

MCNARY DAM ANNUAL TEMPERATURE REPORT USACE WALLA WALLA DISTRICT BIOLOGICAL SERVICES

Prepared for

U.S. Army Corps of Engineers

Prepared by

Kathleen Carter and Douglas Long
Anchor QEA, LLC

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Appendix A Temperatures from 43 Sites at McNary Dam June 1 to July 10, 2016

LIST OF ACRONYMS AND ABBREVIATIONS

mph	miles per hour
kcfs	kilocubic feet per second
JFF	Juvenile Fish Facility

EXECUTIVE SUMMARY

Water temperatures have been monitored at McNary Dam from June to August since 1998 (Hoffarth 2000). Typical summer weather patterns consist of sustained warm air temperatures and wind velocities below 3 miles per hour (mph). These patterns correlate with warm water and large temperature gradients in the forebay. High water temperatures have been associated with mortality in migrating juvenile salmonids in the past but can be mitigated through Project operations.

Average air temperatures for June, July, and August were 69.6 °F, 73.4 °F, and 74.1 °F, respectively. The daily high temperatures for June, July, and August averaged 82.1 °F, 86.7 °F and 87.9 °F, respectively. High air temperatures and low winds during the weeks of July 24 to 31, 2016, and August 14 to 21, 2016, elicited the highest water temperatures and temperature gradients throughout the monitored areas at McNary Dam. The maximum temperature recorded in the forebay was 79.9 °F on July 25, 2016. The maximum average forebay temperature was 76.0 °F recorded on August 18 and 20, 2016.

A total of 2,005,924 juvenile salmonids passed McNary Dam from June 1 to August 31, 2016. Subyearling Chinook salmon comprised 99% of the salmonids during this period. By June 26, 2016, 50% of the fish bypassed through the McNary Dam Juvenile Fish Facility (JFF) during the temperature monitoring period had passed; 90% had passed by July 2, 2016, when the water temperature at the JFF was 67.8 °F. Mortality during the monitoring period was low. Sample tank mortality among fish held up to 24 hours was 0.5% from June 1 to August 31.

1 INTRODUCTION

McNary Dam, located on the Columbia River at river mile 292, is the first hydroelectric project downstream of the Snake and Columbia River confluence. The dam consists of an earthen embankment abutting the southern shore, a powerhouse with 14 turbine units, a 22 bay spillway, and a navigation lock on the northern shore. The spillway and powerhouse provide two major passage routes through McNary Dam. Spillway routes allow fish passage directly to the tailwater. The majority of fish passing at the powerhouse are guided by extended-length submersible bar screens into one of three gatewells for each turbine unit and then through 12-inch orifices into a collection channel. This leads to a wet separator at the Juvenile Fish Facility (JFF) where fish are separated by size. The majority of fish are bypassed through the JFF system and to the tailrace approximately 1,100 feet downstream of the dam via an outflow pipe. A percentage of the fish passing through JFF are diverted, held for examination and released. This secondary bypass and sample examination occurs every other day.

High water temperature has been indicated in juvenile salmonid mortality at McNary Dam in the past (Ferguson et al. 2005). During the summer, forebay surface temperatures can exceed 68 °F, though deeper water may be cooler (Haskell et al. 2004). Air temperatures and wind velocities are critical components of temperature fluctuations in the surface water of the forebay at McNary Dam (Hoffarth 2000). Warm air temperatures can cause thermal gradients to form in the forebay as the surface water warms unevenly across the powerhouse. Wind speeds of more than 3 miles per hour (mph) can mix water in the forebay and disperse thermal gradients. Warm, windless days often experienced in summer allow gradients to form and be sustained. These gradients can be carried through the dam along juvenile passage routes.

McNary Dam is the first dam encountered by Columbia River fall Chinook salmon originating from Priest Rapids Hatchery and naturally produced stock from Hanford Reach and the lower Snake River. Fall Chinook salmon rear in spring and begin migration in early summer making fall Chinook salmon more vulnerable to adverse water conditions than other juvenile salmonids. High water temperatures may have acute or chronic adverse effects on migrating fish if the magnitude of temperature or length of exposure is sufficient

(Sullivan et al. 2000). Migration timing may, in many years, place these fish at McNary Dam when water temperatures are at a maximum.

High water temperatures can be mitigated through powerhouse operations. Employing an alternating “sawtooth” distribution of turbine operation across the powerhouse and balancing turbines in operational mode and stand-by mode decreases the magnitude of the temperature and temperature gradients. Turbines in operational mode draw in warmer surface water while stand-by turbines allow cooler deeper water in to the gatewells from the forebay (Meyer 1989). This management pattern can decrease the temperature of water along the smolt passage route.

The objectives of the 2016 Temperature Monitoring Program at McNary Dam were to monitor water temperature patterns in fish passage areas, including the spillway, powerhouse, gatewells, collection channel, JFF, and tailrace. The daily temperatures were analyzed in these areas to identify temperature conditions that might contribute to increased mortality of bypassing fish.

2 METHODS

Water temperatures were measured at 30-minute intervals (0:00 and 0:30) from 0700 June 1 to 0700 August 31, 2016, using MadgeTech Temp 1000 and the updated MadgeTech 1000S probes. These probes have a calibrated accuracy of ± 0.9 °F.

The temperature probes were deployed at 44 locations throughout the McNary Dam powerhouse, spillway, tailrace, and JFF, as follows:

- Powerhouse forebay (referred to herein as forebay), near elevation 335 in the trolley pipes fitted to each “C” pier nose (14 total). The probes were in approximately 10 feet of water. Previous years’ deployments have positioned probes in 2 to 3 feet of water on the “B” pier nose.
- Gatewells, in the center of each “B” slot at each unit (14 total) in approximately 3 feet of water.
- Collection channel, downstream of gatewell orifices 12B and 8B, and upstream of the incline dewatering screen, south of Unit 1.
- JFF, in the fish separator underneath the bars in the “B” section, the Sample Tank B in approximately 2 feet of water, and the Recovery Raceway 9W in approximately 2 feet of water.
- Tailwater at Unit 1 and Unit 14 in 5 feet of water, the transportation barge dock in 5 feet of water, the tailrace on the navigation lock wing wall in 5 feet of water, and the JFF outfall pipe approximately 5 feet from the exit in 10 feet of water. The outfall pipe was an additional location added in July of this year.
- Spillway forebay (referred to herein as spillway) at Bays 1, 7, 12, 17, and 22 on the forebay side of the spill gate in 5 feet of water.

Daily water temperatures were also recorded at 0700 hours in Sample Tank B using a Fluke 52-2 digital thermometer with a precision of 0.1 °F and a calibrated accuracy of $0.05\% + 0.5$ °F. The daily temperature value was reported to McNary Dam biologists as part of the Smolt Monitoring Program. The temperatures recorded are considered a minimum daily temperature and do not reflect any diurnal fluctuation that may occur.

Weather data was obtained from a Weatherlink® data station positioned at JFF near the separator. The station recorded average air temperature, wind speed over a half-hour period, wind direction, and maximum half-hour wind speed.

Daily temperature reports were compiled using water temperatures and weather data collected from 0700 the previous day to 0700 of the current day. This time frame coincided with sampling activities at JFF. Previous seasons have collected temperature and weather data from 0000 to 2330 each day. Due to probe failure, some locations were not covered continuously. Priority was given to the powerhouse forebay, gatewells, the north and south end of the collection channel, and the JFF separator and sample tank when the number of functioning probes was not sufficient to cover each location (44 total). The JFF outfall pipe was an additional monitoring site added on July 15.

Temperature probes were calibrated in early May before deployment on June 1. On July 6, it was noted that recorded water temperatures were not consistent with expected temperature values given the current turbine unit operations. Examination of the May calibration notes revealed the calibration offset had been entered in degrees Fahrenheit; however, the probe program called for the offset to be in degrees Celsius. In addition, the offset sign had been entered incorrectly (i.e., offsets that were required to be entered as a negative number were entered as a positive number and vice versa). These errors resulted in temperature measurement errors of -2.9 °F to 2.3 °F.

Each probe was collected and recalibrated on July 6, and redeployed on July 7. The probes were collected and recalibrated a second time on July 10, and redeployed on July 11, due to a miscommunication between personnel. To recalibrate, probes were collected and prepped for one-point calibration according to the manufacturer's instructions and placed in a water/ice bath to acclimate for 5 minutes. The water/ice bath was chosen as a stable temperature environment because the temperature would remain at 0 °C until the ice had melted. After acclimation, the bath was stirred continuously for 10 minutes and the temperature monitored at several locations with two digital thermometers to ensure temperature homogeneity. A reference temperature from a calibrated mercury thermometer with a precision of 0.1 °F was recorded every minute. The reference thermometer recorded the temperature of the ice bath to be 32 °F ± 0.2 °F while in the ice bath. The data were

downloaded and examined for a time point at which the probe temperature had stabilized. The temperature recorded from the reference thermometer at that time point was then used as the measured temperature for each probe. The difference between the measured temperature and the reference temperature was calculated and used as the offset for that probe.

After recalibration, the probes were tested in river water at JFF to verify uniform temperature measurements. Water temperature readings with a mercury thermometer during testing showed the water to be 66.5 °F. The average temperature recording of the probes was 66.4 °F (± 0.24 °F). Each probe was redeployed by 1630 on July 11. Water temperature data recorded from July 11 to August 31, 2016, are included in this report. Water temperature data from June 1 to July 10, 2016, are recorded in Appendix A. Air and wind values were not affected by the error. Subsequent dates in this report refer to data collected in 2016 unless noted otherwise.

3 RESULTS

3.1 Weather Conditions

Daily air temperatures peaked between 1500 and 2100 hours. The lowest daily air temperatures were measured between 0400 and 0800 hours. The average daily air temperature for the 2016 monitoring period was lower than those recorded for 2015 on average (Figure 1 and Table 1).

Wind, when present, was highly variable throughout the day. June experienced the most days with wind. The highest average daily velocity was June 24 with an average daily wind velocity of 10.2 mph.

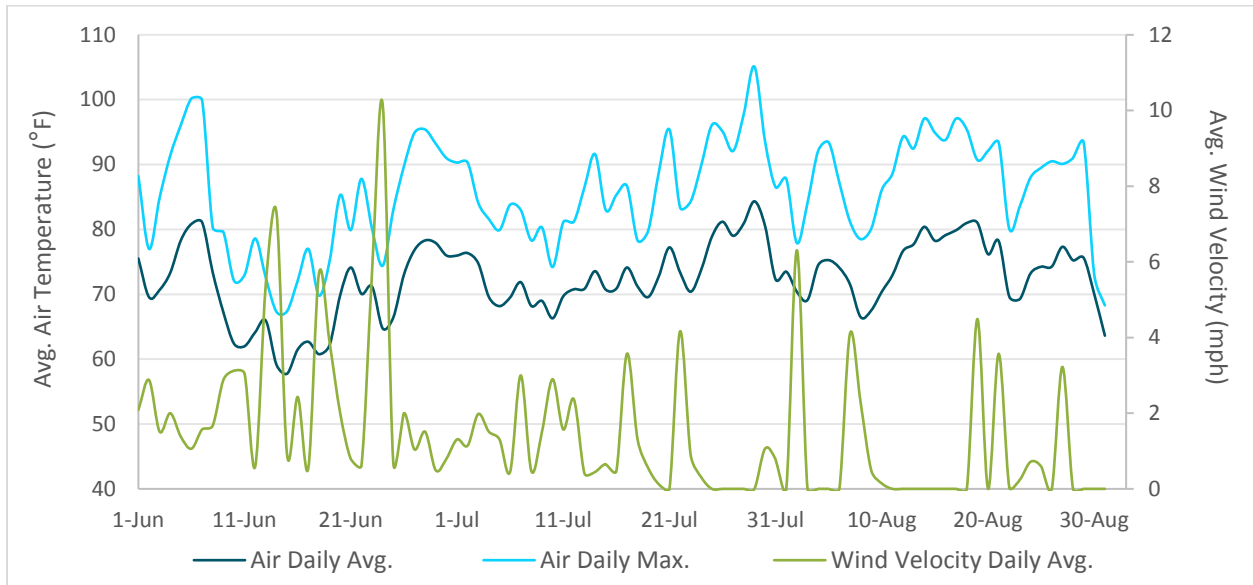


Figure 1
Average and Maximum Daily Air Temperature and Average Wind Velocity, June 1 to August 31, 2016

Table 1
Air Temperatures and Wind Speed at McNary Dam, 2015 and 2016

Month/Year	Daily Avg.	Daily Max. Avg. (°F)	Daily Min. Avg. (°F)	Max. Range (°F)	Min. Range (°F)	Days >90 °F	Wind Avg. (mph)
June							
2016*	69.5	82.1	57.9	66.4 – 100.2	47.9 – 66.8	7	2.6
2015†	77.4	92.5	64.8	81.1 – 104.1	54.4 – 76.0	8	0.8
July							
2016*	73.6	86.7	62.8	74.2 – 105.1	57.3 – 72.1	9	1.1
2015†	78.1	92.0	66.0	78.6 – 102.8	55.7 – 74.2	15	1.6
August							
2016*	74.2	88.1	61.7	77.9 – 97.1	53.9 – 71.3	14	0.9
2015†	74.7	87.1	63.4	66.6 – 102.3	54.8 – 72.3	9	1.4

Notes:

* June 1 to August 31

† June 15 to August 31

3.2 Project Discharge and Spill

Total project discharge during the monitoring period from June 1 to August 31 averaged 176.5 kilocubic feet per second (kcfs; Figure 2). Average total discharge for 2015 for the same period was 150.0 kcfs. Average total discharge from June 1 to 30 was 202.8 kcfs and for July 1 through August 31 was 157.3 kcfs. Average percent spill for 2016 was 48.0%, compared to 48.5% in 2015.

The temperature across the spillway averaged 70.1 °F from July 11 to August 31. The maximum temperature of 80.3 °F was recorded at 1730 on July 25 at Spillbay 7. The average differential temperature was 1.3 °F across the spillway.

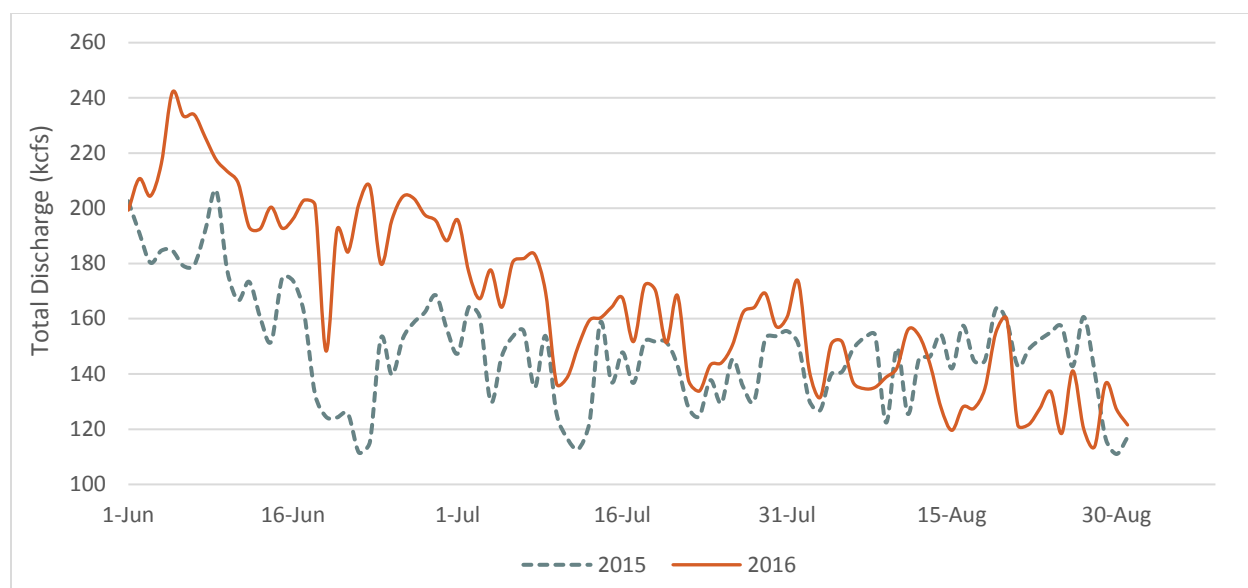


Figure 2
Total Discharge from June 1 to August 31, 2015 and 2016

3.3 Powerhouse Forebay and Gatewell Temperatures

Daily temperature patterns in the forebay and gatewells trended with air temperatures and wind speed. Maximum daily temperatures were typically recorded between 1700 and 2100 hours in the forebay and the gatewells.

The 2016 forebay average began reaching 70 °F on July 13 for short periods of time. The forebay average was consistently above 70 °F starting on July 26, but cooled slightly at the beginning of August (Figure 3). The forebay reached seasonal maximum temperatures during the weeks of July 24 to 31 and August 14 to 21. The maximum temperature recorded in the forebay was 79.9 °F at 1700 on July 25 at Unit 14, though the average forebay temperature at that time was 73.7 °F. The maximum average forebay temperature of 76.0 °F was recorded at 1330 on August 18 and at 1700 on August 20. Forebay temperatures were lower than those observed in 2015 (Table 2). In 2015, the maximum average forebay temperature was 78.9 °F on July 6, and the maximum recorded forebay temperature was 81.1 °F on July 31 at Unit 14.

The average temperature gradient across the forebay was 2.2 °F from July 11 to August 31 (Figure 4). The largest temperature gradient across the forebay was 10.4 °F at 1700 on July 25. This temperature gradient was reached after several days with air temperatures in the upper 80s and low 90s with no wind.

Gatewell temperatures trended with forebay temperatures but did not reach the same extremes observed in the forebay (Figure 3). Individual gatewell temperatures began reaching 70 °F on July 14, but the average gatewell temperature did not reach 70 °F until July 26. The gatewell reached a seasonal maximum temperature of 77.4 °F at 1730 on August 20 at Unit 13. In 2015, the maximum gatewell temperature was 78.6 °F at Unit 1. The average temperature gradient across the gatewells was 2.7 °F from July 11 to August 31 (Figure 5). The largest temperature gradient across the gatewell was 8.3 °F at 1800 on July 14.

The temperature between the forebay and gatewells differed by 1.1 °F on average (Figure 6). The forebay was warmer than the corresponding gatewell on average for each unit from July 11 to August 31. The differential between the forebay and gatewells on average was highest between 1500 and 2000 hours each day. The largest temperature differentials between the forebay and gatewell were observed between the forebay and units in stand-by once the sawtooth operational pattern began on July 2. However, smolts were not passing at these units. The sawtooth pattern is most helpful in introducing cooler water into the bypass system as turbines in stand-by draw water from lower, cooler depths of the forebay. The maximum temperature differential was 11.0 °F at 1530 on July 14 at Unit 4. The maximum temperature differential between the forebay and gatewell slot at an operational unit was 8.6 °F on July 28 at Unit 11. The forebay was warmer in both instances.

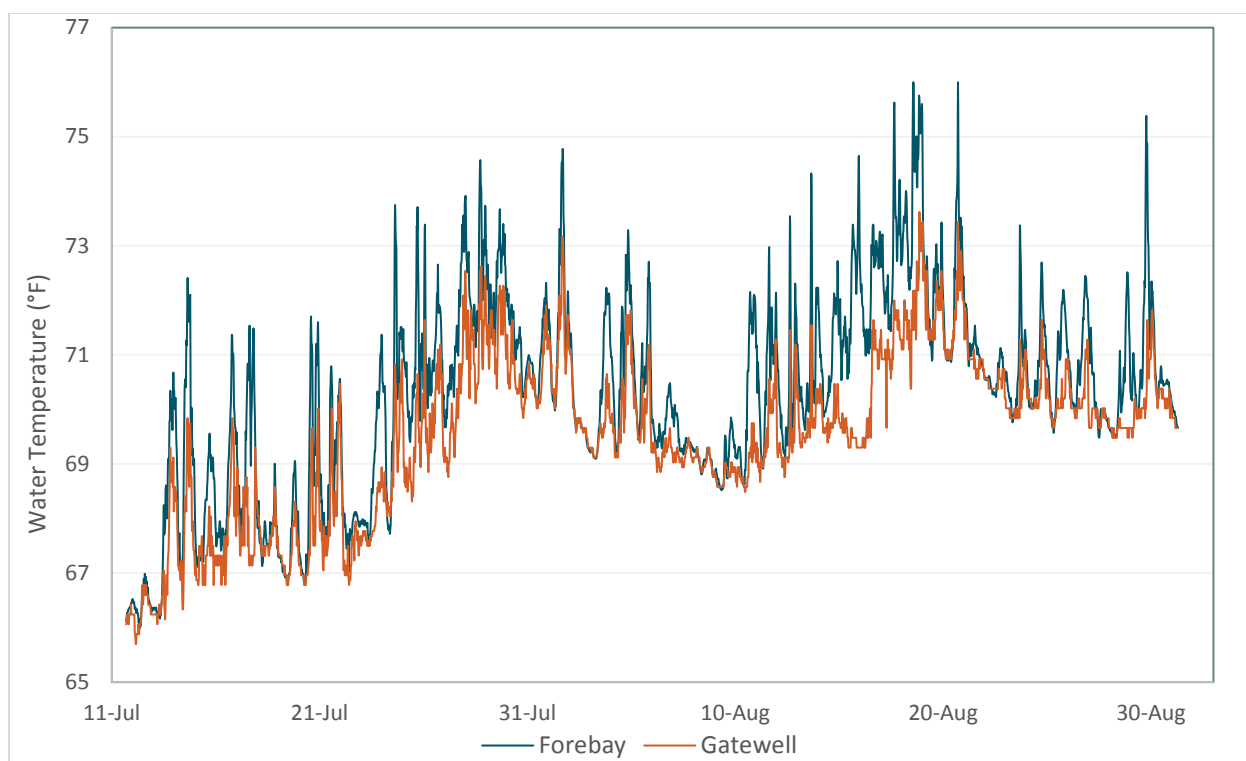


Figure 3
Average Temperatures of 14 Forebay and 14 Gatewell Locations from July 11 to August 31, 2016

Table 2
Average Forebay and Gatewell Temperatures in June, July, and August, 2015 and 2016

Year	Location	June	July	August
2016*	Forebay	N/A	69.4	70.9
	Gatewell	N/A	68.6	70.1
2015†	Forebay	69.9	72.8	71.6
	Gatewell	68.1	71.6	70.8

Notes:

* July 11 to August 31

† June 15 to August 31

N/A = not applicable

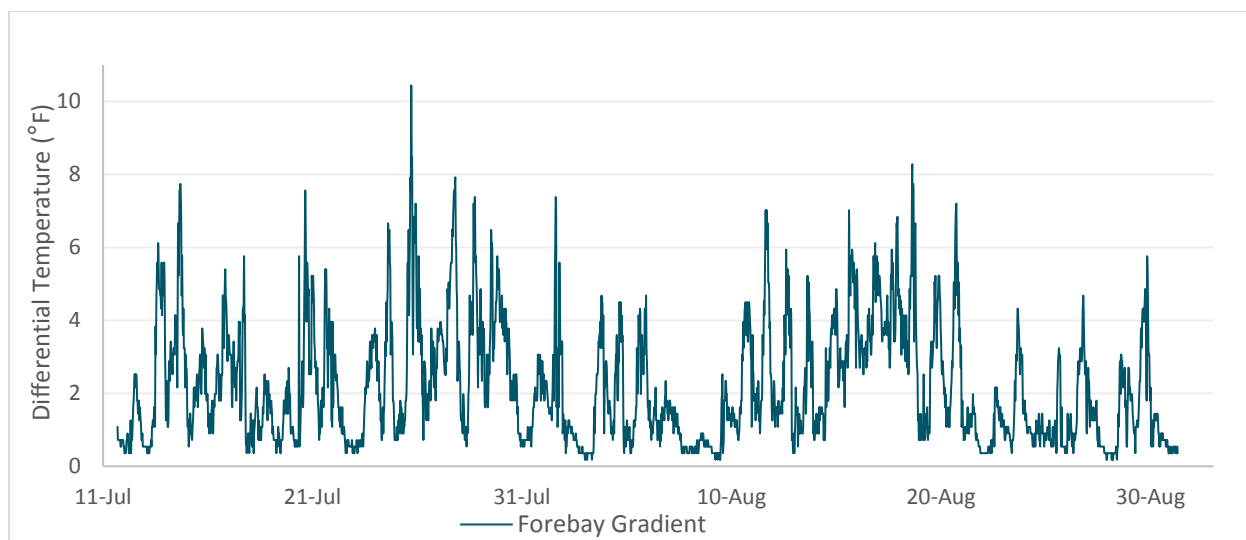


Figure 4
Differential Between Minimum and Maximum Temperature Recorded Across 14 Forebay Positions for Each Half-hour Period from July 11 to August 31, 2016

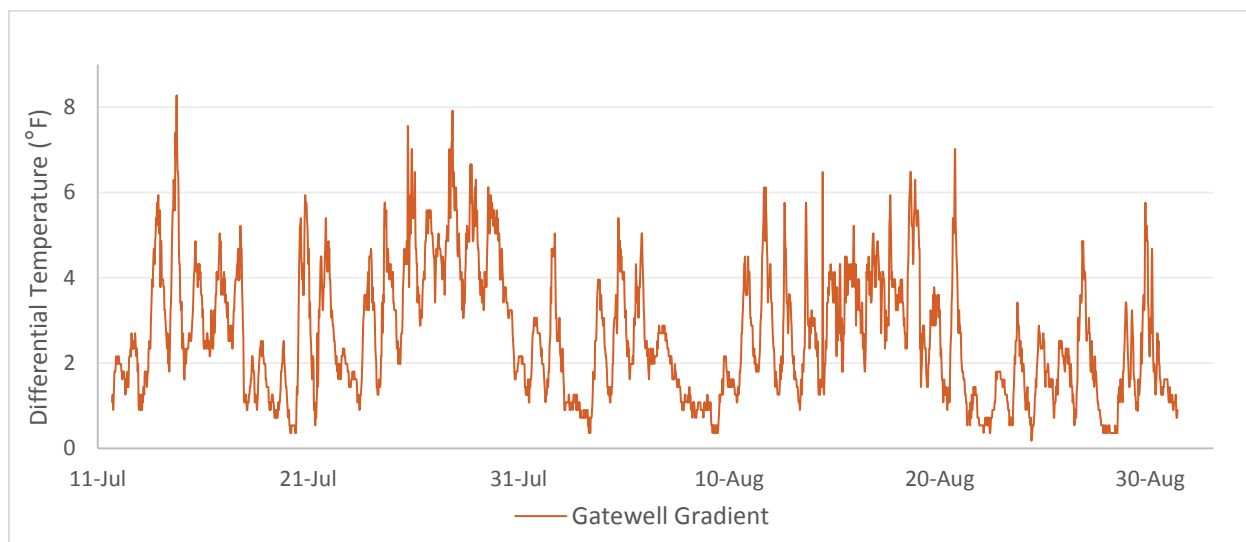


Figure 5
Differential Between Minimum and Maximum Temperature Recorded Across 14 Gatewell Positions for Each Half-hour Period from July 11 to August 31, 2016

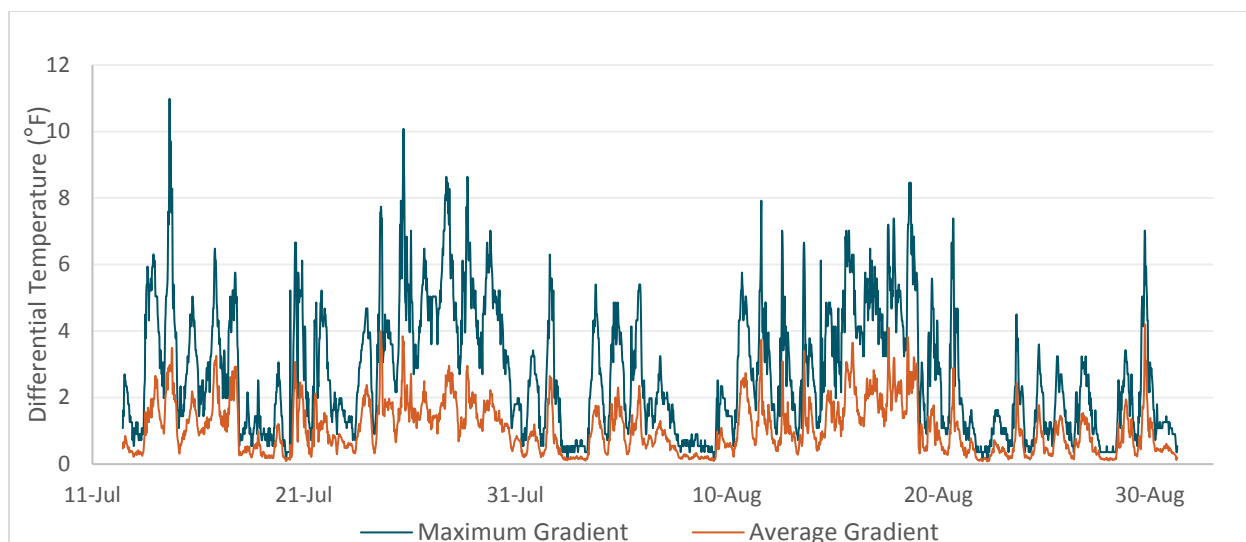


Figure 6
Maximum and Average Differential Temperature Recorded Between the Forebay and Gatewells for Each Half-hour Period from July 11 to August 31, 2016

3.4 Collection Channel

Water temperatures in the collection channel were less variable than in the forebay and gatewells. Water temperatures across the collection channel averaged 69.3 °F from July 11 to August 31, compared to 71.1 °F in 2015 (Table 3). Collection channel temperatures reached an average of 70 °F on July 24 but cooled during the first week of August. The maximum temperature of 75.8 °F was measured at 1730 on August 20 at Unit 12 (Figure 7).

The average temperature gradient between the gatewells and the collection channel at Units 1, 8, and 12 was 0.9 °F from July 11 to August 31 (Figure 8). The maximum temperature gradient was 5.8 °F at 1800 on July 14 at Unit 1. The average temperature gradient between the collection channel at Unit 12 and Unit 1 was 0.5 °F from July 11 to August 31 (Figure 9). The maximum temperature differential between the collection channel at Unit 12 and Unit 1 was 3.4 °F at 2200 on August 11. On average, the collection channel was warmer at Unit 12 than at Unit 1. Differences between the water temperatures at the two locations exceeded 2.0 °F on 10 days between July 13 and August 31, most notably on August 18 when the differential between locations remained above 2.0 °F from 1200 to 2330 hours. This corresponded with a period of sunny weather with little to no wind.

Table 3
Water Temperatures in the Collection Channel, 2015 and 2016

Year	Average	High	Date
2016*	69.3	75.8	20-Aug
2015†	71.1	75.9	6-Jul

Notes:

* July 11 to August 31

† June 15 to August 31

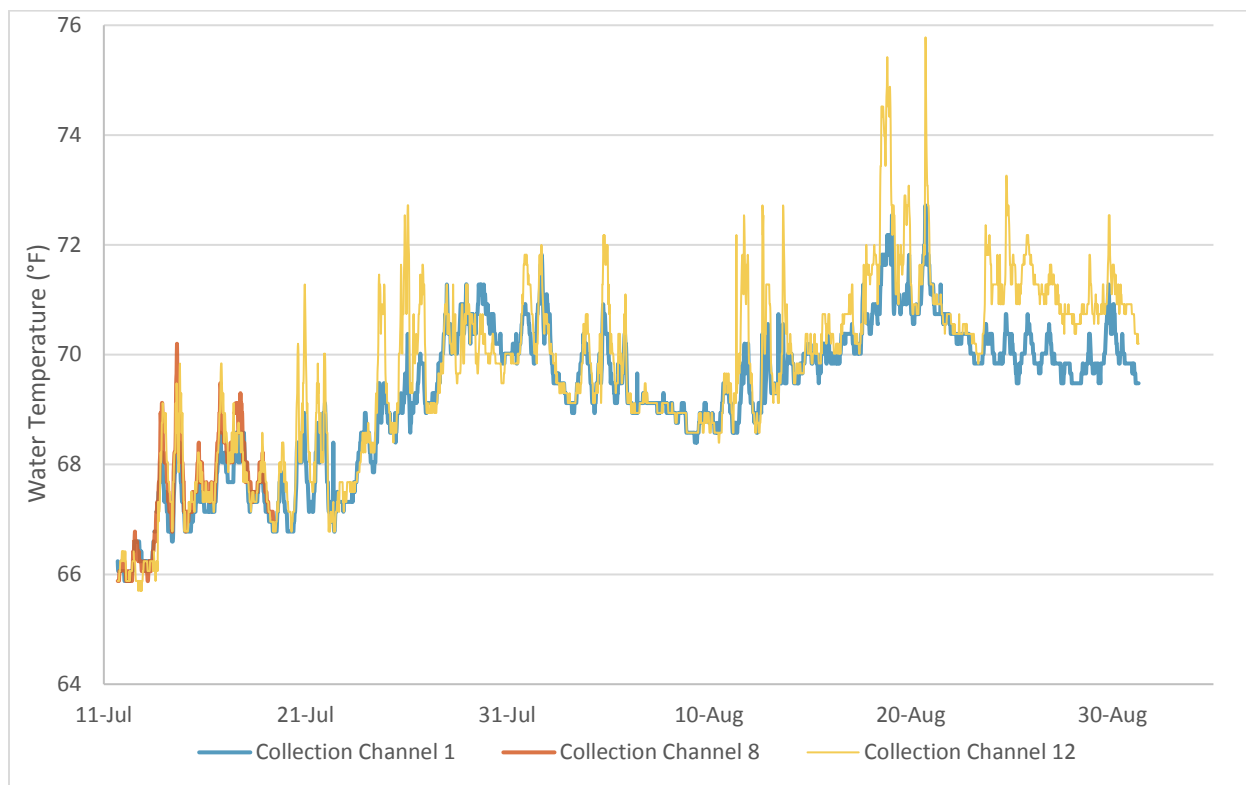


Figure 7
Water Temperatures for Three Collection Channel Locations from July 11 to August 31, 2016

Note: The Collection Channel 8 probe was removed in July.

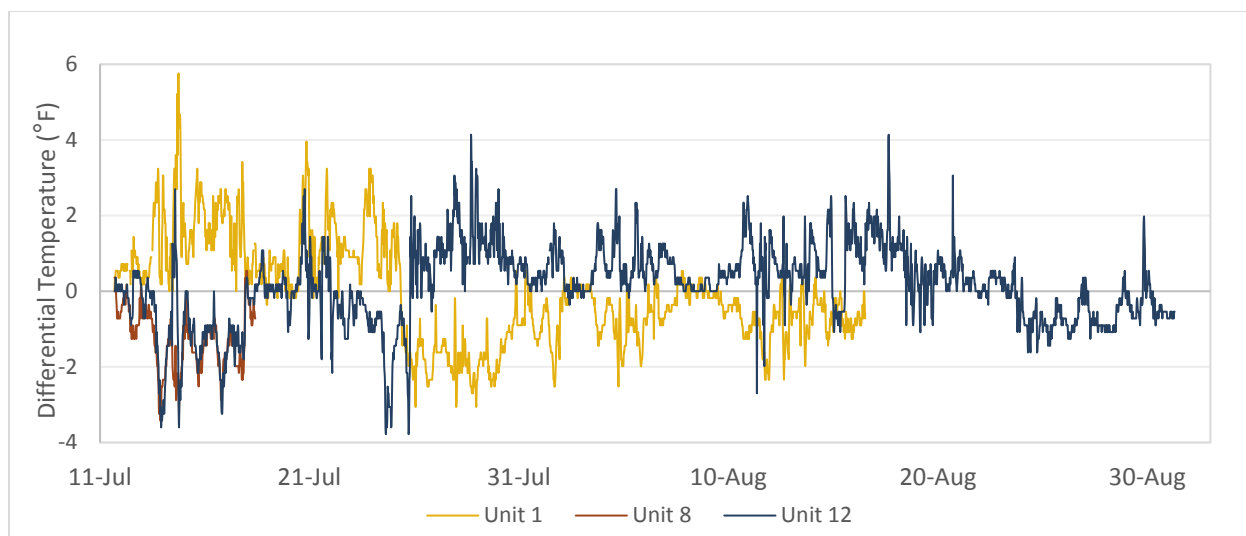


Figure 8
Differential Temperature Recorded Between Three Gatewells and Corresponding Collection Channel locations (Gatewell minus Collection Channel) for Each Half-hour Period from July 11 to August 31, 2016

Notes: Negative numbers indicate the collection channel was warmer.
 The collection channel probe at Unit 8 was removed July 18.
 The probe in the gatewell at Unit 1 was removed August 16 when Unit 1 was out of service.

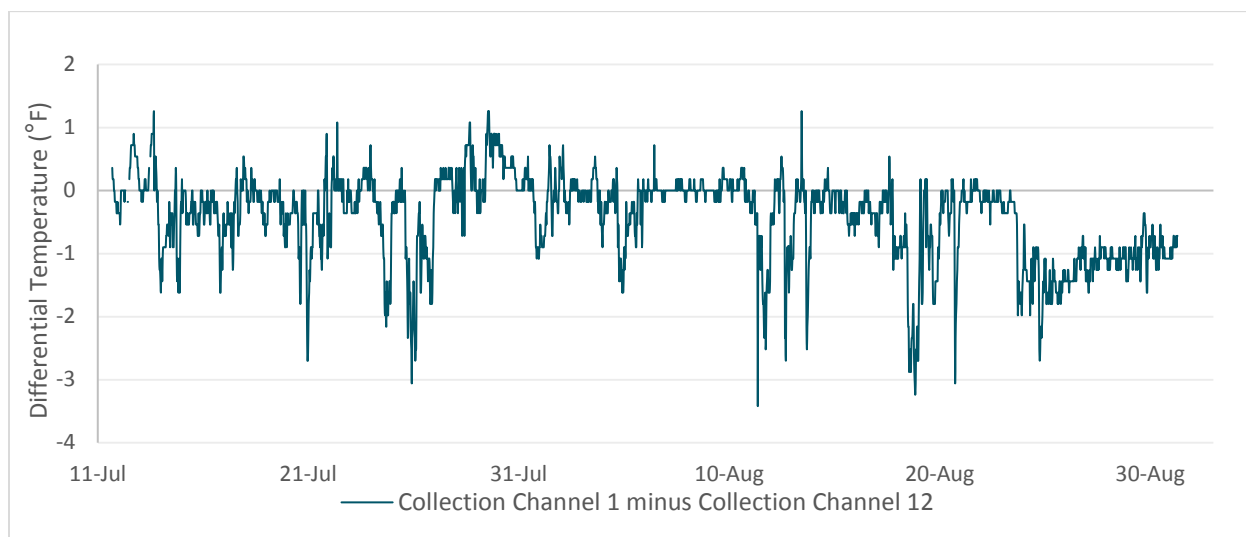


Figure 9
Differential Temperature Recorded Between Water at Collection Channel 1 and Collection Channel 12 from July 11 to August 31, 2016

Note: Negative numbers indicate Collection Channel 12 was warmer.

3.5 Juvenile Fish Facility

The average temperature at JFF from July 11 to August 31 was 70.2 °F. Average temperatures began reaching 70 °F on July 24 (Figure 10) and cooled the first week of August. The maximum temperature of 73.9 °F was measured in Sample Tank B at 1730 on August 20.

The temperature gradient between the collection channel and the separator at JFF averaged 0.8 °F and ranged from 0 °F to 1.7 °F (Figure 11). JFF was warmer than the collection channel on average. In 2015, temperatures at JFF were 1.6 °F cooler than those recorded in the collection channel on average. The temperature gradient across the separator, Sample Tank B, and the raceway averaged 0.2 °F. The maximum difference between the three JFF locations was 1.0 °F at 0530 on July 13.

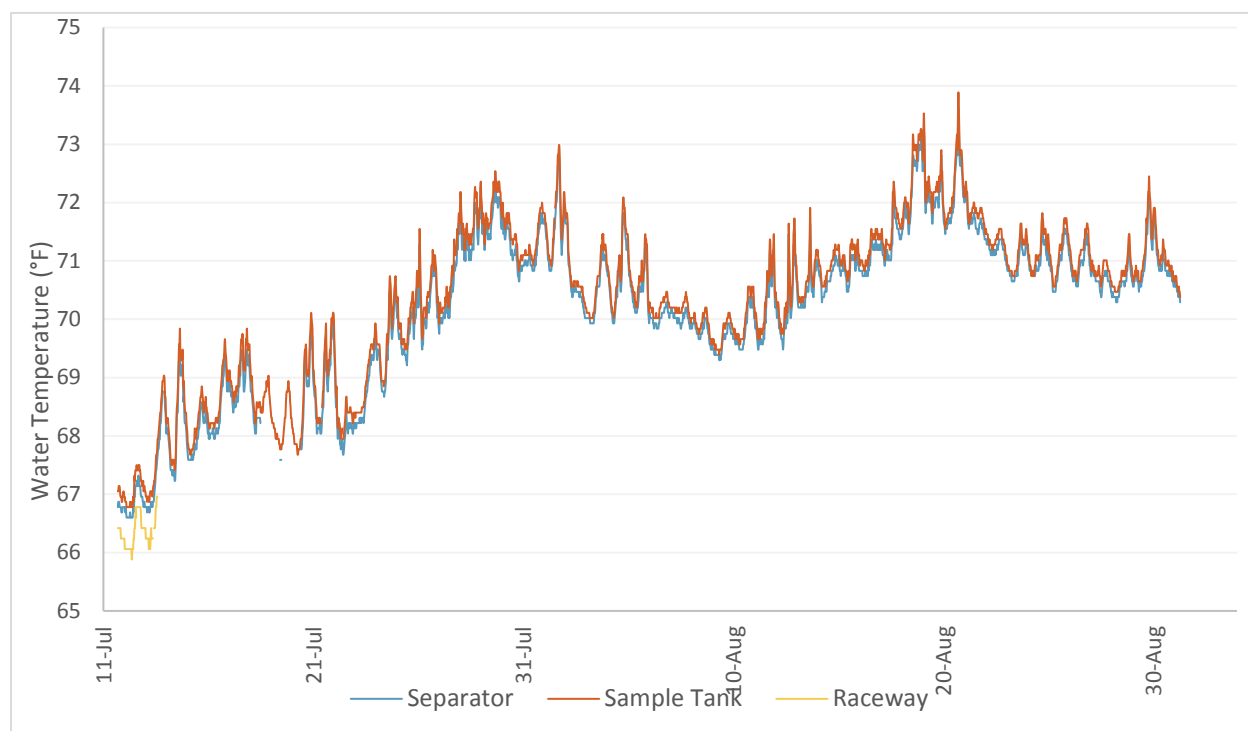


Figure 10
Water Temperatures for Three JFF Locations from July 11 to August 31, 2016

Note: The raceway probe was removed in July.

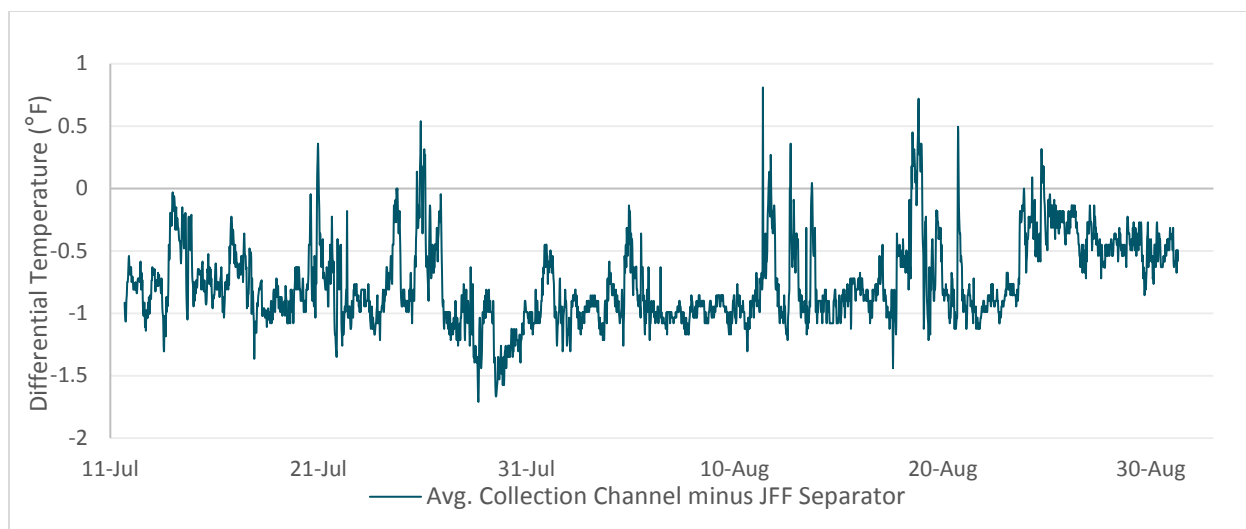


Figure 11
Differential Temperature Recorded Between Water at Collection Channel and JFF Separator from July 11 to August 31, 2016

3.6 Tailwater

The tailwater experienced very little of the diurnal fluctuations observed in other monitored areas (Figure 12). The average temperature for five tailwater locations was 69.4 °F from July 11 to August 31 compared to the average tailrace temperature of 69.8 °F in 2015. The tailwater remained below 70 °F for much of the monitoring period and reached 70 °F on July 27. The maximum temperature of 72.5 °F was measured at 0200 on August 19 at the tailwater at Unit 1 and the JFF outflow pipe. The tailwater temperatures were homogenous across monitoring sites compared to other monitoring locations. The temperature gradient between the five tailwater locations was 0.8 °F from July 11 to August 31. The maximum gradient between the sites for the same time period was 2.1 °F on August 12 between Tailwater 1 and the wing wall.

The temperature gradient between the average forebay and the average tailwater was 1.2 °F (Figure 13). The forebay was warmer than the tailwater on average. The largest gradient between the two locations was 5.8 °F at 1530 on July 14. The temperature gradient between the average spillbay and tailwater temperatures was 1.0 °F (Figure 14). The spillbay was warmer than the tailwater on average. The largest gradient between the spillway and the tailwater temperatures was 7.6 °F at 1800 on July 28. The temperature gradient between the

separator at JFF and the tailwater was 0.9 °F on average between July 11 and August 31 (Figure 15). The largest gradient between the separator and the average tailwater temperature was 3.0 °F on July 14.

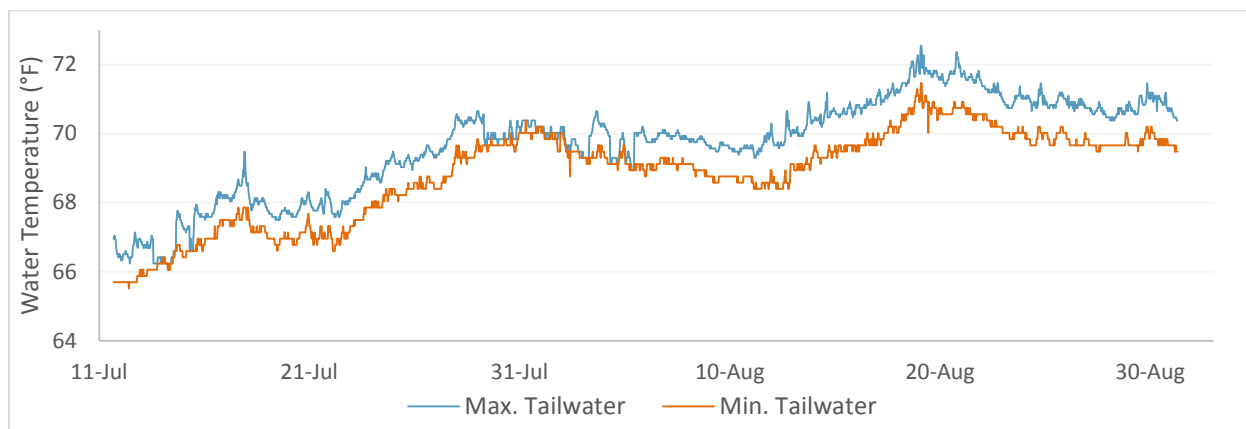


Figure 12
Maximum and Minimum Temperature Between Five Tailwater Locations from July 11 to August 31, 2016

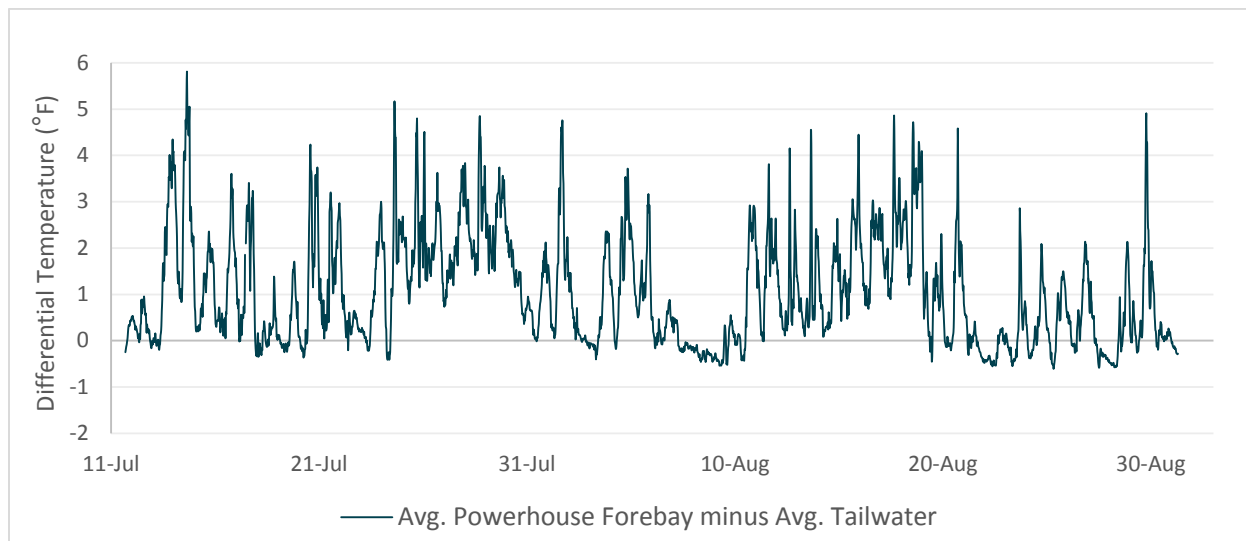


Figure 13
Temperature Differential Recorded Between Water at the Forebay and the Tailwater from July 11 to August 31, 2016

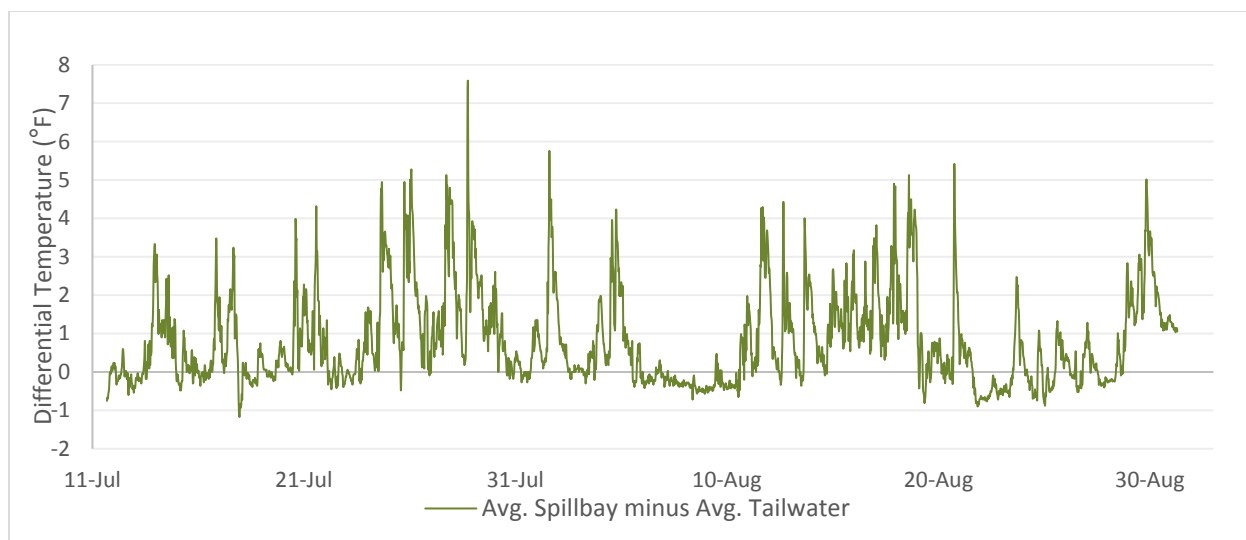


Figure 14
Temperature Differential Recorded Between Water at the Spillway and the Tailwater from July 11 to August 31, 2016

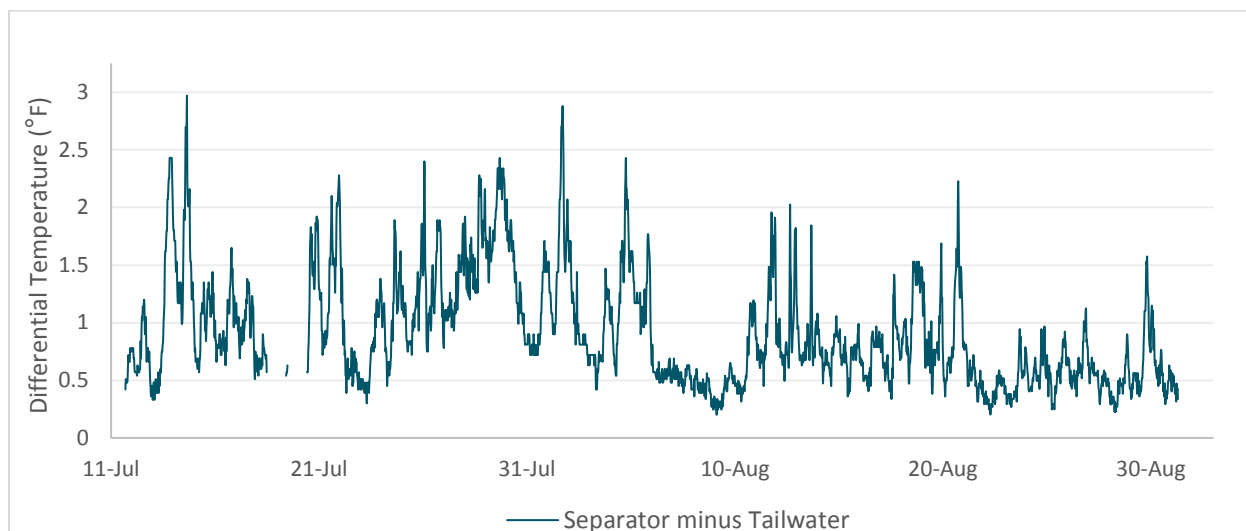


Figure 15
Temperature Differential Recorded Between Water at JFF Separator and the Average Tailwater Temperature from July 11 to August 31, 2016

Note: Negative numbers indicate the separator was warmer.

3.7 Fish Passage and Mortality

A total of 2,005,924 juvenile salmonids passed McNary Dam during the monitoring period from June 1 to August 31. Subyearling Chinook salmon comprised more than 99% of the total during this period. The majority of these fish passed McNary Dam in June (Table 4). By July 2, 90% of the fish collected during the monitoring period had bypassed the dam. High juvenile mortality at McNary Dam has been correlated with high water temperatures and large temperature gradients in previous years. Mortality was low during this monitoring period. Total facility mortality for combined species and for subyearling Chinook salmon alone was less than 0.1% of collected and bypassed fish over the monitoring period (combined species—117 mortalities; subyearling Chinook salmon—110 mortalities). Mortalities among fish held up to 24 hours for sampling was also low. McNary Dam does not collect fish for transport as is done for other dams on the Snake River. Fish entering the system are bypassed into the tailwater after traversing the powerhouse and JFF. A percentage of bypassing fish—0.25% to 25%—are sampled and held in the JFF sample tanks for up to 24 hours for evaluation, then released into the tailwater. Mortalities from this sample tank may be an indicator of mortalities experienced by the larger bypassing cohort. Sample tank mortalities for combined species and for subyearling Chinook salmon alone was 0.5% of sampled fish during the monitoring period (combined species—45 sample mortalities; subyearling Chinook salmon—41 sample mortalities).

Table 4
Collection, Mortality, and Passage for Juvenile Salmonids, 2015 and 2016

Year	System			Sample			Passage			
	Collection	Mortality	% Mortality	Sample	Sample Mortality	% Mortality	25%	50%	75%	90%
2016*	2,005,924	117	<0.1	9,202	45	0.5	22-Jun	26-Jun	28-Jun	2-Jul
	Sample Tank Temperature (°F) **						63.4	63.8	65.0	67.8
2015†	678,828	1,083	0.2	4,093	90	2.2	22-Jun	30-Jun	6-Jul	8-Jul
	Sample Tank Temperature (°F) **						67.3	69.5	72.0	72.0

Notes:

* June 1 to August 31

† June 15 to August 31

** Temperatures taken at 0700 at Sample Tank B as part of the Smolt Monitoring Program.

4 RECOMMENDATIONS

The first week of June 2016 was warmer than subsequent weeks during the month. Weather should be monitored in anticipation of warm temperatures coupled with low wind velocities. The sawtooth turbine operation pattern can be started ahead of warming weather. The sawtooth operation pattern has greater ability to mitigate high water temperatures in the early season because deeper forebay water has not been warmed by prolonged high air temperatures.

Over the course of the temperature monitoring period, four temperature probes failed. These probes were purchased on or before April 2012. This may indicate that probes of this vintage are nearing the end of their useful life. A total of 35 of the 42 probes were purchased before April 2013. These older probes may become unreliable if deployed next season. We propose to purchase a complete set of Onset HOBO data loggers for the 2017 temperature season. Onset HOBO® data loggers are currently being used to monitor temperatures in the adult fish ladders at McNary Dam. The data loggers are more inexpensive than the MadgeTech temperature probes. The practical life of an Onset HOBO® data logger is 5 years because after this time there is a cost associated with data logger refurbishing as batteries cannot be replaced by the end user. Though the MadgeTech temperature probes have batteries that can be replaced in-house, they may have the same lifespan as the Onset HOBO® data loggers, as may be evident by the failure of the four probes this season, and are more expensive to replace. Madge Tech temperature probes require a laptop or tablet to download daily data. Hot weather, even in the morning, caused difficulties with computers overheating. Downloading data from HOBO® data loggers does not require a tablet or laptop, but uses a handheld shuttle that has worked well in adverse weather conditions for downloading data from loggers deployed in the adult fish ladders.

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APPENDIX A
TEMPERATURES FROM 43 SITES AT
MCNARY DAM JUNE 1 TO JULY 10, 2016

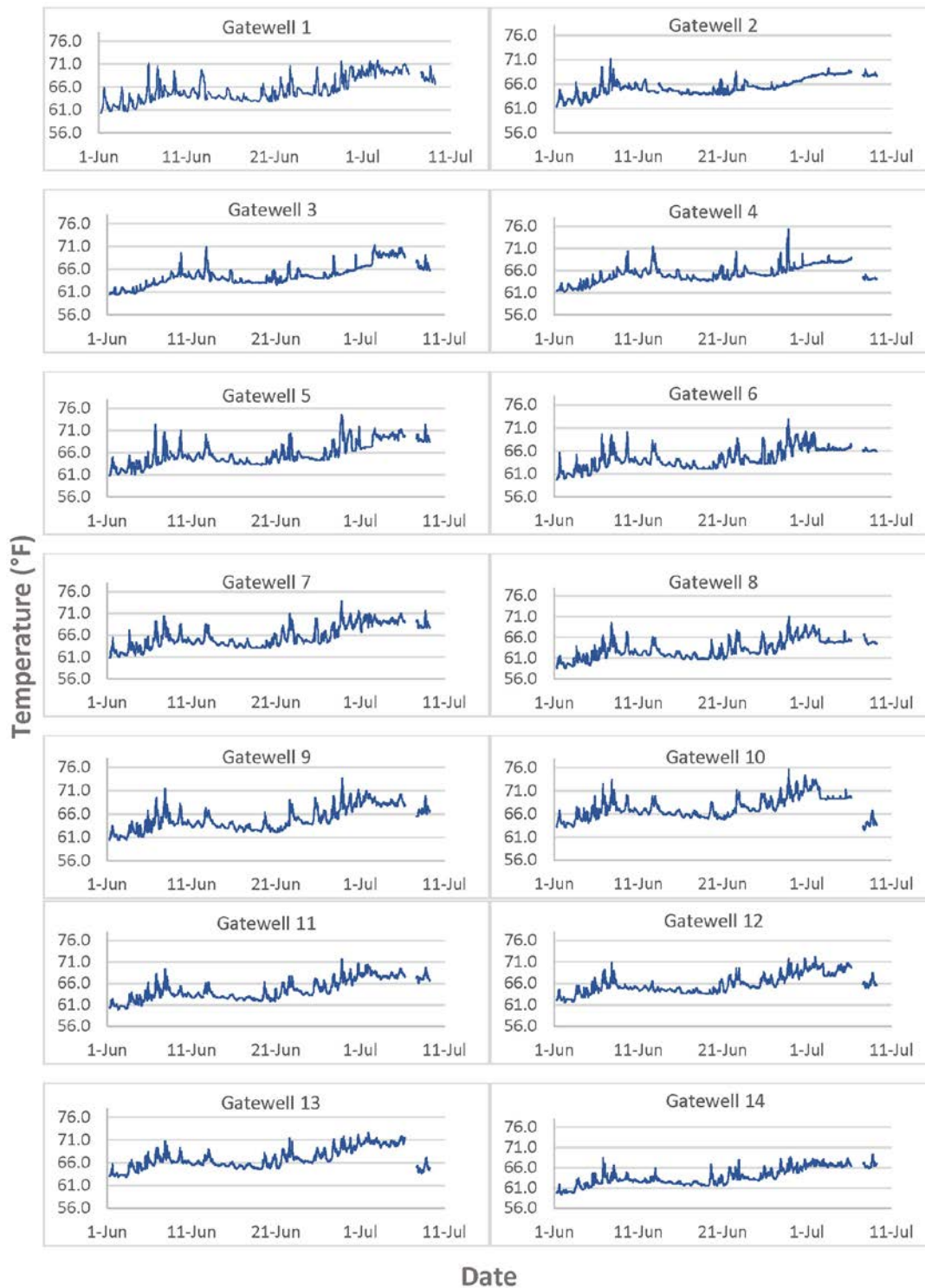


Figure A-1
Temperatures Recorded at 14 Gatewell Positions for Half-hour Periods from June 1 to July 10, 2016

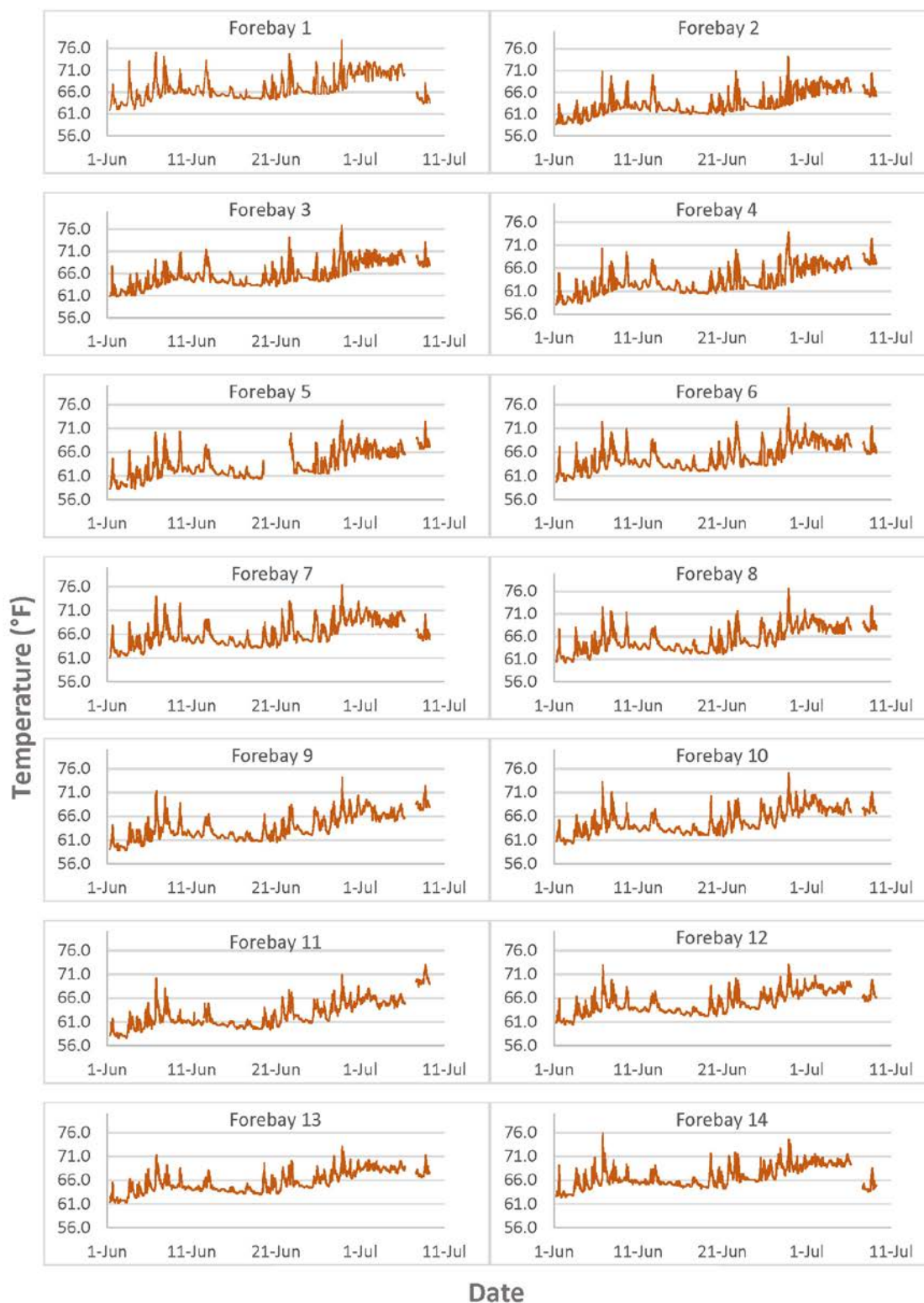


Figure A-2
Temperatures Recorded at 14 Forebay Positions for Half-hour Periods from June 1 to July 10, 2016

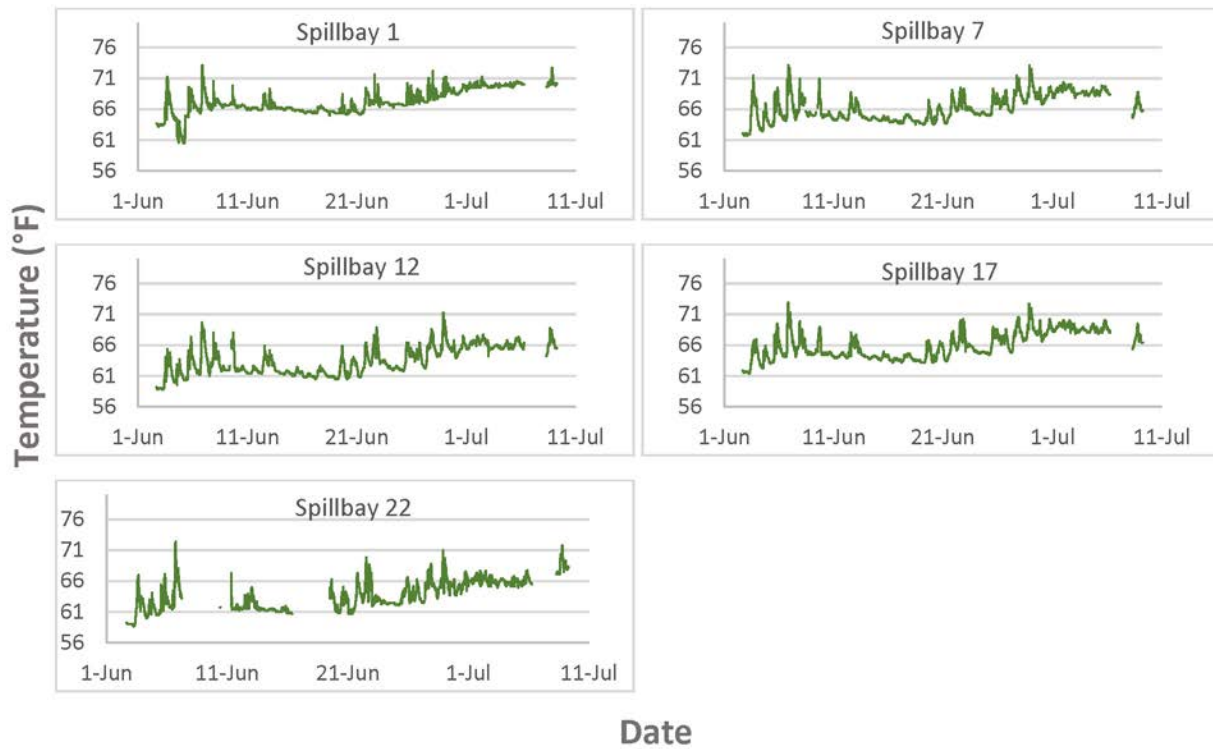


Figure A-3
Temperatures Recorded at Five Spillbay Positions for Half-hour Periods from June 1 to July 10, 2016

Note: Not all positions were covered continuously.

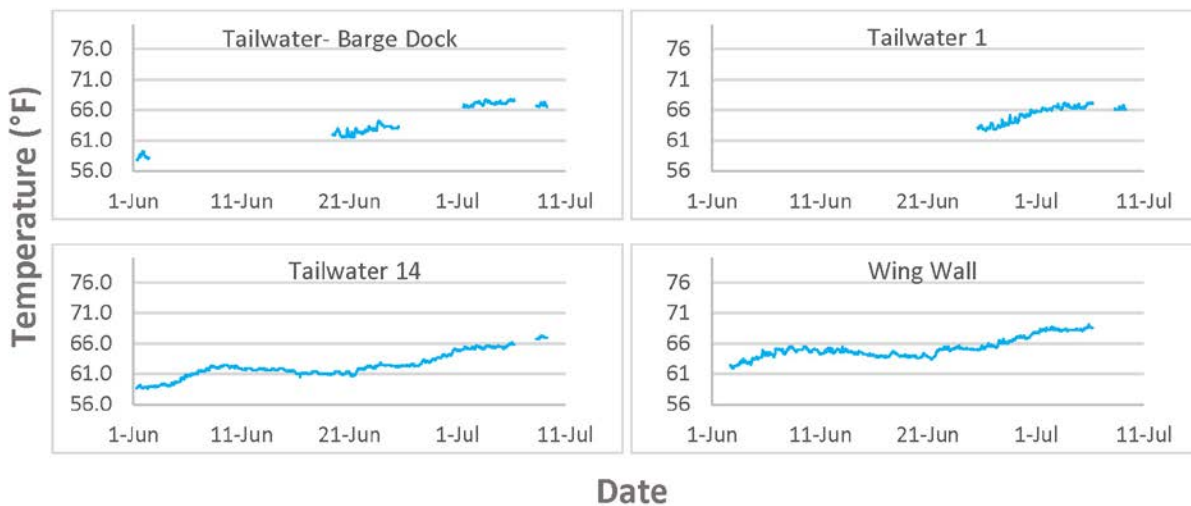


Figure A-4
Temperatures Recorded at Four Tailwater Positions for Half-hour Periods from June 1 to July 10, 2016

Note: Not all positions were covered continuously.

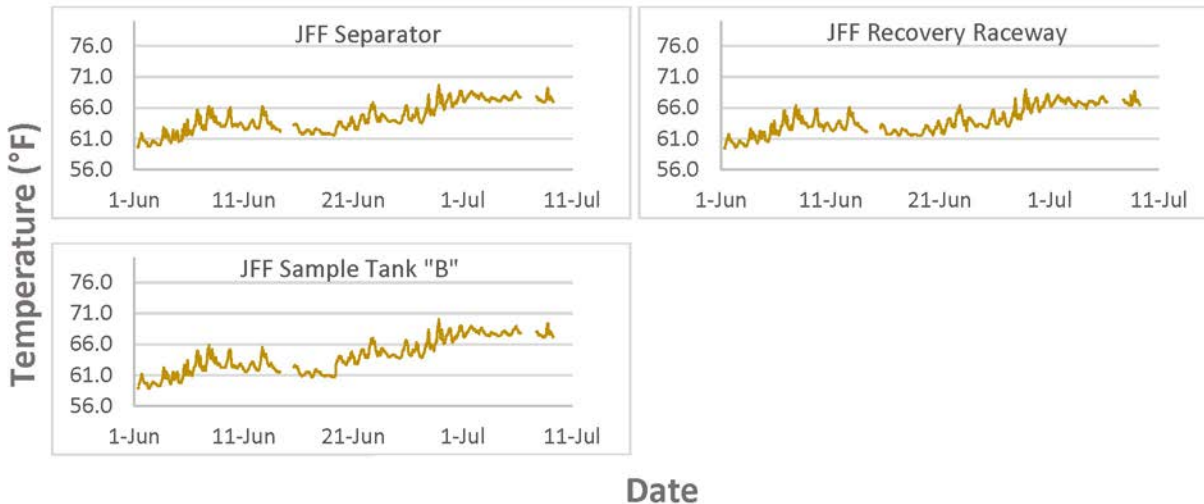


Figure A-5
Temperatures Recorded at Three JFF Positions for Half-hour Periods from June 1 to July 10, 2016

Note: Not all positions were covered continuously.

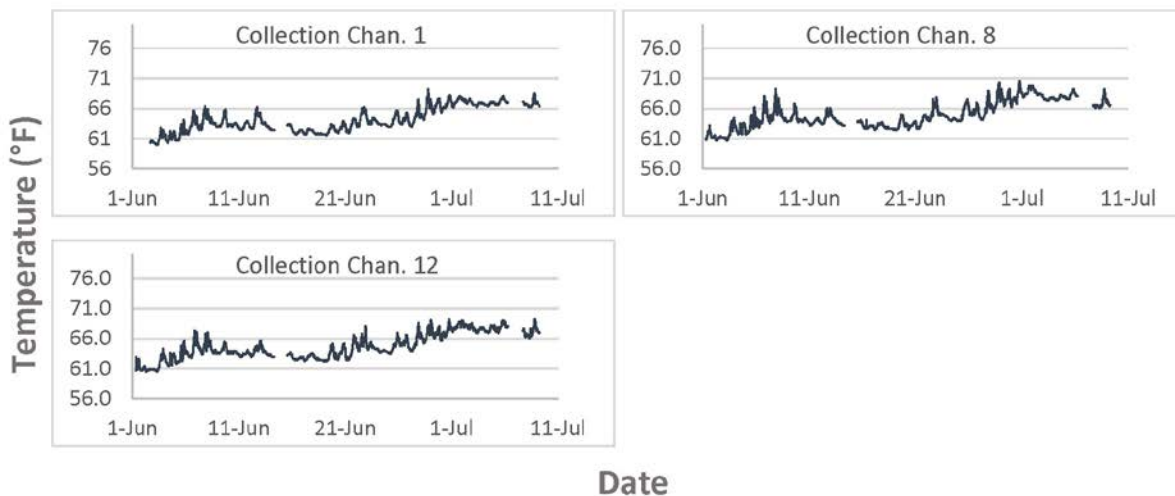


Figure A-6
Temperatures Recorded at Three Collection Channel Positions for Half-hour Periods from June 1 to July 10, 2016

Note: Not all positions were covered continuously.

Table A-1
Temperatures Recorded at 14 Forebay Positions, Five Tailwater Positions, and Three JFF Positions

Legend		Probes were out of water at time of download														No temperature probe at location							
2016		Forebay														Tailwater					JFF		
Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Dock	T1	T14	WW	OUT	Sep	RW	Tank "B"
1-Jun	7:00	61.9	58.6	60.8	58.1	58.3	59.8	61.0	60.5	59.0	60.7	58.1	61.0	61.4	62.6	57.8		58.7			59.8	59.6	58.9
1-Jun	11:00	63.4	59.4	61.2	59.0	58.9	60.3	62.3	62.8	60.8	62.6	59.6	62.1	62.6	63.4	58.1		59.0			60.5	60.3	59.6
1-Jun	15:00	65.2	60.5	61.4	63.7	62.8	64.6	65.9	67.7	63.2	65.2	60.8	64.1	62.5	69.1	58.7		59.2			61.6	61.2	60.7
1-Jun	19:00	64.6	59.8	63.4	61.0	61.4	62.1	62.8	61.9	60.1	61.2	58.5	61.2	61.9	62.8	59.0		58.7			60.8	61.0	60.5
1-Jun	23:00	64.3	60.5	62.6	59.9	59.6	61.2	62.3	61.2	59.6	60.8	58.1	61.0	61.7	63.0	59.0		58.9			60.7	60.7	59.8
2-Jun	3:00	62.5	58.9	61.0	58.1	60.1	61.6	62.6	61.6	59.9	61.2	58.7	61.6	62.1	63.5	58.3		58.9			60.3	60.3	59.6
2-Jun	7:00	62.3	58.9	61.0	58.3	58.7	60.5	61.5	60.6	58.8	60.1	57.7	60.5	61.4	62.8	58.1		58.6			59.8	59.6	58.9
2-Jun	11:00	62.3	58.9	61.0	58.3	58.5	60.1	61.6	60.8	59.8	61.0	58.5	61.2	61.7	62.8			59.0			59.9	59.8	59.2
2-Jun	15:00	63.7	60.1	62.5	59.9	59.6	61.2	62.3	61.4	59.8	61.0	58.3	61.2	61.7	63.0			59.0			60.5	60.5	59.8
2-Jun	19:00	63.5	60.1	62.3	59.8	59.6	61.0	62.1	61.2	59.6	60.7	58.1	61.0	61.7	63.0			59.0	62.1		60.7	60.5	59.8
2-Jun	23:00	63.0	59.8	61.9	59.2	59.2	60.8	61.9	61.0	59.6	60.8	58.1	61.0	61.7	63.0			59.0	61.9		60.3	60.3	59.6
3-Jun	3:00	63.0	59.8	61.9	59.2	59.0	60.5	61.6	60.7	59.2	60.7	58.1	60.8	61.7	63.0			58.9	62.3		59.9	59.9	59.2
3-Jun	7:00	63.0	59.8	61.4	58.7	59.0	60.3	61.6	60.7	59.0	60.3	57.8	60.5	61.4	62.8			59.0	62.5		59.9	59.8	59.2
3-Jun	11:00	65.7	61.0	63.0	60.5	60.7	61.9	61.9	62.1	60.8	63.2	60.5	62.6	62.3	64.6			59.2	62.5		60.7	60.5	59.8
3-Jun	15:00	73.1	61.0	62.3	62.8	66.2	65.2	68.2	66.6	62.5	63.5	60.7	64.3	65.5	66.6			59.2	62.6		62.3	62.1	61.6
3-Jun	19:00	67.0	61.9	63.4	60.7	60.8	62.1	63.2	62.1	60.8	62.5	59.9	62.8	63.7	65.5			59.2	62.8		61.6	61.6	60.8
3-Jun	23:00	63.9	59.0	61.4	59.2	61.6	64.3	65.5	64.8	63.2	64.6	62.1	64.8	65.5	67.0			59.2	62.8		61.7	61.6	61.0
4-Jun	3:00	63.7	61.0	63.7	61.0	61.4	63.2	64.4	63.5	61.9	63.2	60.5	63.4	63.7	65.0			59.0	62.8		61.6	61.6	60.8
4-Jun	7:00	62.1	58.9	61.0	58.3	58.3	61.0	63.0	62.1	60.5	61.7	59.0	62.1	62.6	63.9			59.0	62.6		60.5	60.3	59.6
4-Jun	11:00	65.0	61.7	63.7	61.7	62.5	63.5	65.2	64.1	60.7	61.7	59.0	61.9	62.3	63.7			59.2	62.8		61.4	61.2	60.7
4-Jun	15:00	64.4	61.0	63.2	60.5	60.8	62.5	63.7	62.6	61.0	62.3	59.9	62.6	63.5	65.0			59.4	62.8		61.2	61.4	60.5
4-Jun	19:00	64.6	61.2	62.8	60.3	61.4	63.4	64.6	63.9	62.5	63.9	61.4	64.6	64.6	67.3			59.8	63.4		61.7	61.6	61.0
4-Jun	23:00	64.6	61.6	63.7	60.8	61.4	62.8	64.3	63.5	61.9	63.4	60.7	63.5	64.1	65.5			59.8	63.4		62.1	62.1	61.4
5-Jun	3:00	63.0	59.8	61.7	59.2	59.2	60.8	62.1	61.4	59.8	61.2	59.0	62.1	63.2	64.6			59.8	63.9		60.7	60.7	59.8
5-Jun	7:00	62.8	59.6	61.6	59.0	59.0	60.7	61.9	61.4	60.5	62.1	59.6	63.2	62.8	64.1			59.8	63.4		60.7	60.7	59.8
5-Jun	11:00	64.8	60.3	62.3	61.4	62.1	61.9	64.6	64.3	62.1	63.9	60.8	62.6	63.2	64.4			60.1	63.7		61.6	61.6	60.8
5-Jun	15:00	65.2	61.9	64.1	61.6	62.3	63.7	65.3	64.6	63.2	64.3	61.9	64.8	65.5	67.1			60.5	63.7		63.2	63.4	62.6
5-Jun	19:00	64.3	60.3	62.5	59.8	60.1	62.5	65.0	65.2	64.4	66.2	63.9	67.1	67.3	69.1			60.8	64.3		62.6	62.5	61.9
5-Jun	23:00	64.3	61.2	63.4	60.7	60.8	61.9	63.5	62.6	61.0	62.5	60.5	63.7	64.8	66.4			60.5	64.6		61.7	61.9	61.2
6-Jun	3:00	63.9	60.5	62.8	60.1	60.1	61.7	64.1	64.1	62.6	63.9	61.6	64.4	65.2	66.6			60.7	64.3		62.1	62.1	61.4
6-Jun	7:00	64.3	61.0	63.2	60.7	60.7	62.1	63.5	62.5	60.8	62.1	59.9	63.7	64.3	65.5			60.8	64.3		61.7	61.6	61.0
6-Jun	11:00	66.8	63.4	65.5	62.5	63.7	66.1	66.4	64.6	62.3	63.4	60.7	63.2	63.9	65.2			61.0	64.4		63.0	62.8	62.3
6-Jun	15:00	72.7	63.4	64.4	65.9	63.4	64.4	65.5	64.4	62.6	63.7	61.0	63.5	64.1	65.5			61.0	64.3		63.9	63.9	63.2
6-Jun	19:00	71.8	61.6	63.0	60.5	68.6	70.0	74.0	71.5	67.3	70.4	70.2	68.6	70.9	75.4			61.0	64.1		65.2	65.2	64.3
6-Jun	23:00	66.4	60.8	62.8	60.3	60.7	64.4	67.3	66.6	65.2	66.6	64.1	67.3	68.2	67.9			61.0	65.0		63.4	63.4	62.5

Legend		Probes were out of water at time of download														No temperature probe at location							
2016		Forebay														Tailwater					JFF		
Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Dock	T1	T14	WW	OUT	Sep	RW	Tank "B"
7-Jun	3:00	66.6	61.2	63.2	60.7	61.6	62.6	63.7	63.0	61.4	64.4	63.9	67.1	66.6	68.9			61.4	65.2		62.8	62.8	62.1
7-Jun	7:00	64.8	61.6	63.7	61.0	61.0	62.8	64.1	63.4	61.9	63.2	61.2	65.0	65.7	67.3			61.6	65.0		62.6	62.5	61.7
7-Jun	11:00	65.5	63.2	66.2	63.5	63.4	65.0	66.2	65.0	63.4	64.4	61.7	64.3	64.6	65.5			61.4	65.0		62.6	63.0	
7-Jun	15:00	69.1	65.2	66.8	64.6	64.6	66.1	66.8	65.7	63.7	64.6	61.7	64.4	64.8	65.5			61.6	64.4		64.3	63.9	63.4
7-Jun	19:00	73.3	67.0	65.2	65.9	68.6	68.9	70.9	68.9	65.9	66.8	63.9	66.2	66.4	67.5			61.7	64.6		66.1	65.9	65.3
7-Jun	23:00	70.6	66.4	68.4	66.1	66.1	67.3	68.6	67.5	65.0	67.0	64.3	65.9	66.2	66.2			61.7	65.0		64.6	64.6	64.1
8-Jun	3:00	68.0	65.5	67.5	65.0	65.5	67.5	68.9	68.0	66.4	67.9	65.3	68.0	68.4	69.3			62.3	65.5		65.5	65.5	65.0
8-Jun	7:00	67.1	63.7	65.2	62.8	63.4	64.6	65.9	65.9	64.3	65.3	63.2	66.1	66.4	68.2			62.3	65.3		63.9	63.9	63.4
8-Jun	11:00	67.9	64.1	66.2	63.7	63.4	64.8	65.9	65.0	63.2	64.3	61.6						62.1	65.3		63.9	64.3	63.2
8-Jun	15:00	67.0	63.5	65.7	63.0	62.5	64.1	65.0	64.1	62.5	63.7	61.2	63.9	64.4	65.7			61.9	65.0		63.5	63.5	62.8
8-Jun	19:00	66.4	63.2	65.3	62.8	62.8	64.4	65.5	64.6	63.0	64.1	61.6	64.3	65.0	66.6			62.1	64.8		63.5	63.5	62.8
8-Jun	23:00	66.1	62.5	65.0	62.3	61.6	63.2	64.4	63.5	61.9	63.2	60.8	63.7	64.4	65.7			62.1	65.0		63.0	62.8	62.3
9-Jun	3:00	65.9	62.5	64.6	62.1	61.9	63.5	64.6	63.7	62.1	63.4	60.8	63.7	64.4	65.9			62.3	65.0		63.0	63.0	62.3
9-Jun	7:00	65.9	62.6	64.6	62.1	61.9	63.5	64.6	63.9	62.5	63.5	61.0	63.9	64.6	66.1			62.3	65.0		63.0	63.0	62.3
9-Jun	11:00	66.8	63.4	67.0	64.4	63.4	65.5	67.0	65.9	64.1	64.4	61.2	64.8	64.8	66.1			62.5	65.3		63.9	63.7	63.2
9-Jun	15:00	70.7	67.0	70.2	68.2	67.3	69.7	72.5	71.3	68.8	68.8	63.5	68.0	68.6	69.3			62.5	65.3		65.7	65.7	65.0
9-Jun	19:00	69.5	66.4	68.0	65.9	65.7	67.5	68.6	67.7	65.9	66.1	61.4	67.5	67.3	68.8			62.3	65.2		65.5	65.5	64.8
9-Jun	23:00	66.1	62.8	65.0	62.3	61.9	63.5	64.6	63.7	62.1	63.4	60.8	63.5	64.4	65.7			62.1	65.0		63.0	63.2	62.3
10-Jun	3:00	66.1	62.6	65.2	62.5	62.5	63.9	65.0	63.9	62.3	63.5	61.0	63.9	64.6	65.9			62.1	64.8		63.4	63.4	62.5
10-Jun	7:00	66.6	63.2	65.5	62.5	62.5	63.9	65.0	64.1	62.5	63.7	61.2	64.1	64.6	66.1			62.1	65.0		63.4	63.2	62.5
10-Jun	11:00	65.9	62.5	64.6	61.9	62.1	63.7	65.0	63.9	62.3	63.7	61.2	63.9	64.4	65.7			62.1	65.2		63.0	63.0	62.3
10-Jun	15:00	66.1	63.2	66.1	63.2	63.0	64.4	65.5	64.4	62.8	63.9	61.4	64.1	64.8	66.1			62.1	65.0		63.5	63.5	62.8
10-Jun	19:00	66.6	63.0	65.2	62.5	62.3	63.7	64.8	63.9	62.3	63.5	60.8	63.7	64.4	65.7			61.9	64.8		63.4	63.4	62.5
10-Jun	23:00	65.7	62.3	64.4	61.9	61.9	63.4	64.4	63.5	61.9	63.4	60.7	63.5	64.1	65.5			61.9	64.4		62.8	62.8	61.9
11-Jun	3:00	65.3	62.1	64.3	61.6	61.4	63.0	64.1	63.2	61.6	62.8	60.3	63.2	63.9	65.3			61.7	64.4		62.5	62.5	61.6
11-Jun	7:00	65.5	62.1	64.3	61.6	61.6	63.0	64.1	63.2	61.6	63.0	60.5	63.2	63.9	65.5			61.7	64.4		62.6	62.5	61.7
11-Jun	11:00	65.7	62.5	64.8	61.9	62.1	63.5	64.6	63.9	62.1	63.4	60.7	63.4	64.1	65.5			61.9	64.8		63.0	62.6	62.1
11-Jun	15:00	67.3	64.1	65.9	63.2	63.0	64.3	65.3	64.3	62.5	63.7	61.0	63.7	64.3	65.5			61.9	64.8		63.5	63.5	62.8
11-Jun	19:00	67.3	63.9	65.9	63.2	63.0	64.4	65.5	64.4	62.8	64.1	61.4	64.1	64.8	66.1			61.9	64.8		63.9	63.9	63.2
11-Jun	23:00	66.4	63.2	65.5	62.8	62.3	63.9	64.8	63.9	62.3	63.5	61.0	63.9	64.4	65.2			61.7	64.6		63.4	63.4	62.6
12-Jun	3:00	65.9	62.5	64.6	62.1	62.1	63.4	64.3	63.4	61.9	63.2	60.7	63.5	64.1	65.5			61.6	65.2		62.8	62.6	61.9
12-Jun	7:00	65.7	62.3	65.0	62.1	61.9	63.4	64.4	63.5	61.9	63.2	60.7	63.5	64.1	65.5			61.6	64.6		62.8	62.6	61.9
12-Jun	11:00	67.1	63.4	65.7	63.4	63.7	64.4	66.4	65.5	63.4	64.8	62.1	64.4	65.3	67.3				65.0		63.4	63.0	62.5
12-Jun	15:00	70.7	66.2	70.0	67.1	67.0	68.0	68.9	67.5	65.7	66.6	63.9	65.9	65.9	66.6			61.9	65.2		65.7	65.3	64.6
12-Jun	19:00	71.3	67.9	68.8	65.9	65.5	66.8	67.3	66.2	64.4	65.3	61.6	65.9	65.0	65.3			61.7	65.0		65.2	65.3	64.3
12-Jun	23:00	69.7	66.4	69.3	66.6	66.4	67.9	68.0	66.2	64.3	65.7	62.6	65.3	65.7	67.1			61.7	64.8		65.2	65.0	64.3
13-Jun	3:00	67.9	63.9	67.3	65.0	64.4	65.9	67.0	66.2	64.6	66.2	62.1	66.6	66.4	68.0			61.7	64.8		64.1	64.1	63.4
13-Jun	7:00	66.4	62.3	65.2	62.8	62.6	64.4	65.7	65.0	63.2	64.1	61.0	64.1	64.6	65.9			61.6	65.2		63.4	63.4	62.5
13-Jun	11:00	67.0	63.7	65.9	63.2	63.2	64.6	65.7	64.8	63.4	64.4	61.4	64.8	64.6	66.1			61.6	65.0		63.7	63.5	62.8

Legend		Probes were out of water at time of download														No temperature probe at location							
2016		Forebay														Tailwater					JFF		
Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Dock	T1	T14	WW	OUT	Sep	RW	Tank "B"
13-Jun	15:00	66.2	62.8	65.0	62.3	62.3	63.7	65.0	63.9	62.3	63.5	60.8	63.7	64.3	65.7			61.6	64.6		63.2	63.0	62.3
13-Jun	19:00	65.7	62.5	64.6	61.9	61.9	63.4	64.4	63.5	61.9	63.4	60.8	63.5	64.3	65.5			61.7	64.8		63.0	62.8	62.1
13-Jun	23:00	65.2	61.9	64.1	61.4	61.4	63.0	64.1	63.4	61.9	63.0	60.5	63.2	64.1	65.3			61.7	64.6		62.6	62.5	61.7
14-Jun	3:00	65.2	61.9	64.1	61.4	61.4	63.0	64.1	63.0	61.4	62.8	60.3	63.2	63.9	65.3			61.6	64.4		62.5	62.3	61.6
14-Jun	7:00	65.2	61.9	64.1	61.4	61.4	63.0	64.1	63.0	61.4	62.6	60.3	63.0	63.7	65.2			61.6	64.4		62.5	62.3	61.6
14-Jun	11:00	65.3	62.1	64.3	61.6	61.6	63.0	64.3	63.4	61.7	63.0	60.5	63.2	63.9	65.3			61.7	64.4				
14-Jun	15:00	65.7	62.3	64.6	61.9	62.1	63.5	64.6	63.7	61.9	63.4	60.7	63.5	64.1	65.5			61.9	64.6				
14-Jun	19:00	65.5	62.3	64.3	61.6	61.6	63.2	64.3	63.5	61.9	63.2	60.7	63.5	64.1	65.5			61.9	64.6				
14-Jun	23:00	65.3	61.9	64.1	61.4	61.4	62.8	63.9	63.0	61.6	62.6	60.3	63.2	63.9	65.3			61.7	64.4				
15-Jun	3:00	65.2	61.9	64.1	61.4	61.2	62.6	63.7	63.0	61.4	62.6	60.3	63.0	63.7	65.2			61.6	64.3				
15-Jun	7:00	65.2	61.7	63.9	61.2	61.2	62.6	63.7	62.8	61.4	62.6	60.1	63.0	63.5	65.0			61.4	64.3				
15-Jun	11:00	65.3	61.9	64.4	62.3	62.3	63.5	65.0	63.9	62.3	63.4	60.5	63.2	63.7	65.2			61.6	64.3				
15-Jun	15:00	67.0	64.1	65.9	63.2	62.8	64.4	65.3	64.3	62.6	63.7	61.2	63.9	64.4	65.2			61.6	64.3		63.4	63.2	62.5
15-Jun	19:00	67.0	63.5	65.7	62.8	62.5	63.9	65.0	63.9	62.3	63.4	60.8	63.5	64.3	65.7			61.6	64.1		63.2	63.0	62.3
15-Jun	23:00	65.7	62.3	64.3	61.9	62.3	63.9	64.6	63.9	62.3	63.5	61.0	63.7	64.1	65.0			61.4	64.1		62.8	62.6	61.9
16-Jun	3:00	64.6	61.2	63.4	60.8	61.0	62.6	63.7	62.8	61.2	62.5	59.9	62.6	63.5	64.8			61.0	63.9		62.1	61.7	61.2
16-Jun	7:00	64.6	61.4	63.4	60.7	60.7	62.3	63.5	62.5	61.0	62.3	59.9	62.6	63.4	64.8			61.0	63.7		61.7	61.7	61.0
16-Jun	11:00	64.6	61.4	63.4	60.8	60.7	62.3	63.5	62.6	61.0	62.1	59.8	62.6	63.2	64.6			61.0	63.7		61.7	61.7	61.0
16-Jun	15:00	64.8	61.4	63.5	60.8	60.8	62.6	63.9	63.0	61.6	62.5	59.8	62.8	63.5	64.6			61.2	63.9		62.1	61.9	61.2
16-Jun	19:00	65.7	62.3	64.6	61.6	61.6	63.0	64.1	63.2	61.6	62.8	60.3	63.2	63.7	65.2			61.2	63.9		62.5	62.5	61.6
16-Jun	23:00	65.2	61.9	64.1	61.4	61.2	62.8	63.9	63.0	61.4	62.6	60.3	63.0	63.5	65.0			61.2	63.7		62.3	62.3	61.4
17-Jun	3:00	64.6	61.0	63.2	60.7	60.7	62.5	63.5	62.6	61.2	62.5	59.9	62.6	63.5	64.8			61.0	63.9		61.9	61.7	61.0
17-Jun	7:00	64.6	61.2	63.4	60.7	60.7	62.1	63.4	62.3	60.8	62.1	59.8	62.5	63.2	64.6			61.0	63.7		61.7	61.6	60.8
17-Jun	11:00	66.4	62.8	65.0	62.3	62.3	63.7	65.0	64.1	62.5	63.7	60.8	63.9	64.6	66.1			61.2	64.1		62.5	62.3	61.6
17-Jun	15:00	64.8	61.6	63.7	61.0	61.7	65.3	66.4	65.2	62.5	64.4	61.2	64.3	65.2	66.6			61.4	64.6		62.6	62.5	61.9
17-Jun	19:00	65.0	61.6	63.7	61.2	61.2	63.4	64.1	63.2	61.6	63.4	61.0	63.9	64.4	66.1			61.4	64.6		62.5	62.5	61.6
17-Jun	23:00	64.8	61.4	63.7	61.0	60.8	62.5	63.5	63.2	61.7	63.4	60.8	63.5	64.4	65.7			61.4	64.4		62.3	62.1	61.4
18-Jun	3:00	64.6	61.4	63.4	60.7	60.7	62.1	63.2	62.5	60.8	62.5	60.3	63.2	63.9	65.3			61.0	64.3		61.7	61.7	61.0
18-Jun	7:00	64.6	61.2	63.4	60.7	60.7	62.3	63.4	62.5	60.8	62.3	59.9	62.6	63.4	64.8			61.0	64.1		61.7	61.7	61.0
18-Jun	11:00	64.6	61.2	63.4	60.7	60.7	62.3	63.4	62.6	61.0	62.5	59.9	62.8	63.5	65.0			61.0	64.1		61.9	61.7	61.0
18-Jun	15:00	64.6	61.2	63.4	60.7	60.7	62.3	63.5	62.6	61.0	62.5	59.8	62.6	63.2	64.6			61.0	64.1		61.7	61.7	61.0
18-Jun	19:00	64.6	61.4	63.4	60.7	60.7	62.3	63.4	62.5	60.8	62.3	59.8	62.6	63.4	64.6			61.0	64.1		61.9	61.7	61.0
18-Jun	23:00	64.6	61.2	63.4	60.7	60.5	62.1	63.2	62.3	60.7	62.1	59.6	62.3	63.2	64.6			61.0	63.9		61.7	61.6	60.8
19-Jun	3:00	64.4	61.2	63.4	60.7	60.5	62.1	63.2	62.3	60.8	62.1	59.6	62.3	63.2	64.4			61.0	63.7		61.7	61.6	60.7
19-Jun	7:00	64.6	61.2	63.4	60.7	60.5	62.1	63.2	62.3	60.7	62.1	59.6	62.3	63.2	64.4			60.8	63.7		61.7	61.6	60.7
19-Jun	11:00	65.2	62.1	64.6	62.3	62.5	64.1	65.5	64.3	62.3	63.2	59.9	64.3	63.7	66.4	61.9		61.0	63.9		62.6	61.9	62.8
19-Jun	15:00	65.2	61.4	63.9	61.4		64.1	65.5	66.2	63.7	65.9	60.3	65.2	67.0	70.6	61.9		61.2	64.1		63.2	62.6	63.5
19-Jun	19:00	67.5	64.3	66.4	63.7		65.2	66.4	65.5	64.1	65.3	63.0	65.7	66.1	67.9	62.5		61.4	63.9		63.8	63.2	64.1
19-Jun	23:00	65.7	62.3	64.4	61.6		63.0	64.3	63.4	61.7	63.0	60.3	63.0	63.5	65.2	62.8		61.4	63.7		63.3	62.6	63.5

Legend		Probes were out of water at time of download														No temperature probe at location							
2016		Forebay														Tailwater				JFF			
Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Dock	T1	T14	WW	OUT	Sep	RW	Tank "B"
20-Jun	3:00	65.0	61.9	64.1	61.4		62.6	63.7	62.8	61.9	63.5	61.2	63.9	64.4	65.7	62.1		61.2	63.5		63.0	62.5	63.3
20-Jun	7:00	65.2	62.3	64.6	61.6		62.8	63.7	62.6	60.8	62.1	59.6	62.5	63.4	64.8	61.7		61.0	63.7		62.6	62.1	62.8
20-Jun	11:00	66.6	62.6	64.8	61.9		63.7	65.0	64.1	62.3	63.9	61.4	64.4	65.2	66.2	61.7		61.0	63.9		62.9	62.1	63.2
20-Jun	15:00	69.3	65.5	67.0	63.2		67.1	67.3	63.2	61.0	62.6	60.1	64.6	67.0	68.8	61.7		61.0	64.4		63.5	63.0	63.8
20-Jun	19:00	68.2	64.8	66.8	63.9		64.8	65.9	65.3	64.1	65.3	63.2	65.3	65.9	66.4	63.0		61.4	64.1		64.4	63.5	64.6
20-Jun	23:00	66.1	62.3	64.6	63.0		64.8	66.2	65.2	63.7	65.2	62.3	64.8	64.6	66.1	62.1		61.4	63.9		64.0	63.4	64.4
21-Jun	3:00	64.3	60.8	63.2	62.1		63.4	63.2	62.1	60.5	61.7	60.3	62.6	63.2	64.3	61.6		60.7	63.7		62.6	62.1	62.9
21-Jun	7:00	65.0	61.6	63.7	61.0		62.6	63.7	62.5	61.0	62.3	59.9	62.8	63.2	64.6	62.1		60.7	63.4		62.6	62.1	62.8
21-Jun	11:00	65.5	62.6	65.0	61.9		63.2	63.9	63.0	61.6	63.5	60.5	63.0	63.7	64.6	62.1		60.8	63.7		62.9	62.3	63.3
21-Jun	15:00	67.3	64.1	66.4	63.7		64.4	65.5	64.4	62.8	64.3	61.7	64.1	64.6	65.9	63.0		61.4	63.9		64.1	63.4	64.4
21-Jun	19:00	70.0	63.5	67.0	65.0		66.8	68.2	68.9	64.1	68.2	66.2	68.6	68.4	70.7	62.3		61.7	64.6		64.8	64.1	65.0
21-Jun	23:00	67.9	61.6	63.9	61.6		66.2	67.3	66.6	65.2	66.2	63.9	66.2	67.1	68.8	62.5		61.9	65.0		64.8	64.1	65.0
22-Jun	3:00	64.8	61.6	63.7	61.6		64.4	65.5	64.4	62.8	64.3	62.1	65.2	66.1	67.5	62.1		61.7	65.0		63.6	63.0	63.8
22-Jun	7:00	65.2	61.7	63.9	61.4		63.7	64.6	63.9	62.3	63.5	61.2	64.1	65.0	66.4	62.3		61.9	65.0		63.5	63.0	63.8
22-Jun	11:00	69.1	65.5	68.2	65.3		66.4	67.7	67.1	64.1	66.8	64.3	67.1	66.4	68.8	62.8		62.1	65.3		65.1	64.3	65.3
22-Jun	15:00	74.7	70.9	73.3	68.8		69.7	70.0	68.9	66.4	67.9	65.0	68.2	69.1	70.2	62.6		62.3	65.5		65.7	65.2	66.1
22-Jun	19:00	73.3	68.9	71.5	68.9	70.0	71.6	72.4	71.6	67.7	68.4	65.3	67.5	66.8	68.9	63.4		62.3	65.2		66.9	66.1	67.1
22-Jun	23:00	69.1	64.1	65.9	63.2	64.6	66.6	69.5	69.1	67.3	68.6	65.9	68.6	67.3	68.4	63.0		62.3	65.3		66.2	65.7	66.5
23-Jun	3:00	67.7	64.4	66.6	64.1	64.1	65.3	66.6	65.7	64.1	65.3	62.6	65.3	64.6	65.7	63.0		61.9	65.0		64.4	63.9	64.7
23-Jun	7:00	65.5	62.5	64.8	62.1	62.1	63.7	65.3	64.8	63.4	64.8	62.3	65.2	65.2	66.4	62.8		62.1	65.2		64.2	63.5	64.4
23-Jun	11:00	65.5	62.1	64.3	61.6	61.6	63.0	65.7	65.0	63.7	64.8	62.3	64.8	65.9	66.4	62.6		62.1	65.2		64.0	63.4	64.3
23-Jun	15:00	67.5	64.6	67.0	64.1	63.7	65.3	66.4	65.5	63.7	64.8	62.3	65.0	65.5	66.6	63.7		62.3	65.3		65.1	64.4	65.3
23-Jun	19:00	67.1	63.7	65.9	63.2	63.2	64.8	65.9	64.8	63.2	64.4	61.7	64.3	65.0	66.1	63.9		62.5	65.3		64.7	64.3	65.0
23-Jun	23:00	67.0	63.7	65.9	63.2	63.2	64.6	65.7	64.8	63.2	64.3	61.7	64.4	65.0	66.4	63.7		62.6	65.3		64.4	63.9	64.6
24-Jun	3:00	66.4	63.0	65.2	62.5	62.5	64.1	65.2	64.3	62.5	63.9	61.4	64.1	64.8	66.1	63.5		62.5	65.3		64.0	63.4	64.3
24-Jun	7:00	66.1	62.8	65.0	62.3	62.3	63.7	64.8	63.9	62.3	63.5	61.2	63.9	64.6	66.1	63.2		62.5	65.2		63.8	63.0	63.9
24-Jun	11:00	66.1	62.8	65.0	62.3	62.3	63.7	64.8	64.1	62.5	63.7	61.4	64.1	64.6	66.1	63.4		62.5	65.2		63.9	63.2	64.2
24-Jun	15:00	66.1	62.8	65.0	62.3	62.3	63.9	65.0	64.1	62.6	64.1	61.4	64.1	64.6	66.1	63.4		62.5	65.2		64.0	63.4	64.4
24-Jun	19:00	66.1	62.8	65.0	62.3	62.3	63.7	64.8	64.1	62.6	63.9	61.4	64.1	64.6	66.1	63.4		62.5	65.2		64.0	63.4	64.3
24-Jun	23:00	65.9	62.5	64.8	62.1	61.9	63.5	64.6	63.9	62.3	63.4	61.2	63.9	64.4	65.7	63.0		62.3	65.0		63.7	63.0	63.9
25-Jun	3:00	65.7	62.5	64.6	61.9	61.9	63.5	64.4	63.7	62.3	63.5	61.0	63.9	64.4	65.9	63.0		62.3	65.2		63.6	63.0	63.8
25-Jun	7:00	65.7	62.5	64.6	61.9	61.9	63.5	64.6	63.7	62.1	63.4	60.8	63.7	64.4	65.9	63.0		62.3	65.0		63.5	63.0	63.8
25-Jun	11:00	67.3	63.7	66.1	63.2	63.2	65.3	66.4	66.2	63.7	65.3	62.3	65.0	65.5	67.5	63.0		62.3	65.0		64.0	63.4	64.4
25-Jun	15:00	65.7	62.3	64.4	61.7	61.7	63.4	70.6	69.3	66.8	68.0	64.4	66.1	66.4	68.2		63.0	62.3	65.0		64.8	64.3	65.1
25-Jun	19:00	72.7	64.3	68.6	67.0	68.0	68.8	70.2	69.1	66.4	67.5	64.4	66.4	65.9	68.4		63.4	62.3	65.0		66.2	65.3	66.4
25-Jun	23:00	70.2	67.0	69.5	66.8	66.8	68.0	69.5	68.9	67.0	68.6	65.7	68.4	68.8	70.2		63.4	62.3	65.7		65.7	65.2	66.0
26-Jun	3:00	65.5	62.3	64.3	61.6	61.6	63.2	64.4	64.8	65.0	65.9	63.2	65.7	65.5	66.4		62.8	62.3	65.3		64.1	63.5	64.3
26-Jun	7:00	65.5	62.3	64.4	61.6	61.6	63.4	64.4	64.8	63.4	64.8	62.6	65.2	65.3	66.4		62.8	62.3	65.5		64.1	63.4	64.3
26-Jun	11:00	67.5	64.1	65.9	63.4	63.4	65.5	66.8	66.2	64.8	66.2	63.7	66.6	67.0	69.1		63.2	62.3	65.5		64.8	64.3	65.2

Legend		Probes were out of water at time of download														No temperature probe at location							
2016		Forebay														Tailwater					JFF		
Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Dock	T1	T14	WW	OUT	Sep	RW	Tank "B"
26-Jun	15:00	68.6	62.5	64.4	61.9	61.7	66.1	67.5	67.0	65.3	66.2	63.4	66.1	66.4	67.7		63.2	62.5	65.9		64.5	63.9	64.9
26-Jun	19:00	68.4	65.0	67.3	64.8	64.8	66.6	67.7	66.8	65.5	67.0	64.4	67.1	68.0	69.3		63.7	62.5	65.7		66.0	65.3	66.3
26-Jun	23:00	67.3	63.9	66.1	63.4	63.4	64.8	65.7	64.8	63.4	64.4	62.1	64.8	65.5	67.0		63.5	62.3	65.5		64.6	64.3	65.0
27-Jun	3:00	65.7	62.3	64.6	61.7	61.9	63.4	64.6	64.8	62.6	63.9	61.4	64.4	65.0	66.2		62.8	62.3	65.5		63.8	63.2	64.1
27-Jun	7:00	65.5	62.3	64.4	61.7	61.9	63.5	64.6	64.1	62.5	63.7	61.2	64.1	64.6	66.2		62.8	62.3	65.3		63.6	63.0	63.9
27-Jun	11:00	66.1	62.6	64.8	63.7	64.6	66.2	66.6	66.1	64.3	65.5	63.5	65.9	67.1	68.6		63.2	62.5	65.5		64.4	63.5	64.6
27-Jun	15:00	65.9	62.5	64.8	62.3	67.5	67.9	66.2	65.3	67.1	68.0	64.8	67.5	68.2	70.9		63.2	62.6	66.4		65.4	64.8	65.9
27-Jun	19:00	65.9	62.6	65.5	66.1	66.1	68.8	69.5	68.9	67.7	68.9	65.5	67.3	67.9	69.3		63.4	63.2	66.1		66.3	65.5	66.6
27-Jun	23:00	66.2	63.4	65.7	64.6	64.3	67.9	69.7	68.9	67.0	68.2	65.7	68.8	69.5	71.3		63.5	63.2	66.4		66.5	66.2	66.9
28-Jun	3:00	67.3	64.1	66.1	63.4	64.6	66.6	67.9	67.0	65.7	67.0	64.4	67.3	68.0	69.3		63.5	63.0	66.1		65.6	65.0	65.9
28-Jun	7:00	67.0	63.7	65.9	63.2	63.2	64.8	66.1	65.3	63.7	65.2	63.2	66.2	67.1	68.6		63.5	63.0	66.2		65.2	64.4	65.5
28-Jun	11:00	66.2	64.6	67.7	65.7	66.4	67.1	68.4	67.0	65.0	65.9	63.2	65.7	65.9	67.0		63.5	63.0	66.1		65.6	64.8	65.9
28-Jun	15:00	72.0	68.0	70.4	69.3	70.4	68.0	68.8	67.5	65.5	66.4	63.7	66.2	67.0	68.0		65.2	63.2	66.4		66.4	65.3	66.4
28-Jun	19:00	72.4	69.5	75.1	71.8	71.5	72.4	72.9	71.3	69.1	70.0	67.1	69.7	69.5	69.3		63.9	63.5	66.4		69.1	68.4	69.4
28-Jun	23:00	66.4	63.2	65.9	68.2	66.8	68.8	70.9	69.3	67.9	68.9	66.1	68.4	67.3	67.9		63.9	63.2	66.6		66.8	66.4	67.1
29-Jun	3:00	70.9	67.5	69.5	67.0	66.8	68.9	70.2	69.5	67.9	68.9	66.4	69.8	70.7	72.0		64.8	63.7	66.8		67.6	67.0	67.9
29-Jun	7:00	66.8	63.5	65.7	63.0	63.2	65.7	68.6	67.5	65.7	67.0	64.6	67.5	68.0	69.8		64.1	63.7	67.0		65.9	65.3	66.1
29-Jun	11:00	69.7	66.6	68.8	66.1	66.1	67.5	68.6	67.5	65.9	67.0	64.1	66.8	67.0	67.9		64.8	63.7	67.1		66.7	66.1	67.0
29-Jun	15:00	71.5	67.9	70.0	67.0	67.9	69.3	69.1	68.0	66.1	67.1	64.4	67.1	67.7	69.1		65.3	64.1	67.1		67.4	66.8	67.7
29-Jun	19:00	72.7	68.8	70.9	68.2	68.4	69.5	70.4	69.5	69.3	69.7	65.9	68.4	68.6	70.0		65.2	64.3	67.0		68.2	67.5	68.5
29-Jun	23:00	71.8	67.3	70.4	67.7	67.3	68.0	68.6	67.7	66.1	67.0	64.1	66.6	66.8	67.5		65.0	63.9	67.0		67.0	66.4	67.3
30-Jun	3:00	69.5	65.9	68.0	65.2	65.3	67.1	68.0	67.3	65.2	66.2	63.7	66.4	67.1	68.4		65.3	64.1	66.8		66.2	65.5	66.4
30-Jun	7:00	70.0	66.8	68.9	66.2	66.4	67.7	68.8	67.9	66.4	67.9	65.0	67.7	68.0	69.1		65.2	64.3	67.0		67.0	66.2	67.2
30-Jun	11:00	70.4	67.0	69.1	66.4	66.1	68.0	69.1	68.6	66.1	67.1	64.4	67.0	67.3	68.2		65.3	64.3	67.3		66.9	66.1	67.1
30-Jun	15:00	70.0	66.8	68.8	66.2	66.1	67.9	70.9	69.3	67.9	67.7	65.0	67.5	68.0	69.5		65.9	65.0	67.5		67.6	67.0	67.9
30-Jun	19:00	70.0	64.6	67.0	65.2	67.0	69.8	72.5	72.0	70.4	71.1	68.4	69.8	70.2	71.3		65.7	65.2	67.9		68.8	68.0	68.9
30-Jun	23:00	72.4	68.8	70.9	67.9	67.7	68.9	70.0	69.3	67.9	68.2	65.5	68.2	68.9	70.2		65.7	64.8	67.7		68.0	67.3	68.1
1-Jul	3:00	70.0	66.8	68.9	66.1	66.1	67.5	68.6	68.0	66.4	68.0	64.8	67.7	68.2	69.7		65.7	64.8	67.9		66.9	66.2	67.1
1-Jul	7:00	70.2	66.8	68.9	66.2	66.2	67.5	68.6	68.0	67.0	68.4	65.2	68.0	68.6	70.0		65.7	65.0	67.9		67.3	66.6	67.5
1-Jul	11:00	71.5	67.7	69.7	66.8	67.1	68.9	70.0	68.9	67.1	68.2	65.7	68.2	68.6	69.7		65.9	65.0	68.0		67.9	67.0	68.0
1-Jul	15:00	69.3	65.5	67.5	65.9	66.1	68.6	71.1	70.4	68.9	69.5	66.6	68.9	69.3	70.0	66.5	66.1	65.3	68.2		68.2	67.5	68.5
1-Jul	19:00	72.7	68.6	69.5	67.7	68.9	70.2	71.3	70.7	69.5	70.0	66.6	68.8	69.3	70.6	66.6	66.1	65.3	68.2		68.7	68.0	68.9
1-Jul	23:00	70.9	65.2	67.3	64.8	66.4	69.8	70.7	69.8	68.6	70.2	67.9	70.6	69.8	70.9	66.5	66.1	65.3	68.2		68.3	67.7	68.6
2-Jul	3:00	71.8	65.5	68.2	67.9	67.7	69.7	70.6	69.5	68.8	69.8	67.0	68.9	68.8	69.5	66.5	66.1	65.2	68.2		68.1	67.3	68.3
2-Jul	7:00	72.4	68.4	70.6	67.9	67.9	69.3	70.0	69.8	68.2	68.4	65.9	68.6	69.3	70.6	66.7	66.1	65.2	68.2		68.0	67.1	68.2
2-Jul	11:00	68.6	65.3	67.5	65.5	64.8	68.4	68.2	67.3	66.1	67.5	65.7	68.4	68.9	70.0	66.6	65.9	65.5	68.6		67.6	66.6	67.9
2-Jul	15:00	72.0	68.6	70.4	67.9	67.3	68.9	69.5	68.9	67.0	68.4	65.9	68.6	68.8	70.2	67.2	66.6	65.3	68.2		68.0	67.3	68.3
2-Jul	19:00	71.8	68.8	70.0	67.9	68.2	69.8	70.7	68.6	67.0	67.9	66.6	68.9	69.1	70.6	67.3	66.6	65.5	68.4		68.1	67.5	68.4
2-Jul	23:00	71.6	68.6	71.1	68.2	67.5	69.1	69.1	68.4	66.2	67.9	65.3	68.0	70.0	70.4	67.2	66.6	65.5	68.2		67.8	67.1	68.0

Legend		Probes were out of water at time of download														No temperature probe at location							
2016		Forebay														Tailwater					JFF		
Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Dock	T1	T14	WW	OUT	Sep	RW	Tank "B"
3-Jul	3:00	70.9	67.7	68.9	66.2	65.3	67.5	69.5	68.9	66.1	67.9	64.8	67.3	68.9	69.3	67.1	66.4	65.5	68.4		67.2	66.6	67.5
3-Jul	7:00	71.5	68.0	70.2	67.5	65.0	66.6	68.8	67.7	65.0	66.1	63.9	66.8	68.4	69.3	67.0	66.2	65.2	68.0		67.3	66.6	67.6
3-Jul	11:00	69.3	66.1	67.9	65.5	65.7	67.5	68.4	67.7	65.5	67.1	64.4	67.3	67.7	69.1	67.1	66.4	65.2	68.2		67.1	66.2	67.4
3-Jul	15:00	70.6	68.0	69.1	66.8	66.2	68.2	68.9	68.0	66.2	67.5	65.0	67.7	68.4	69.7	67.7	67.1	65.5	68.2		67.7	67.1	68.0
3-Jul	19:00	70.4	67.3	69.3	67.0	66.8	68.2	69.3	68.4	66.8	68.0	65.3	68.2	68.9	70.2	67.2	66.6	65.5	68.4		67.6	67.0	67.8
3-Jul	23:00	70.6	67.1	69.1	66.4	66.2	67.9	68.9	68.0	66.4	67.9	65.3	68.0	68.6	69.8	67.4	67.0	65.5	68.2		67.5	66.8	67.7
4-Jul	3:00	69.3	66.2	68.8	66.1	66.1	67.5	68.9	67.7	66.1	67.1	64.6	67.5	68.0	69.5	67.1	66.4	65.5	68.2		67.3	66.6	67.5
4-Jul	7:00	70.9	67.5	69.5	66.8	65.9	67.5	68.6	67.3	66.2	67.3	64.6	67.3	68.0	69.3	67.1	66.4	65.5	68.2		67.2	66.4	67.4
4-Jul	11:00	69.8	66.8	67.9	66.6	65.9	67.5	68.2	67.5	65.9	67.5	64.6	67.3	67.9	69.3	66.9	66.2	65.3	68.2		67.1	66.4	67.4
4-Jul	15:00	69.1	67.7	68.6	67.3	67.1	68.8	69.8	68.6	66.8	68.0	65.3	67.7	68.2	69.8	67.1	66.6	65.5	68.2		67.7	67.0	68.0
4-Jul	19:00	72.0	68.8	70.6	67.9	67.0	68.9	70.4	68.6	67.0	67.5	65.9	68.4	68.9	70.4	67.1	66.6	65.5	68.4		67.9	67.1	68.0
4-Jul	23:00	71.8	67.9	69.1	66.4	66.4	68.0	69.1	68.4	66.6	67.9	65.2	67.7	68.2	69.7	67.5	67.0	65.5	68.2		67.6	67.0	67.9
5-Jul	3:00	70.6	66.4	70.0	67.1	65.0	68.0	69.3	68.0	65.2	67.0	64.4	68.4	68.6	69.8	67.1	66.4	65.5	68.2		67.4	66.6	67.5
5-Jul	7:00	70.0	67.1	69.8	67.3	66.1	67.9	69.1	66.6	65.7	66.8	65.0	67.7	68.2	69.5	67.0	66.4	65.3	68.2		67.3	66.6	67.4
5-Jul	11:00	68.8	66.4	68.2	66.8	64.8	66.2	70.6	68.4	66.2	67.5	64.6	67.1	67.5	68.9	67.0	66.2	65.3	68.4		67.4	66.6	67.6
5-Jul	15:00	71.8	68.8	70.6	68.2	67.7	69.7	69.8	69.3	67.1	68.8	65.7	68.4	68.8	69.7	67.2	66.6	65.7	68.6		68.0	67.3	68.3
5-Jul	19:00	71.6	69.1	71.3	68.6	68.6	70.0	70.9	70.0	68.2	69.5	66.6	69.3	69.8	71.1	67.5	67.1	65.9	68.6		68.6	67.9	68.7
5-Jul	23:00	71.8	68.6	70.2	67.5	67.5	68.9	70.0	69.3	67.7	68.8	66.2	68.9	69.5	70.6	67.5	67.0	66.1	68.8		68.3	67.5	68.4
6-Jul	3:00	70.2	67.0	69.7	66.2	65.7	67.5	69.5	68.4	66.1	67.5	65.2	68.9	68.4	69.7	67.4	67.0	65.9	68.6		67.8	67.0	67.9
6-Jul	7:00	70.2	66.4	68.6	65.9	65.5	67.1	68.9	67.5	65.7	66.8	64.8	68.6	68.9	69.3	67.5	67.0	65.9	68.6		67.7	67.0	67.8
6-Jul	11:00																						
6-Jul	15:00																						
6-Jul	19:00																						
6-Jul	23:00																						
7-Jul	3:00																						
7-Jul	7:00																						
7-Jul	11:00																						
7-Jul	15:00																						
7-Jul	19:00	64.6	67.1	69.7	69.1	69.1	68.2	67.1	69.5	69.1	67.9	70.0	66.8	68.2	65.3						67.7	67.1	68.0
7-Jul	23:00	64.4	66.1	68.8	67.7	68.0	66.8	65.9	68.0	67.7	66.2	68.4	65.3	66.8	64.1						67.2	66.8	67.4
8-Jul	3:00	64.1	65.7	68.2	67.3	67.3	66.1	65.7	67.5	67.3	67.5	69.5	65.7	67.0	64.1						67.2	66.8	67.4
8-Jul	7:00	64.1	65.7	68.4	67.3	67.7	65.9	65.5	67.1	67.3	67.0	69.5	65.5	66.6	63.5						67.0	66.4	67.2
8-Jul	11:00	63.5	65.2	68.4	66.8	66.8	65.7	65.0	67.3	67.7	66.8	69.8	66.4	66.8	63.7	66.6	66.1	66.8			67.0	66.4	67.2
8-Jul	15:00	63.5	65.2	67.5	67.0	67.0	65.9	67.1	69.5	70.9	69.7	71.6	67.5	68.0	64.1	66.7	66.1	67.0			67.4	66.8	67.6
8-Jul	19:00	67.5	69.1	71.8	71.1	71.3	69.7	68.9	71.3	71.1	70.4	72.7	69.8	71.3	68.6	67.1	66.4	67.3			69.1	68.8	69.4
8-Jul	23:00	63.5	65.3	67.7	67.0	67.1	66.1	65.2	67.7	68.9	67.9	70.0	66.8	67.3	65.0	66.7	66.1	67.1			67.4	67.0	67.6
9-Jul	3:00	64.8	66.2	68.8	68.0	68.0	67.1	65.9	68.6	68.6	67.1	69.5	66.4	67.5	64.6	67.1	66.6	67.0			67.5	67.0	67.6
9-Jul	7:00	63.5	65.2	68.0	67.3	67.7	66.6	65.9	68.4	68.0	66.8	69.1	66.2	67.7	64.8	66.6	66.1	67.0			67.1	66.4	67.2
9-Jul	11:00	65.3	67.1	68.9	68.8	68.0	67.9	66.6	69.1	68.6	67.1	69.5	66.2	67.7	64.6	67.2	66.6	67.0			67.5	67.0	67.8

Legend		Probes were out of water at time of download														No temperature probe at location							
2016		Forebay														Tailwater				JFF			
Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Dock	T1	T14	WW	OUT	Sep	RW	Tank "B"
9-Jul	15:00	65.7	68.4	69.7	69.8	68.9	68.4	66.8	70.0	69.1	67.5	69.7	66.2	67.7	64.4	67.3	66.6	67.0			67.9	67.3	68.1
9-Jul	19:00	67.1	68.9	71.1	70.4	70.0	68.8	67.9	70.4	70.0	68.8	70.4	67.1	68.4	65.7	67.2	66.6	67.3			68.5	67.9	68.7
9-Jul	23:00	63.5	67.7	68.6	68.9	68.8	68.0	66.4	69.7	69.3	68.0	70.0	67.1	68.2	65.3	66.9	66.2	67.1			67.3	66.8	67.4
10-Jul	3:00	64.8	66.2	68.8	68.0	68.0	67.0	65.9	68.2	67.9	66.4	68.8	65.7	67.1	64.4	67.3	66.8	67.0			67.3	66.8	67.4
10-Jul	7:00	63.9	65.5	67.5	67.0	67.3	65.9	65.0	67.7	67.5	66.2	68.6	65.3	67.1	64.1	66.6	66.1	66.8			66.7	66.1	67.0

Note: A truncated selection of data recorded at 0300, 0700, 1100, 1500, 1900, and 2300 are presented in the table. However, data were recorded every half hour June 1 to July 10.

**Table A-2
Temperatures Recorded at 14 Gatewell Positions, Five Spillway Positions, and Three Collection Channel Positions**

Legend		No temperature probe at location																						
2016		Gatewell														Spillbays					Collection Channel			
Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	22	17	12	7	1	1	8	12	
1-Jun	7:00	60.3	61.4	60.5	61.4	60.8	59.8	60.8	58.7	60.5	63.5	60.3	62.3	63.0	59.8								60.8	60.7
1-Jun	11:00	61.4	62.1	60.8	61.6	61.7	59.9	61.7	60.3	62.3	64.3	61.2	63.0	63.9	60.3								61.9	61.2
1-Jun	15:00	65.5	63.7	60.8	61.7	63.7	61.7	62.6	59.9	62.1	65.9	62.5	63.9	64.6	61.2								62.6	62.3
1-Jun	19:00	64.1	63.5	60.8	61.6	63.7	62.3	62.6	60.1	61.7	64.4	61.2	62.5	63.5	59.6								61.4	60.7
1-Jun	23:00	62.6	63.5	61.9	63.2	62.6	61.0	62.1	59.6	61.2	63.9	60.7	62.3	63.4	59.8								61.2	60.8
2-Jun	3:00	61.4	61.9	60.5	61.4	61.6	61.6	62.3	59.9	61.6	64.3	61.2	62.8	63.7	60.3								61.6	61.2
2-Jun	7:00	61.6	61.6	60.5	61.4	61.4	60.3	61.4	58.9	60.5	63.2	59.9	61.7	62.8	59.8								60.7	60.5
2-Jun	11:00	60.8	61.9	60.7	61.6	61.4	60.1	61.2	59.0	61.0	63.7	60.7	62.3	63.4	59.8								61.2	60.8
2-Jun	15:00	61.9	63.0	61.4	62.8	62.3	61.0	61.9	59.6	61.2	64.1	60.7	62.3	63.4	60.1	59.2							61.2	60.8
2-Jun	19:00	62.1	63.0	62.1	62.8	62.3	61.0	61.9	59.6	61.2	63.9	60.7	62.3	63.4	60.1	59.0	61.6	58.9	61.7	63.4	60.7	61.2	60.8	
2-Jun	23:00	61.7	62.6	61.6	62.5	61.9	60.8	61.7	59.4	61.2	63.9	60.7	62.3	63.4	60.1	59.0	61.7	59.0	62.1	63.5	60.5	61.2	60.8	
3-Jun	3:00	61.7	61.9	60.8	61.9	61.7	60.5	61.4	59.0	60.8	63.7	60.5	62.1	63.2	60.1	59.0	61.6	58.9	61.7	63.5	60.3	61.0	60.8	
3-Jun	7:00	61.4	62.6	60.8	61.7	61.6	60.5	61.4	59.0	60.7	63.4	60.1	61.7	62.8	59.8	58.7	61.6	58.9	61.9	63.5	59.9	60.7	60.5	
3-Jun	11:00	62.6	63.4	61.2	61.9	62.5	61.2	62.1	59.6	61.4	64.4	61.0	62.5	63.4	60.3	61.4	63.2	60.8	65.5	65.9	60.7	61.4	61.0	
3-Jun	15:00	65.5	65.5	61.2	61.9	64.1	63.4	67.1	61.2	63.5	66.2	63.0	64.1	65.3	61.2	66.2	66.4	61.4	70.6	64.4	62.3	63.0	62.3	
3-Jun	19:00	63.4	63.9	60.8	61.7	62.5	61.6	62.6	60.5	62.1	65.2	62.1	63.9	65.2	62.3	61.6	65.2	64.1	68.0	68.6	61.4	62.6	62.8	
3-Jun	23:00	61.0	62.5	60.8	62.3	63.5	62.3	64.4	61.6	63.0	65.7	62.6	64.3	65.5	62.3	62.8	65.7	63.7	66.4	66.8	61.7	63.4	63.4	
4-Jun	3:00	61.4	62.8	61.4	64.1	63.7	62.1	63.5	61.0	62.6	65.3	62.1	63.9	65.2	61.6	61.4	63.9	60.8	63.4	65.3	61.7	62.8	62.6	
4-Jun	7:00	60.7	61.7	60.7	61.6	61.0	60.3	62.6	60.5	61.9	64.4	61.4	63.0	64.3	60.8	60.1	62.6	59.9	62.6	64.6	60.5	61.9	61.7	
4-Jun	11:00	62.8	63.0	60.8	63.4	64.3	63.0	64.4	61.9	62.3	64.6	61.4	62.8	63.9	60.7	60.3	62.3	59.9	62.6	64.1	61.6	62.1	61.6	
4-Jun	15:00	63.2	63.4	61.2	62.8	62.3	61.7	62.8	60.3	62.1	65.0	61.7	63.5	64.8	61.4	61.2	63.7	61.4	64.3	61.2	61.2	62.3	62.1	
4-Jun	19:00	62.8	63.7	61.2	62.1	62.5	62.6	63.2	61.0	62.8	65.9	62.6	64.8	65.5	62.1	63.2	65.2	63.7	66.8	63.2	61.7	63.2	63.0	
4-Jun	23:00	62.3	63.4	62.6	63.9	63.4	62.5	63.2	61.7	63.4	65.7	62.6	64.4	65.5	62.3	61.6	64.1	61.2	64.1	61.6	62.1	63.4	63.0	
5-Jun	3:00	61.4	62.5	61.6	62.3	61.9	60.8	61.9	59.6	61.4	64.1	61.2	63.0	64.3	61.2	60.5	63.2	60.7	63.4	60.5	60.7	61.7	61.7	
5-Jun	7:00	61.4	62.5	61.4	62.3	61.7	60.7	61.7	59.2	61.6	65.0	61.7	63.5	64.6	61.2	60.5	63.2	60.5	63.4	65.0	60.7	62.1	62.1	
5-Jun	11:00	62.6	63.0	61.9	62.6	62.3	61.9	63.5	61.9	63.4	66.1	63.4	63.9	64.8	61.4	61.0	63.5	60.5	63.4	65.0	61.9	63.2	62.5	
5-Jun	15:00	63.5	64.3	63.5	65.2	64.3	63.5	64.6	62.3	64.3	67.3	63.9	65.7	67.0	63.7	62.8	66.4	64.1	67.3	69.5	62.8	64.4	64.4	
5-Jun	19:00	62.5	63.7	62.1	62.8	62.8	61.7	63.7	62.3	65.0	68.0	64.4	67.0	67.7	64.6	65.9	68.0	65.7	66.8	67.9	63.0	65.3	65.3	
5-Jun	23:00	62.6	63.4	62.6	63.4	63.0	62.1	62.8	60.8	62.3	65.3	62.6	64.4	66.1	62.8	62.8	65.7	63.7	66.6	68.0	61.7	63.0	63.5	
6-Jun	3:00	62.3	63.4	62.3	63.2	62.8	61.7	62.6	61.6	64.1	66.6	63.4	65.5	66.4	63.0	62.5	65.3	63.2	65.9	67.0	62.1	64.1	63.9	
6-Jun	7:00	62.6	63.7	62.8	63.5	63.2	61.9	63.0	60.8	62.5	65.2	62.1	64.3	65.7	62.1	61.9	64.6	62.1	64.8	66.6	61.7	63.0	63.2	
6-Jun	11:00	64.1	64.8	62.8	63.9	64.8	64.3	65.2	63.4	64.1	66.4	62.8	64.6	65.5	62.1	61.7	64.3	61.7	64.3	65.7	63.0	63.7	63.0	
6-Jun	15:00	70.7	68.8	63.0	65.5	67.0	64.4	65.3	62.6	64.1	66.6	63.2	64.8	65.7	62.5	64.4	64.1	61.2	64.1	65.9	63.7	63.9	63.4	
6-Jun	19:00	66.1	66.2	62.6	63.5	65.0	65.7	68.9	66.2	67.9	71.6	67.7	67.9	68.4	66.1	67.9	70.6	67.7	70.6	66.8	65.2	67.0	65.7	

Legend		No temperature probe at location																					
2016		Gateway														Spillbays				Collection Channel			
Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	22	17	12	7	1	1	8	12
6-Jun	23:00	62.6	64.3	62.6	63.5	63.2	64.3	65.3	64.3	65.9	68.6	64.6	66.4	67.5	64.8	66.6	70.0	68.0	72.7	71.3	63.4	65.5	65.2
7-Jun	3:00	63.0	65.2	63.0	63.7	63.7	62.6	63.5	61.0	62.8	65.7	65.3	66.1	67.9	63.9	63.9	68.4	65.9	68.6	69.5	62.8	64.4	65.3
7-Jun	7:00	63.2	64.3	63.2	63.9	63.5	62.6	63.7	61.6	63.0	65.9	62.8	66.1	67.0	63.2		66.6	64.1	66.8	67.7	62.5	63.9	64.4
7-Jun	11:00	64.6	64.1	63.2	64.1	63.7	64.3	65.5	63.4	64.6	67.3	63.9	65.3	66.2	62.8		65.0	62.3	64.6	66.2	62.5	64.1	63.7
7-Jun	15:00	67.5	67.7	63.4	65.0	67.3	66.1	66.4	63.9	65.5	67.9	64.4	65.7	66.6	62.3		65.3	62.6	65.7	66.1	64.3	64.8	63.7
7-Jun	19:00	69.8	67.9	63.2	64.1	70.6	69.3	68.6	68.8	67.5	69.8	66.2	67.5	68.0	64.3		65.9	62.8	65.5	66.2	66.1	66.8	65.2
7-Jun	23:00	67.7	67.5	63.2	64.3	68.8	66.2	65.9	64.4	65.9	68.2	65.2	66.1	67.5	63.0		67.5	65.0	67.7	67.0	64.8	65.5	64.4
8-Jun	3:00	65.3	67.0	63.7	64.8	66.1	66.2	67.3	66.1	67.5	70.7	67.1	68.4	69.1	65.7		67.9	65.3	68.2	67.1	65.3	67.3	66.4
8-Jun	7:00	64.8	66.4	63.9	64.6	65.0	64.1	65.3	62.8	65.7	68.0	64.6	66.6	67.3	64.3		66.6	63.9	67.0	67.3	63.9	65.3	65.0
8-Jun	11:00	66.4	66.6	63.9	65.3	66.4	64.6	65.5	63.2	64.8	67.5	64.1	65.5	66.6	63.4		64.8	62.8	65.5	66.8	63.9	64.8	64.1
8-Jun	15:00	65.3	66.4	65.3	66.1	65.3	64.1	65.0	62.6	64.1	66.8	63.5	65.2	66.1	62.8		64.4	61.7	65.0	66.6	63.5	64.1	63.5
8-Jun	19:00	65.0	66.1	65.0	65.9	65.3	64.3	65.0	62.6	64.4	67.1	63.7	65.3	66.4	63.4		65.0	62.6	65.5	66.4	63.5	64.4	64.1
8-Jun	23:00	64.6	65.0	64.4	65.5	64.4	63.4	64.1	61.7	63.5	66.2	63.0	65.0	66.1	62.8		64.4	61.9	65.2	66.8	63.0	63.7	63.5
9-Jun	3:00	64.4	65.3	64.4	65.2	64.8	63.5	64.6	62.1	63.9	66.6	63.4	65.0	66.1	62.8		64.4	61.9	65.0	66.6	63.0	63.9	63.5
9-Jun	7:00	64.4	65.3	64.4	65.2	64.8	63.5	64.6	62.1	63.9	66.6	63.4	65.0	66.1	63.0		64.6	61.9	65.0	66.6	63.2	63.9	63.7
9-Jun	11:00	65.2	65.7	65.3	66.1	65.9	64.6	65.5	63.5	65.0	67.7	63.7	65.2	66.8	63.4					66.8	63.9	64.8	64.3
9-Jun	15:00	67.3	65.3	66.8	68.2	68.9	67.3	68.2	67.1	68.2	70.0	65.3	65.0	69.3	64.8		67.9	65.9	68.2	66.8	65.7	66.8	65.5
9-Jun	19:00	68.0	65.2	68.2	68.4	67.9	66.4	67.3	65.5	66.8	68.8	64.4	64.8	68.0	63.9		67.7	65.0	67.7	67.5	65.3	65.7	65.2
9-Jun	23:00	64.6	65.7	64.8	65.5	65.0	63.5	64.4	61.9	63.9	66.4	63.2	64.8	66.1	62.8		64.4	61.7	64.8	66.6	63.0	63.9	63.5
10-Jun	3:00	65.0	65.2	65.0	65.9	65.3	64.1	64.8	62.3	64.1	66.6	63.4	65.0	66.1	63.0		64.6	61.9	65.0	66.6	63.4	64.1	63.7
10-Jun	7:00	65.2	65.0	65.0	65.7	65.3	64.1	64.8	62.3	64.1	66.8	63.5	64.6	66.4	63.0		64.8	61.9	65.0	66.4	63.4	64.1	63.7
10-Jun	11:00	64.3	65.2	64.3	65.2	64.8	63.5	64.8	62.3	63.9	66.6	63.4	65.0	66.1	62.8		64.4	62.3	65.2	66.6	63.0	63.9	63.5
10-Jun	15:00	64.4	65.5	65.5	66.4	65.7	64.4	65.3	62.8	64.4	67.1	63.7	65.3	66.4	63.0		65.0	62.3	65.2	66.6	63.5	64.4	63.9
10-Jun	19:00	65.2	66.1	64.8	65.5	65.0	63.9	64.8	62.3	63.9	66.6	63.4	65.0	66.1	62.8		64.4	61.7	64.6	66.4	63.4	63.9	63.5
10-Jun	23:00	64.1	65.2	64.3	65.0	64.6	63.4	64.4	61.9	63.5	66.4	63.0	64.8	65.9	62.8		64.3	61.6	64.3	65.9	63.0	63.7	63.4
11-Jun	3:00	63.9	65.0	63.9	64.6	64.1	63.0	63.9	61.7	63.2	65.9	62.6	64.4	65.5	62.5		63.9	61.4	64.3	66.1	62.5	63.2	63.0
11-Jun	7:00	63.9	64.8	63.9	64.6	64.3	63.0	64.1	61.7	63.4	66.1	62.6	64.4	65.5	62.5		64.1	61.4	64.3	66.1	62.6	63.4	63.2
11-Jun	11:00	64.1	65.2	64.4	65.2	64.6	63.4	64.4	61.9	63.7	66.4	63.0	64.6	65.7	62.5	61.6	64.1	61.9	65.0	66.2	63.0	63.7	63.4
11-Jun	15:00	65.3	66.4	65.3	66.1	65.5	64.3	65.0	62.6	64.3	66.8	63.5	65.0	66.1	62.8	61.4	64.4	62.3	65.2	66.2	63.5	64.1	63.5
11-Jun	19:00	65.9	67.0	65.7	66.4	65.9	64.4	65.3	62.8	64.6	67.1	63.9	65.5	66.4	63.4	62.3	64.8	61.9	64.8	66.2	63.9	64.4	64.1
11-Jun	23:00	65.0	65.9	65.2	66.1	65.5	63.9	64.8	62.3	63.9	66.6	63.4	65.0	66.1	62.6	61.7	64.4	61.7	64.6	65.9	63.4	63.9	63.5
12-Jun	3:00	64.6	64.6	64.3	65.3	64.8	63.5	64.1	61.7	63.5	66.2	62.8	64.6	65.7	62.6	61.6	64.1	61.4	64.4	65.9	62.8	63.5	63.4
12-Jun	7:00	64.3	64.4	64.4	65.3	64.6	63.4	64.3	61.9	63.5	66.1	62.8	64.6	65.7	62.5	61.6	64.1	61.4	64.3	65.9	62.8	63.5	63.4
12-Jun	11:00	64.4	64.6	64.1	66.1	65.7	63.9	64.6	62.6	63.9	66.8	63.5	65.2	66.4	63.4	63.5	66.2	63.4	66.4	68.0	63.4	64.1	63.9
12-Jun	15:00	68.0	64.6	66.8	69.1	68.4	67.1	68.2	65.0	66.2	69.5	65.5	66.2	67.0	63.4	62.1	66.8	64.3	67.9	66.8	65.5	65.9	64.4
12-Jun	19:00	69.5	64.6	68.9	68.9	67.3	66.2	66.8	64.6	65.9	68.0	64.1	64.4	67.0	62.8	61.6	66.4	63.2	65.9	66.6	65.0	65.0	64.1
12-Jun	23:00	68.4	64.4	66.8	69.8	68.4	67.0	68.0	64.4	65.9	68.4	64.8	64.1	67.3	64.1	62.8	65.7	62.8	65.5	66.1	65.2	65.0	64.6
13-Jun	3:00	63.7	64.3	64.4	67.9	66.6	65.2	65.9	63.9	65.7	68.6	64.6	64.6	68.0	63.7	63.7	67.0	64.1	67.0	66.2	64.1	65.0	64.8
13-Jun	7:00	64.1	64.3	64.8	65.9	65.3	64.3	65.0	63.0	64.8	67.5	63.9	65.0	66.4	62.8	61.7	64.8	62.6	65.7	66.4	63.4	64.4	63.7

Legend		No temperature probe at location																					
2016		Gateway														Spillbays					Collection Channel		
Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	22	17	12	7	1	1	8	12
13-Jun	11:00	65.0	66.2	65.3	66.4	65.7	64.4	65.5	63.2	64.6	67.1	63.7	64.3	66.8	63.0	62.6	65.3	62.6	65.3	67.0	63.7	64.3	63.9
13-Jun	15:00	64.6	65.7	64.8	65.5	65.0	63.5	64.6	62.3	63.9	66.6	63.0	64.3	66.1	62.6	61.7	64.4	61.9	64.6	66.2	63.0	63.9	63.5
13-Jun	19:00	64.1	65.3	64.3	65.2	64.6	63.5	64.4	61.9	63.5	66.4	63.0	64.8	65.5	62.8	61.6	64.4	61.7	64.8	66.2	63.0	63.5	63.4
13-Jun	23:00	63.7	64.8	63.9	64.6	64.3	63.0	63.9	61.7	63.5	66.2	62.8	64.6	65.5	62.5	61.4	64.1	61.6	64.4	66.2	62.6	63.5	63.2
14-Jun	3:00	63.7	64.8	63.9	64.6	64.1	63.0	63.7	61.4	63.2	65.9	62.6	64.3	65.3	62.3	61.4	64.1	61.4	64.4	66.2	62.5	63.2	63.0
14-Jun	7:00	63.5	64.8	63.7	64.6	64.1	62.8	63.9	61.6	63.2	65.9	62.6	64.3	65.5	62.3	61.2	63.9	61.4	64.3	66.1	62.5	63.2	63.0
14-Jun	11:00	63.7	64.4	63.9	64.8	64.3	63.0	64.1	61.7	63.4	66.1	62.8	64.4	65.5	62.5	61.4	63.9	61.4	64.4	65.9			
14-Jun	15:00	64.1	65.2	64.4	65.2	64.6	63.5	64.4	61.9	63.9	66.2	63.0	64.6	65.7	62.6	61.4	64.1	61.9	64.8	66.2			
14-Jun	19:00	64.1	65.2	64.1	65.0	64.3	63.4	64.1	61.9	63.5	66.2	62.8	64.6	65.7	62.6	61.6	64.3	61.7	64.6	66.2			
14-Jun	23:00	63.7	64.8	63.9	64.6	64.1	63.0	63.7	61.6	63.2	65.9	62.6	64.4	65.5	62.5	61.4	64.1	61.4	64.4	66.2			
15-Jun	3:00	63.5	64.6	63.7	64.6	64.1	62.6	63.7	61.4	63.0	65.7	62.6	64.3	65.3	62.1	61.2	63.9	61.2	64.3	66.1			
15-Jun	7:00	63.5	64.6	63.5	64.3	63.9	62.6	63.7	61.4	63.0	65.7	62.6	64.1	65.2	62.1	61.0	63.5	61.0	64.1	65.9			
15-Jun	11:00	64.1	64.6	63.7	64.6	64.4	63.5	64.4	62.1	63.7	66.2	62.8	64.4	65.5	62.1	61.0	63.9	61.7	64.6	65.9			
15-Jun	15:00	65.5	64.6	65.5	66.1	65.3	64.1	65.0	62.6	64.1	66.6	63.4	65.0	65.7	62.1	61.4	64.4	61.9	64.8	65.9	63.4	63.9	63.4
15-Jun	19:00	65.5	64.4	65.3	66.1	65.3	63.9	64.6	62.3	63.9	66.6	63.4	65.0	65.9	62.6	61.6	64.1	61.4	64.3	65.7	63.4	63.9	63.4
15-Jun	23:00	64.6	64.1	63.2	64.8	64.8	63.7	64.6	62.1	63.9	66.6	63.4	64.8	65.7	62.1	61.0	64.3	61.7	64.8	65.9	62.8	63.7	63.2
16-Jun	3:00	63.4	64.1	63.0	63.9	63.9	62.6	63.7	61.4	63.0	65.7	62.5	63.7	65.0	61.9	60.8	63.5	60.8	63.9	65.7	62.1	63.0	62.6
16-Jun	7:00	63.2	64.3	63.2	64.1	63.5	62.3	63.2	60.8	62.6	65.3	62.5	63.9	65.0	61.9	60.8	63.5	60.8	63.9	65.3	61.9	62.8	62.6
16-Jun	11:00	63.2	64.1	63.0	64.1	63.4	62.3	63.2	60.8	62.6	65.3	62.3	63.7	64.8	61.7		63.4	61.0	64.1	65.5	61.7	62.6	62.5
16-Jun	15:00	63.2	64.1	63.2	64.1	63.7	62.5	63.5	61.4	63.2	65.7	62.6	63.7	65.2	61.9		63.7	61.2	64.1	65.5	62.1	63.0	62.6
16-Jun	19:00	63.9	64.8	64.1	65.0	64.3	63.0	63.9	61.6	63.2	65.9	62.6	64.1	65.5	62.1		63.7	61.0	64.1	65.5	62.5	63.2	63.0
16-Jun	23:00	63.7	64.8	63.7	64.4	64.1	62.8	63.7	61.4	63.0	65.7	62.6	64.1	65.2	62.1		63.5	60.8	63.7	65.3	62.5	63.2	62.8
17-Jun	3:00	63.0	63.9	63.0	64.1	63.5	62.3	63.4	61.0	62.8	65.5	62.5	64.1	65.2	61.9		63.5	60.8	64.1	65.5	61.9	62.8	62.6
17-Jun	7:00	62.8	64.1	63.0	63.7	63.4	62.1	63.2	60.8	62.5	65.3	62.1	63.7	64.8	61.7		63.4	60.7	63.7	65.3	61.7	62.6	62.5
17-Jun	11:00	63.7	64.3	63.2	64.8	63.9	63.0	64.3	61.9	63.5	66.2	62.6	63.9	65.5	62.3		64.4	61.9	64.6	66.4	62.5	63.2	63.0
17-Jun	15:00	63.7	64.3	63.4	64.3	64.1	63.5	65.3	62.1	63.5	66.8	62.8	63.9	65.5	62.8		64.4	62.5	65.2	66.4	62.6	63.5	63.2
17-Jun	19:00	63.5	64.4	63.5	64.4	64.1	62.8	64.1	61.4	63.0	65.9	62.8	64.3	65.7	62.6		64.6	62.3	65.0	66.2	62.5	63.4	63.4
17-Jun	23:00	63.2	64.3	63.4	64.1	63.5	62.5	63.4	61.0	63.2	66.2	62.6	64.8	65.7	62.5		64.4	61.7	64.8	66.1	62.3	63.4	63.4
18-Jun	3:00	63.2	64.1	63.0	64.1	63.4	62.1	63.2	60.8	62.5	65.3	62.5	63.9	65.3	62.1		63.9	61.4	64.3	65.9	61.9	62.8	62.8
18-Jun	7:00	63.0	63.9	63.0	63.9	63.4	62.1	63.2	60.8	62.5	65.3	62.5	64.1	65.0	61.9		63.5	61.0	64.1	65.7	61.7	62.6	62.6
18-Jun	11:00	63.0	63.9	63.0	63.9	63.4	62.1	63.2	61.0	62.6	65.5	62.5	63.9	65.0	61.9		63.7	61.0	64.1	65.7	61.7	62.8	62.6
18-Jun	15:00	63.0	64.1	63.0	63.9	63.4	62.1	63.2	60.8	62.6	65.3	62.3	63.7	64.8	61.7		63.5	61.0	64.1	65.7	61.7	62.6	62.5
18-Jun	19:00	63.2	64.3	63.2	64.1	63.4	62.3	63.2	60.8	62.6	65.3	62.3	63.7	65.0	61.9		63.5	61.0	63.9	65.7	61.7	62.6	62.5
18-Jun	23:00	63.0	64.1	63.2	63.9	63.4	62.1	63.2	60.8	62.5	65.2	62.1	63.7	64.6	61.6		63.4	60.8	63.7	65.5	61.7	62.6	62.5
19-Jun	3:00	62.8	63.9	63.0	63.7	63.4	62.1	63.2	60.8	62.5	65.2	62.1	63.7	64.6	61.6		63.2	60.7	63.7	65.3	61.7	62.6	62.3
19-Jun	7:00	63.0	63.9	63.0	63.7	63.4	62.1	63.2	60.8	62.5	65.2	62.1	63.5	64.6	61.6		63.2	60.5	63.5	65.3	61.7	62.6	62.3
19-Jun	11:00	63.7	64.3	63.2	63.9	63.4	62.6	63.7	61.7	63.0	65.9	62.6	63.7	65.2	61.9		64.3	62.5	64.4	65.9	62.1	63.0	62.6
19-Jun	15:00	64.4	64.1	63.2	63.9	63.4	62.1	63.2	61.6	64.4	67.9	65.3	63.7	67.3	63.7	65.2	65.0	63.4	65.2	65.7	62.6	64.3	64.1
19-Jun	19:00	65.9	63.9	63.0	63.9	63.4	62.1	63.2	63.7	65.5	68.4	64.8	63.5	67.5	64.4	64.1	65.7	63.4	66.4	65.5	63.2	65.0	65.2

Legend		No temperature probe at location																					
2016		Gateway														Spillbays				Collection Channel			
Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	22	17	12	7	1	1	8	12
19-Jun	23:00	64.4	65.2	64.3	65.2	64.6	63.5	64.3	61.7	63.5	66.2	62.8	65.0	65.2	61.9	61.4	63.5	61.2	64.1	65.3	62.6	63.4	63.0
20-Jun	3:00	63.9	64.6	63.5	64.4	63.9	62.8	63.5	61.0	63.0	66.4	63.2	64.4	65.7	62.8	62.1	64.4	61.2	63.5	65.2	62.5	63.5	63.4
20-Jun	7:00	63.0	64.3	64.3	65.2	63.7	62.6	63.5	61.0	63.4	65.5	62.5	63.9	64.8	61.9	61.0	63.5	60.8	64.1	65.3	61.9	62.6	62.5
20-Jun	11:00	64.1	64.8	63.7	64.3	64.4	62.6	63.7	61.7	63.0	65.3	62.1	64.6	65.7	62.6	62.6	64.8	62.6	65.2	65.7	62.5	63.2	63.4
20-Jun	15:00	64.3	66.2	65.2	65.9	65.3	64.4	64.6	62.6	63.0	65.3	62.5	64.6	66.6	63.0	65.0	65.9	63.4	66.1	66.4	62.8	63.2	63.5
20-Jun	19:00	66.2	66.8	65.9	66.6	66.1	65.2	65.3	62.1	62.3	65.0	62.5	66.2	67.3	63.7	63.7	66.2	63.7	66.2	66.4	63.7	63.5	64.8
20-Jun	23:00	64.3	65.2	63.9	65.0	65.5	64.8	65.9	63.5	62.3	65.0	64.8	66.2	66.8	62.8	62.5	66.2	63.2	65.2	65.7	63.4	63.9	64.3
21-Jun	3:00	63.0	63.7	62.6	64.1	65.3	64.3	64.1	60.7	62.1	64.8	62.8	64.1	64.8	61.6	60.7	63.9	61.0	64.1	65.3	62.1	62.6	62.5
21-Jun	7:00	63.5	64.6	63.5	64.3	63.9	62.6	63.5	61.0	62.6	65.3	62.5	64.1	65.0	61.9	60.7	63.5	60.8	63.7	65.2	62.1	62.6	62.6
21-Jun	11:00	64.1	64.8	63.9	65.0	64.4	63.0	64.1	61.4	62.3	65.3	62.8	64.3	65.2	62.1	61.2	63.9	61.7	64.6	65.5	62.5	63.0	62.8
21-Jun	15:00	65.3	65.5	64.4	65.5	65.9	64.6	65.3	62.6	63.2	66.2	64.1	65.5	66.2	63.0	62.1	64.8	62.3	65.2	65.7	63.4	63.9	63.9
21-Jun	19:00	66.8	63.9	63.0	63.9	66.1	65.7	67.1	65.9	62.5	65.3	66.2	67.7	68.6	65.5	66.6	67.1	66.4	68.2	69.5	64.3	64.8	66.2
21-Jun	23:00	65.9	64.3	63.5	64.3	66.4	65.2	67.0	64.8	63.0	65.7	66.1	67.7	68.4	65.7	65.2	67.5	65.0	67.9	68.6	64.1	65.0	66.1
22-Jun	3:00	63.7	64.4	63.4	65.0	64.6	64.3	65.2	62.6	63.4	65.9	63.9	65.7	67.3	64.6	63.7	66.2	63.4	66.2	66.6	63.4	64.3	64.8
22-Jun	7:00	64.1	64.6	63.5	65.0	64.8	63.7	64.6	62.3	63.9	66.6	63.4	65.2	66.4	63.5	62.8	65.3	62.8	65.7	66.8	63.0	64.1	64.3
22-Jun	11:00	66.2	67.0	66.8	67.3	66.8	65.3	66.1	63.9	63.9	67.1	65.2	66.4	67.3	64.6	65.9	67.0	65.5	66.6	67.3	64.6	64.8	65.2
22-Jun	15:00	65.2	68.6	67.7	70.4	67.9	66.6	67.1	64.6	63.5	66.2	65.2	67.3	71.3	64.8	67.7	69.1	66.1	68.8	71.6	65.2	64.8	66.6
22-Jun	19:00	70.6	64.8	63.9	64.8	70.4	68.8	69.8	66.8	68.2	70.0	66.6	67.9	68.0	64.1	65.5	68.0	64.6	67.3	67.3	66.2	67.0	65.3
22-Jun	23:00	67.3	64.8	63.9	64.6	66.6	65.7	68.4	67.0	68.0	70.7	67.3	69.5	70.0	64.1	65.5	68.8	66.1	68.6	68.9	65.7	67.5	66.4
23-Jun	3:00	66.4	64.8	63.9	64.6	64.3	63.4	66.4	64.1	65.7	68.4	64.8	66.2	66.6	63.4	62.1	65.7	63.0	65.9	67.1	63.9	65.3	64.4
23-Jun	7:00	64.4	65.2	64.1	65.2	64.6	63.5	65.0	62.8	64.8	67.7	64.6	66.2	67.3	63.9	63.2	65.7	63.4	66.2	67.1	63.5	65.0	64.6
23-Jun	11:00	63.9	65.0	63.9	64.8	64.3	63.0	64.3	63.2	64.8	67.9	64.6	66.1	67.3	63.7	63.2	66.1	63.4	66.1	67.0	63.5	65.0	64.6
23-Jun	15:00	65.9	67.0	66.1	67.0	66.2	65.2	65.9	63.7	65.3	67.9	64.4	66.1	67.0	63.5	63.0	65.7	63.0	65.7	67.1	64.4	65.0	64.4
23-Jun	19:00	65.7	66.4	65.7	66.4	65.9	64.8	65.7	63.2	65.0	67.5	64.3	65.7	66.6	63.5	62.3	65.3	62.6	65.5	67.1	64.1	64.8	64.3
23-Jun	23:00	65.5	65.7	64.6	65.7	65.3	64.6	65.5	63.2	64.8	67.5	64.3	65.7	66.6	63.5	62.6	65.0	62.3	65.3	66.8	63.9	64.8	64.3
24-Jun	3:00	65.0	65.5	64.6	65.5	65.0	64.1	65.0	62.6	64.1	67.0	63.5	65.3	66.4	63.4	62.5	64.8	62.3	65.2	66.8	63.5	64.3	63.9
24-Jun	7:00	64.6	65.5	64.4	65.3	65.0	63.7	64.6	62.1	64.1	66.6	63.4	65.2	66.1	63.0	62.3	64.6	62.1	65.2	66.8	63.4	64.1	63.7
24-Jun	11:00	64.6	65.5	64.6	65.3	65.0	63.7	64.6	62.3	64.1	66.8	63.5	65.2	66.4	63.2	62.5	64.8	62.3	65.3	66.8	63.4	64.1	63.9
24-Jun	15:00	64.6	65.7	64.6	65.5	65.0	63.7	64.8	62.3	64.3	67.1	63.7	65.3	66.4	63.2	62.5	65.0	62.6	65.5	66.8	63.4	64.3	63.9
24-Jun	19:00	64.6	65.5	64.6	65.5	65.0	63.7	64.6	62.3	64.3	67.0	63.7	65.3	66.4	63.4	62.5	64.8	62.3	65.3	67.0	63.4	64.3	63.9
24-Jun	23:00	64.4	65.3	64.4	65.2	64.8	63.5	64.6	62.1	63.9	66.6	63.4	65.0	66.1	63.0	62.3	64.6	62.1	65.0	66.8	63.2	63.9	63.7
25-Jun	3:00	64.4	65.3	64.3	65.2	64.6	63.4	64.4	61.9	63.9	66.6	63.4	65.0	66.1	63.0	62.3	64.6	61.9	65.2	66.8	63.0	63.9	63.7
25-Jun	7:00	64.3	65.3	64.4	65.2	64.6	63.4	64.4	62.1	63.7	66.6	63.4	65.0	66.1	63.0	62.3	64.4	61.9	65.0	66.6	63.0	63.9	63.5
25-Jun	11:00	65.3	65.2	64.3	65.0	64.6	63.9	65.0	62.6	64.6	67.3	63.9	65.5	66.4	63.5	62.5	66.2	63.2	65.7	66.6	63.4	64.4	64.1
25-Jun	15:00	64.6	65.2	64.1	65.0	64.4	63.4	64.6	65.5	67.1	69.3	65.7	67.0	67.0	64.1	64.3	68.4	66.1	68.6	70.2	64.3	66.2	64.6
25-Jun	19:00	69.8	65.2	64.1	65.0	64.4	68.6	68.9	66.4	67.7	70.0	66.6	67.7	68.2	63.7	64.6	67.5	64.6	67.1	67.5	65.5	67.0	65.3
25-Jun	23:00	68.0	65.0	64.1	65.0	64.3	67.9	67.9	64.8	66.8	69.5	66.4	67.9	68.4	66.4	66.6	68.6	65.3	68.4	69.8	65.2	66.8	66.4
26-Jun	3:00	64.3	65.0	64.1	64.8	64.3	63.2	64.3	62.3	64.4	68.8	65.0	66.8	67.5	63.7	62.8	66.8	64.3	66.8	68.4	63.5	65.0	64.8
26-Jun	7:00	64.3	65.2	64.1	65.0	64.3	63.4	64.3	62.1	64.8	67.5	64.6	66.8	67.1	64.3	62.8	66.2	63.4	66.4	68.0	63.5	65.0	64.8

Legend		No temperature probe at location																					
2016		Gateway														Spillbays				Collection Channel			
Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	22	17	12	7	1	1	8	12
26-Jun	11:00	65.3	65.2	64.1	65.0	64.8	64.8	66.1	63.9	65.7	68.8	65.2	66.6	67.5	64.8	65.2	67.5	64.6	67.0	67.1	64.3	65.7	65.3
26-Jun	15:00	66.6	65.2	64.1	65.0	64.4	63.4	65.3	63.9	65.3	68.0	64.6	66.4	67.9	64.1	63.5	66.4	64.1	67.0	67.5	63.9	65.3	65.2
26-Jun	19:00	66.2	65.7	65.3	66.8	67.1	66.1	66.8	64.6	66.2	69.5	66.2	68.0	69.3	66.1	65.5	68.0	65.5	68.6	67.3	65.3	66.8	66.6
26-Jun	23:00	65.5	65.5	64.4	65.7	66.1	64.8	65.7	63.2	65.0	67.7	64.4	66.1	67.1	63.9	63.4	65.9	63.4	66.4	67.7	63.9	65.0	64.8
27-Jun	3:00	64.1	65.0	64.1	65.0	64.6	63.4	64.6	62.6	64.4	67.0	63.7	65.5	66.6	63.4	62.6	65.2	62.6	65.7	67.3	63.2	64.4	64.3
27-Jun	7:00	64.3	65.2	64.1	65.0	64.6	63.4	64.6	62.3	64.1	66.8	63.5	65.2	66.2	63.2	62.5	64.8	62.3	65.5	67.1	63.0	64.1	63.9
27-Jun	11:00	65.2	65.5	64.4	65.3	66.1	64.6	65.3	63.0	64.6	67.5	64.3	66.1	66.6	63.9	65.5	67.5	65.9	66.8	67.1	63.9	64.8	64.6
27-Jun	15:00	65.2	65.5	64.4	65.9	66.1	67.3	68.0	64.6	67.0	68.9	65.3	67.0	67.0	64.8	67.1	67.9	65.9	68.8	69.8	64.8	66.1	65.2
27-Jun	19:00	65.2	65.5	65.0	66.6	67.7	67.7	68.0	65.0	67.7	70.6	67.5	68.8	69.1	65.2	65.5	70.0	67.7	69.7	68.6	66.1	67.5	66.4
27-Jun	23:00	65.5	65.5	67.1	67.0	66.4	65.5	68.2	66.2	66.8	70.4	66.6	68.6	70.2	67.5	67.3	70.4	68.0	70.9	72.2	65.3	67.7	67.9
28-Jun	3:00	65.5	65.7	65.0	65.7	65.7	66.2	67.0	64.8	66.2	69.3	65.9	67.3	68.6	66.1	65.7	68.2	65.5	68.4	68.9	65.0	66.6	66.4
28-Jun	7:00	65.2	66.2	65.3	66.4	66.1	65.3	65.9	63.7	65.3	68.0	65.3	67.3	68.4	65.5	64.8	67.1	64.6	67.7	68.9	64.6	65.9	66.1
28-Jun	11:00	66.2	65.7	64.8	65.5	66.1	67.0	68.0	65.0	66.6	68.9	65.7	67.0	67.9	64.8	63.7	67.0	64.4	67.1	68.0	65.0	66.2	65.5
28-Jun	15:00	70.9	65.7	65.0	69.7	71.1	67.9	68.2	65.5	67.1	69.5	66.2	67.7	68.4	65.2	65.0	67.1	64.4	67.1	68.0	66.2	66.8	66.1
28-Jun	19:00	67.1	65.9	65.0	74.2	73.4	72.0	72.5	69.5	70.6	72.5	69.3	70.4	70.6	66.1	65.9	68.6	65.5	68.2	68.0	69.3	69.5	67.9
28-Jun	23:00	65.5	66.1	65.0	66.4	69.1	67.0	69.7	68.0	67.1	70.0	67.0	68.0	68.9	65.5	64.4	70.4	68.9	71.8	70.9	66.1	67.1	66.6
29-Jun	3:00	68.6	66.2	65.3	66.6	69.1	67.7	68.4	65.9	68.0	70.7	67.9	70.7	70.7	68.2	68.6	70.9	68.6	71.5	70.2	66.8	68.6	68.9
29-Jun	7:00	65.5	66.2	65.3	66.1	65.9	64.8	68.2	65.3	66.2	69.5	66.1	67.7	68.9	66.1	66.2	68.9	66.4	69.5	70.0	65.2	66.8	66.6
29-Jun	11:00	67.7	66.4	65.5	67.0	68.6	67.1	68.2	65.5	67.1	69.8	66.6	67.9	68.9	65.5	63.7	68.0	65.5	67.9	69.5	66.2	67.0	66.2
29-Jun	15:00	70.2	66.4	65.7	66.8	70.0	69.1	68.9	66.2	67.7	70.4	67.0	68.4	69.3	66.2	65.3	68.0	65.3	68.2	68.9	66.8	67.5	67.0
29-Jun	19:00	70.0	66.6	65.7	66.6	71.1	69.1	70.2	67.1	70.0	73.1	68.4	69.5	70.4	67.0	66.1	68.6	65.5	68.2	68.8	67.7	68.9	67.9
29-Jun	23:00	70.0	66.6	65.7	66.6	70.0	68.2	68.8	65.9	67.7	70.2	66.8	67.9	68.4	64.8	63.9	67.7	65.0	67.7	68.6	66.2	67.0	66.1
30-Jun	3:00	68.0	66.8	65.7	66.6	66.4	67.0	67.9	65.7	67.1	69.3	66.1	67.7	68.8	65.5	64.6	66.8	64.3	67.0	68.4	65.7	66.8	66.2
30-Jun	7:00	68.4	66.8	65.9	66.8	66.4	67.5	68.6	66.2	68.0	70.9	67.5	68.8	69.8	66.1	65.5	67.9	64.8	67.7	68.6	66.2	67.9	67.1
30-Jun	11:00	68.9	67.0	65.9	66.8	66.6	67.5	68.9	66.8	67.7	70.2	66.8	68.2	69.1	65.9	64.6	67.7	65.3	68.2	68.9	66.2	67.5	66.6
30-Jun	15:00	69.1	67.1	66.2	67.3	68.6	67.7	69.1	67.3	69.3	70.9	67.5	68.8	69.8	66.6	65.7	68.6	65.5	68.2	69.3	67.0	68.4	67.3
30-Jun	19:00	68.2	67.3	66.2	67.1	67.9	68.0	70.9	68.6	71.3	74.3	70.2	71.3	72.0	67.9	67.5	70.0	67.1	69.7	69.8	68.0	70.4	68.9
30-Jun	23:00	70.7	67.3	66.4	67.1	68.6	69.3	69.8	67.3	69.3	72.2	68.0	69.5	70.4	66.6	66.4	68.9	66.1	68.8	69.5	67.3	68.6	67.7
1-Jul	3:00	68.8	67.5	66.6	67.3	67.0	65.7	67.0	65.9	68.0	70.9	67.7	68.8	69.7	66.2	66.1	68.2	65.3	68.2	69.5	66.2	67.9	67.1
1-Jul	7:00	68.8	67.5	66.6	67.3	67.0	67.3	68.6	66.6	68.6	71.3	67.7	69.1	70.2	67.1	66.4	68.6	65.9	68.6	69.5	66.8	68.4	67.9
1-Jul	11:00	69.8	67.5	66.6	67.3	67.1	68.4	69.8	67.1	68.8	71.3	68.0	69.5	70.4	67.3	65.7	68.9	66.2	68.8	69.5	67.1	68.6	68.0
1-Jul	15:00	68.9	67.7	66.8	67.7	67.3	67.3	69.3	68.4	70.4	72.7	68.9	70.4	71.1	67.5	66.6	69.5	66.6	69.3	69.5	67.5	69.5	68.4
1-Jul	19:00	71.1	67.7	66.8	67.7	67.3	69.8	70.7	68.6	70.9	73.3	69.5	70.2	70.9	67.9	67.0	69.3	66.4	69.5	70.4	68.0	69.8	68.4
1-Jul	23:00	69.5	67.9	66.8	67.7	67.3	68.2	68.6	67.7	69.8	72.9	69.8	72.2	71.5	67.3	65.5	69.7	67.0	69.8	69.8	67.7	69.8	68.9
2-Jul	3:00	70.7	67.9	66.8	67.7	67.3	66.1	70.7	66.6	70.2	72.9	69.7	70.2	70.6	67.0	65.9	69.3	67.1	70.0	69.7	67.5	69.5	68.0
2-Jul	7:00	70.7	67.9	67.0	67.7	67.3	66.1	70.6	67.1	69.3	71.6	68.4	69.8	70.9	67.5	66.8	68.9	66.4	69.5	69.5	67.5	69.1	68.4
2-Jul	11:00	68.4	68.0	68.0	67.9	68.8	66.2	68.9	66.8	68.4	71.6	68.4	70.0	70.7	67.1	66.4	69.5	66.8	69.8	71.3	66.8	68.4	68.0
2-Jul	15:00	70.7	68.0	70.0	67.9	70.4	66.2	69.8	65.0	68.8	69.3	68.4	69.7	70.7	66.6	66.4	68.9	66.8	69.3	69.8	67.3	68.4	68.0
2-Jul	19:00	71.1	68.2	70.2	68.0	71.1	66.4	70.0	65.0	69.3	69.3	68.9	70.2	71.1	67.1	66.6	69.1	66.2	68.9	70.0	67.5	68.4	68.4

Legend		No temperature probe at location																					
2016		Gateway														Spillbays					Collection Channel		
Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	22	17	12	7	1	1	8	12
2-Jul	23:00	70.4	68.2	69.8	67.9	70.0	66.2	69.8	64.8	68.6	69.3	68.4	68.8	71.5	67.9	66.8	69.5	66.8	69.1	69.5	67.1	68.0	68.4
3-Jul	3:00	68.9	68.0	68.9	67.9	69.7	66.2	69.3	64.8	68.0	69.3	67.5	67.9	70.7	66.8	65.9	68.0	65.3	68.2	69.5	66.6	67.7	67.9
3-Jul	7:00	70.0	68.0	69.7	67.9	69.5	66.2	68.9	64.8	68.4	69.1	67.5	67.7	70.6	67.0	66.1	68.4	65.3	68.4	69.8	66.6	67.5	67.5
3-Jul	11:00	68.8	68.0	68.6	67.9	68.9	66.2	68.2	65.2	67.5	69.5	67.0	68.2	69.3	66.4	65.3	68.4	65.5	68.6	69.7	66.6	67.3	67.0
3-Jul	15:00	69.5	68.6	69.1	69.5	69.5	67.5	68.9	65.0	68.0	69.3	67.5	68.8	70.0	66.8	66.1	68.6	65.9	68.8	69.7	67.0	67.7	67.5
3-Jul	19:00	69.5	68.2	69.7	67.9	70.0	66.2	69.5	65.0	68.6	69.3	67.9	67.7	70.6	67.3	66.4	68.8	66.1	68.8	69.8	66.8	67.9	67.9
3-Jul	23:00	69.5	68.2	69.3	68.0	69.7	66.6	69.1	65.0	68.2	69.3	67.7	68.2	70.2	67.1	66.1	68.6	65.7	68.2	69.7	66.8	67.7	67.7
4-Jul	3:00	68.9	68.2	69.1	68.2	69.7	66.2	69.1	64.8	68.4	69.5	67.7	68.0	70.0	66.4	65.9	68.4	65.5	68.6	69.7	66.6	67.5	67.3
4-Jul	7:00	69.1	67.9	69.3	67.9	69.5	66.2	69.1	64.8	68.2	69.3	67.7	67.7	70.0	66.6	65.5	68.0	65.5	68.2	69.8	66.6	67.5	67.1
4-Jul	11:00	68.9	68.2	69.3	67.9	69.5	66.6	68.9	64.8	68.0	69.3	67.1	68.6	69.5	66.2	65.5	68.4	65.7	68.6	69.8	66.6	67.5	67.0
4-Jul	15:00	69.5	68.0	69.5	67.9	70.2	66.2	69.5	64.8	68.6	69.3	68.0	69.3	70.2	66.4	65.9	68.9	66.1	68.9	70.2	67.0	68.0	67.5
4-Jul	19:00	70.4	68.2	70.2	67.9	70.2	66.2	70.0	65.0	68.9	69.3	68.4	69.7	70.6	67.0	66.8	69.1	66.1	68.8	70.0	67.1	68.0	67.9
4-Jul	23:00	70.2	68.2	69.5	68.0	70.0	66.6	69.5	65.0	68.4	69.5	67.7	69.1	70.0	66.6	65.9	68.0	65.3	68.2	69.8	67.0	67.9	67.5
5-Jul	3:00	69.7	68.2	68.9	68.0	69.1	66.2	68.8	65.0	68.0	69.3	67.5	69.7	70.2	66.6	65.3	68.0	65.9	68.8	69.8	66.6	67.7	67.9
5-Jul	7:00	69.1	68.0	69.5	67.9	70.0	66.2	69.1	64.8	68.4	69.3	67.9	69.3	70.0	66.6	65.9	68.2	65.3	68.2	69.7	66.6	67.7	67.5
5-Jul	11:00	69.1	68.2	68.9	68.0	69.3	66.2	68.4	67.5	67.7	69.3	67.3	68.6	69.7	66.4	65.2	68.0	66.2	69.1	70.0	66.8	67.5	67.1
5-Jul	15:00	70.6	68.2	70.4	68.0	70.7	66.4	70.0	65.0	68.9	70.6	68.4	69.7	70.6	66.8	65.7	68.9	66.8	69.7	70.4	67.5	68.4	67.9
5-Jul	19:00	70.9	68.2	70.7	68.2	71.3	66.6	70.9	65.0	70.2	69.5	69.1	70.6	71.5	68.2	67.1	69.8	66.6	69.1	70.4	67.9	69.3	68.9
5-Jul	23:00	70.7	68.4	70.2	68.6	70.7	66.6	70.0	65.3	69.3	69.7	68.8	70.2	71.1	67.5	66.8	69.1	66.1	68.8	70.4	67.5	68.8	68.6
6-Jul	3:00	69.7	68.4	69.5	68.4	69.7	66.8	69.3	65.3	68.4	69.8	68.2	70.0	70.2	67.0	65.9	68.4	65.7	68.6	70.2	67.1	68.0	67.9
6-Jul	7:00	68.8	68.6	68.6	68.8	69.7	67.0	68.9	65.3	68.0	69.7	67.5	69.7	71.5	66.4	65.5	68.2	66.4	68.4	70.0	67.0	68.0	68.0
6-Jul	11:00																						
6-Jul	15:00																						
6-Jul	19:00																						
6-Jul	23:00																						
7-Jul	3:00																						
7-Jul	7:00																						
7-Jul	11:00																						
7-Jul	15:00																						
7-Jul	19:00	68.0	67.9	67.7	64.1	70.2	65.9	69.5	66.8	65.5	62.6	67.7	66.4	65.3	67.3						67.1	66.6	67.7
7-Jul	23:00	67.9	68.8	66.6	64.8	68.9	66.6	68.2	65.5	66.2	63.2	66.1	65.0	63.9	66.1						66.8	66.1	66.2
8-Jul	3:00	67.3	68.2	66.1	64.6	68.8	66.2	68.2	64.6	66.4	64.3	67.3	65.9	64.4	66.1						66.6	66.6	66.6
8-Jul	7:00	68.0	67.7	66.1	63.9	68.8	65.9	67.9	64.4	66.4	63.7	67.0	65.0	63.7	66.1						66.2	66.2	66.1
8-Jul	11:00	67.5	67.7	66.1	63.9	68.4	65.9	67.9	64.6	66.2	63.4	67.0	66.2	63.9	66.1	67.1	66.1	65.0	65.2	69.7	66.2	66.2	66.4
8-Jul	15:00	67.7	67.9	66.6	64.1	68.8	66.1	67.9	64.6	67.3	65.2	68.0	66.8	65.3	66.6	69.1	67.3	66.1	66.8	70.4	66.8	67.1	67.3
8-Jul	19:00	70.0	67.9	68.4	64.3	71.5	66.2	70.9	65.0	69.5	66.6	69.7	68.4	66.8	69.3	71.8	69.5	67.9	68.0	70.0	68.4	69.1	69.3
8-Jul	23:00	67.1	68.0	65.9	64.3	68.6	66.2	67.9	65.0	66.6	65.0	67.7	66.1	65.3	66.4	68.4	67.5	66.6	67.1	70.2	66.8	67.0	67.3
9-Jul	3:00	67.9	68.2	66.6	64.3	69.3	66.2	68.4	64.6	67.1	64.1	67.1	65.5	65.0	66.8	68.2	66.4	65.5	65.7	70.0	66.8	67.0	67.1
9-Jul	7:00	66.6	67.9	65.9	64.1	68.4	65.9	67.9	64.6	66.8	63.7	66.8	65.7	64.8	67.0	68.0	66.4	65.5	65.7	70.0	66.4	66.6	67.0

Legend		No temperature probe at location																					
2016		Gateway														Spillbays				Collection Channel			
Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	22	17	12	7	1	1	8	12
9-Jul	11:00	68.2	68.4	66.8	64.3	69.3	66.4	68.6	64.8	67.3	64.1	67.0	65.5	64.8	66.1	68.0	66.6	65.7	65.9	70.0	67.0	66.8	67.0
9-Jul	15:00	69.3	67.9	67.5	64.1	69.8	65.9	69.1	64.6	67.7	64.3	67.1	65.9	64.8	67.0	68.0	66.8	65.9	66.1	70.0	67.1	67.1	67.1
9-Jul	19:00	70.6	67.9	69.1	64.3	71.6	65.9	70.4	64.4	68.6	65.9	68.0	66.8	65.7	67.5	69.1	67.1	66.1	66.2	70.7	67.9	67.9	67.9
9-Jul	23:00	67.5	67.9	66.6	64.1	68.9	66.1	68.8	64.4	67.7	63.7	67.5	65.9	65.7	66.6	69.1	67.5	66.1	66.1	69.7	66.8	67.0	67.3
10-Jul	3:00	68.0	68.6	66.6	65.2	68.9	66.8	68.0	65.3	66.4	63.2	66.4	65.0	64.3	66.4	67.9	65.7	64.6	64.8	69.7	66.8	66.2	66.6
10-Jul	7:00	67.3	67.7	65.9	64.1	68.8	65.9	67.9	64.4	66.2	62.6	66.2	64.4	64.1	66.2	67.7	65.7	60.3	65.0	69.7	66.1	65.9	66.4

Note: A truncated selection of data recorded at 0300, 0700, 1100, 1500, 1900, and 2300 are presented in the table. However, data were recorded every half hour June 1 to July 10.