	8.8	8.0	8.2
5/29	6.1	7.5	8.4	9.0	9.2	9.7		9.1	7.9	8.4	8.8	7.8	8.1
5/30	6.7	7.8	9.2	9.8	10.1	10.8		9.7	7.8	8.7	8.6	8.7	8.9
5/31	7.4	8.4	9.9	10.9	11.2	12.1		10.4	8.6	9.4	9.2	9.9	10.1

		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	7.6	9.2	10.2	11.0	11.3	12.1		10.2	8.4	9.2	9.5	9.7	9.9
6/2	8.1	9.8	11.1	11.7	12.4	13.2		10.5	8.7	9.6	9.9	10.1	10.2
6/3	7.6	9.2	10.1	11.3	11.7	12.4		10.0	8.4	8.9	9.9	9.2	9.4
6/4	7.9	9.3	10.3	10.9	11.3	11.8		9.8	8.4	9.1	9.9	9.7	9.8
6/5	8.0	9.3	11.1	11.9	12.5	13.1		10.3	8.8	9.6	9.8	10.1	10.2
6/6	8.0	9.2	11.0	12.2	12.7	13.7		10.5	9.2	9.9	9.7	10.0	10.2
6/7	8.1	9.4	11.0	12.0	12.6	13.7		10.6	9.4	10.2	9.8	10.2	10.4
6/8	8.3	10.2	11.4	12.2	12.9	14.0		10.8	9.5	10.4	10.2	10.5	10.7
6/9	8.5	9.6	11.6	12.6	13.3	14.2		10.8	9.4	10.1	10.3	10.8	11.0
6/10	7.4	9.3	10.2	11.3	11.8	12.7		10.0	8.6	9.0	9.9	9.1	9.3
6/11	7.9	9.5	10.9	11.5	12.2	12.9		10.2	9.0	9.9	9.7	9.4	9.6
6/12	8.1	10.1	10.6	11.6	12.1	12.9		10.2	9.1	9.5	9.9	10.0	10.1
6/13	7.2	9.4	10.1	10.6	10.8	11.2		9.7	9.0	9.2	9.8	8.6	8.9
6/14	6.7	9.0	9.8	10.1	10.4	10.7	8.9	10.0	9.2	9.6	9.4	8.2	8.5
6/15	6.9	8.6	9.6	10.1	10.3	10.7	9.2	10.0	9.1	9.5	9.4	8.7	8.9
6/16	6.5	8.5	9.1	9.4	9.7	10.0	9.4	10.3	9.2	9.7	9.0	8.8	9.1
6/17	6.6	8.7	9.1	9.5	9.8	10.1	9.2	10.4	9.0	9.5	9.2	8.7	9.0
6/18	6.9	8.9	9.4	9.8	10.1	10.5	9.3	10.6	9.1	9.9	9.4	9.2	9.4
6/19	7.5	9.4	10.4	10.8	11.2	11.8	10.1	11.5	9.4	10.5	9.9	10.4	10.6
6/20	7.4	8.8	10.0	10.9	11.2	11.7	10.7	12.0	9.9	10.7	10.0	10.8	11.0
6/21	7.4	9.0	10.2	10.8	11.0	11.4	9.8	11.5	9.3	10.2	9.5	9.9	10.1
6/22	8.5	9.4	10.8	11.7	12.1	12.7	10.5	11.9	9.7	10.7	10.0	11.0	11.2
6/23	9.1	9.8	11.5	12.5	12.9	13.5	10.7	12.6	9.9	10.8	10.8	11.9	12.0
6/24	8.7	9.7	10.7	12.1	12.3	13.1	10.5	12.3	9.4	10.1	11.0	11.4	11.5
6/25	9.2	9.9	11.2	12.2	12.8	13.5	10.6	12.3	9.3	10.1	11.2	11.4	11.5
6/26	9.1	10.1	11.2	12.4	12.7	13.4	10.4	12.4	10.2	10.7	11.5	11.6	11.7
6/27	8.3	9.8	10.7	11.7	11.9	12.5	10.4	11.6	9.8	10.4	11.4	10.7	10.9
6/28	8.0	9.7	10.7	11.3	11.6	11.9	10.6	11.7	10.1	10.6	11.2	10.1	10.3
6/29	7.9	9.5	10.7	11.3	11.5	11.8	10.1	11.7	9.9	10.4	11.0	9.7	9.9
6/30	8.8	8.7	10.9	11.8	12.4	12.9	10.9	12.0	10.0	11.1	10.8	10.8	11.0

		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	9.9	8.7	10.8	12.2	12.8	13.8	11.7	13.4	10.6	11.8	11.9	12.6	12.7
7/2	10.2	8.6	10.7	12.3	12.7	13.8	11.5	13.5	10.6	11.7	12.7	12.6	12.8
7/3	9.7	8.3	9.7	11.4	11.6	12.3	10.6	12.6	10.1	10.9	12.3	12.0	12.2
7/4	9.9	8.2	10.0	11.1	11.6	12.4	10.6	12.2	10.0	11.1	11.9	12.6	12.7
7/5	10.0	8.5	9.9	11.3	11.6	12.3	10.6	12.4	10.2	11.1	12.0	12.7	12.7
7/6	10.3	8.8	10.3	11.8	12.3	13.2	11.2	12.9	10.5	11.7	12.4	12.9	13.0
7/7	11.3	9.1	11.2	12.6	13.1	14.0	11.5	13.0	10.5	11.4	12.8	13.7	13.7
7/8	12.0	9.1	11.5	13.2	13.6	14.7	11.9	13.8	10.8	12.0	13.0	14.9	14.8
7/9	12.1	8.9	11.1	13.1	13.5	14.6	11.9	13.9	11.0	12.1	13.1	15.0	15.0
7/10	11.9	8.8	10.9	12.8	13.1	14.2	11.3	13.5	10.5	11.6	12.8	14.9	14.8
7/11	12.3	9.2	11.1	12.9	13.3	14.4	11.4	13.4	10.5	11.7	12.9	15.2	15.1
7/12	12.5	9.4	11.2	12.9	13.4	14.5	11.5	13.5	10.5	11.6	13.4	15.5	15.4
7/13	13.2	9.7	11.6	13.2	13.7	14.6	11.5	13.5	10.6	11.6	13.9	15.6	15.5
7/14	13.8	9.6	11.9	13.7	14.2	15.3	11.9	14.0	10.8	12.0	14.1	16.2	16.0
7/15	13.9	9.2	11.5	13.5	14.0	15.3	12.3	14.1	10.9	12.1	14.2	16.7	16.5
7/16	14.0	9.0	11.1	12.9	13.4	14.7	12.1	14.3	11.1	12.1	14.2	16.9	16.6
7/17	13.7	8.6	10.5	12.3	12.6	13.7	11.6	13.7	10.9	11.8	13.9	16.5	16.2
7/18	13.2	8.5	10.2	11.7	12.0	13.0	11.2	13.2	10.7	11.7	13.4	16.2	15.8
7/19	12.7	8.7	9.7	11.2	11.3	12.0	10.7	12.7	10.5	11.3	13.4	15.9	15.5
7/20	12.0	8.4	9.5	10.5	10.7	11.2	10.2	11.7	10.0	10.8	12.9	14.4	14.2
7/21	11.7	8.3	9.6	10.4	10.9	11.6	10.5	11.8	10.2	11.2	12.5	14.7	14.4
7/22	11.4	8.6	9.4	10.4	10.6	11.1	10.2	11.7	10.1	10.7	12.4	14.8	14.3
7/23	11.3	8.6	9.8	10.5	10.7	11.0	10.5	11.5	10.2	10.6	12.5	13.7	13.4
7/24	10.0	8.4	10.1	10.5	10.9	10.9	10.9	11.6	10.6	10.7	11.9	12.3	12.3
7/25	10.4	8.5	10.3	10.7	11.5	11.9	11.5	12.6	10.7	11.6	11.9	13.1	13.1
7/26	11.1	8.8	10.5	11.1	12.0	12.7	11.8	13.3	10.9	11.9	12.3	15.1	14.9
7/27	11.6	9.0	10.6	11.1	12.2	13.0	11.8	13.5	11.0	12.1	12.6	16.1	15.7
7/28	12.5	9.3	11.0	11.6	12.7	13.5	12.1	13.8	10.9	11.6	13.2	17.0	16.1
7/29	12.9	9.3	11.1	11.7	12.8	13.7	12.3	14.0	11.6	12.5	13.6	17.5	16.9
7/30	13.0	9.2	11.0	11.7	12.7	13.7	12.1	13.9	11.6	12.6	13.5	17.7	17.1
7/31	13.1	9.3	10.9	11.5	12.6	13.6	12.2	13.8	11.7	12.6	13.5	17.8	17.1

		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	13.4	9.4	10.8	11.5	12.5	13.3	12.1	13.9	11.8	12.5	13.8	17.9	17.1
8/2	12.9	9.4	10.5	11.0	11.8	12.6	11.6	13.2	11.3	12.0	14.0	17.4	16.6
8/3	13.6	9.6	11.2	11.8	12.7	13.4	12.1	13.5	11.4	12.5	14.3	17.6	16.8
8/4	14.1	9.5	11.3	11.9	13.0	13.9	12.5	14.2	11.7	12.7	14.4	18.8	17.7
8/5	13.8	9.2	10.7	11.5	12.5	13.5	12.2	14.0	11.8	12.6	14.2	18.7	17.6
8/6	13.4	9.3	10.5	11.0	12.0	12.8	11.9	13.5	11.3	12.1	13.8	18.1	16.7
8/7	13.4	9.3	10.5	11.0	12.0	12.9	12.0	13.5	11.2	12.1	13.5	18.4	16.7
8/8	13.3	9.2	10.4	11.0	11.9	12.7	11.9	13.5	11.3	12.1	13.1	18.2	16.5
8/9	12.8	9.3	10.5	10.9	11.7	12.4	11.8	13.2	11.3	12.1	12.7	17.8	16.1
8/10	13.1	9.7	10.8	11.3	12.0	12.8	12.1	13.4	11.4	12.2	12.9	18.0	16.3
8/11	13.8	10.0	11.2	11.9	12.7	13.4	12.5	13.9	11.7	12.4	13.5	18.8	16.7
8/12	14.0	10.2	11.4	12.0	12.8	13.5	12.5	14.1	11.7	12.4	14.0	18.7	16.7
8/13	13.3	10.1	12.5	12.9	13.6	13.9	13.7	14.7	12.8	13.0	14.5	17.3	16.5
8/14	12.3	9.9	11.1	11.6	12.3	12.7	12.6	14.4	12.4	12.7	13.9	16.3	15.7
8/15	12.0	10.0	10.9	11.3	11.9	12.3	12.1	13.5	11.9	12.3	13.8	15.6	15.0
8/16	12.3	10.0	11.0	11.3	12.0	12.4	12.2	13.5	12.0	12.7	13.9	16.3	15.5
8/17	12.4	10.3	11.4	11.7	12.5	12.9	12.7	13.9	12.3	12.8	14.0	17.2	15.7
8/18	12.9	10.5	11.8	12.1	12.8	13.5	13.2	14.5	12.6	13.0	14.2	18.0	16.0
8/19	13.4	10.6	11.9	12.3	13.2	13.9	13.5	14.9	12.9	13.3	14.5	19.0	16.6
8/20	12.7	10.4	11.2	11.6	12.6	13.2	13.2	14.6	12.9	13.3	14.0	18.2	16.1
8/21	12.6	10.4	11.4	11.6	12.2	12.6	12.8	13.8	13.0	13.3	13.4	17.1	15.4
8/22	12.2	10.7	11.4	11.5	12.0	12.4	12.8	13.6	13.3	13.6	12.8	16.8	15.3
8/23	12.3	11.0	11.9	12.0	12.6	13.0	13.3	14.0	13.5	13.9	12.9	17.3	15.7
8/24	12.4	11.1	12.1	12.2	12.9	13.4	13.6	14.5	13.8	14.2	13.0	17.7	16.0
8/25	12.4	11.2	12.1	12.3	12.9	13.3	13.7	14.5	14.0	14.3	13.1	17.6	16.0
8/26	12.8	11.4	12.5	12.6	13.2	13.7	14.0	14.9	14.3	14.6	13.4	18.0	16.3
8/27	13.3	11.6	12.7	12.9	13.5	14.1		15.3	14.5	14.9	13.7	18.8	17.0
8/28	13.2	11.5	12.5	12.7	13.4	13.9		15.2	14.4	14.9	13.6	18.5	17.3
8/29	12.8	11.4	12.2	12.4	13.0	13.2	13.7	14.6	14.3	14.7	13.5	17.5	16.8
8/30	12.2	11.2	12.1	12.3	12.8	12.9	13.4	14.2	14.1	14.6	13.5	16.3	15.9
8/31	11.6	11.0	11.8	12.0	12.5	12.6	13.2	14.0	14.1	14.6	13.0	15.7	15.5

		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	11.4	11.2	11.9	12.0	12.4	12.6	13.3	13.8	14.1	14.7	12.6	15.7	15.6
9/2	11.3	11.1	11.8	11.9	12.4	12.5	13.1	14.0	13.7	14.2	12.6	15.6	15.4
9/3	10.5	10.8	11.7	11.9	12.2	12.3	12.4	13.3	12.9	13.2	12.4	14.1	14.0
9/4	10.1	10.8	11.5	11.5	11.7	12.0	12.2	12.9	12.7	13.4	12.0	14.0	14.0
9/5	10.5	10.9	11.6	11.7	12.0	12.2	12.4	13.2	12.9	13.5	12.4	15.1	14.8
9/6	10.9	11.0	11.8	11.8	12.2	12.5	12.6	13.4	13.0	13.6	12.9	15.6	15.3
9/7	11.2	11.2	12.0	12.0	12.3	12.6	12.7	13.6	13.1	13.7	13.0	16.0	15.6
9/8	11.3	11.0	11.8	12.0	12.3	12.5	12.7	13.5	13.2	13.7	12.8	15.8	15.4
9/9	10.9	10.8	11.3	11.5	11.8	12.1	12.5	13.2	13.1	13.6	12.3	15.4	15.0
9/10	11.0	10.8	11.5	11.6	11.9	12.1	12.7	13.1	13.0	13.6	12.0	15.0	14.7
9/11	10.2	8.6	10.8	10.9	11.1	11.3	12.6	12.6	13.3	13.7	11.4	14.5	14.4
9/12	9.7	7.6	6.9	7.0	7.7	8.0	10.5	10.4	12.5	13.0	11.0	14.0	13.6
9/13	9.8	10.5	10.5	10.5	9.6	9.3	11.5	11.2	13.2	14.0	11.1	14.3	14.3
9/14	10.0	10.6	11.0	11.0	11.0	11.1	13.0	12.8	13.2	13.6	11.2	14.7	14.4
9/15	10.4	10.8	11.2	11.3	11.3	11.5	13.5	13.6	13.7	14.1	11.6	15.1	14.8
9/16	10.8	11.1	11.6	11.7	11.8	12.0	13.7	13.8	13.8	14.3	11.9	15.1	14.9
9/17	11.3	11.1	11.8	12.0	12.3	12.5	13.9	14.2	16.5	14.7	12.2	15.4	15.3
9/18	11.4	10.9	11.7	11.9	12.2	12.4	13.9	14.0	16.2	14.4	12.6	15.1	15.0
9/19	11.3	11.0	11.9	12.1	12.4	12.7	13.9	14.2	14.2	14.8	12.9	15.3	15.2
9/20	11.0	11.1	11.8	11.9	12.1	12.4	14.0	14.2	14.2	14.7	12.7	15.7	15.5
9/21	11.4	11.1	11.9	12.0	12.2	12.5	14.1	14.3	14.3	14.8	13.2	16.0	15.7
9/22	11.6	10.9	11.7	11.8	12.3	12.6	14.1	14.4	14.4	14.9	13.3	16.0	15.8
9/23	11.3	6.7	9.8	9.9	11.6	12.2	14.2	14.3	14.4	14.7	13.1	15.3	15.2
9/24	11.2	6.4	9.1	9.2	10.5	11.0	12.8	13.7	13.9	14.6	13.1	14.7	14.8
9/25	10.6	6.2	8.5	8.7	10.1	10.8	12.8	13.3	13.6	14.2	12.7	14.2	14.2
9/26	10.3	6.2	8.5	8.6	9.9	10.4	12.3	13.0	13.3	14.0	12.4	13.6	13.8
9/27	10.2	6.3	8.3	8.5	9.9	10.6	12.7	13.0	13.3	14.0	12.4	13.8	13.9
9/28	10.0	6.3	7.9	8.0	9.3	10.1	13.1	13.4	13.6	14.1	12.1	14.2	14.2
9/29	9.5	6.1	7.6	7.7	8.7	9.3	12.6	12.9	13.2	13.6	11.8	13.5	13.6
9/30	9.5	6.0	7.8	8.0	8.9	9.3	12.2	12.7	13.1	13.7	11.6	12.9	13.0

	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	9.3	6.0	7.9	8.1	9.0	9.5	12.8	12.7	13.2	13.7	11.4	12.1	12.4
10/2	8.8	5.9	7.5	7.7	8.7	9.4	13.2	12.9	13.3	13.6	10.8	12.5	12.7
10/3	8.6	6.0	7.3	7.5	8.2	8.8	13.1	12.9	13.2	13.5	10.8	12.4	12.6
10/4	9.5	6.3	7.9	8.2	9.1	9.7	13.4	13.5	13.6	14.0	11.7	12.7	13.1
10/5	9.7	6.3	7.9	8.1	9.1	9.9	13.5	13.6	13.7	14.2	12.0	13.4	13.7
10/6	9.7	7.4	8.2	8.5	9.0	9.8	13.6	13.6	13.7	14.2	12.2	13.9	14.0
10/7	10.0	6.4	8.2	8.5	9.4	10.0	13.5	13.5	13.7	14.2	12.3	14.0	14.2
10/8	10.3	6.4	8.1	8.5	9.4	10.1	13.5	13.7	13.8	14.3	12.4	14.4	14.5
10/9	9.8	6.2	7.6	7.9	8.9	9.7	13.5	13.5	13.7	14.0	12.0	14.2	14.2
10/10	9.6	6.2	7.4	7.7	8.5	9.2	13.3	13.2	13.5	13.8	11.6	13.6	13.7
10/11	9.7	6.2	8.8	9.1	9.6	9.9	13.0	13.1	13.4	13.9	11.8	13.5	13.7
10/12	9.5	6.2	8.7	9.0	10.1	10.6	13.2	13.0	13.3	13.6	11.6	12.6	12.9
10/13	9.5	6.1	8.2	8.5	9.6	10.3	13.2	13.2	13.5	13.9	11.6	12.6	13.0
10/14	9.5	6.2	9.5	9.8	10.4	10.8	12.6	12.5	12.8	13.3	11.5	12.5	12.8
10/15	8.9	6.1	8.8	9.1	9.8	10.2	12.3	12.2	12.6	13.1	11.2	11.7	12.0
10/16	8.7	6.1	8.9	9.1	9.8	10.1	12.1	11.8	12.2	12.7	11.0	11.0	11.3
10/17	8.6	6.1	8.2	8.4	9.3	9.7	12.3	12.0	12.5	12.9	11.0	10.8	11.3
10/18	9.2	6.4	8.6	8.8	9.6	10.0	12.0	12.2	12.5	13.0	11.4	11.0	11.4
10/19	9.3	6.4	8.7	8.9	9.7	10.2	12.2	12.3	12.6	13.1	11.7	11.5	11.8
10/20	9.3	6.3	8.7	8.9	9.7	10.2	11.8	12.1	12.3	12.7	11.6	11.4	11.8
10/21	8.8	6.2	8.7	8.9	9.7	10.1	11.6	11.8	12.0	12.5	11.1	11.2	11.5
10/22	8.7	6.3	9.0	9.3	9.8	10.1	11.5	11.4	11.7	12.2	11.1	10.5	10.7
10/23	8.1	6.1	9.1	9.3	9.7	10.1	11.0	10.9	11.1	11.6	10.6	10.0	10.2
10/24	7.7	6.0	8.3	8.5	9.0	9.3	10.4	10.3	10.8	11.4	10.2	9.5	9.8
10/25	8.0	6.2	8.1	8.3	8.9	9.3	10.8	10.7	11.7	12.1	10.3	9.6	10.1
10/26	7.4	6.1	8.7	8.9	9.2	9.5	10.4	10.2	10.4	11.0	10.0	9.2	9.5
10/27	7.0	6.0	7.7	7.9	8.3	8.7	9.8	9.7	10.4	10.8	9.5	9	9.0
10/28	7.3	6.1	7.6	7.8	8.3	8.7	9.9	9.9	10.8	11.1	9.7	8.7	9.2
10/29	7.7	6.2	8.2	8.4	8.9	9.3	10.0	10.3	10.5	10.8	10.1	9.0	9.3
10/30	7.8	6.2	7.9	8.2	8.7	9.1	10.5	10.4	11.0	11.3	10.2	9.2	9.6
10/31	7.8	6.2	8.5	8.7	9.2	9.6	10.1	10.4	10.3	10.6	10.1	9.3	9.6

		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	7.1	6.0	7.7	7.9	8.5	8.8	9.5	9.5	10.2	10.4	9.3	8.9	9.3
11/2	7	6.0	7.4	7.6	8.1	8.5	9.2	9.4	10.1	10.4	9.2	8.7	9.1
11/3	7.5	6.3	8.3	8.5	8.8	9.0	9.7	9.7	10.1	10.4	9.7	8.9	9.3
11/4	7.8	6.5	8.7	8.8	9.2	9.4	9.7	10.0	10.0	10.3	10.0	9.1	9.4
11/5	7.5	6.5	6.8	6.9	7.1	7.2	8.3	8.0	8.1	8.9	9.9	9.0	9.2
11/6	8	6.5	8.3	8.4	8.7	8.9	9.7	9.7	9.6	10.0	10.3	9.4	9.7
11/7	7	6.1	7.8	8.0	8.5	8.8	9.2	9.7	9.7	9.9	9.4	9.0	9.2
11/8	6.4	6.2	6.9	7.1	7.4	7.7	8.5	8.7	9.5	9.7	8.7	7.8	8.2
11/9	6.5	6.2	7.1	7.3	7.7	7.9	8.6	8.8	9.4	9.7	8.7	7.9	8.3
11/10	5.7	6.0	6.5	6.6	7.0	7.3	8.1	8.4	9.3	9.5	8.0	7.7	8.1
11/11	4.3	5.7	5.2	5.4	5.5	5.6	7.1	7.1	9.0	9.1	6.5	6.2	6.8
11/12	2.7	5.5	4.0	4.1	4.1	4.1	6.1	5.8	8.5	8.4	5.0	3.7	4.8
11/13	2.4	5.6	4.1	4.0	3.7	3.6	6.1	5.2	8.0	8.1	4.5	3.1	4.4
11/14	2.4	5.7	4.0	3.8	3.3	3.2	5.9	5.0	7.8	7.8	3.8	3.2	4.6
11/15	2.2	5.7	4.0	3.7	3.0	2.8	5.7	4.7	7.5	7.5	3.5	3.0	4.4
11/16	2.2	5.7	4.1	3.6	3.1	2.8	5.7	4.6	7.3	7.3	3.4	2.9	4.5
11/17	2.6	5.9	4.4	4.1	3.4	3.1	5.9	4.8	7.3	7.3	3.6	3.3	4.8
11/18	3	6.0	4.9	4.4	4.0	3.7	6.1	5.2	7.3	7.3	3.9	3.7	5.1
11/19	3.6	6.1	5.4	5.2	4.7	4.5	6.4	5.8	7.3	7.4	4.5	4.4	5.7
11/20	4.3	6.3	5.9	5.6	5.4	5.4	6.8	6.5	7.4	7.6	5.2	5.3	6.3
11/21	4.8	6.4	6.3	6.2	6.0	6.1	7	7.0	7.5	7.7	5.9	6.1	6.9
11/22	4.4	6.5	6.1	6.1	6.2	6.2	6.8	6.7	7.2	7.4	6.4	5.7	6.2
11/23	4.9	6.6	6.6	6.6	6.7	6.8	7.1	7.0	7.2	7.4	6.7	5.9	6.3
11/24	5	6.5	6.4	6.5	6.6	6.7	7	6.9	7.1	7.3	6.7	5.9	6.2
11/25	5.3	6.7	7.1	7.3	7.4	7.5	7.5	7.5	7.4	7.5	7.6	6.2	6.4
11/26	6.2	6.8	7.7	7.9	8.2	8.4	8.1	8.5	7.5	7.6	8.2	6.6	6.8
11/27	6.2	6.7	7.9	8.1	8.3	8.5	8.1	8.6	7.6	7.7	8.4	6.9	7.0
11/28	5.7	6.5	7.5	7.6	7.8	8.0	7.7	8.4	7.7	7.6	7.9	6.8	7.0
11/29	4	6.0	5.4	5.4	5.5	5.7	6.2	6.1	6.5	6.6	5.8	5.2	5.5
11/30	3	5.9	4.2	4.1	4.0	4.1	5	4.6	6.0	6.0	4.5	3.9	4.1

		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	2.8	5.9	4.1	3.8	3.7	3.7	4.7	4.2	5.9	6.0	3.9	3.2	3.6
12/2	2.7	5.9	4.2	4.0	3.5	3.5	4.7	4.0	5.9	6.0	3.8	3.3	3.8
12/3	3.1	6.0	4.4	4.2	3.7	3.6	4.8	4.2	5.9	6.0	3.9	3.5	4.1
12/4	3.6	6.0	5.1	4.9	4.5	4.5	5.4	5.0	6.1	6.2	4.4	4.3	4.9
12/5	4.1	6.0	5.5	5.4	5.3	5.3	5.8	5.8	6.2	6.4	5.3	5.3	5.7
12/6	4.6	6.1	6.1	6.0	6.0	6.0	6.2	6.3	6.3	6.6	6.1	5.7	6.0
12/7	4.8	5.7	6.0	6.1	6.1	6.2	6.3	6.5	6.3	6.5	6.4	5.6	5.9
12/8	5.4	5.9	6.3	6.4	6.6	6.7	6.7	7.0	6.4	6.7	6.9	6.1	6.4
12/9	6	5.9	6.8	7.1	7.2	7.4	7.2	7.6	6.7	6.9	7.6	6.7	6.9
12/10	6.2	5.9	7.1	7.2	7.6	7.8	7.6	8.0	6.8	7.0	7.9	6.7	6.9
12/11	5.8	5.8	6.8	7.0	7.4	7.6	7.4	7.9	6.8	6.9	7.6	6.6	6.8
12/12	5.7	5.7	6.6	6.8	7.2	7.5	7.2	7.9	6.7	6.8	7.4	6.7	6.9
12/13	5	5.6	5.8	5.9	6.2	6.4	6.4	7.0	6.5	6.6	6.7	6.3	6.5
12/14	4.2	5.5	5.1	5.1	5.1	5.2	5.5	5.8	6.1	6.2	5.9	5.3	5.6
12/15	4.1	5.9	5.5	5.4	5.3	5.2	5.3	5.3	5.9	6.1	5.8	4.8	5.2
12/16	4.5	5.9	6.0	6.0	6.0	6.1	6.1	6.2	6.0	6.2	6.0	5.3	5.7
12/17	4.6	5.8	5.9	5.9	6.0	6.0	6	6.3	6.0	6.1	6.1	5.4	5.7
12/18	5	5.8	6.0	6.2	6.3	6.4	6.2	6.7	6.1	6.2	6.3	5.7	6.0
12/19	4.9	5.8	6.1	6.2	6.4	6.5	6.4	6.9	6.1	6.3	6.5	6.0	6.3
12/20	4.8	5.8	6.0	6.1	6.3	6.4	6.3	6.8	6.2	6.3	6.4	5.9	6.2
12/21	5.1	5.9	6.6	6.7	7.0	7.1	7	7.4	6.7	6.5	7.0	6.1	6.3
12/22	5	5.7	6.2	6.3	6.6	6.8	6.6	7.3	6.6	6.4	6.6	6.0	6.2
12/23	4.7	5.7	5.9	6.0	6.2	6.3	6.2	6.7	6.2	6.2	6.5	5.8	6.0
12/24	4.2	5.5	5.6	5.6	5.8	6.0	5.9	6.4	6.1	6.2	6.0	5.5	5.7
12/25	4.2	5.5	5.3	5.3	5.5	5.7	5.6	6.0	5.9	6.0	5.7	5.4	5.7
12/26	4.1	5.5	5.3	5.4	5.5	5.6	5.6	6.0	5.8	5.9	5.6	5.4	5.7
12/27	3.8	5.5	5.2	5.3	5.4	5.6	5.6	6.1	6.0	6.0	5.6	5.3	5.6
12/28	3.9	5.4	5.2	5.3	5.4	5.5	5.5	5.9	5.8	6.0	5.4	4.9	5.3
12/29	3.3	5.1	4.6	4.6	4.6	4.7	4.7	5.2	5.4	5.6	4.8	4.7	5.0
12/30	2	4.8	3.6	3.5	3.4	3.4	3.8	3.8	4.8	4.9	3.5	3.2	3.7
12/31	1.7	4.8	3.4	3.1	2.9	2.9	3.6	3.2	5.0	5.0	3.0	2.4	3.2

APPENDIX D

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

DATE	RM 18.2 (SFK) 7 Day Avg Max	RM 15.8 7 Day Avg Max	RM 14.3 7 Day Avg Max	RM 12.8 7 Day Avg Max	RM 11.3 7 Day Avg Max	RM 9.8 7 Day Avg Max	RM 9.6 7 Day Avg Max	RM 4.9 7 Day Avg Max	RM 4.4 7 Day Avg Max	RM 0.2 7 Day Avg Max	Big Four 7 Day Avg Max	Skykomish Above 7 Day Avg Max	Skykomish Below 7 Day Avg Max
1/1	3.4	4.1	4.5	4.5	4.7	4.8	4.3	5.1	4.6	4.6	4.8	5.0	5.1
1/2	3.2	4.1	4.3	4.5	4.8	4.6	4.2	4.9	4.5	4.5	4.7	4.8	4.9
1/3	3.1	4.0	4.1	4.5	4.7	4.4	4.0	4.7	4.3	4.4	4.5	4.6	4.7
1/4	3.0	4.0	4.0	4.5	4.0	4.3	3.9	4.6	4.3	4.2	4.5	4.5	4.6
1/5	3.0	4.0	4.0	4.4	3.0	4.3	4.0	4.6	4.3	4.2	4.5	4.4	4.6
1/6	2.9	4.0	4.1	4.4	3.3	4.3	4.0	4.5	4.3	4.2	4.5	4.4	4.5
1/7	3.0	4.0	4.2	4.4	4.0	4.4	4.0	4.6	4.4	4.2	4.5	4.4	4.5
1/8	3.1	4.1	4.3	4.4	4.8	4.6	4.2	4.8	4.6	4.3	4.7	4.5	4.6
1/9	3.2	4.1	4.6	4.5	4.8	4.8	4.4	5.1	4.8	4.6	4.9	4.7	4.8
1/10	3.3	4.2	4.9	4.6	5.1	5.1	4.7	5.4	5.1	4.8	5.1	4.9	5.0
1/11	3.5	4.2	5.0	4.8	5.6	5.4	5.0	5.8	5.3	5.0	5.3	5.1	5.2
1/12	3.6	4.1	5.1	5.0	5.1	5.5	5.1	5.9	5.3	5.0	5.3	5.2	5.3
1/13	3.6	4.1	4.9	5.2	5.5	5.6	5.2	6.0	5.2	5.0	5.4	5.2	5.3
1/14	3.7	4.1	4.8	5.2	5.8	5.4	5.1	5.9	5.0	4.9	5.4	5.1	5.3
1/15	3.6	4.0	4.6	5.2	5.6	5.2	4.9	5.7	4.8	4.7	5.3	5.0	5.1
1/16	3.6	4.0	4.5	5.1	4.7	5.0	4.7	5.5	4.5	4.5	5.2	5.0	5.1
1/17	3.6	3.9	4.3	5.0	4.1	4.8	4.5	5.3	4.3	4.3	5.1	4.9	5.0
1/18	3.6	3.9	4.1	4.7	3.8	4.4	4.2	4.9	4.1	4.1	4.9	4.7	4.8
1/19	3.5	3.9	4.0	4.5	3.7	4.3	3.9	4.7	3.9	4.0	4.8	4.7	4.7
1/20	3.5	3.9	4.0	4.3	3.6	4.2	3.8	4.6	3.8	4.0	4.8	4.6	4.6
1/21	3.5	3.9	3.9	4.1	3.6	4.0	3.7	4.5	3.8	4.0	4.7	4.6	4.6
1/22	3.5	3.8	3.8	3.9	4.3	3.9	3.7	4.4	3.8	4.0	4.7	4.7	4.6
1/23	3.5	3.8	3.8	3.7	4.2	3.8	3.6	4.3	3.8	4.0	4.6	4.6	4.6
1/24	3.5	3.8	3.8	3.6	3.2	3.8	3.6	4.3	3.7	3.9	4.7	4.6	4.5
1/25	3.5	3.8	3.8	3.6	3.1	3.9	3.6	4.3	3.8	4.0	4.7	4.7	4.6
1/26	3.6	3.9	3.9	3.6	2.9	3.9	3.7	4.3	3.9	4.1	4.8	4.7	4.7
1/27	3.5	3.8	4.0	3.6	3.5	4.0	3.7	4.4	4.0	4.1	4.8	4.7	4.7
1/28	3.5	3.8	4.0	3.7	4.3	4.1	3.8	4.5	4.1	4.2	4.8	4.6	4.7
1/29	3.4	3.8	4.1	3.9	4.9	4.3	4.0	4.6	4.2	4.2	4.8	4.7	4.7
1/30	3.4	3.8	4.2	4.1	4.9	4.4	4.1	4.7	4.2	4.3	4.8	4.8	4.8
1/31	3.0	3.8	4.2	4.3	4.2	4.5	4.1	4.8	4.3	4.3	4.7	4.8	4.8

DATE	RM 18.2 (SFK) 7 Day Avg Max	RM 15.8 7 Day Avg Max	RM 14.3 7 Day Avg Max	RM 12.8 7 Day Avg Max	RM 11.3 7 Day Avg Max	RM 9.8 7 Day Avg Max	RM 9.6 7 Day Avg Max	RM 4.9 7 Day Avg Max	RM 4.4 7 Day Avg Max	RM 0.2 7 Day Avg Max	Big Four 7 Day Avg Max	Skykomish Above 7 Day Avg Max	Skykomish Below 7 Day Avg Max
2/1	2.9	3.7	4.0	4.3	4.4	4.3	4.0	4.6	4.2	4.2	4.4	4.5	4.6
2/2	2.4	3.5	3.7	4.3	3.9	3.8	3.7	4.3	4.0	4.0	3.8	4.0	4.2
2/3	1.9	3.3	3.3	4.2	3.6	3.2	3.3	3.8	3.7	3.7	3.2	3.4	3.6
2/4	1.4	3.2	2.9	4.0	3.1	2.7	3.0	3.3	3.5	3.5	2.6	2.8	3.3
2/5	1.2	3.0	2.6	3.6	2.0	2.3	2.7	3.0	3.2	3.3	2.1	2.3	2.8
2/6	0.9	2.8	2.4	3.3	0.7	2.0	2.4	2.7	3.0	3.1	1.7	1.9	2.5
2/7	0.8	2.7	2.3	3.0	1.1	1.8	2.3	2.5	2.9	3.0	1.5	1.6	2.3
2/8	1.0	2.7	2.3	2.8	1.5	1.9	2.3	2.6	2.8	2.9	1.4	1.6	2.3
2/9	1.0	2.7	2.4	2.6	2.2	2.1	2.4	2.7	2.8	3.0	1.7	2.0	2.6
2/10	1.4	2.8	2.7	2.8	2.5	2.6	2.7	3.2	2.9	3.1	2.1	2.7	3.1
2/11	1.8	2.9	2.9	3.1	3.1	3.1	3.0	3.6	3.1	3.3	2.5	3.2	3.5
2/12	2.2	2.9	3.1	3.4	3.2	3.5	3.2	3.9	3.2	3.4	2.9	3.6	3.8
2/13	2.3	3.0	3.2	3.8	3.9	3.7	3.5	4.2	3.4	3.6	3.3	4.0	4.2
2/14	2.4	3.0	3.2	4.0	3.9	3.8	3.6	4.4	3.6	3.7	3.5	4.3	4.4
2/15	2.4	3.0	3.1	4.2	3.8	3.8	3.6	4.5	3.8	3.8	3.7	4.4	4.5
2/16	2.3	2.9	3.2	4.4	3.8	3.9	3.7	4.5	3.8	3.8	3.7	4.3	4.5
2/17	2.2	2.9	3.1	4.3	3.0	3.8	3.6	4.5	3.9	3.8	3.7	4.3	4.4
2/18	2.2	2.9	3.1	4.2	3.2	3.8	3.6	4.4	3.9	3.8	3.6	4.2	4.3
2/19	2.1	2.9	3.1	4.1	3.5	3.7	3.5	4.4	3.9	3.7	3.5	4.2	4.3
2/20	1.9	2.8	2.9	4.0	3.4	3.6	3.4	4.3	3.8	3.6	3.3	4.1	4.3
2/21	1.9	2.9	2.9	3.8	3.7	3.5	3.3	4.2	3.7	3.5	3.3	4.0	4.2
2/22	1.9	2.9	3.0	3.8	3.4	3.6	3.4	4.3	3.6	3.5	3.2	4.1	4.2
2/23	2.1	2.9	3.0	3.8	2.4	3.7	3.5	4.4	3.7	3.5	3.3	4.3	4.4
2/24	2.4	2.8	3.1	3.8	2.9	3.8	3.5	4.5	3.7	3.5	3.4	4.6	4.5
2/25	2.4	2.8	3.0	3.8	3.4	3.8	3.6	4.6	3.8	3.7	3.5	4.9	4.8
2/26	2.4	2.8	3.0	3.8	3.8	3.8	3.6	4.8	3.9	3.7	3.6	5.0	5.0
2/27	2.5	2.8	3.1	3.9	3.9	4.0	3.6	4.7	3.8	3.7	3.7	4.8	4.8
2/28	2.6	2.8	3.1	3.9	3.7	3.9	3.7	4.8	4.0	3.8	3.9	4.8	4.9

DATE	RM 18.2 (SFK) 7 Day Avg Max	RM 15.8 7 Day Avg Max	RM 14.3 7 Day Avg Max	RM 12.8 7 Day Avg Max	RM 11.3 7 Day Avg Max	RM 9.8 7 Day Avg Max	RM 9.6 7 Day Avg Max	RM 4.9 7 Day Avg Max	RM 4.4 7 Day Avg Max	RM 0.2 7 Day Avg Max	Big Four 7 Day Avg Max	Skykomish Above 7 Day Avg Max	Skykomish Below 7 Day Avg Max
3/1	2.7	2.8	3.1	3.8	3.2	3.9	3.6	4.8	4.1	3.8	4.0	4.6	4.8
3/2	2.7	2.8	3.1	3.8	2.6	3.9	3.7	4.9	4.1	3.9	4.2	4.5	4.6
3/3	2.6	2.8	3.2	3.8	3.8	4.0	3.7	4.9	4.2	3.9	4.3	4.2	4.5
3/4	2.8	2.9	3.3	3.9	3.9	4.2	3.8	5.1	4.2	3.9	4.4	4.0	4.3
3/5	2.8	3.0	3.4	4.0	4.3	4.4	4.0	5.2	4.1	3.9	4.7	4.0	4.3
3/6	3.0	3.1	3.6	4.2	4.4	4.7	4.3	5.5	4.5	4.2	5.0	4.3	4.6
3/7	3.1	3.2	3.8	4.4	4.9	4.9	4.5	5.8	4.6	4.3	5.2	4.6	4.8
3/8	3.3	3.2	3.9	4.6	4.5	5.1	4.7	6.0	4.6	4.4	5.3	4.9	5.1
3/9	3.4	3.3	4.0	4.8	4.9	5.2	4.8	6.1	4.5	4.4	5.4	5.1	5.3
3/10	3.5	3.3	4.1	5.0	5.1	5.3	4.9	6.2	4.3	4.4	5.5	5.3	5.5
3/11	3.6	3.4	4.1	5.0	4.8	5.3	4.9	6.2	4.4	4.5	5.5	5.4	5.5
3/12	3.6	3.4	4.2	5.1	4.6	5.4	5.0	6.3	4.4	4.5	5.6	5.5	5.6
3/13	3.7	3.5	4.3	5.2	4.9	5.5	5.0	6.3	4.5	4.6	5.6	5.5	5.6
3/14	3.7	3.5	4.2	5.0	4.9	5.3	4.9	6.1	4.4	4.6	5.5	5.5	5.6
3/15	3.7	3.5	4.3	4.8	5.4	5.2	4.9	5.9	4.5	4.6	5.4	5.5	5.6
3/16	3.5	3.5	4.2	4.6	5.4	5.1	4.9	5.9	4.5	4.6	5.4	5.4	5.5
3/17	3.4	3.5	4.2	4.4	3.9	5.0	4.8	5.7	4.6	4.6	5.2	5.3	5.5
3/18	3.3	3.5	4.1	4.3	4.9	4.9	4.8	5.6	4.5	4.6	5.1	5.3	5.5
3/19	3.2	3.5	4.1	4.1	4.8	4.7	4.7	5.4	4.5	4.6	4.9	5.3	5.4
3/20	3.4	3.4	4.1	4.0	4.5	4.7	4.6	5.3	4.2	4.6	4.7	5.5	5.6
3/21	3.5	3.5	4.4	4.2	4.3	4.8	4.8	5.5	4.2	4.6	4.8	5.9	5.9
3/22	3.5	3.6	4.4	4.4	4.5	4.9	4.8	5.6	4.3	4.7	4.9	6.1	6.0
3/23	3.7	3.7	4.6	4.5	5.1	5.1	4.9	5.7	4.3	4.8	5.0	6.3	6.2
3/24	3.8	3.9	4.7	4.7	5.4	5.2	5.0	5.9	4.3	4.8	5.1	6.5	6.3
3/25	3.9	4.0	4.8	4.9	5.6	5.4	5.1	6.0	4.4	4.8	5.3	6.5	6.4
3/26	3.9	4.1	4.9	5.0	5.8	5.5	5.2	6.1	4.5	4.9	5.4	6.6	6.5
3/27	3.9	4.2	4.9	5.1	5.6	5.6	5.2	6.2	4.6	5.0	5.5	6.5	6.4
3/28	4.0	4.2	5.0	5.1	5.3	5.6	5.3	6.2	4.6	5.0	5.5	6.4	6.3
3/29	4.0	4.4	5.1	5.2	5.1	5.7	5.4	6.3	4.7	5.1	5.6	6.6	6.5
3/30	4.1	4.4	5.2	5.3	5.4	5.7	5.5	6.3	4.7	5.2	5.6	6.6	6.5
3/31	4.2	4.5	5.3	5.3	5.8	5.8	5.6	6.4	4.8	5.3	5.6	6.7	6.6

DATE	RM 18.2 (SFK) 7 Day Avg Max	RM 15.8 7 Day Avg Max	RM 14.3 7 Day Avg Max	RM 12.8 7 Day Avg Max	RM 11.3 7 Day Avg Max	RM 9.8 7 Day Avg Max	RM 9.6 7 Day Avg Max	RM 4.9 7 Day Avg Max	RM 4.4 7 Day Avg Max	RM 0.2 7 Day Avg Max	Big Four 7 Day Avg Max	Skykomish Above 7 Day Avg Max	Skykomish Below 7 Day Avg Max
4/1	4.3	4.6	5.4	5.5	6.3	5.9	5.7	6.4	4.9	5.4	5.7	6.8	6.7
4/2	4.4	4.7	5.5	5.6	6.2	6.0	5.8	6.5	5.0	5.5	5.7	6.9	6.8
4/3	4.5	4.9	5.6	5.7	6.0	6.1	6.0	6.6	5.2	5.7	5.9	7.0	6.9
4/4	4.6	5.1	5.9	6.0	6.1	6.3	6.2	6.8	5.4	5.9	6.1	7.2	7.1
4/5	4.6	5.2	5.9	6.1	5.9	6.5	6.3	6.9	5.6	6.0	6.3	7.2	7.2
4/6	4.6	5.3	6.0	6.2	6.8	6.7	6.4	7.1	5.8	6.1	6.4	7.2	7.2
4/7	4.6	5.3	6.1	6.3	7.8	6.8	6.5	7.2	5.9	6.2	6.4	7.1	7.2
4/8	4.6	5.4	6.2	6.4	7.4	6.9	6.6	7.3	5.9	6.3	6.5	7.0	7.1
4/9	4.9	5.5	6.4	6.6	6.8	7.3	6.7	7.3	6.0	6.5	6.6	7.3	7.4
4/10	5.0	5.5	6.7	6.7	6.5	7.6	6.8	7.4	5.9	6.6	6.6	7.5	7.6
4/11	5.0	5.5	6.7	6.7	6.6	7.8	6.7	7.4	6.0	6.7	6.6	7.5	7.6
4/12	5.0	5.5	6.7	6.7	7.6	8.0	6.7	7.4	6.0	6.7	6.5	7.6	7.6
4/13	4.9	5.7	6.7	6.7	7.9	7.9	6.7	7.3	6.1	6.8	6.5	7.6	7.6
4/14	4.9	6.0	6.7	6.7	7.8	7.9	6.7	7.3	6.3	6.9	6.5	7.6	7.6
4/15	4.9	6.2	6.7	6.8	7.3	7.9	6.8	7.4	6.5	7.0	6.5	7.7	7.7
4/16	4.8	6.3	6.6	6.7	6.8	7.7	6.7	7.4	6.6	6.9	6.5	7.4	7.5
4/17	4.8	6.4	6.5	6.7	6.6	7.5	6.8	7.5	6.7	6.9	6.5	7.2	7.3
4/18	4.7	6.5	6.5	6.7	6.8	7.6	6.8	7.7	6.8	6.8	6.6	7.1	7.3
4/19	4.7	6.5	6.5	6.8	6.5	7.6	6.9	7.8	6.9	7.0	6.6	7.0	7.2
4/20	4.8	6.6	6.6	6.8	7.6	7.6	6.9	7.8	7.0	7.1	6.6	7.0	7.2
4/21	4.8	6.6	6.6	6.8	8.1	7.7	7.0	7.9	7.0	7.2	6.6	7.1	7.3
4/22	4.9	6.6	6.8	7.0	7.9	7.8	7.0	8.0	7.0	7.2	6.6	7.2	7.4
4/23	5.0	6.5	6.9	7.1	6.7	8.0	7.2	8.1	7.1	7.4	6.6	7.4	7.6
4/24	4.9	6.4	6.9	7.0	7.2	7.9	7.1	8.1	7.2	7.6	6.6	7.5	7.7
4/25	4.9	6.5	6.7	6.9	7.3	7.7	7.0	8.1	7.2	7.7	6.5	7.5	7.7
4/26	4.9	6.9	7.0	7.1	7.6	7.9	7.2	8.2	7.4	7.9	6.6	7.7	8.0
4/27	5.2	7.1	7.5	7.6	7.1	8.4	7.6	8.7	7.7	8.1	6.9	8.2	8.4
4/28	5.5	7.1	7.9	8.0	6.8	9.1	8.0	9.0	7.9	8.4	7.2	8.6	8.8
4/29	5.7	7.2	8.2	8.4	9.1	9.5	8.2	9.4	8.1	8.6	7.6	8.7	8.9
4/30	5.8	7.3	8.3	8.6	10.7	9.8	8.4	9.7	8.4	8.6	8.0	8.8	9.0

DATE	RM 18.2 (SFK) 7 Day Avg Max	RM 15.8 7 Day Avg Max	RM 14.3 7 Day Avg Max	RM 12.8 7 Day Avg Max	RM 11.3 7 Day Avg Max	RM 9.8 7 Day Avg Max	RM 9.6 7 Day Avg Max	RM 4.9 7 Day Avg Max	RM 4.4 7 Day Avg Max	RM 0.2 7 Day Avg Max	Big Four 7 Day Avg Max	Skykomish Above 7 Day Avg Max	Skykomish Below 7 Day Avg Max
5/1	5.9	7.5	8.4	8.7	11.3	10.0	8.6	9.9	8.6	8.8	8.2	8.8	9.0
5/2	5.9	7.5	8.5	8.8	10.6	10.1	8.8	10.0	8.7	8.9	8.4	8.6	8.8
5/3	6.0	7.2	8.4	8.8	9.7	10.0	8.8	10.0	8.6	8.8	8.5	8.4	8.7
5/4	5.9	7.0	8.1	8.6	8.1	9.9	8.7	9.9	8.6	8.8	8.4	8.3	8.5
5/5	5.7	7.0	7.7	8.2	7.7	9.4	8.6	9.7	8.5	8.7	8.2	8.2	8.4
5/6	5.6	6.9	7.5	8.0	8.6	9.0	8.4	9.5	8.4	8.6	8.1	7.9	8.1
5/7	5.7	6.8	7.3	7.8	9.4	8.7	8.3	9.2	8.3	8.5	7.8	7.7	8.0
5/8	5.8	6.8	7.6	8.0	8.2	9.0	8.5	9.4	8.2	8.6	7.9	8.1	8.3
5/9	6.2	7.0	7.9	8.4	8.0	9.5	8.9	9.7	8.4	8.9	8.0	8.5	8.7
5/10	6.5	7.1	8.2	8.7	7.6	10.0	9.1	10.0	8.4	9.1	8.2	8.8	8.9
5/11	6.9	7.2	8.6	9.1	9.9	10.4	9.2	10.3	8.5	9.2	8.5	8.9	9.1
5/12	7.1	7.3	9.1	9.5	11.0	11.1	9.5	10.7	8.6	9.4	8.9	9.0	9.2
5/13	7.3	7.5	9.3	9.9	11.9	11.6	9.8	11.0	8.7	9.7	9.3	9.3	9.4
5/14	7.5	7.6	9.6	10.1	12.3	12.0	10.0	11.3	8.8	9.9	9.6	9.5	9.7
5/15	7.4	7.7	9.7	10.1	12.1	12.0	9.9	11.5	9.0	9.9	9.8	9.3	9.5
5/16	7.3	7.5	9.7	10.1	11.0	11.9	9.8	11.5	8.9	9.9	9.9	9.1	9.3
5/17	7.2	7.6	9.7	10.0	9.9	11.9	9.8	11.5	9.0	9.9	9.9	9.1	9.3
5/18	7.2	7.6	9.4	9.7	9.8	11.5	9.5	11.3	9.1	9.9	9.8	9.0	9.2
5/19	7.3	7.9	9.5	9.7	10.3	11.4	9.5	11.3	9.1	10.1	9.7	9.1	9.3
5/20	7.4	8.1	9.6	9.8	10.7	11.3	9.4	11.1	9.1	10.0	9.6	9.2	9.4
5/21	7.4	8.2	9.7	9.9	9.8	11.5	9.4	11.1	9.1	10.1	9.7	9.2	9.4
5/22	7.4	8.4	9.7	10.0	11.7	11.4	9.3	10.9	9.0	10.0	9.7	9.4	9.5
5/23	7.4	8.4	9.7	10.1	10.7	11.5	9.1	10.8	8.9	10.0	9.8	9.3	9.5
5/24	7.5	8.4	9.8	10.1	10.7	11.4	8.9	10.6	8.8	9.9	9.8	9.3	9.4
5/25	7.2	8.5	9.8	10.1	9.9	11.4	8.9	10.5	8.6	9.9	9.7	9.1	9.2
5/26	6.8	8.3	9.5	9.9	10.5	11.1	8.7	10.2	8.4	9.5	9.6	8.8	9.0
5/27	7.2	8.2	9.7	10.0	11.4	11.4	8.6	10.2	8.4	9.6	9.4	8.9	9.1
5/28	7.2	8.4	10.0	10.3	9.7	11.8	8.5	10.5	8.5	9.8	9.4	9.2	9.4
5/29	7.6	8.6	10.5	10.6	9.8	12.3	8.5	10.7	8.5	10.1	9.4	9.5	9.7
5/30	8.0	9.0	11.1	11.1	12.8	13.0	8.5	10.9	8.6	10.3	9.5	10.0	10.1
5/31	8.4	9.3	11.3	11.5	13.6	13.3	8.6	11.0	8.8	10.3	9.6	10.2	10.4

DATE	RM 18.2 (SFK) 7 Day Avg Max	RM 15.8 7 Day Avg Max	RM 14.3 7 Day Avg Max	RM 12.8 7 Day Avg Max	RM 11.3 7 Day Avg Max	RM 9.8 7 Day Avg Max	RM 9.6 7 Day Avg Max	RM 4.9 7 Day Avg Max	RM 4.4 7 Day Avg Max	RM 0.2 7 Day Avg Max	Big Four 7 Day Avg Max	Skykomish Above 7 Day Avg Max	Skykomish Below 7 Day Avg Max
6/1	8.7	9.6	11.7	11.9	13.1	13.8		11.1	8.8	10.4	9.7	10.5	10.7
6/2	9.1	10.0	12.4	12.5	15.0	14.5		11.6	9.0	10.8	9.9	11.0	11.1
6/3	9.2	10.1	12.6	12.8	12.4	14.9		11.7	9.3	11.0	10.0	11.1	11.2
6/4	9.3	10.3	12.8	12.9	12.7	15.1		11.8	9.4	11.1	10.1	11.1	11.3
6/5	9.3	10.3	13.0	13.1	15.0	15.5		12.0	9.7	11.3	10.2	11.3	11.4
6/6	9.3	10.2	13.0	13.1	14.8	15.5		12.0	9.8	11.3	10.2	11.4	11.5
6/7	9.2	10.1	12.9	13.1	14.7	15.5		12.0	9.8	11.3	10.2	11.4	11.5
6/8	9.2	10.3	13.1	13.3	14.4	15.9		12.2	9.9	11.6	10.2	11.4	11.6
6/9	9.1	10.4	12.8	13.2	15.0	15.6		12.0	10.0	11.4	10.2	11.4	11.5
6/10	8.9	10.3	12.4	12.9	12.5	15.0		11.7	9.8	11.1	10.2	11.1	11.3
6/11	8.5	10.2	11.9	12.5	14.7	14.4	9.1	11.4	9.7	10.8	10.1	10.7	10.9
6/12	8.1	10.0	11.5	12.1	12.6	13.6	9.6	11.1	9.6	10.6	10.0	10.3	10.5
6/13	7.9	9.8	10.9	11.6	11.3	12.8	9.7	10.9	9.5	10.4	9.8	10.0	10.2
6/14	7.7	9.7	10.7	11.2	10.8	12.3	9.7	10.8	9.5	10.5	9.7	9.7	10.0
6/15	7.4	9.5	10.2	10.8	10.9	11.6	9.7	10.7	9.5	10.3	9.7	9.6	9.9
6/16	7.5	9.4	10.3	10.6	10.6	11.6	10.0	11.0	9.5	10.7	9.7	9.8	10.0
6/17	7.5	9.4	10.4	10.7	10.2	11.7	10.1	11.4	9.7	11.1	9.8	10.1	10.3
6/18	7.7	9.4	10.7	10.9	11.0	12.0	10.4	11.7	9.8	11.3	9.8	10.4	10.7
6/19	8.2	9.6	11.1	11.3	13.4	12.6	10.7	12.1	9.9	11.8	10.0	10.9	11.2
6/20	8.8	9.8	11.5	11.8	12.0	13.3	11.0	12.4	10.0	12.0	10.3	11.4	11.6
6/21	9.0	9.9	11.8	12.2	13.4	13.8	11.2	12.7	10.1	12.2	10.5	11.8	12.0
6/22	9.5	10.1	12.3	12.6	14.5	14.5	11.5	13.1	10.2	12.3	10.8	12.2	12.3
6/23	9.7	10.1	12.3	12.8	14.4	14.5	11.4	13.1	10.4	12.1	11.0	12.3	12.4
6/24	9.7	10.2	12.4	12.9	13.1	14.6	11.3	13.0	10.3	12.0	11.1	12.3	12.4
6/25	9.8	10.4	12.2	12.8	15.4	14.4	11.4	13.0	10.4	11.9	11.3	12.2	12.3
6/26	9.5	10.3	11.9	12.6	13.1	14.1	11.2	12.8	10.4	11.6	11.4	11.8	11.9
6/27	9.5	10.2	11.9	12.6	12.6	14.1	11.4	12.9	10.5	11.8	11.4	11.8	12.0
6/28	10.1	10.1	12.1	12.7	12.0	14.4	11.7	13.2	10.6	12.1	11.7	12.1	12.2
6/29	10.0	9.9	12.0	12.6	12.2	14.3	11.8	13.3	10.7	12.5	11.9	12.2	12.3
6/30	10.0	9.6	11.8	12.6	15.2	14.1	11.8	13.3	10.7	12.4	12.0	12.2	12.4

DATE	RM 18.2 (SFK) 7 Day Avg Max	RM 15.8 7 Day Avg Max	RM 14.3 7 Day Avg Max	RM 12.8 7 Day Avg Max	RM 11.3 7 Day Avg Max	RM 9.8 7 Day Avg Max	RM 9.6 7 Day Avg Max	RM 4.9 7 Day Avg Max	RM 4.4 7 Day Avg Max	RM 0.2 7 Day Avg Max	Big Four 7 Day Avg Max	Skykomish Above 7 Day Avg Max	Skykomish Below 7 Day Avg Max
7/1	10.3	9.3	11.8	12.5	15.4	14.3	11.9	13.5	10.8	12.7	12.1	12.5	12.7
7/2	10.8	9.1	11.8	12.5	14.7	14.4	11.9	13.6	10.9	12.8	12.2	12.9	13.1
7/3	11.2	9.0	11.9	12.7	12.7	14.8	12.1	13.9	11.0	13.1	12.4	13.5	13.6
7/4	11.6	8.9	12.0	12.8	13.5	14.9	12.1	14.0	11.0	13.0	12.7	13.8	13.9
7/5	11.9	8.9	12.1	12.9	12.5	15.0	12.1	14.0	11.0	13.0	12.7	14.2	14.2
7/6	12.4	9.0	12.2	13.0	14.5	15.2	12.1	14.2	11.1	13.0	12.8	14.5	14.6
7/7	12.7	9.1	12.7	13.2	15.9	15.6	12.2	14.5	11.2	13.3	12.8	15.0	15.1
7/8	13.1	9.2	12.9	13.5	16.3	16.0	12.4	14.7	11.2	13.5	13.0	15.5	15.5
7/9	13.5	9.4	13.2	13.8	15.9	16.5	12.5	15.0	11.2	13.6	13.2	16.0	15.9
7/10	14.2	9.5	13.4	14.0	15.7	16.6	12.6	14.9	11.2	13.6	13.4	16.3	16.2
7/11	14.3	9.6	13.5	14.1	15.9	16.7	12.6	15.2	11.2	13.8	13.6	16.6	16.5
7/12	14.6	9.7	13.4	14.2	15.4	16.8	12.8	15.2	11.2	13.8	13.8	16.9	16.8
7/13	14.9	9.7	13.4	14.2	15.3	16.8	12.9	15.3	11.3	13.8	13.9	17.2	17.0
7/14	15.1	9.7	13.2	14.1	16.6	16.6	12.9	15.2	11.3	13.8	14.1	17.3	17.2
7/15	15.2	9.6	13.0	13.9	16.3	16.3	12.9	15.1	11.4	13.8	14.2	17.4	17.2
7/16	15.1	9.5	12.6	13.6	16.0	15.8	12.7	14.9	11.4	13.5	14.1	17.4	17.1
7/17	14.7	9.3	12.0	13.1	14.5	15.2	12.4	14.5	11.3	13.2	14.0	17.2	16.9
7/18	14.1	9.1	11.6	12.6	13.6	14.6	12.2	14.2	11.2	13.1	13.8	17.0	16.7
7/19	13.9	9.0	11.1	12.1	12.3	13.8	11.7	13.6	11.0	12.7	13.5	16.6	16.2
7/20	13.2	8.9	10.7	11.6	11.1	13.0	11.4	13.0	10.9	12.2	13.2	16.0	15.6
7/21	12.6	8.9	10.5	11.2	12.6	12.5	11.2	12.6	10.8	11.8	13.0	15.4	15.0
7/22	12.2	8.9	10.5	11.2	11.2	12.3	11.3	12.5	10.7	11.8	12.8	15.1	14.8
7/23	12.1	8.9	10.8	11.3	11.2	12.6	11.6	12.8	10.7	12.1	12.7	15.2	14.9
7/24	12.2	9.0	11.3	11.6	11.3	13.1	12.0	13.2	10.9	12.5	12.7	15.6	15.3
7/25	12.4	9.2	11.6	11.9	13.1	13.4	12.3	13.5	11.1	12.4	12.8	15.9	15.5
7/26	13.0	9.3	12.1	12.3	14.4	14.0	12.7	14.0	11.4	12.9	13.0	16.5	16.1
7/27	13.2	9.3	12.4	12.7	14.5	14.6	13.1	14.5	11.6	13.5	13.1	17.2	16.8
7/28	13.8	9.5	12.8	13.0	15.0	15.2	13.4	15.0	11.8	14.0	13.3	18.2	17.7
7/29	14.2	9.6	12.9	13.1	15.1	15.4	13.4	15.2	12.0	14.1	13.6	18.8	18.1
7/30	14.5	9.7	12.7	13.0	15.0	15.2	13.2	15.0	12.1	14.0	13.8	19.0	18.2
7/31	14.6	9.8	12.7	13.0	15.0	15.2	13.2	15.1	12.2	14.0	14.0	19.2	18.4

DATE	RM 18.2 (SFK) 7 Day Avg Max	RM 15.8 7 Day Avg Max	RM 14.3 7 Day Avg Max	RM 12.8 7 Day Avg Max	RM 11.3 7 Day Avg Max	RM 9.8 7 Day Avg Max	RM 9.6 7 Day Avg Max	RM 4.9 7 Day Avg Max	RM 4.4 7 Day Avg Max	RM 0.2 7 Day Avg Max	Big Four 7 Day Avg Max	Skykomish Above 7 Day Avg Max	Skykomish Below 7 Day Avg Max
8/1	14.9	9.8	12.7	13.0	14.0	15.3	13.3	15.1	12.3	14.4	14.1	19.5	18.8
8/2	15.0	9.8	12.6	13.0	12.7	15.2	13.2	15.1	12.2	14.3	14.2	19.7	18.8
8/3	14.9	9.8	12.4	12.8	14.9	15.0	13.2	15.0	12.2	14.1	14.3	19.7	18.7
8/4	14.9	9.8	12.3	12.7	15.2	14.9	13.1	14.9	12.2	13.9	14.2	19.8	18.5
8/5	14.9	9.8	12.2	12.7	14.4	14.9	13.1	14.9	12.1	13.8	14.2	19.9	18.4
8/6	15.0	9.8	12.3	12.8	13.7	15.0	13.2	15.0	12.1	13.8	14.0	20.1	18.4
8/7	14.9	9.8	12.3	12.8	14.0	14.9	13.1	15.0	12.1	13.7	13.8	20.1	18.3
8/8	14.8	9.9	12.2	12.7	14.0	14.8	13.1	14.9	12.1	13.5	13.7	20.1	18.0
8/9	14.7	10.1	12.3	12.7	13.8	14.7	13.0	14.9	12.1	13.4	13.7	20.0	17.7
8/10	14.6	10.2	12.5	13.0	14.2	14.7	13.3	15.1	12.3	13.5	13.8	19.8	17.6
8/11	14.1	10.3	12.5	12.9	14.4	14.5	13.3	15.1	12.5	13.4	13.9	19.3	17.3
8/12	14.0	10.4	12.4	12.8	13.7	14.2	13.2	14.9	12.5	13.3	14.0	18.8	17.0
8/13	13.8	10.4	12.3	12.7	14.3	14.1	13.2	14.9	12.6	13.4	14.1	18.4	16.8
8/14	13.6	10.4	12.3	12.7	13.0	14.0	13.3	14.9	12.7	13.4	14.3	18.2	16.7
8/15	13.6	10.5	12.4	12.7	12.3	14.0	13.4	15.0	12.9	13.4	14.3	18.1	16.6
8/16	13.5	10.5	12.4	12.8	12.8	14.1	13.7	15.1	13.0	13.5	14.4	18.3	16.7
8/17	13.3	10.6	12.2	12.5	13.8	14.0	13.5	15.0	13.0	13.6	14.3	18.4	16.7
8/18	13.5	10.6	12.4	12.6	14.6	14.0	13.5	14.9	13.1	13.7	14.3	18.6	16.7
8/19	13.6	10.8	12.6	12.7	14.6	14.2	13.7	15.0	13.4	14.0	14.2	18.9	16.8
8/20	13.7	11.0	12.9	12.9	13.4	14.4	13.9	15.2	13.6	14.2	14.0	19.2	16.9
8/21	13.8	11.1	13.0	13.0	13.4	14.6	14.1	15.3	13.9	14.4	13.9	19.3	17.0
8/22	13.7	11.2	13.0	12.9	12.9	14.5	14.1	15.2	14.1	14.5	13.7	19.3	17.0
8/23	13.7	11.3	13.1	13.0	14.2	14.5	14.1	15.3	14.2	14.7	13.5	19.1	16.9
8/24	13.8	11.5	13.4	13.2	14.4	14.7	14.2	15.4	14.4	15.0	13.5	19.4	17.2
8/25	13.9	11.7	13.6	13.4	14.2	14.9	14.4	15.7	14.6	15.3	13.5	19.6	17.5
8/26	13.9	11.7	13.6	13.4	14.7	14.9	14.4	15.7	14.7	15.3	13.5	19.7	17.7
8/27	13.5	11.7	13.4	13.3	15.0	14.7	14.3	15.6	14.7	15.4	13.6	19.3	17.6
8/28	13.5	11.7	13.2	13.2	14.4	14.4	14.1	15.5	14.7	15.5	13.6	18.9	17.5
8/29	13.3	11.7	13.2	13.1	13.6	14.3	14.1	15.4	14.7	15.6	13.5	18.6	17.5
8/30	13.0	11.6	12.9	12.9	13.1	14.0	13.8	15.1	14.6	15.6	13.4	18.0	17.3
8/31	12.3	11.4	12.6	12.7	12.8	13.6	13.7	14.7	14.4	15.3	13.2	17.2	16.7

DATE	RM 18.2 (SFK) 7 Day Avg Max	RM 15.8 7 Day Avg Max	RM 14.3 7 Day Avg Max	RM 12.8 7 Day Avg Max	RM 11.3 7 Day Avg Max	RM 9.8 7 Day Avg Max	RM 9.6 7 Day Avg Max	RM 4.9 7 Day Avg Max	RM 4.4 7 Day Avg Max	RM 0.2 7 Day Avg Max	Big Four 7 Day Avg Max	Skykomish Above 7 Day Avg Max	Skykomish Below 7 Day Avg Max
9/1	12.1	11.3	12.5	12.5	13.6	13.3	13.6	14.4	14.2	15.1	13.0	16.6	16.3
9/2	11.8	11.3	12.5	12.5	12.8	13.3	13.5	14.3	14.0	15.1	12.9	16.4	16.2
9/3	11.8	11.3	12.6	12.5	12.5	13.4	13.5	14.2	13.8	15.1	12.9	16.5	16.3
9/4	11.8	11.3	12.7	12.6	12.8	13.6	13.5	14.3	13.7	15.1	12.9	16.6	16.4
9/5	11.7	11.3	12.7	12.6	13.1	13.5	13.4	14.1	13.6	15.0	13.0	16.7	16.4
9/6	11.7	11.2	12.7	12.5	13.3	13.4	13.3	14.1	13.4	14.9	13.0	16.7	16.3
9/7	11.8	11.2	12.7	12.6	13.5	13.5	13.4	14.1	13.5	14.9	12.9	16.9	16.5
9/8	11.6	11.1	12.6	12.5	13.1	13.4	13.4	14.1	13.6	15.0	12.8	16.9	16.5
9/9	11.6	11.0	12.0	12.0	12.5	13.0	13.2	13.9	13.6	14.8	12.5	16.7	16.2
9/10	11.4	11.0	11.8	11.8	13.0	12.7	13.1	13.6	13.7	14.8	12.2	16.5	16.0
9/11	11.3	10.9	11.6	11.7	12.0	12.4	13.1	13.5	13.8	14.7	12.0	16.3	15.9
9/12	11.2	10.9	11.6	11.7	10.9	12.3	13.2	13.6	13.9	14.8	11.8	16.2	15.8
9/13	11.1	10.9	11.6	11.7	11.4	12.4	13.4	13.7	13.9	15.0	11.7	16.2	15.8
9/14	11.1	11.0	11.6	11.8	12.0	12.4	13.5	13.8	14.7	15.1	11.8	16.2	15.8
9/15	11.2	11.1	11.6	11.8	12.3	12.4	13.6	13.9	15.4	15.0	11.9	16.2	15.8
9/16	11.5	11.1	12.2	12.3	12.5	12.9	13.9	14.2	15.5	15.4	12.2	16.3	16.1
9/17	11.6	11.2	12.3	12.4	13.0	13.1	14.1	14.5	15.7	15.5	12.4	16.4	16.2
9/18	11.7	11.3	12.4	12.5	12.6	13.3	14.3	14.7	15.8	15.6	12.7	16.6	16.4
9/19	11.9	11.3	12.4	12.5	13.2	13.3	14.3	14.8	15.9	15.7	12.9	16.6	16.4
9/20	11.8	11.2	12.2	12.4	12.7	13.3	14.4	14.8	15.9	15.6	13.0	16.6	16.4
9/21	11.8	10.5	11.8	12.0	12.9	13.0	14.3	14.7	15.2	15.5	13.2	16.4	16.2
9/22	11.7	9.8	11.4	11.5	12.7	12.8	14.2	14.6	14.6	15.6	13.2	16.3	16.1
9/23	11.5	9.1	10.9	11.0	12.2	12.3	13.9	14.4	14.4	15.4	13.1	16.0	15.8
9/24	11.3	8.4	10.3	10.5	10.8	12.0	13.8	14.2	14.3	15.2	13.0	15.7	15.6
9/25	11.1	7.7	9.7	9.9	10.4	11.6	13.6	14.1	14.2	15.1	12.9	15.3	15.3
9/26	10.8	7.0	9.1	9.3	10.2	11.1	13.4	13.8	14.0	14.8	12.7	15.0	15.0
9/27	10.5	6.4	8.6	8.8	10.2	10.7	13.1	13.6	13.8	14.7	12.5	14.6	14.6
9/28	10.1	6.3	8.5	8.7	9.7	10.5	13.1	13.5	13.7	14.6	12.2	14.3	14.4
9/29	10.0	6.3	8.3	8.5	9.1	10.3	13.1	13.4	13.6	14.5	12.0	14.1	14.2
9/30	9.8	6.3	8.2	8.4	9.1	10.2	13.2	13.5	13.6	14.5	11.8	14.0	14.1

DATE	RM 18.2 (SFK) 7 Day Avg Max	RM 15.8 7 Day Avg Max	RM 14.3 7 Day Avg Max	RM 12.8 7 Day Avg Max	RM 11.3 7 Day Avg Max	RM 9.8 7 Day Avg Max	RM 9.6 7 Day Avg Max	RM 4.9 7 Day Avg Max	RM 4.4 7 Day Avg Max	RM 0.2 7 Day Avg Max	Big Four 7 Day Avg Max	Skykomish Above 7 Day Avg Max	Skykomish Below 7 Day Avg Max
10/1	9.8	6.3	8.1	8.4	9.5	10.1	13.3	13.5	13.7	14.5	11.8	13.8	14.0
10/2	9.8	6.3	8.1	8.4	9.1	10.1	13.4	13.5	13.7	14.5	11.7	13.7	13.9
10/3	9.8	7.2	8.4	8.7	8.8	10.3	13.5	13.7	13.8	14.7	11.8	13.9	14.1
10/4	9.9	7.3	8.7	9.0	9.7	10.5	13.7	13.8	13.8	14.8	11.9	14.1	14.3
10/5	10.1	7.3	8.7	9.1	9.4	10.6	13.7	13.8	13.9	14.9	12.0	14.4	14.6
10/6	10.3	7.4	8.7	9.1	9.4	10.6	13.8	13.9	14.0	14.9	12.2	14.6	14.7
10/7	10.4	7.4	8.7	9.1	9.7	10.6	13.8	13.9	14.0	14.9	12.3	14.7	14.8
10/8	10.4	7.4	9.0	9.3	9.8	10.6	13.8	13.9	14.0	14.9	12.3	14.7	14.9
10/9	10.3	7.3	9.1	9.4	9.4	10.7	13.8	13.8	13.9	14.7	12.2	14.5	14.6
10/10	10.2	6.4	8.9	9.2	8.8	10.7	13.7	13.7	13.9	14.7	12.1	14.2	14.4
10/11	10.2	6.4	8.9	9.2	10.5	10.7	13.6	13.7	13.9	14.5	12.0	14.0	14.2
10/12	9.9	6.4	9.0	9.3	10.3	10.7	13.5	13.5	13.7	14.3	11.9	13.6	13.8
10/13	9.7	6.3	9.2	9.5	9.9	10.7	13.3	13.2	13.5	14.1	11.7	13.1	13.4
10/14	9.5	6.3	9.3	9.6	10.8	10.7	13.2	13.0	13.4	13.9	11.6	12.6	13.0
10/15	9.5	6.3	9.2	9.4	10.2	10.7	13.0	12.9	13.3	13.8	11.6	12.3	12.6
10/16	9.5	6.4	9.1	9.4	10.0	10.6	12.9	12.8	13.2	13.7	11.6	12.1	12.5
10/17	9.4	6.4	9.1	9.4	9.5	10.5	12.6	12.6	12.9	13.4	11.5	11.8	12.2
10/18	9.2	6.3	9.0	9.3	9.9	10.4	12.4	12.4	12.7	13.2	11.5	11.6	12.0
10/19	9.2	6.4	9.0	9.3	10.1	10.4	12.2	12.3	12.5	13.1	11.4	11.5	11.8
10/20	9.2	6.4	9.1	9.3	10.0	10.4	12.1	12.1	12.4	12.9	11.4	11.3	11.6
10/21	9.1	6.4	9.1	9.4	9.8	10.3	11.8	11.9	12.2	12.7	11.3	11.1	11.4
10/22	8.7	6.3	9.1	9.3	10.2	10.2	11.6	11.7	12.0	12.6	11.2	10.9	11.2
10/23	8.6	6.4	9.1	9.4	10.2	10.1	11.4	11.4	11.8	12.3	10.9	10.5	10.9
10/24	8.2	6.3	9.0	9.2	9.2	9.9	11.1	11.0	11.5	12.0	10.6	10.1	10.5
10/25	8.0	6.3	8.8	9.1	9.4	9.7	10.9	10.8	11.4	11.8	10.5	9.8	10.1
10/26	7.9	6.3	8.7	8.9	9.5	9.6	10.7	10.7	11.2	11.6	10.3	9.6	9.9
10/27	7.8	6.3	8.5	8.7	8.6	9.4	10.6	10.6	11.2	11.6	10.3	9.4	9.8
10/28	7.8	6.3	8.5	8.7	8.6	9.4	10.6	10.6	11.1	11.5	10.3	9.4	9.8
10/29	7.7	6.3	8.4	8.7	9.3	9.4	10.4	10.5	10.8	11.2	10.1	9.3	9.7
10/30	7.7	6.2	8.2	8.4	9.1	9.3	10.2	10.3	10.7	11.1	10.0	9.2	9.6
10/31	7.8	6.3	8.3	8.6	9.4	9.4	10.2	10.3	10.7	11.0	10.1	9.2	9.6

DATE	RM 18.2 (SFK) 7 Day Avg Max	RM 15.8 7 Day Avg Max	RM 14.3 7 Day Avg Max	RM 12.8 7 Day Avg Max	RM 11.3 7 Day Avg Max	RM 9.8 7 Day Avg Max	RM 9.6 7 Day Avg Max	RM 4.9 7 Day Avg Max	RM 4.4 7 Day Avg Max	RM 0.2 7 Day Avg Max	Big Four 7 Day Avg Max	Skykomish Above 7 Day Avg Max	Skykomish Below 7 Day Avg Max
11/1	7.8	6.4	8.6	8.7	9.1	9.2	10.2	10.3	10.6	10.9	10.1	9.2	9.6
11/2	7.8	6.4	8.3	8.8	9.2	9.0	10.1	10.0	10.3	10.6	10.1	9.2	9.5
11/3	7.8	6.4	8.4	8.6	8.9	8.9	9.9	9.9	10.1	10.5	10.1	9.2	9.5
11/4	7.8	6.4	8.4	8.6	8.9	8.6	9.8	9.8	10.0	10.3	10.0	9.2	9.5
11/5	7.7	6.5	8.2	8.4	8.9	8.1	9.6	9.7	9.9	10.2	9.9	9.1	9.4
11/6	7.6	6.5	8.2	8.3	8.7	7.7	9.5	9.6	9.8	10.1	9.8	9.0	9.3
11/7	7.1	6.4	7.9	8.1	8.6	6.9	9.3	9.4	9.6	10.0	9.6	8.8	9.1
11/8	7.0	6.3	7.4	7.7	8.4	6.0	8.9	9.1	9.5	9.8	9.2	8.5	8.9
11/9	6.3	6.2	7.0	7.3	7.9	5.3	8.5	8.8	9.5	9.7	8.5	7.9	8.3
11/10	5.5	6.0	6.4	7.1	7.5	4.6	8.0	8.1	9.3	9.4	7.7	7.0	7.6
11/11	4.5	5.9	5.8	6.2	6.7	4.0	7.5	7.4	9.0	9.1	6.9	6.2	6.9
11/12	4.1	5.9	5.3	5.5	5.9	3.7	7.1	6.8	8.7	8.8	6.1	5.5	6.4
11/13	3.5	5.8	4.9	5.0	5.3	3.8	6.8	6.3	8.4	8.5	5.4	4.9	5.9
11/14	3.0	5.8	4.5	4.6	4.6	4.0	6.4	5.7	8.1	8.2	4.7	4.3	5.5
11/15	2.9	5.8	4.5	4.3	4.0	4.4	6.2	5.4	7.8	7.9	4.2	3.9	5.2
11/16	2.9	5.9	4.7	4.2	3.8	4.9	6.3	5.4	7.6	7.8	4.2	4.0	5.3
11/17	3.2	6.0	4.9	4.6	3.8	5.5	6.4	5.5	7.5	7.7	4.3	4.3	5.6
11/18	3.5	6.1	5.3	4.9	4.1	6.0	6.5	5.8	7.4	7.7	4.6	4.7	5.8
11/19	4.0	6.2	5.6	5.2	4.5	6.5	6.6	6.1	7.4	7.7	5.0	5.0	6.1
11/20	4.2	6.4	5.9	5.2	5.0	7.0	6.8	6.4	7.4	7.7	5.5	5.4	6.3
11/21	4.6	6.4	6.2	6.0	5.5	7.4	7.0	6.7	7.4	7.6	5.9	5.7	6.5
11/22	5.0	6.6	6.5	6.4	6.0	7.8	7.2	7.1	7.4	7.6	6.5	6.0	6.6
11/23	5.4	6.7	6.8	6.7	6.5	7.8	7.4	7.4	7.4	7.6	7.0	6.3	6.7
11/24	5.6	6.7	7.1	7.0	7.0	7.4	7.5	7.7	7.5	7.6	7.4	6.5	6.8
11/25	5.8	6.8	7.3	7.3	7.3	7.0	7.7	8.0	7.5	7.7	7.7	6.5	6.8
11/26	5.8	6.7	7.3	7.4	7.7	6.4	7.7	8.0	7.5	7.6	7.7	6.5	6.7
11/27	5.2	6.6	7.0	7.4	7.7	5.7	7.4	7.7	7.3	7.4	7.4	6.3	6.5
11/28	5.2	6.5	6.7	6.9	7.3	5.2	7.1	7.3	7.1	7.2	7.0	5.9	6.1
11/29	4.7	6.4	6.2	6.4	6.9	4.7	6.7	6.8	6.9	7.0	6.5	5.5	5.8
11/30	4.3	6.3	5.7	6.1	6.3	4.7	6.2	6.2	6.7	6.8	5.9	5.1	5.4

DATE	RM 18.2 (SFK) 7 Day Avg Max	RM 15.8 7 Day Avg Max	RM 14.3 7 Day Avg Max	RM 12.8 7 Day Avg Max	RM 11.3 7 Day Avg Max	RM 9.8 7 Day Avg Max	RM 9.6 7 Day Avg Max	RM 4.9 7 Day Avg Max	RM 4.4 7 Day Avg Max	RM 0.2 7 Day Avg Max	Big Four 7 Day Avg Max	Skykomish Above 7 Day Avg Max	Skykomish Below 7 Day Avg Max
12/1	4.0	6.1	5.4	5.3	5.2	5.0	5.9	5.7	6.5	6.6	5.3	4.8	5.1
12/2	3.6	6.0	5.0	5.1	5.1	5.4	5.5	5.3	6.2	6.4	4.9	4.6	5.0
12/3	3.6	6.1	5.0	4.8	4.7	6.0	5.5	5.2	6.1	6.3	4.9	4.5	4.9
12/4	3.9	6.1	5.3	5.1	4.7	6.6	5.6	5.5	6.2	6.4	5.1	4.7	5.1
12/5	4.6	6.1	5.6	5.4	4.9	7.0	5.9	5.9	6.3	6.5	5.5	5.1	5.5
12/6	4.8	6.1	6.0	5.7	5.4	7.3	6.3	6.4	6.4	6.6	6.1	5.6	6.0
12/7	5.2	6.1	6.4	6.2	5.9	7.4	6.7	6.9	6.5	6.7	6.7	6.0	6.3
12/8	5.5	6.1	6.6	6.6	6.5	7.3	7.0	7.3	6.6	6.8	7.1	6.3	6.6
12/9	5.7	6.1	6.8	6.8	6.9	7.1	7.2	7.6	6.7	6.9	7.3	6.5	6.7
12/10	5.8	6.0	6.8	6.9	7.1	6.9	7.3	7.7	6.7	6.9	7.4	6.6	6.8
12/11	5.7	6.0	6.7	6.8	7.2	6.7	7.2	7.7	6.7	6.9	7.3	6.6	6.8
12/12	5.5	5.9	6.6	6.7	7.1	6.5	7.0	7.5	6.6	6.8	7.2	6.4	6.7
12/13	5.2	5.9	6.4	6.6	6.9	6.4	6.9	7.3	6.5	6.7	6.9	6.2	6.5
12/14	5.1	5.9	6.2	6.4	6.8	6.3	6.7	7.0	6.4	6.6	6.7	6.0	6.3
12/15	4.9	5.9	6.1	6.2	6.5	6.5	6.5	6.8	6.3	6.5	6.5	5.9	6.2
12/16	4.8	5.9	6.0	6.1	6.3	6.7	6.4	6.7	6.2	6.4	6.4	5.8	6.2
12/17	4.9	5.9	6.0	6.1	6.2	6.7	6.3	6.6	6.2	6.3	6.4	5.8	6.1
12/18	5.0	6.0	6.2	6.2	6.2	6.8	6.5	6.8	6.2	6.4	6.5	5.9	6.2
12/19	5.1	6.0	6.3	6.3	6.4	6.7	6.7	7.0	6.3	6.5	6.7	6.0	6.3
12/20	5.2	6.0	6.3	6.4	6.6	6.5	6.7	7.1	6.4	6.5	6.8	6.1	6.3
12/21	5.0	5.9	6.3	6.5	6.6	6.4	6.7	7.1	6.4	6.5	6.8	6.1	6.3
12/22	5.0	5.9	6.2	6.5	6.6	6.2	6.6	7.0	6.4	6.4	6.7	6.1	6.3
12/23	4.9	5.8	6.1	6.2	6.5	5.9	6.5	6.9	6.4	6.4	6.6	6.0	6.2
12/24	4.7	5.8	6.0	6.1	6.4	5.6	6.4	6.8	6.3	6.3	6.4	5.9	6.1
12/25	4.5	5.7	5.8	5.9	6.2	5.1	6.2	6.6	6.2	6.2	6.2	5.7	5.9
12/26	4.3	5.6	5.6	5.7	6.0	4.7	5.9	6.3	6.0	6.1	5.9	5.5	5.7
12/27	4.0	5.4	5.3	5.4	5.8	4.4	5.6	6.0	5.9	6.0	5.5	5.2	5.5
12/28	3.6	5.3	4.9	5.2	5.4	4.2	5.2	5.5	5.7	5.8	5.1	4.8	5.1
12/29	3.3	5.2	4.6	4.8	5.0	3.4	4.9	5.1	5.5	5.7	4.7	4.4	4.8
12/30	3.1	5.1	4.5	4.5	4.6	2.6	4.7	4.8	5.4	5.5	4.4	4.1	4.6
12/31	3.0	5.1	4.4	4.3	4.3	2.0	4.6	4.6	5.3	5.4	4.1	4.0	4.5

APPENDIX E

Consultation Documentation Regarding Draft Report

Presler, Dawn

From: Presler, Dawn
Sent: Friday, April 24, 2015 8:19 AM
To: 'Steven Fransen' (steven.m.fransen@noaa.gov); 'Loren Everest - USFS' (leverest@fs.fed.us); 'Tim_Romanski@fws.gov' (Tim_Romanski@fws.gov); Anne Savery; 'James (ECY) Pacheco' (JPAC461@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; Tom O'Keefe; Kannadaguli, Monika (ECY) (MKAN461@ecy.wa.gov)
Cc: Binkley, Keith
Subject: JHP (FERC No. 2157) - WQMP DRAFT Annual Report for your review
Attachments: 2014 Temperature Data (Appendices B through D).xlsx; 2014 WQMP Annual Report DRAFT for ARC review.pdf; SpadaWQDataSummary2014 - APPENDIX A.xlsx

Dear ARC and Monika,
Attached are a copy of the draft WQMP Draft Annual Report and associated appendices for your 30-day review and comment. Comments, if any, should be emailed to me (with cc: to Keith) by May 24, 2015. If you have any questions on the data in the report, please contact Keith directly. Thanks!

Have a great weekend!

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