



Wisconsin Public Service Corporation

700 North Adams Street  
P.O. Box 19001  
Green Bay, WI 54307-9001

www.wisconsinpublicservice.com

February 16, 2018

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

Dear Ms. Bose:

**SUBJECT: 2017 Water Quality Monitoring Report**

| <u>Hydro</u> | <u>FERC Project No.</u> | <u>NATDAM No.</u> | <u>License Article</u> |
|--------------|-------------------------|-------------------|------------------------|
| High Falls   | 2595                    | WI00754           | 406                    |

Per the Order Amending Approved Water Quality Monitoring Plans under Article 406, dated October 13, 2015, Wisconsin Public Service (WPS) is submitting water quality monitoring data collected during the 2017 monitoring season at the High Falls Hydroelectric Project.

At the High Falls Project, WPS is required to ensure flow releases from the Project, as measured immediately downstream from the dam, maintain the following standards except when natural conditions prohibit attainment of the standards: (1) dissolved oxygen (DO) concentrations shall not be less than 5.0 milligrams per liter (mg/L) (minus the precision of the monitoring instrument) for more than 24 hours per year; (2) water temperature shall not exceed 89 degrees Fahrenheit; and (3) the pH shall be within the range of 6.0 to 9.0, with no change greater than 0.5 units outside the estimated natural seasonal maximum and minimum. Natural conditions include inflows to the Project less than the 95 percent exceedance flow.

As described in the Water Quality Monitoring Plan, monitoring is conducted downstream of the powerhouse annually from June 1 through September 30. The downstream monitoring equipment is located on the High Falls Road Bridge near the middle of the river. Monitoring upstream of the Project occurs every five years in conjunction with water quality monitoring conducted at the Caldron Falls Hydroelectric Project. The next upstream monitoring period is scheduled to occur in 2021.

Monitoring data was collected using portable water quality monitoring equipment manufactured by YSI, Inc. Monitoring for DO, temperature, and pH was conducted continuously on an hourly basis. As described in the Water Quality Monitoring Plan, the instrumentation was cleaned and calibrated according to manufacturer specification at least once every 14 days during the monitoring period. A post deployment calibration was conducted to determine the extent of calibration drift. Raw data was adjusted assuming a linear degradation of calibration based upon a post calibration of the equipment. The water quality monitoring equipment used to monitor DO has an accuracy of +/- 0.1 mg/l, per the

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manufacturer. For compliance purposes, DO concentrations more than 0.1 mg/l below the applicable water quality standard are potential deviations.

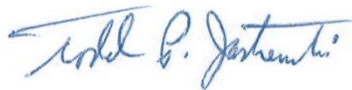
No deviations from the DO, pH, or temperature water quality standards were observed during the 2017 monitoring season. Monitoring data is enclosed with this report in Appendix A.

Agency Consultation

WPS provided the 2017 water quality monitoring data to the Wisconsin Department of Natural Resources (WDNR) and the U.S. Fish and Wildlife Service (FWS) on October 9, 2017 for review and comment. WPS did not receive comments from the resource agencies on the 2017 water quality monitoring report. Documentation of Agency Consultation can be found in Appendix B.

Should you have any questions or concerns with this submittal, please do not hesitate to call Mr. Mark Metcalf at (920) 433-1833 or e-mail at [MWMetcalf@integrysgroup.com](mailto:MWMetcalf@integrysgroup.com).

Sincerely,



Todd P. Jastremski  
Asset Manager Hydro Operations  
We Energies  
800 Industrial Park Drive  
Iron Mountain, MI 49801

MWM/rjv

Enc: Appendix A – 2017 Water Quality Monitoring Data (37 pages)  
Appendix B – Documentation of Agency Consultation (6 pages)

cc: Mr. John Zygaj, FERC – CRO  
Mr. Nick Utrup, FWS  
Ms. Cheryl Laatsch, WDNR

## APPENDIX A

Wisconsin Public Service Corporation

High Falls Hydroelectric Project

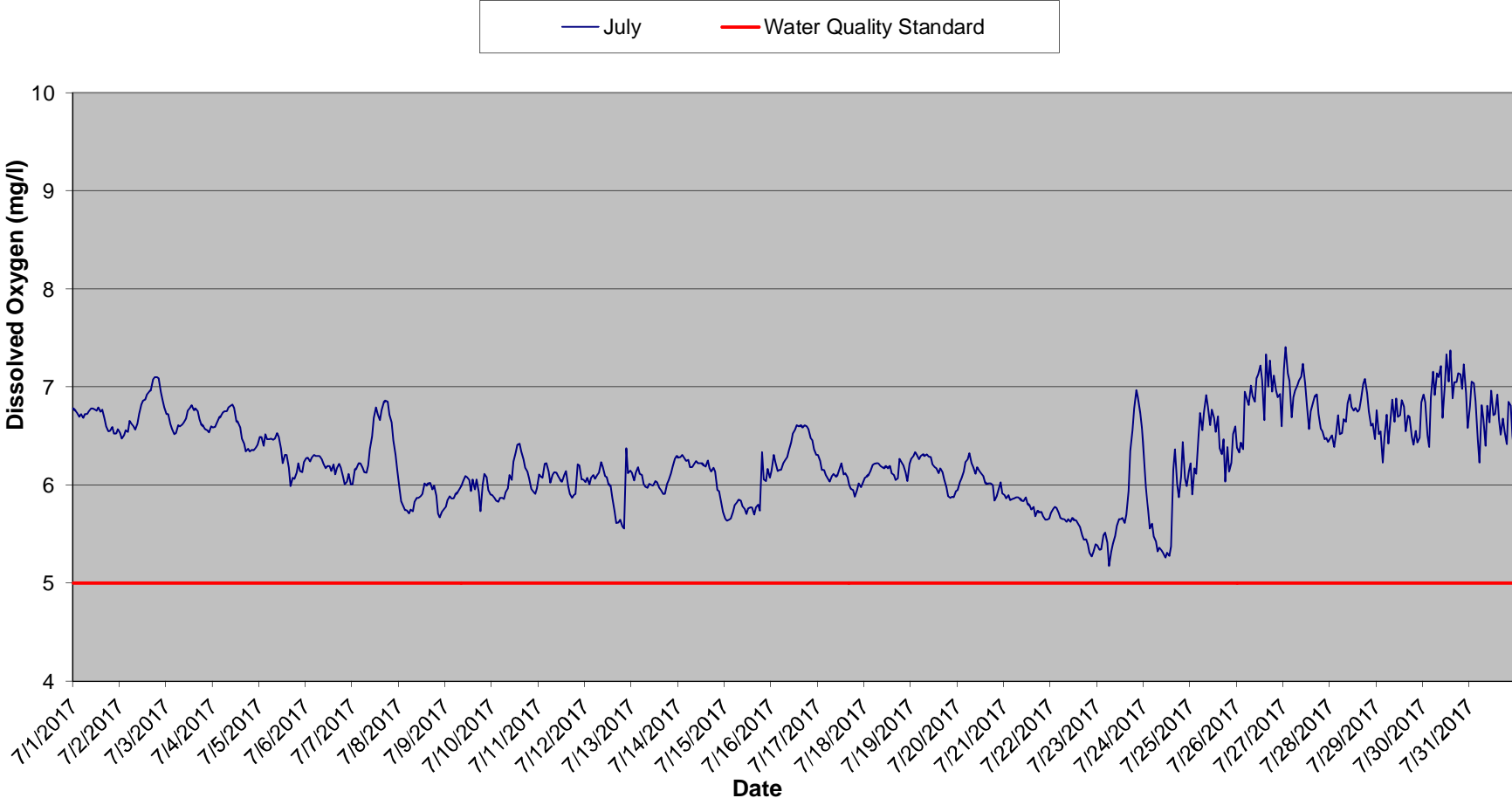
FERC Project No. 2595

2017 Water Quality Monitoring Data

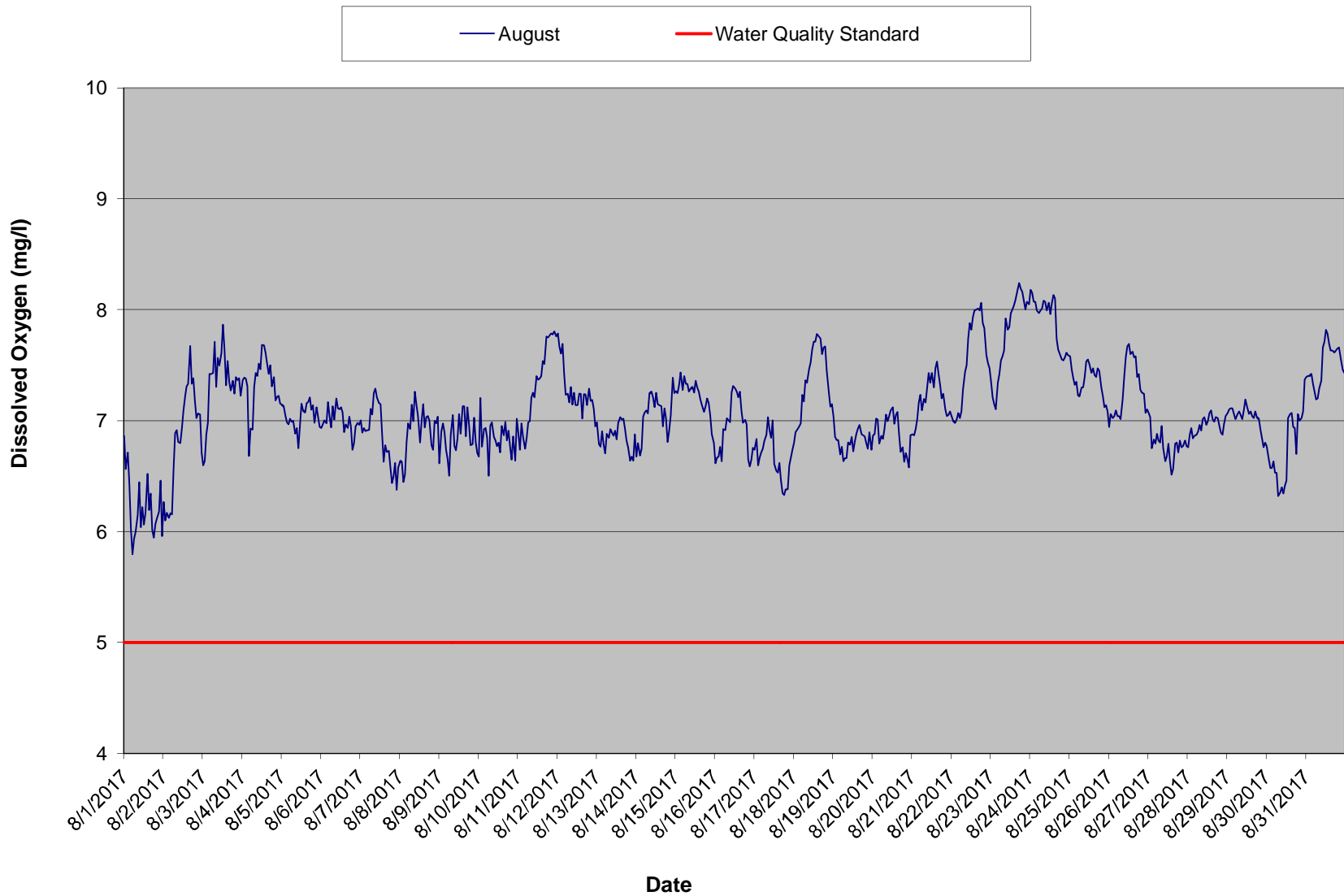
### High Falls Tailrace Dissolved Oxygen - June 2017



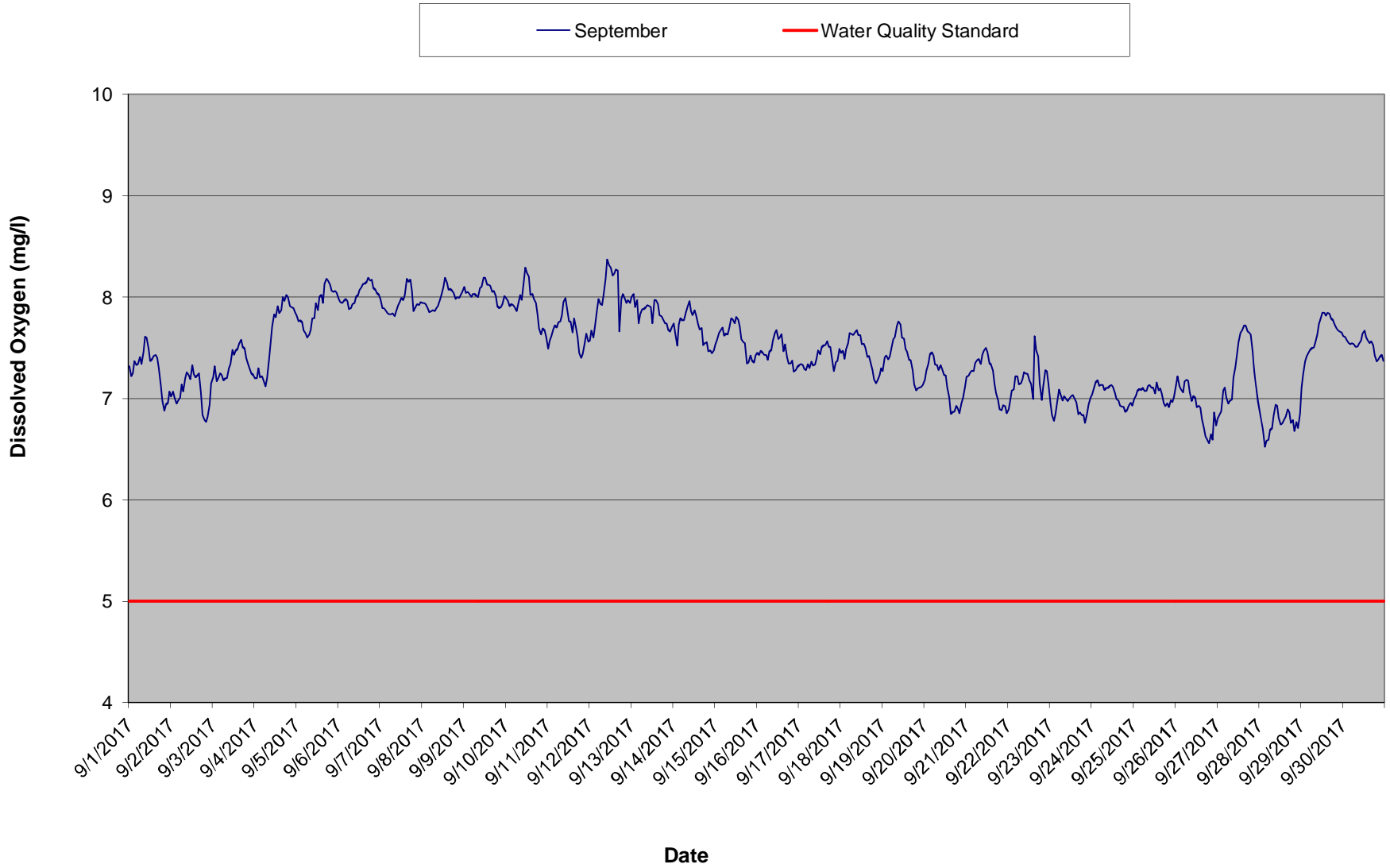
### High Falls Tailrace Dissolved Oxygen - July 2017



### High Falls Tailrace Dissolved Oxygen - August 2017



### High Falls Tailrace Dissolved Oxygen - September 2017



High Falls Tailrace Dissolved Oxygen Summary - June 2017

| Time<br>HHMMSS | 06/01/17 | 06/02/17 | 06/03/17 | 06/04/17 | 06/05/17 | 06/06/17 | 06/07/17 | 06/08/17 | 06/09/17 | 06/10/17 | 06/11/17 | 06/12/17 | 06/13/17 | 06/14/17 | 06/15/17 | 06/16/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 8.1      | 7.9      | 7.6      | 9.2      | 7.5      | 7.8      | 7.6      | 7.2      | 7.4      | 7.0      | 6.8      | 7.1      | 8.8      | 8.6      | 8.7      | 8.7      |
| 10000          | 8.1      | 7.9      | 7.7      | 7.6      | 7.5      | 7.7      | 7.6      | 7.3      | 7.5      | 7.0      | 6.8      | 7.1      | 8.8      | 8.6      | 8.7      | 8.7      |
| 20000          | 8.1      | 7.9      | 7.7      | 7.5      | 7.4      | 7.6      | 7.5      | 7.3      | 7.4      | 7.1      | 6.9      | 7.0      | 8.7      | 8.7      | 8.7      | 8.7      |
| 30000          | 8.0      | 7.8      | 7.7      | 7.4      | 7.4      | 7.6      | 7.5      | 7.3      | 7.4      | 7.1      | 6.9      | 7.1      | 8.6      | 8.7      | 8.7      | 8.7      |
| 40000          | 8.0      | 7.8      | 7.7      | 7.4      | 7.5      | 7.6      | 7.5      | 7.4      | 7.4      | 7.0      | 7.0      | 7.1      | 8.7      | 8.7      | 8.7      | 8.7      |
| 50000          | 8.0      | 7.8      | 7.8      | 7.4      | 7.5      | 7.6      | 7.4      | 7.4      | 7.3      | 7.0      | 7.0      | 7.1      | 8.7      | 8.7      | 8.7      | 8.7      |
| 60000          | 7.9      | 7.8      | 7.8      | 7.5      | 7.5      | 7.6      | 7.4      | 7.4      | 7.3      | 7.0      | 7.1      | 7.0      | 8.7      | 8.7      | 8.7      | 8.7      |
| 70000          | 7.9      | 7.7      | 7.8      | 7.5      | 7.5      | 7.6      | 7.5      | 7.3      | 7.4      | 7.0      | 7.1      | 7.0      | 8.7      | 8.8      | 8.7      | 8.7      |
| 80000          | 7.9      | 7.8      | 7.8      | 7.5      | 7.5      | 7.6      | 7.5      | 7.3      | 7.4      | 7.0      | 7.1      | 7.0      | 8.7      | 8.8      | 8.7      | 8.7      |
| 90000          | 7.9      | 7.8      | 7.8      | 7.5      | 7.6      | 7.7      | 7.5      | 7.2      | 7.4      | 7.0      | 7.2      | 7.0      | 8.7      | 8.8      | 8.7      | 8.7      |
| 100000         | 7.9      | 7.8      | 7.7      | 7.5      | 7.6      | 7.7      | 7.5      | 7.2      | 7.5      | 6.9      | 7.2      | 7.0      | 8.7      | 8.8      | 8.7      | 8.7      |
| 110000         | 7.9      | 7.8      | 7.7      | 7.6      | 7.6      | 7.8      | 7.5      | 7.2      | 7.5      | 6.9      | 7.2      | 7.1      | 8.6      | 8.8      | 8.7      | 8.7      |
| 120000         | 7.9      | 7.8      | 7.7      | 7.6      | 7.7      | 7.9      | 7.5      | 7.2      | 7.5      | 6.8      | 7.1      | 7.1      | 8.7      | 8.8      | 8.7      | 8.6      |
| 130000         | 7.9      | 7.8      | 7.7      | 7.7      | 8.0      | 7.9      | 7.5      | 7.3      | 7.5      | 6.7      | 7.0      | 7.0      | 8.7      | 8.8      | 8.7      | 8.7      |
| 140000         | 8.0      | 7.8      | 7.6      | 7.6      | 8.0      | 7.9      | 7.6      | 7.2      | 7.4      | 6.7      | 6.9      | 7.0      | 8.7      | 8.8      | 8.7      | 8.7      |
| 150000         | 7.9      | 7.8      | 7.5      | 7.7      | 8.0      | 7.9      | 7.5      | 7.1      | 7.5      | 6.6      | 7.1      | 7.0      | 8.7      | 8.8      | 8.7      | 8.6      |
| 160000         | 7.9      | 7.7      | 7.3      | 7.7      | 8.1      | 7.9      | 7.4      | 7.1      | 7.4      | 6.6      | 7.1      | 7.8      | 8.7      | 8.7      | 8.7      | 8.6      |
| 170000         | 7.9      | 7.7      | 7.3      | 7.7      | 8.1      | 7.9      | 7.3      | 7.1      | 7.4      | 6.5      | 7.1      | 8.6      | 8.7      | 8.7      | 8.7      | 8.6      |
| 180000         | 7.9      | 7.7      | 7.3      | 7.7      | 8.1      | 7.8      | 7.3      | 7.1      | 7.4      | 6.5      | 7.1      | 8.7      | 8.7      | 8.7      | 8.7      | 8.7      |
| 190000         | 8.0      | 7.7      | 7.4      | 7.6      | 8.1      | 7.8      | 7.2      | 7.4      | 7.3      | 6.6      | 7.0      | 8.8      | 8.6      | 8.7      | 8.7      | 8.6      |
| 200000         | 7.9      | 7.7      | 9.0      | 7.6      | 8.0      | 7.8      | 7.2      | 7.4      | 7.2      | 6.6      | 7.0      | 8.8      | 8.6      | 8.7      | 8.7      | 8.6      |
| 210000         | 7.9      | 7.6      | 9.1      | 7.5      | 8.0      | 7.7      | 7.2      | 7.3      | 7.1      | 6.6      | 7.0      | 8.8      | 8.6      | 8.7      | 8.7      | 8.6      |
| 220000         | 7.9      | 7.6      | 9.2      | 7.4      | 7.9      | 7.7      | 7.2      | 7.4      | 7.1      | 6.7      | 7.1      | 8.9      | 8.6      | 8.7      | 8.7      | 8.6      |
| 230000         | 7.9      | 7.6      | 9.2      | 7.5      | 7.8      | 7.6      | 7.3      | 7.4      | 7.1      | 6.7      | 7.2      | 8.8      | 8.6      | 8.7      | 8.7      | 8.6      |
| Daily Max      | 8.1      | 7.9      | 9.2      | 9.2      | 8.1      | 7.9      | 7.6      | 7.4      | 7.5      | 7.1      | 7.2      | 8.9      | 8.8      | 8.8      | 8.7      | 8.7      |
| Daily Min      | 7.9      | 7.6      | 7.3      | 7.4      | 7.4      | 7.6      | 7.2      | 7.1      | 7.1      | 6.5      | 6.8      | 7.0      | 8.6      | 8.6      | 8.7      | 8.6      |
| Average        | 7.9      | 7.8      | 7.9      | 7.6      | 7.8      | 7.7      | 7.4      | 7.3      | 7.4      | 6.8      | 7.0      | 7.6      | 8.7      | 8.7      | 8.7      | 8.7      |

License Minimum DO: 5.0 mg/l



High Falls Tailrace Dissolved Oxygen Summary - June 2017

| Time<br>HHMMSS | 06/17/17 | 06/18/17 | 06/19/17 | 06/20/17 | 06/21/17 | 06/22/17 | 06/23/17 | 06/24/17 | 06/25/17 | 06/26/17 | 06/27/17 | 06/28/17 | 06/29/17 | 06/30/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 8.5      | 7.2      | 6.6      | 7.4      | 6.5      | 6.2      | 6.4      | 6.6      | 6.6      | 6.6      | 6.7      | 6.3      | 6.3      | 6.7      |
| 10000          | 8.6      | 6.8      | 6.6      | 7.7      | 6.5      | 6.2      | 6.4      | 6.6      | 6.5      | 6.6      | 6.6      | 6.3      | 6.4      | 6.7      |
| 20000          | 8.6      | 6.8      | 6.6      | 7.8      | 6.4      | 6.2      | 6.5      | 6.6      | 6.5      | 6.5      | 6.6      | 6.3      | 6.4      | 6.7      |
| 30000          | 8.1      | 6.8      | 6.6      | 7.8      | 6.3      | 6.3      | 6.5      | 6.6      | 6.5      | 6.5      | 6.6      | 6.3      | 6.5      | 6.7      |
| 40000          | 8.2      | 6.9      | 6.6      | 7.8      | 6.3      | 6.2      | 6.4      | 6.6      | 6.5      | 6.5      | 6.6      | 6.3      | 6.5      | 6.7      |
| 50000          | 8.0      | 6.9      | 6.6      | 7.8      | 6.3      | 6.3      | 6.4      | 6.6      | 6.5      | 6.5      | 6.5      | 6.3      | 6.4      | 6.7      |
| 60000          | 7.5      | 6.9      | 6.6      | 7.8      | 6.3      | 6.2      | 6.4      | 6.5      | 6.5      | 6.5      | 6.5      | 6.4      | 6.4      | 6.7      |
| 70000          | 7.5      | 6.8      | 6.6      | 7.7      | 6.3      | 6.2      | 6.4      | 6.5      | 6.5      | 6.5      | 6.5      | 6.4      | 6.5      | 6.6      |
| 80000          | 7.4      | 6.7      | 6.6      | 7.3      | 6.3      | 6.3      | 6.4      | 6.5      | 6.6      | 6.5      | 6.5      | 6.5      | 6.4      | 6.7      |
| 90000          | 7.4      | 6.7      | 6.5      | 7.6      | 6.3      | 6.3      | 6.4      | 6.5      | 6.5      | 6.5      | 6.5      | 6.5      | 6.4      | 6.7      |
| 100000         | 7.4      | 6.7      | 6.5      | 7.9      | 6.3      | 6.3      | 6.5      | 6.5      | 6.5      |          |          | 6.4      | 6.4      | 6.7      |
| 110000         | 7.3      | 6.8      | 6.5      | 8.0      | 6.3      | 6.2      | 6.4      | 6.6      | 6.6      | 6.7      | 6.5      | 6.4      | 6.4      | 6.7      |
| 120000         | 7.6      | 6.8      | 6.5      | 7.8      | 6.3      | 6.2      | 6.4      | 6.6      | 6.6      | 6.7      | 6.5      | 6.3      | 6.4      | 6.7      |
| 130000         | 7.4      | 6.9      | 8.1      | 7.4      | 6.3      | 6.1      | 6.5      | 6.5      | 6.7      | 6.7      | 6.5      | 6.3      | 6.5      | 6.7      |
| 140000         | 7.3      | 6.8      | 8.1      | 7.7      | 6.3      | 6.2      | 6.5      | 6.5      | 6.8      | 6.7      | 6.6      | 6.3      | 6.5      | 6.7      |
| 150000         | 7.4      | 6.7      | 8.0      | 7.8      | 6.2      | 6.2      | 6.6      | 6.6      | 6.7      | 6.8      | 6.5      | 6.3      | 6.5      | 6.6      |
| 160000         | 7.3      | 6.8      | 7.8      | 7.7      | 6.2      | 6.2      | 6.6      | 6.6      | 6.6      | 6.8      | 6.5      | 6.3      | 6.6      | 6.7      |
| 170000         | 7.4      | 6.9      | 8.2      | 7.7      | 6.2      | 6.2      | 6.6      | 6.6      | 6.6      | 6.8      | 6.5      | 6.3      | 6.6      | 6.7      |
| 180000         | 7.1      | 6.9      | 8.0      | 7.7      | 6.1      | 6.3      | 6.6      | 6.6      | 6.6      | 6.8      | 6.4      | 6.2      | 6.6      | 6.7      |
| 190000         | 7.1      | 6.9      | 8.0      | 7.9      | 6.1      | 6.3      | 6.6      | 6.6      | 6.7      | 6.8      | 6.4      | 6.3      | 6.6      | 6.8      |
| 200000         | 7.1      | 6.8      | 8.1      | 6.6      | 6.1      | 6.3      | 6.7      | 6.7      | 6.8      | 6.7      | 6.3      | 6.3      | 6.6      | 6.8      |
| 210000         | 7.1      | 6.7      | 8.1      | 6.5      | 6.1      | 6.4      | 6.6      | 6.7      | 6.8      | 6.7      | 6.3      | 6.3      | 6.6      | 6.7      |
| 220000         | 7.0      | 6.7      | 8.2      | 6.4      | 6.1      | 6.3      | 6.6      | 6.7      | 6.7      | 6.7      | 6.4      | 6.3      | 6.7      | 6.7      |
| 230000         | 7.1      | 6.6      | 8.0      | 6.4      | 6.1      | 6.3      | 6.6      | 6.6      | 6.6      | 6.6      | 6.3      | 6.3      | 6.7      | 6.7      |
| Daily Max      | 8.6      | 7.2      | 8.2      | 8.0      | 6.5      | 6.4      | 6.7      | 6.7      | 6.8      | 6.8      | 6.7      | 6.5      | 6.7      | 6.8      |
| Daily Min      | 7.0      | 6.6      | 6.5      | 6.4      | 6.1      | 6.1      | 6.4      | 6.5      | 6.5      | 6.5      | 6.3      | 6.2      | 6.3      | 6.6      |
| Average        | 7.6      | 6.8      | 7.2      | 7.5      | 6.3      | 6.3      | 6.5      | 6.6      | 6.6      | 6.6      | 6.5      | 6.3      | 6.5      | 6.7      |

Missing data due to equipment maintenance activities.

High Falls Tailrace Dissolved Oxygen Summary - July 2017

| Time<br>HHMMSS | 07/01/17 | 07/02/17 | 07/03/17 | 07/04/17 | 07/05/17 | 07/06/17 | 07/07/17 | 07/08/17 | 07/09/17 | 07/10/17 | 07/11/17 | 07/12/17 | 07/13/17 | 07/14/17 | 07/15/17 | 07/16/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 6.8      | 6.5      | 6.7      | 6.6      | 6.5      | 6.3      | 6.0      | 6.0      | 5.8      | 5.9      | 6.1      | 6.0      | 6.1      | 6.3      | 5.7      | 6.1      |
| 10000          | 6.8      | 6.5      | 6.7      | 6.6      | 6.5      | 6.3      | 6.2      | 5.8      | 5.8      | 5.9      | 6.1      | 6.1      | 6.0      | 6.3      | 5.6      | 6.3      |
| 20000          | 6.7      | 6.5      | 6.6      | 6.6      | 6.4      | 6.2      | 6.2      | 5.8      | 5.9      | 5.8      | 6.1      | 6.0      | 6.1      | 6.3      | 5.6      | 6.2      |
| 30000          | 6.7      | 6.6      | 6.6      | 6.7      | 6.5      | 6.3      | 6.2      | 5.7      | 5.9      | 5.8      | 6.2      | 6.1      | 6.2      | 6.3      | 5.7      | 6.1      |
| 40000          | 6.7      | 6.5      | 6.5      | 6.7      | 6.5      | 6.3      | 6.2      | 5.7      | 5.9      | 5.9      | 6.2      | 6.1      | 6.1      | 6.2      | 5.7      | 6.2      |
| 50000          | 6.7      | 6.7      | 6.5      | 6.7      | 6.5      | 6.3      | 6.2      | 5.7      | 5.9      | 5.9      | 6.1      | 6.1      | 6.1      | 6.3      | 5.8      | 6.2      |
| 60000          | 6.7      | 6.6      | 6.6      | 6.7      | 6.5      | 6.3      | 6.1      | 5.7      | 5.9      | 5.9      | 6.0      | 6.1      | 6.0      | 6.2      | 5.8      | 6.2      |
| 70000          | 6.7      | 6.6      | 6.6      | 6.7      | 6.5      | 6.3      | 6.1      | 5.7      | 6.0      | 5.9      | 6.1      | 6.1      | 6.0      | 6.2      | 5.9      | 6.3      |
| 80000          | 6.8      | 6.6      | 6.6      | 6.8      | 6.5      | 6.3      | 6.2      | 5.8      | 6.0      | 6.0      | 6.1      | 6.2      | 6.0      | 6.2      | 5.8      | 6.3      |
| 90000          | 6.8      | 6.6      | 6.6      | 6.8      | 6.5      | 6.2      | 6.4      | 5.9      | 6.0      | 6.1      | 6.1      | 6.2      | 6.0      | 6.2      | 5.8      | 6.4      |
| 100000         | 6.8      | 6.7      | 6.7      | 6.8      | 6.5      | 6.2      | 6.5      | 5.9      | 6.1      | 6.1      | 6.1      | 6.1      | 6.0      | 6.2      | 5.8      | 6.4      |
| 110000         | 6.8      | 6.8      | 6.8      | 6.8      | 6.4      | 6.2      | 6.7      | 5.9      | 6.1      | 6.2      | 6.1      | 6.1      | 6.0      | 6.2      | 5.7      | 6.5      |
| 120000         | 6.8      | 6.9      | 6.8      | 6.7      | 6.2      | 6.2      | 6.8      | 5.9      | 6.0      | 6.3      | 6.0      | 6.0      | 6.0      | 6.2      | 5.8      | 6.6      |
| 130000         | 6.8      | 6.9      | 6.8      | 6.6      | 6.3      | 6.1      | 6.7      | 6.0      | 5.9      | 6.4      | 6.1      | 6.0      | 6.0      | 6.2      | 5.8      | 6.6      |
| 140000         | 6.7      | 6.9      | 6.8      | 6.6      | 6.3      | 6.2      | 6.7      | 6.0      | 6.1      | 6.4      | 6.1      | 5.9      | 6.0      | 6.2      | 5.8      | 6.6      |
| 150000         | 6.8      | 6.9      | 6.8      | 6.5      | 6.2      | 6.1      | 6.8      | 6.0      | 6.0      | 6.3      | 6.0      | 5.7      | 5.9      | 6.2      | 5.7      | 6.6      |
| 160000         | 6.7      | 7.0      | 6.8      | 6.4      | 6.0      | 6.2      | 6.8      | 6.0      | 6.1      | 6.3      | 5.9      | 5.6      | 5.9      | 6.2      | 5.8      | 6.6      |
| 170000         | 6.6      | 7.1      | 6.7      | 6.3      | 6.1      | 6.2      | 6.9      | 6.0      | 5.9      | 6.2      | 5.9      | 5.6      | 5.9      | 6.1      | 5.8      | 6.6      |
| 180000         | 6.5      | 7.1      | 6.6      | 6.4      | 6.1      | 6.2      | 6.8      | 6.0      | 5.7      | 6.1      | 5.9      | 5.6      | 6.0      | 6.2      | 5.7      | 6.6      |
| 190000         | 6.6      | 7.1      | 6.6      | 6.3      | 6.1      | 6.1      | 6.7      | 5.9      | 6.0      | 6.1      | 5.9      | 5.6      | 6.0      | 6.1      | 6.3      | 6.6      |
| 200000         | 6.6      | 7.1      | 6.6      | 6.4      | 6.2      | 6.0      | 6.6      | 5.7      | 6.1      | 6.0      | 6.2      | 5.6      | 6.1      | 5.9      | 6.1      | 6.5      |
| 210000         | 6.5      | 6.9      | 6.6      | 6.3      | 6.1      | 6.0      | 6.5      | 5.7      | 6.1      | 5.9      | 6.2      | 6.4      | 6.2      | 5.9      | 6.0      | 6.5      |
| 220000         | 6.5      | 6.9      | 6.5      | 6.4      | 6.1      | 6.1      | 6.3      | 5.7      | 5.9      | 5.9      | 6.1      | 6.1      | 6.3      | 5.8      | 6.2      | 6.4      |
| 230000         | 6.6      | 6.8      | 6.6      | 6.4      | 6.2      | 6.0      | 6.2      | 5.7      | 5.9      | 6.0      | 6.1      | 6.1      | 6.3      | 5.7      | 6.1      | 6.3      |
| Daily Max      | 6.8      | 7.1      | 6.8      | 6.8      | 6.5      | 6.3      | 6.9      | 6.0      | 6.1      | 6.4      | 6.2      | 6.4      | 6.3      | 6.3      | 6.3      | 6.6      |
| Daily Min      | 6.5      | 6.5      | 6.5      | 6.3      | 6.0      | 6.0      | 6.0      | 5.7      | 5.7      | 5.8      | 5.9      | 5.6      | 5.9      | 5.7      | 5.6      | 6.1      |
| Average        | 6.7      | 6.8      | 6.6      | 6.6      | 6.3      | 6.2      | 6.4      | 5.8      | 6.0      | 6.0      | 6.1      | 6.0      | 6.1      | 6.2      | 5.8      | 6.4      |

License Minimum Dissolved Oxygen: 5.0 mg/l

High Falls Tailrace Dissolved Oxygen Summary - July 2017

| Time<br>HHMMSS | 07/17/17 | 07/18/17 | 07/19/17 | 07/20/17 | 07/21/17 | 07/22/17 | 07/23/17 | 07/24/17 | 07/25/17 | 07/26/17 | 07/27/17 | 07/28/17 | 07/29/17 | 07/30/17 | 07/31/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 6.3      | 6.1      | 6.3      | 5.9      | 5.9      | 5.7      | 5.4      | 6.2      | 6.2      | 6.4      | 7.2      | 6.5      | 6.8      | 6.9      | 6.8      |
| 10000          | 6.2      | 6.1      | 6.3      | 6.0      | 5.9      | 5.8      | 5.3      | 6.0      | 5.9      | 6.3      | 7.4      | 6.5      | 6.5      | 6.8      | 7.1      |
| 20000          | 6.2      | 6.1      | 6.3      | 6.1      | 5.9      | 5.8      | 5.3      | 5.7      | 6.2      | 6.4      | 7.1      | 6.4      | 6.5      | 6.5      | 7.0      |
| 30000          | 6.2      | 6.1      | 6.3      | 6.1      | 5.8      | 5.8      | 5.5      | 5.6      | 6.1      | 6.4      | 7.1      | 6.5      | 6.2      | 6.4      | 6.9      |
| 40000          | 6.1      | 6.2      | 6.3      | 6.2      | 5.9      | 5.7      | 5.5      | 5.6      | 6.5      | 7.0      | 6.7      | 6.7      | 6.5      | 6.9      | 6.5      |
| 50000          | 6.1      | 6.2      | 6.3      | 6.3      | 5.9      | 5.7      | 5.4      | 5.5      | 6.7      | 6.9      | 6.9      | 6.5      | 6.7      | 7.2      | 6.2      |
| 60000          | 6.0      | 6.2      | 6.3      | 6.3      | 5.9      | 5.7      | 5.2      | 5.4      | 6.6      | 6.8      | 7.0      | 6.5      | 6.4      | 6.9      | 6.8      |
| 70000          | 6.1      | 6.2      | 6.3      | 6.2      | 5.9      | 5.7      | 5.3      | 5.3      | 6.7      | 7.0      | 7.0      | 6.7      | 6.7      | 7.1      | 6.7      |
| 80000          | 6.1      | 6.2      | 6.3      | 6.2      | 5.9      | 5.6      | 5.4      | 5.4      | 6.9      | 6.9      | 7.1      | 6.6      | 6.9      | 7.1      | 6.4      |
| 90000          | 6.1      | 6.2      | 6.3      | 6.1      | 5.8      | 5.7      | 5.5      | 5.3      | 6.8      | 6.8      | 7.1      | 6.8      | 6.6      | 7.2      | 6.8      |
| 100000         | 6.1      | 6.2      | 6.3      | 6.2      | 5.8      | 5.6      | 5.6      | 5.3      | 6.6      | 7.1      | 7.2      | 6.9      | 6.9      | 6.7      | 6.6      |
| 110000         | 6.2      | 6.2      | 6.2      | 6.1      | 5.9      | 5.7      | 5.7      | 5.3      | 6.8      | 7.1      | 7.0      | 6.8      | 6.7      | 7.0      | 7.0      |
| 120000         | 6.2      | 6.2      | 6.2      | 6.1      | 5.8      | 5.6      | 5.6      | 5.3      | 6.7      | 7.2      | 6.8      | 6.8      | 6.7      | 7.3      | 6.7      |
| 130000         | 6.1      | 6.2      | 6.2      | 6.1      | 5.8      | 5.6      | 5.7      | 5.3      | 6.5      | 7.1      | 6.6      | 6.8      | 6.9      | 7.1      | 6.7      |
| 140000         | 6.1      | 6.1      | 6.1      | 6.0      | 5.7      | 5.6      | 5.6      | 5.4      | 6.7      | 6.7      | 6.7      | 6.7      | 6.8      | 7.4      | 6.9      |
| 150000         | 6.1      | 6.1      | 6.2      | 6.0      | 5.8      | 5.6      | 5.7      | 6.2      | 6.4      | 7.3      | 6.8      | 6.8      | 6.5      | 6.9      | 6.7      |
| 160000         | 6.0      | 6.0      | 6.1      | 6.0      | 5.7      | 5.5      | 5.9      | 6.4      | 6.3      | 7.0      | 6.9      | 6.9      | 6.7      | 7.0      | 6.5      |
| 170000         | 6.0      | 6.1      | 6.1      | 6.0      | 5.7      | 5.4      | 6.3      | 6.0      | 6.5      | 7.3      | 6.9      | 7.0      | 6.7      | 7.0      | 6.7      |
| 180000         | 5.9      | 6.3      | 6.0      | 6.0      | 5.7      | 5.4      | 6.6      | 5.9      | 6.0      | 7.0      | 6.7      | 7.1      | 6.5      | 7.1      | 6.5      |
| 190000         | 5.9      | 6.2      | 5.9      | 5.8      | 5.7      | 5.4      | 6.8      | 6.1      | 6.4      | 7.1      | 6.6      | 6.9      | 6.4      | 7.1      | 6.4      |
| 200000         | 5.9      | 6.2      | 5.9      | 5.9      | 5.7      | 5.3      | 7.0      | 6.4      | 6.1      | 7.0      | 6.5      | 6.8      | 6.5      | 7.0      | 6.8      |
| 210000         | 6.0      | 6.1      | 5.9      | 5.9      | 5.6      | 5.3      | 6.9      | 6.1      | 6.2      | 6.9      | 6.5      | 6.6      | 6.4      | 7.2      | 6.8      |
| 220000         | 6.0      | 6.0      | 5.9      | 6.0      | 5.6      | 5.3      | 6.7      | 6.0      | 6.5      | 6.9      | 6.5      | 6.6      | 6.5      | 6.9      | 6.5      |
| 230000         | 6.0      | 6.2      | 5.9      | 5.9      | 5.7      | 5.4      | 6.6      | 6.1      | 6.6      | 6.6      | 6.4      | 6.5      | 6.8      | 6.6      | 6.3      |
| Daily Max      | 6.3      | 6.3      | 6.3      | 6.3      | 5.9      | 5.8      | 7.0      | 6.4      | 6.9      | 7.3      | 7.4      | 7.1      | 6.9      | 7.4      | 7.1      |
| Daily Min      | 5.9      | 6.0      | 5.9      | 5.8      | 5.6      | 5.3      | 5.2      | 5.3      | 5.9      | 6.3      | 6.4      | 6.4      | 6.2      | 6.4      | 6.2      |
| Average        | 6.1      | 6.2      | 6.2      | 6.1      | 5.8      | 5.6      | 5.9      | 5.7      | 6.5      | 6.9      | 6.9      | 6.7      | 6.6      | 7.0      | 6.7      |

High Falls Tailrace Dissolved Oxygen Summary - August 2017

| Time<br>HHMMSS | 08/01/17 | 08/02/17 | 08/03/17 | 08/04/17 | 08/05/17 | 08/06/17 | 08/07/17 | 08/08/17 | 08/09/17 | 08/10/17 | 08/11/17 | 08/12/17 | 08/13/17 | 08/14/17 | 08/15/17 | 08/16/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 6.9      | 6.3      | 6.6      | 7.4      | 7.1      | 6.9      | 7.0      | 6.6      | 6.6      | 6.7      | 6.9      | 7.8      | 7.0      | 6.7      | 7.3      | 6.6      |
| 10000          | 6.6      | 6.1      | 6.6      | 7.4      | 7.1      | 7.0      | 6.9      | 6.6      | 6.9      | 7.2      | 6.7      | 7.7      | 6.8      | 6.8      | 7.2      | 6.7      |
| 20000          | 6.7      | 6.2      | 6.9      | 7.4      | 7.0      | 7.0      | 6.9      | 6.4      | 7.0      | 6.8      | 7.0      | 7.6      | 6.8      | 6.7      | 7.3      | 6.7      |
| 30000          | 6.4      | 6.1      | 7.0      | 7.3      | 7.0      | 7.0      | 6.9      | 6.5      | 6.9      | 6.9      | 6.9      | 7.7      | 6.9      | 6.7      | 7.4      | 6.8      |
| 40000          | 6.0      | 6.2      | 7.4      | 6.7      | 7.0      | 7.2      | 6.9      | 6.8      | 6.7      | 6.9      | 6.7      | 7.4      | 6.8      | 7.0      | 7.3      | 6.6      |
| 50000          | 5.8      | 6.2      | 7.4      | 6.9      | 7.0      | 7.0      | 6.9      | 7.0      | 6.7      | 6.8      | 6.8      | 7.2      | 6.7      | 7.1      | 7.4      | 6.9      |
| 60000          | 5.9      | 6.6      | 7.4      | 6.9      | 7.0      | 6.9      | 7.1      | 6.9      | 6.5      | 6.5      | 7.0      | 7.2      | 6.9      | 7.1      | 7.3      | 6.9      |
| 70000          | 6.0      | 6.9      | 7.7      | 7.3      | 7.0      | 7.1      | 7.1      | 7.1      | 6.9      | 7.0      | 7.0      | 7.2      | 6.8      | 7.1      | 7.3      | 7.0      |
| 80000          | 6.1      | 6.9      | 7.3      | 7.4      | 6.9      | 7.0      | 7.2      | 7.0      | 7.1      | 7.0      | 7.2      | 7.3      | 6.9      | 7.2      | 7.3      | 7.0      |
| 90000          | 6.4      | 6.8      | 7.6      | 7.4      | 6.9      | 7.2      | 7.3      | 7.3      | 6.8      | 6.9      | 7.3      | 7.1      | 6.9      | 7.3      | 7.3      | 7.0      |
| 100000         | 6.0      | 6.8      | 7.5      | 7.5      | 6.8      | 7.1      | 7.2      | 7.1      | 6.7      | 6.8      | 7.2      | 7.3      | 6.9      | 7.2      | 7.3      | 7.3      |
| 110000         | 6.2      | 6.9      | 7.6      | 7.5      | 7.0      | 7.1      | 7.2      | 7.0      | 6.8      | 6.8      | 7.4      | 7.1      | 6.9      | 7.1      | 7.3      | 7.3      |
| 120000         | 6.1      | 7.1      | 7.9      | 7.7      | 7.2      | 7.1      | 7.2      | 6.8      | 7.1      | 6.8      | 7.4      | 7.1      | 6.8      | 7.3      | 7.4      | 7.3      |
| 130000         | 6.2      | 7.2      | 7.6      | 7.7      | 7.1      | 7.1      | 6.9      | 7.0      | 6.9      | 6.7      | 7.4      | 7.2      | 7.0      | 7.1      | 7.3      | 7.3      |
| 140000         | 6.5      | 7.3      | 7.3      | 7.6      | 7.1      | 6.9      | 6.6      | 7.1      | 7.1      | 6.9      | 7.4      | 7.2      | 7.0      | 7.1      | 7.3      | 7.2      |
| 150000         | 6.2      | 7.3      | 7.5      | 7.5      | 7.2      | 7.0      | 6.8      | 6.9      | 7.1      | 6.9      | 7.5      | 7.0      | 7.0      | 7.1      | 7.2      | 7.3      |
| 160000         | 6.3      | 7.7      | 7.3      | 7.4      | 7.2      | 6.9      | 6.7      | 7.0      | 6.9      | 7.0      | 7.5      | 7.2      | 7.0      | 6.9      | 7.1      | 7.1      |
| 170000         | 6.0      | 7.3      | 7.3      | 7.5      | 7.2      | 7.0      | 6.7      | 7.0      | 7.1      | 6.8      | 7.8      | 7.2      | 6.9      | 7.1      | 7.1      | 7.0      |
| 180000         | 5.9      | 7.4      | 7.4      | 7.3      | 7.1      | 6.9      | 6.6      | 7.0      | 7.0      | 6.9      | 7.7      | 7.1      | 6.8      | 7.0      | 7.1      | 7.0      |
| 190000         | 6.1      | 7.2      | 7.2      | 7.4      | 7.1      | 6.7      | 6.4      | 6.8      | 6.8      | 6.8      | 7.8      | 7.3      | 6.8      | 6.8      | 7.2      | 7.0      |
| 200000         | 6.1      | 7.0      | 7.4      | 7.2      | 7.0      | 6.8      | 6.5      | 6.7      | 6.8      | 6.6      | 7.8      | 7.2      | 6.6      | 6.9      | 7.2      | 6.6      |
| 210000         | 6.2      | 7.1      | 7.4      | 7.2      | 7.1      | 6.9      | 6.6      | 7.0      | 7.0      | 6.9      | 7.8      | 7.2      | 6.7      | 7.0      | 7.0      | 6.6      |
| 220000         | 6.5      | 7.1      | 7.4      | 7.2      | 7.0      | 7.0      | 6.4      | 7.0      | 6.8      | 6.6      | 7.8      | 7.1      | 6.6      | 7.4      | 6.9      | 6.6      |
| 230000         | 6.0      | 6.7      | 7.2      | 7.2      | 6.9      | 7.0      | 6.6      | 7.0      | 6.7      | 7.0      | 7.8      | 6.9      | 6.9      | 7.2      | 6.8      | 6.8      |
| Daily Max      | 6.9      | 7.7      | 7.9      | 7.7      | 7.2      | 7.2      | 7.3      | 7.3      | 7.1      | 7.2      | 7.8      | 7.8      | 7.0      | 7.4      | 7.4      | 7.3      |
| Daily Min      | 5.8      | 6.1      | 6.6      | 6.7      | 6.8      | 6.7      | 6.4      | 6.4      | 6.5      | 6.5      | 6.7      | 6.9      | 6.6      | 6.7      | 6.8      | 6.6      |
| Average        | 6.2      | 6.8      | 7.3      | 7.3      | 7.0      | 7.0      | 6.9      | 6.9      | 6.9      | 6.8      | 7.3      | 7.3      | 6.9      | 7.0      | 7.2      | 6.9      |

License Minimum Dissolved Oxygen: 5.0 mg/l

High Falls Tailrace Dissolved Oxygen Summary - August 2017

| Time<br>HHMMSS | 08/17/17 | 08/18/17 | 08/19/17 | 08/20/17 | 08/21/17 | 08/22/17 | 08/23/17 | 08/24/17 | 08/25/17 | 08/26/17 | 08/27/17 | 08/28/17 | 08/29/17 | 08/30/17 | 08/31/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 6.7      | 6.8      | 7.0      | 6.9      | 6.9      | 7.0      | 7.4      | 8.2      | 7.6      | 6.9      | 7.1      | 6.8      | 7.1      | 6.8      | 7.4      |
| 10000          | 6.8      | 6.9      | 6.9      | 6.9      | 6.9      | 7.0      | 7.2      | 8.2      | 7.5      | 7.1      | 7.0      | 6.9      | 7.1      | 6.7      | 7.4      |
| 20000          | 6.6      | 6.9      | 6.8      | 7.0      | 6.9      | 7.0      | 7.2      | 8.1      | 7.4      | 7.0      | 6.8      | 6.9      | 7.1      | 6.6      | 7.4      |
| 30000          | 6.7      | 6.9      | 6.8      | 7.0      | 7.0      | 7.0      | 7.1      | 8.1      | 7.3      | 7.0      | 6.8      | 6.8      | 7.1      | 6.6      | 7.4      |
| 40000          | 6.7      | 7.0      | 6.7      | 6.8      | 7.2      | 7.1      | 7.3      | 8.0      | 7.4      | 7.1      | 6.8      | 6.9      | 7.1      | 6.6      | 7.3      |
| 50000          | 6.7      | 7.2      | 6.8      | 6.9      | 7.2      | 7.0      | 7.4      | 8.0      | 7.2      | 7.0      | 6.9      | 6.9      | 7.0      | 6.5      | 7.3      |
| 60000          | 6.8      | 7.2      | 6.6      | 6.8      | 7.1      | 7.1      | 7.5      | 8.0      | 7.2      | 7.0      | 6.8      | 6.9      | 7.1      | 6.5      | 7.2      |
| 70000          | 6.9      | 7.4      | 6.7      | 6.9      | 7.2      | 7.3      | 7.6      | 8.0      | 7.3      | 7.0      | 6.8      | 7.0      | 7.1      | 6.3      | 7.2      |
| 80000          | 7.0      | 7.3      | 6.7      | 7.1      | 7.2      | 7.4      | 7.6      | 8.1      | 7.3      | 7.2      | 7.0      | 6.9      | 7.1      | 6.4      | 7.3      |
| 90000          | 6.9      | 7.5      | 6.8      | 7.0      | 7.3      | 7.5      | 7.9      | 8.1      | 7.4      | 7.4      | 6.8      | 7.0      | 7.0      | 6.4      | 7.4      |
| 100000         | 6.8      | 7.5      | 6.8      | 7.0      | 7.4      | 7.7      | 7.8      | 8.0      | 7.5      | 7.6      | 6.6      | 7.0      | 7.1      | 6.3      | 7.7      |
| 110000         | 7.0      | 7.6      | 6.9      | 7.1      | 7.3      | 7.9      | 7.8      | 8.1      | 7.6      | 7.7      | 6.7      | 7.0      | 7.2      | 6.4      | 7.7      |
| 120000         | 6.6      | 7.7      | 6.7      | 7.1      | 7.4      | 7.8      | 8.0      | 8.0      | 7.5      | 7.7      | 6.8      | 7.0      | 7.1      | 6.5      | 7.8      |
| 130000         | 6.5      | 7.7      | 6.8      | 7.0      | 7.3      | 7.9      | 8.0      | 8.1      | 7.4      | 7.6      | 6.6      | 7.1      | 7.1      | 7.0      | 7.8      |
| 140000         | 6.5      | 7.8      | 6.9      | 7.0      | 7.5      | 8.0      | 8.0      | 8.1      | 7.5      | 7.6      | 6.5      | 7.1      | 7.1      | 7.1      | 7.7      |
| 150000         | 6.6      | 7.8      | 6.9      | 7.1      | 7.5      | 8.0      | 8.1      | 8.1      | 7.4      | 7.6      | 6.6      | 7.0      | 7.0      | 7.1      | 7.6      |
| 160000         | 6.5      | 7.7      | 7.0      | 6.9      | 7.4      | 8.0      | 8.2      | 7.7      | 7.4      | 7.6      | 6.8      | 7.0      | 7.0      | 6.9      | 7.6      |
| 170000         | 6.3      | 7.6      | 6.9      | 6.7      | 7.3      | 8.0      | 8.2      | 7.6      | 7.5      | 7.4      | 6.8      | 7.0      | 7.1      | 6.9      | 7.6      |
| 180000         | 6.3      | 7.7      | 6.9      | 6.8      | 7.2      | 8.1      | 8.2      | 7.6      | 7.5      | 7.4      | 6.7      | 7.0      | 7.0      | 6.7      | 7.6      |
| 190000         | 6.4      | 7.7      | 6.9      | 6.6      | 7.2      | 7.9      | 8.2      | 7.6      | 7.3      | 7.3      | 6.8      | 7.0      | 7.0      | 7.1      | 7.7      |
| 200000         | 6.4      | 7.4      | 6.8      | 6.7      | 7.1      | 7.8      | 8.1      | 7.5      | 7.2      | 7.3      | 6.8      | 6.9      | 6.9      | 7.0      | 7.7      |
| 210000         | 6.6      | 7.3      | 6.7      | 6.7      | 7.0      | 7.6      | 8.0      | 7.6      | 7.1      | 7.2      | 6.8      | 6.9      | 6.8      | 7.0      | 7.6      |
| 220000         | 6.7      | 7.1      | 6.9      | 6.6      | 7.1      | 7.5      | 8.1      | 7.6      | 7.1      | 7.1      | 6.8      | 7.0      | 6.8      | 7.1      | 7.5      |
| 230000         | 6.7      | 7.1      | 6.7      | 6.9      | 7.1      | 7.5      | 8.1      | 7.6      | 7.1      | 7.1      | 6.8      | 7.0      | 6.8      | 7.4      | 7.4      |
| Daily Max      | 7.0      | 7.8      | 7.0      | 7.1      | 7.5      | 8.1      | 8.2      | 8.2      | 7.6      | 7.7      | 7.1      | 7.1      | 7.2      | 7.4      | 7.8      |
| Daily Min      | 6.3      | 6.8      | 6.6      | 6.6      | 6.9      | 7.0      | 7.1      | 7.5      | 7.1      | 6.9      | 6.5      | 6.8      | 6.8      | 6.3      | 7.2      |
| Average        | 6.7      | 7.4      | 6.8      | 6.9      | 7.2      | 7.5      | 7.8      | 7.9      | 7.4      | 7.3      | 6.8      | 7.0      | 7.0      | 6.7      | 7.5      |

High Falls Tailrace Dissolved Oxygen Summary - September 2017

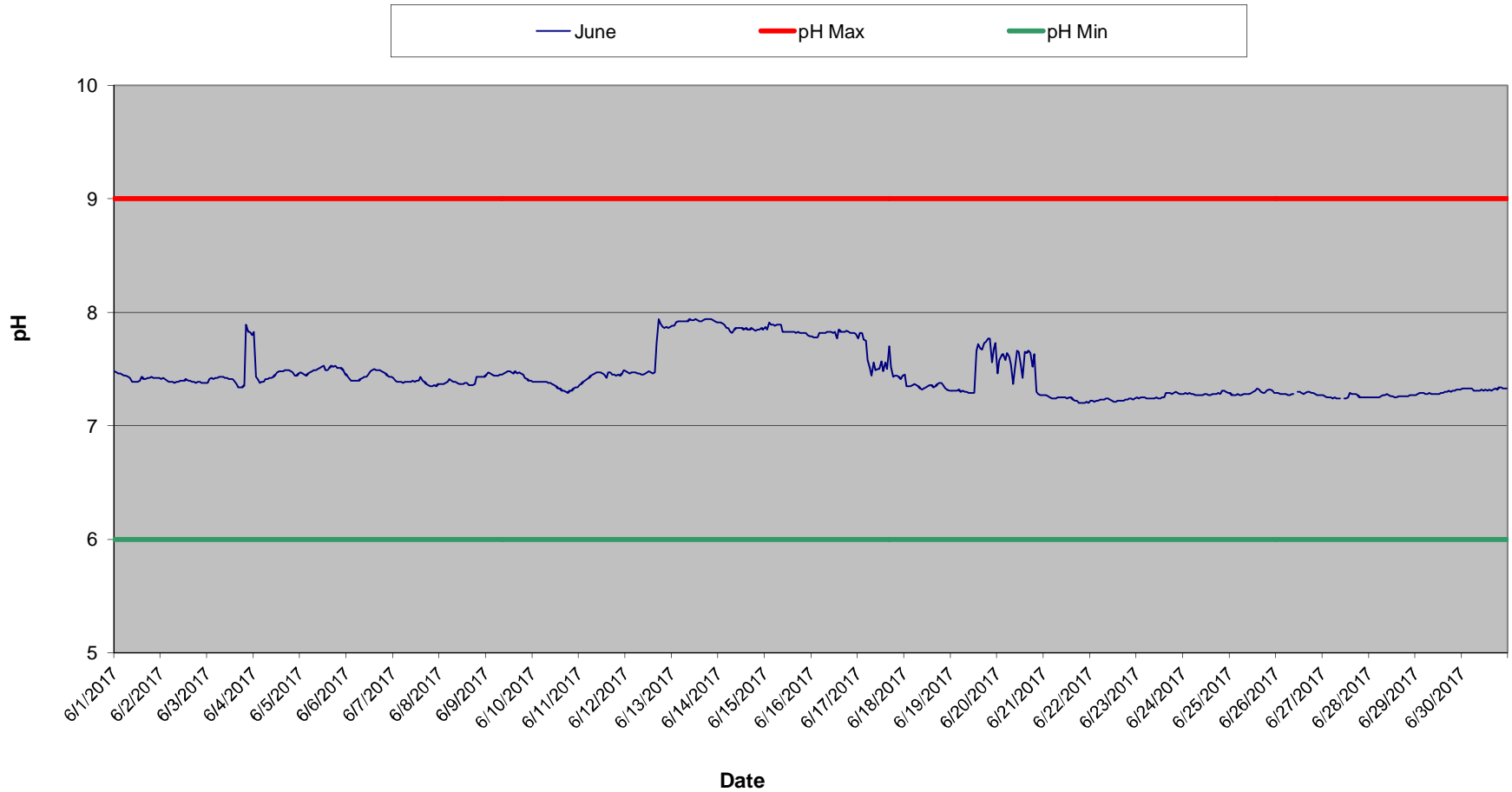
| Time<br>HHMMSS | 09/01/17 | 09/02/17 | 09/03/17 | 09/04/17 | 09/05/17 | 09/06/17 | 09/07/17 | 09/08/17 | 09/09/17 | 09/10/17 | 09/11/17 | 09/12/17 | 09/13/17 | 09/14/17 | 09/15/17 | 09/16/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 7.3      | 7.0      | 7.2      | 7.2      | 7.8      | 8.0      | 8.0      | 7.9      | 8.1      | 8.0      | 7.5      | 7.6      | 8.0      | 7.7      | 7.5      | 7.5      |
| 10000          | 7.2      | 7.1      | 7.3      | 7.2      | 7.8      | 8.0      | 7.9      | 7.9      | 8.0      | 8.0      | 7.6      | 7.7      | 8.0      | 7.6      | 7.6      | 7.4      |
| 20000          | 7.3      | 7.0      | 7.2      | 7.3      | 7.8      | 7.9      | 7.9      | 7.9      | 8.1      | 7.9      | 7.6      | 7.6      | 7.9      | 7.5      | 7.6      | 7.5      |
| 30000          | 7.4      | 7.0      | 7.2      | 7.2      | 7.8      | 8.0      | 7.9      | 7.9      | 8.0      | 7.9      | 7.7      | 7.7      | 8.0      | 7.7      | 7.7      | 7.5      |
| 40000          | 7.3      | 7.0      | 7.3      | 7.2      | 7.7      | 8.0      | 7.8      | 7.9      | 8.0      | 7.9      | 7.7      | 7.9      | 7.7      | 7.8      | 7.7      | 7.4      |
| 50000          | 7.3      | 7.0      | 7.2      | 7.2      | 7.6      | 8.0      | 7.8      | 7.9      | 8.0      | 7.9      | 7.7      | 8.0      | 7.8      | 7.8      | 7.6      | 7.4      |
| 60000          | 7.4      | 7.1      | 7.2      | 7.1      | 7.6      | 7.9      | 7.8      | 7.9      | 8.0      | 7.9      | 7.8      | 7.9      | 7.9      | 7.8      | 7.6      | 7.4      |
| 70000          | 7.3      | 7.1      | 7.2      | 7.2      | 7.6      | 7.9      | 7.8      | 7.9      | 8.0      | 7.9      | 7.8      | 7.9      | 7.9      | 7.9      | 7.6      | 7.5      |
| 80000          | 7.5      | 7.2      | 7.2      | 7.4      | 7.7      | 7.9      | 7.8      | 7.9      | 8.0      | 8.0      | 7.8      | 8.0      | 7.9      | 7.9      | 7.7      | 7.5      |
| 90000          | 7.6      | 7.3      | 7.3      | 7.6      | 7.8      | 7.9      | 7.9      | 7.9      | 8.1      | 8.0      | 8.0      | 8.2      | 7.9      | 8.0      | 7.8      | 7.6      |
| 100000         | 7.6      | 7.2      | 7.3      | 7.7      | 7.8      | 8.0      | 7.9      | 8.0      | 8.1      | 8.2      | 8.0      | 8.4      | 7.9      | 7.9      | 7.8      | 7.6      |
| 110000         | 7.5      | 7.2      | 7.5      | 7.8      | 7.9      | 8.0      | 8.0      | 8.0      | 8.2      | 8.3      | 7.9      | 8.3      | 7.9      | 7.8      | 7.7      | 7.7      |
| 120000         | 7.4      | 7.3      | 7.4      | 7.8      | 7.9      | 8.1      | 8.0      | 8.1      | 8.2      | 8.2      | 7.8      | 8.3      | 7.7      | 7.9      | 7.8      | 7.6      |
| 130000         | 7.4      | 7.2      | 7.5      | 7.9      | 8.0      | 8.1      | 8.0      | 8.2      | 8.1      | 8.2      | 7.8      | 8.2      | 8.0      | 7.8      | 7.8      | 7.6      |
| 140000         | 7.4      | 7.2      | 7.5      | 7.8      | 8.0      | 8.1      | 8.0      | 8.1      | 8.1      | 8.0      | 7.7      | 8.2      | 8.0      | 7.7      | 7.7      | 7.6      |
| 150000         | 7.4      | 7.2      | 7.5      | 7.9      | 7.9      | 8.1      | 8.2      | 8.1      | 8.1      | 8.0      | 7.8      | 8.3      | 7.9      | 7.7      | 7.6      | 7.5      |
| 160000         | 7.4      | 7.3      | 7.6      | 8.0      | 8.1      | 8.2      | 8.2      | 8.1      | 8.1      | 8.0      | 7.7      | 8.3      | 7.8      | 7.7      | 7.6      | 7.5      |
| 170000         | 7.3      | 7.1      | 7.5      | 8.0      | 8.2      | 8.2      | 8.2      | 8.1      | 8.1      | 7.9      | 7.6      | 7.7      | 7.8      | 7.5      | 7.5      | 7.4      |
| 180000         | 7.1      | 6.8      | 7.5      | 8.0      | 8.2      | 8.2      | 8.1      | 8.0      | 8.0      | 7.8      | 7.5      | 8.0      | 7.8      | 7.5      | 7.3      | 7.3      |
| 190000         | 7.0      | 6.8      | 7.4      | 8.0      | 8.1      | 8.2      | 7.9      | 8.0      | 7.9      | 7.7      | 7.4      | 8.0      | 7.7      | 7.6      | 7.4      | 7.3      |
| 200000         | 6.9      | 6.8      | 7.4      | 7.9      | 8.1      | 8.1      | 7.9      | 8.0      | 7.9      | 7.6      | 7.4      | 8.0      | 7.7      | 7.5      | 7.4      | 7.4      |
| 210000         | 6.9      | 6.8      | 7.3      | 7.9      | 8.1      | 8.1      | 7.9      | 8.0      | 7.9      | 7.7      | 7.6      | 7.9      | 7.7      | 7.5      | 7.4      | 7.3      |
| 220000         | 7.0      | 6.9      | 7.3      | 7.9      | 8.1      | 8.0      | 7.9      | 8.0      | 7.9      | 7.7      | 7.6      | 8.0      | 7.7      | 7.4      | 7.4      | 7.3      |
| 230000         | 7.1      | 7.2      | 7.2      | 7.9      | 8.0      | 8.0      | 8.0      | 8.1      | 8.0      | 7.6      | 7.6      | 7.9      | 7.7      | 7.5      | 7.4      | 7.3      |
| Daily Max      | 7.6      | 7.3      | 7.6      | 8.0      | 8.2      | 8.2      | 8.2      | 8.2      | 8.2      | 8.3      | 8.0      | 8.4      | 8.0      | 8.0      | 7.8      | 7.7      |
| Daily Min      | 6.9      | 6.8      | 7.2      | 7.1      | 7.6      | 7.9      | 7.8      | 7.9      | 7.9      | 7.6      | 7.4      | 7.6      | 7.7      | 7.4      | 7.3      | 7.3      |
| Average        | 7.3      | 7.1      | 7.3      | 7.6      | 7.9      | 8.0      | 7.9      | 8.0      | 8.0      | 7.9      | 7.7      | 8.0      | 7.9      | 7.7      | 7.6      | 7.5      |

License Minimum Dissolved Oxygen: 5.0 mg/l

High Falls Tailrace Dissolved Oxygen Summary - September 2017

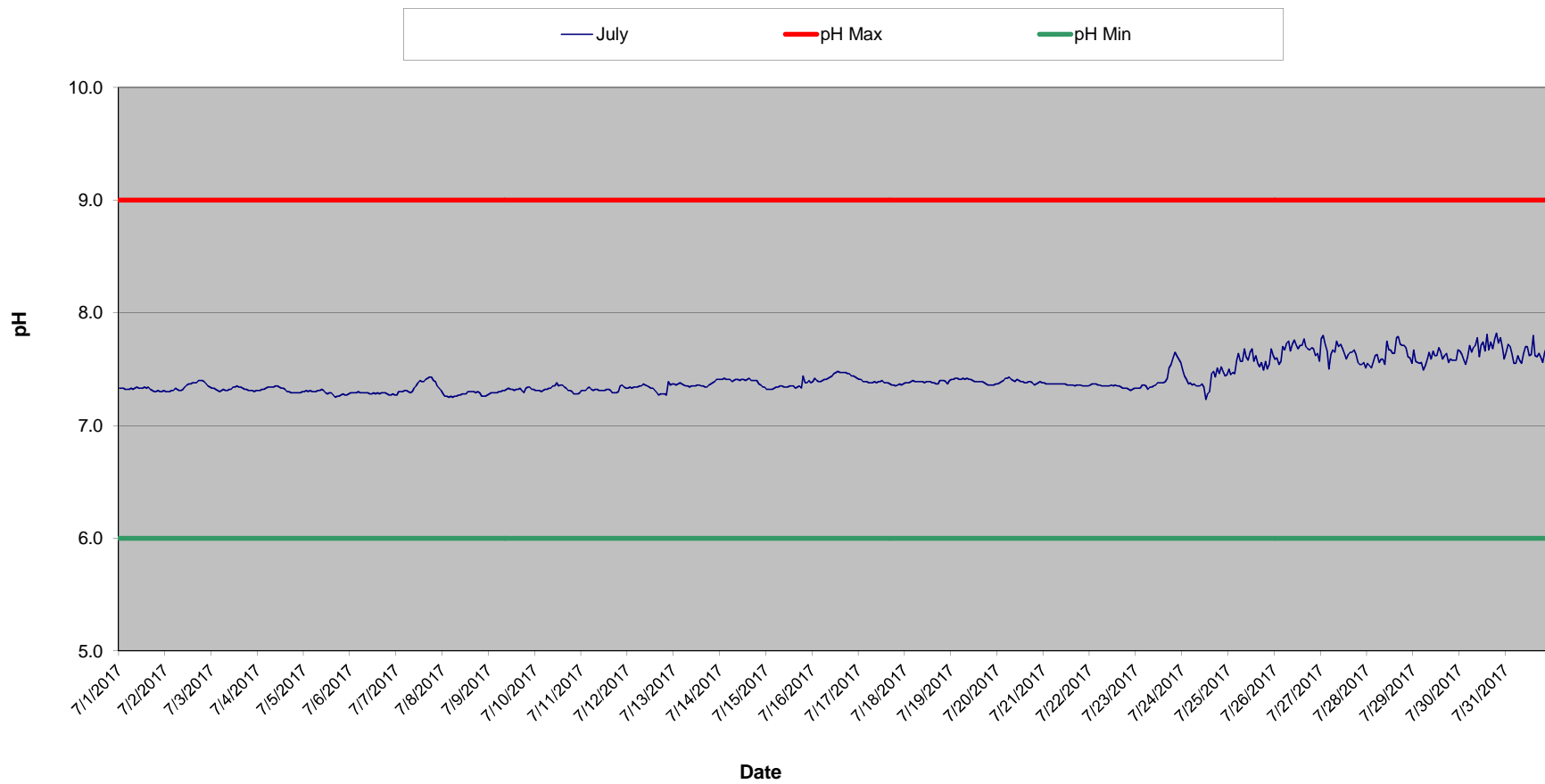
| Time<br>HHMMSS | 09/17/17 | 09/18/17 | 09/19/17 | 09/20/17 | 09/21/17 | 09/22/17 | 09/23/17 | 09/24/17 | 09/25/17 | 09/26/17 | 09/27/17 | 09/28/17 | 09/29/17 | 09/30/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 7.3      | 7.4      | 7.3      | 7.2      | 7.2      | 6.9      | 7.0      | 7.0      | 7.0      | 7.1      | 6.8      | 6.9      | 7.1      | 7.6      |
| 10000          | 7.3      | 7.5      | 7.4      | 7.3      | 7.2      | 7.0      | 6.8      | 7.1      | 7.0      | 7.2      | 6.8      | 6.8      | 7.2      | 7.6      |
| 20000          | 7.3      | 7.4      | 7.4      | 7.3      | 7.3      | 7.1      | 6.8      | 7.2      | 7.1      | 7.1      | 6.9      | 6.7      | 7.4      | 7.6      |
| 30000          | 7.3      | 7.5      | 7.4      | 7.4      | 7.3      | 7.1      | 6.8      | 7.2      | 7.1      | 7.1      | 7.1      | 6.5      | 7.4      | 7.5      |
| 40000          | 7.3      | 7.5      | 7.4      | 7.5      | 7.3      | 7.2      | 7.0      | 7.1      | 7.1      | 7.1      | 7.1      | 6.6      | 7.5      | 7.5      |
| 50000          | 7.3      | 7.6      | 7.5      | 7.4      | 7.4      | 7.2      | 7.1      | 7.1      | 7.1      | 7.2      | 7.0      | 6.6      | 7.5      | 7.5      |
| 60000          | 7.3      | 7.6      | 7.6      | 7.3      | 7.4      | 7.1      | 7.0      | 7.1      | 7.1      | 7.2      | 6.9      | 6.7      | 7.5      | 7.5      |
| 70000          | 7.4      | 7.6      | 7.6      | 7.3      | 7.4      | 7.1      | 7.0      | 7.1      | 7.1      | 7.2      | 7.0      | 6.7      | 7.5      | 7.5      |
| 80000          | 7.3      | 7.7      | 7.7      | 7.3      | 7.3      | 7.2      | 7.0      | 7.1      | 7.1      | 7.1      | 7.0      | 6.8      | 7.5      | 7.5      |
| 90000          | 7.3      | 7.7      | 7.8      | 7.3      | 7.4      | 7.3      | 7.0      | 7.1      | 7.1      | 7.0      | 7.2      | 6.9      | 7.6      | 7.5      |
| 100000         | 7.4      | 7.6      | 7.7      | 7.3      | 7.5      | 7.2      | 7.0      | 7.1      | 7.1      | 7.0      | 7.3      | 6.9      | 7.7      | 7.6      |
| 110000         | 7.5      | 7.6      | 7.6      | 7.2      | 7.5      | 7.2      | 7.0      | 7.1      | 7.1      | 7.0      | 7.4      | 6.8      | 7.8      | 7.6      |
| 120000         | 7.4      | 7.5      | 7.6      | 7.2      | 7.5      | 7.2      | 7.0      | 7.1      | 7.1      | 6.9      | 7.6      | 6.7      | 7.8      | 7.7      |
| 130000         | 7.5      | 7.5      | 7.5      | 7.1      | 7.3      | 7.1      | 7.0      | 7.1      | 7.2      | 6.9      | 7.7      | 6.8      | 7.8      | 7.6      |
| 140000         | 7.5      | 7.5      | 7.5      | 7.0      | 7.3      | 7.0      | 7.0      | 7.0      | 7.1      | 6.9      | 7.7      | 6.8      | 7.8      | 7.6      |
| 150000         | 7.5      | 7.4      | 7.4      | 6.8      | 7.3      | 7.6      | 7.0      | 7.0      | 7.1      | 6.8      | 7.7      | 6.8      | 7.8      | 7.5      |
| 160000         | 7.6      | 7.4      | 7.4      | 6.9      | 7.1      | 7.5      | 6.8      | 6.9      | 7.0      | 6.7      | 7.7      | 6.9      | 7.8      | 7.6      |
| 170000         | 7.5      | 7.4      | 7.3      | 6.9      | 7.1      | 7.4      | 6.9      | 6.9      | 7.0      | 6.6      | 7.7      | 6.9      | 7.8      | 7.5      |
| 180000         | 7.5      | 7.3      | 7.1      | 6.9      | 7.0      | 7.1      | 6.8      | 6.9      | 6.9      | 6.6      | 7.6      | 6.8      | 7.8      | 7.4      |
| 190000         | 7.4      | 7.2      | 7.1      | 6.9      | 6.9      | 7.0      | 6.8      | 6.9      | 7.0      | 6.6      | 7.6      | 6.8      | 7.7      | 7.4      |
| 200000         | 7.3      | 7.1      | 7.1      | 6.9      | 6.9      | 7.1      | 6.8      | 6.9      | 6.9      | 6.6      | 7.5      | 6.7      | 7.7      | 7.4      |
| 210000         | 7.4      | 7.2      | 7.1      | 7.0      | 6.9      | 7.3      | 6.8      | 6.9      | 7.0      | 6.6      | 7.3      | 6.8      | 7.7      | 7.4      |
| 220000         | 7.4      | 7.2      | 7.1      | 7.0      | 6.9      | 7.3      | 6.9      | 7.0      | 7.0      | 6.9      | 7.1      | 6.7      | 7.7      | 7.4      |
| 230000         | 7.5      | 7.3      | 7.1      | 7.1      | 6.9      | 7.1      | 7.0      | 6.9      | 7.0      | 6.7      | 7.0      | 6.8      | 7.6      | 7.4      |
| Daily Max      | 7.6      | 7.7      | 7.8      | 7.5      | 7.5      | 7.6      | 7.1      | 7.2      | 7.2      | 7.2      | 7.7      | 6.9      | 7.8      | 7.7      |
| Daily Min      | 7.3      | 7.1      | 7.1      | 6.8      | 6.9      | 6.9      | 6.8      | 6.9      | 6.9      | 6.6      | 6.8      | 6.5      | 7.1      | 7.4      |
| Average        | 7.4      | 7.5      | 7.4      | 7.1      | 7.2      | 7.2      | 6.9      | 7.0      | 7.0      | 6.9      | 7.3      | 6.8      | 7.6      | 7.5      |

### High Falls Tailrace pH Summary - June 2017

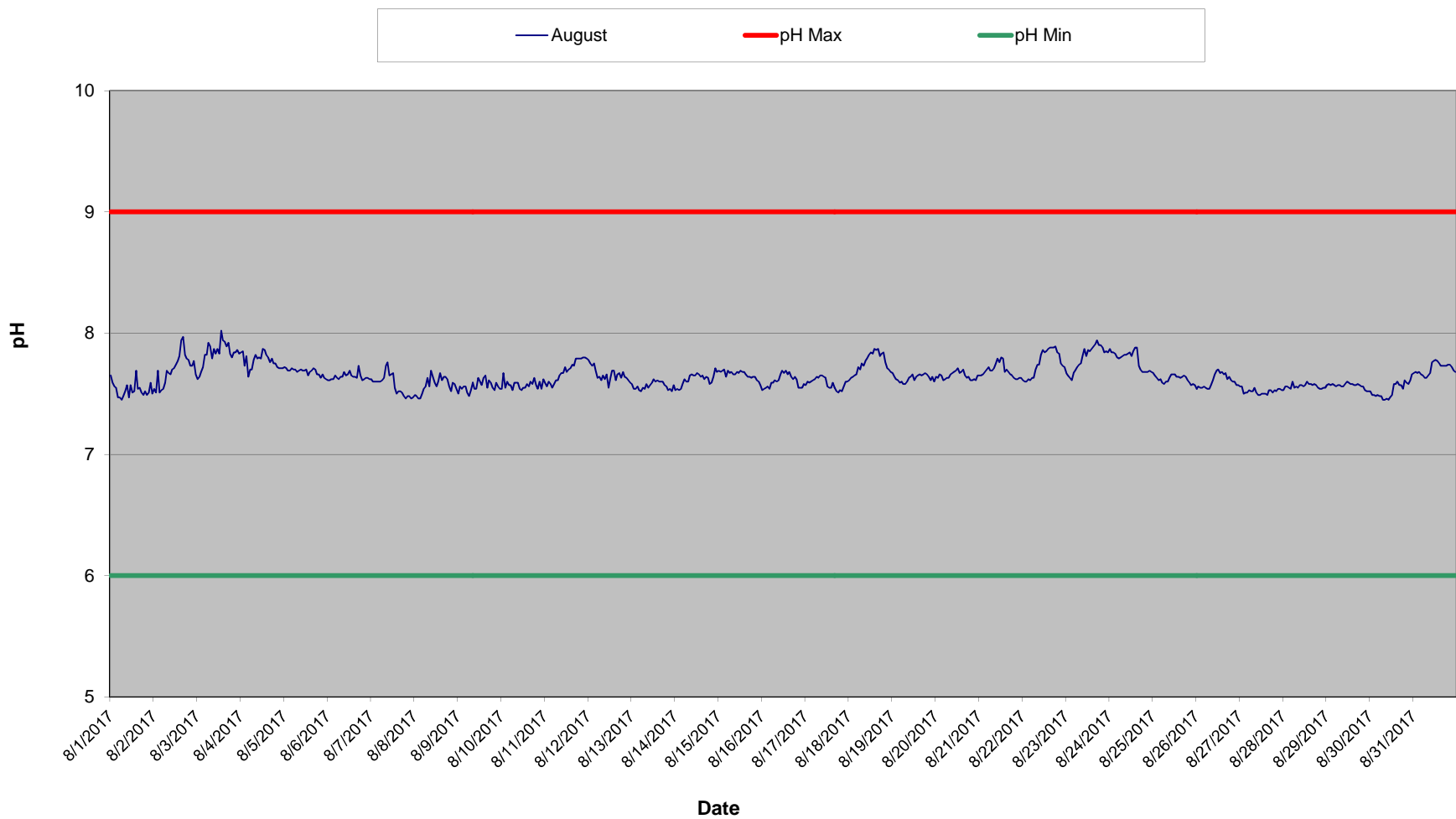




### High Falls Tailrace pH Summary - July 2017



### High Falls Tailrace pH Summary - August 2017



### High Falls Tailrace pH Summary - September 2017



High Falls Tailrace pH Summary - June 2017

| Time<br>HHMMSS | 06/01/17 | 06/02/17 | 06/03/17 | 06/04/17 | 06/05/17 | 06/06/17 | 06/07/17 | 06/08/17 | 06/09/17 | 06/10/17 | 06/11/17 | 06/12/17 | 06/13/17 | 06/14/17 | 06/15/17 | 06/16/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 7.5      | 7.4      | 7.4      | 7.8      | 7.5      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.4      | 7.5      | 7.9      | 7.9      | 7.9      | 7.8      |
| 10000          | 7.5      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.4      | 7.5      | 7.9      | 7.9      | 7.9      | 7.8      |
| 20000          | 7.5      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.4      | 7.5      | 7.9      | 7.9      | 7.9      | 7.8      |
| 30000          | 7.5      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.4      | 7.5      | 7.9      | 7.9      | 7.9      | 7.8      |
| 40000          | 7.5      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.5      | 7.9      | 7.9      | 7.9      | 7.8      |
| 50000          | 7.4      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.5      | 7.9      | 7.9      | 7.9      | 7.8      |
| 60000          | 7.4      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.5      | 7.9      | 7.8      | 7.9      | 7.8      |
| 70000          | 7.4      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.5      | 7.5      | 7.9      | 7.8      | 7.9      | 7.8      |
| 80000          | 7.4      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.5      | 7.5      | 7.9      | 7.9      | 7.9      | 7.8      |
| 90000          | 7.4      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.5      | 7.5      | 7.9      | 7.9      | 7.8      | 7.8      |
| 100000         | 7.4      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.5      | 7.5      | 7.9      | 7.9      | 7.8      | 7.8      |
| 110000         | 7.4      | 7.4      | 7.4      | 7.5      | 7.5      | 7.5      | 7.4      | 7.4      | 7.5      | 7.4      | 7.5      | 7.5      | 7.9      | 7.9      | 7.8      | 7.8      |
| 120000         | 7.4      | 7.4      | 7.4      | 7.5      | 7.5      | 7.5      | 7.4      | 7.4      | 7.5      | 7.4      | 7.5      | 7.5      | 7.9      | 7.9      | 7.8      | 7.8      |
| 130000         | 7.4      | 7.4      | 7.4      | 7.5      | 7.5      | 7.5      | 7.4      | 7.4      | 7.5      | 7.3      | 7.5      | 7.5      | 7.9      | 7.9      | 7.8      | 7.8      |
| 140000         | 7.4      | 7.4      | 7.4      | 7.5      | 7.5      | 7.5      | 7.4      | 7.4      | 7.5      | 7.3      | 7.4      | 7.5      | 7.9      | 7.9      | 7.8      | 7.9      |
| 150000         | 7.4      | 7.4      | 7.4      | 7.5      | 7.5      | 7.5      | 7.4      | 7.4      | 7.5      | 7.3      | 7.5      | 7.5      | 7.9      | 7.9      | 7.8      | 7.8      |
| 160000         | 7.4      | 7.4      | 7.3      | 7.5      | 7.5      | 7.5      | 7.4      | 7.4      | 7.5      | 7.3      | 7.5      | 7.7      | 7.9      | 7.9      | 7.8      | 7.8      |
| 170000         | 7.4      | 7.4      | 7.3      | 7.5      | 7.5      | 7.5      | 7.4      | 7.4      | 7.5      | 7.3      | 7.5      | 7.9      | 7.9      | 7.9      | 7.8      | 7.8      |
| 180000         | 7.4      | 7.4      | 7.3      | 7.5      | 7.5      | 7.5      | 7.4      | 7.4      | 7.5      | 7.3      | 7.5      | 7.9      | 7.9      | 7.9      | 7.8      | 7.8      |
| 190000         | 7.4      | 7.4      | 7.4      | 7.5      | 7.5      | 7.5      | 7.4      | 7.4      | 7.5      | 7.3      | 7.4      | 7.9      | 7.9      | 7.8      | 7.8      | 7.8      |
| 200000         | 7.4      | 7.4      | 7.9      | 7.5      | 7.5      | 7.5      | 7.4      | 7.4      | 7.4      | 7.3      | 7.5      | 7.9      | 7.9      | 7.9      | 7.8      | 7.8      |
| 210000         | 7.4      | 7.4      | 7.8      | 7.4      | 7.5      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.4      | 7.9      | 7.9      | 7.9      | 7.8      | 7.8      |
| 220000         | 7.4      | 7.4      | 7.8      | 7.4      | 7.5      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.5      | 7.9      | 7.9      | 7.9      | 7.8      | 7.8      |
| 230000         | 7.4      | 7.4      | 7.8      | 7.5      | 7.5      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.5      | 7.9      | 7.9      | 7.9      | 7.8      | 7.8      |
| Daily Max      | 7.5      | 7.4      | 7.9      | 7.8      | 7.5      | 7.5      | 7.4      | 7.4      | 7.5      | 7.4      | 7.5      | 7.9      | 7.9      | 7.9      | 7.9      | 7.9      |
| Daily Min      | 7.4      | 7.4      | 7.3      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.4      | 7.5      | 7.9      | 7.8      | 7.8      | 7.8      |
| Average        | 7.4      | 7.4      | 7.5      | 7.5      | 7.5      | 7.4      | 7.4      | 7.4      | 7.5      | 7.4      | 7.4      | 7.6      | 7.9      | 7.9      | 7.8      | 7.8      |

License maximum pH: 9

License minimum pH: 6

High Falls Tailrace pH Summary - June 2017

| Time<br>HHMMSS | 06/17/17 | 06/18/17 | 06/19/17 | 06/20/17 | 06/21/17 | 06/22/17 | 06/23/17 | 06/24/17 | 06/25/17 | 06/26/17 | 06/27/17 | 06/28/17 | 06/29/17 | 06/30/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 7.8      | 7.5      | 7.3      | 7.5      | 7.3      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 10000          | 7.8      | 7.4      | 7.3      | 7.6      | 7.3      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 20000          | 7.8      | 7.4      | 7.3      | 7.6      | 7.3      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 30000          | 7.8      | 7.4      | 7.3      | 7.6      | 7.3      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 40000          | 7.8      | 7.4      | 7.3      | 7.6      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 50000          | 7.6      | 7.4      | 7.3      | 7.6      | 7.2      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.2      | 7.3      | 7.3      | 7.3      |
| 60000          | 7.5      | 7.4      | 7.3      | 7.6      | 7.2      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 70000          | 7.4      | 7.4      | 7.3      | 7.5      | 7.3      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.2      | 7.3      | 7.3      | 7.3      |
| 80000          | 7.6      | 7.3      | 7.3      | 7.4      | 7.3      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.2      | 7.3      | 7.3      | 7.3      |
| 90000          | 7.5      | 7.3      | 7.3      | 7.5      | 7.3      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.2      | 7.3      | 7.3      | 7.3      |
| 100000         | 7.5      | 7.3      | 7.3      | 7.7      | 7.3      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 110000         | 7.5      | 7.3      | 7.3      | 7.7      | 7.3      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.2      | 7.3      | 7.3      | 7.3      |
| 120000         | 7.6      | 7.4      | 7.3      | 7.5      | 7.2      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.2      | 7.3      | 7.3      | 7.3      |
| 130000         | 7.5      | 7.4      | 7.7      | 7.4      | 7.3      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 140000         | 7.6      | 7.4      | 7.7      | 7.7      | 7.3      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 150000         | 7.5      | 7.3      | 7.7      | 7.6      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 160000         | 7.7      | 7.4      | 7.7      | 7.7      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 170000         | 7.5      | 7.4      | 7.7      | 7.6      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 180000         | 7.4      | 7.4      | 7.7      | 7.5      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 190000         | 7.4      | 7.4      | 7.8      | 7.6      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 200000         | 7.4      | 7.4      | 7.8      | 7.3      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 210000         | 7.4      | 7.3      | 7.6      | 7.3      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 220000         | 7.4      | 7.3      | 7.7      | 7.3      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| 230000         | 7.4      | 7.3      | 7.7      | 7.3      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| Daily Max      | 7.8      | 7.5      | 7.8      | 7.7      | 7.3      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |
| Daily Min      | 7.4      | 7.3      | 7.3      | 7.3      | 7.2      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.2      | 7.3      | 7.3      | 7.3      |
| Average        | 7.6      | 7.4      | 7.5      | 7.5      | 7.2      | 7.2      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      |

Missing data due to equipment maintenance

High Falls Tailrace pH Summary - July 2017

| Time<br>HHMMSS | 07/01/17 | 07/02/17 | 07/03/17 | 07/04/17 | 07/05/17 | 07/06/17 | 07/07/17 | 07/08/17 | 07/09/17 | 07/10/17 | 07/11/17 | 07/12/17 | 07/13/17 | 07/14/17 | 07/15/17 | 07/16/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.3      | 7.4      |
| 10000          | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.3      | 7.4      |
| 20000          | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.3      | 7.4      |
| 30000          | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.3      | 7.4      |
| 40000          | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.3      | 7.4      |
| 50000          | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.3      | 7.4      |
| 60000          | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.3      | 7.4      |
| 70000          | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      |
| 80000          | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.4      | 7.4      | 7.4      |
| 90000          | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.4      | 7.4      | 7.4      | 7.3      | 7.4      |
| 100000         | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.4      | 7.3      | 7.4      | 7.4      | 7.4      | 7.3      | 7.4      |
| 110000         | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.4      | 7.4      | 7.3      | 7.5      |
| 120000         | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.4      | 7.4      | 7.4      | 7.5      |
| 130000         | 7.3      | 7.4      | 7.4      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.4      | 7.4      | 7.4      | 7.5      |
| 140000         | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.4      | 7.4      | 7.4      | 7.5      |
| 150000         | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.3      | 7.5      |
| 160000         | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.5      |
| 170000         | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.5      |
| 180000         | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.3      | 7.5      |
| 190000         | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.4      | 7.5      |
| 200000         | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.4      | 7.4      | 7.4      | 7.4      |
| 210000         | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      |
| 220000         | 7.3      | 7.4      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.3      | 7.4      | 7.4      |
| 230000         | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.3      | 7.4      | 7.4      |
| Daily Max      | 7.3      | 7.4      | 7.4      | 7.4      | 7.3      | 7.3      | 7.4      | 7.3      | 7.3      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.5      |
| Daily Min      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      |
| Average        | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.3      | 7.4      | 7.4      | 7.3      | 7.4      |

License maximum pH: 9

License minimum pH: 6

High Falls Tailrace pH Summary - July 2017

| Time      | 07/17/17 | 07/18/17 | 07/19/17 | 07/20/17 | 07/21/17 | 07/22/17 | 07/23/17 | 07/24/17 | 07/25/17 | 07/26/17 | 07/27/17 | 07/28/17 | 07/29/17 | 07/30/17 | 07/31/17 |
|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| HHMMSS    |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 0         | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.5      | 7.5      | 7.6      | 7.8      | 7.6      | 7.7      | 7.7      | 7.7      |
| 10000     | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.4      | 7.5      | 7.6      | 7.8      | 7.5      | 7.6      | 7.6      | 7.7      |
| 20000     | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.4      | 7.5      | 7.5      | 7.7      | 7.5      | 7.6      | 7.6      | 7.7      |
| 30000     | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.5      | 7.6      | 7.7      | 7.6      | 7.6      | 7.5      | 7.6      |
| 40000     | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.6      | 7.7      | 7.5      | 7.6      | 7.6      | 7.6      | 7.6      |
| 50000     | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.6      | 7.7      | 7.6      | 7.6      | 7.5      | 7.7      | 7.6      |
| 60000     | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.4      | 7.6      | 7.7      | 7.7      | 7.6      | 7.5      | 7.7      | 7.6      |
| 70000     | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.4      | 7.6      | 7.8      | 7.7      | 7.6      | 7.6      | 7.7      | 7.6      |
| 80000     | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.4      | 7.7      | 7.7      | 7.8      | 7.6      | 7.7      | 7.7      | 7.6      |
| 90000     | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.6      | 7.7      | 7.7      | 7.5      | 7.6      | 7.8      | 7.6      |
| 100000    | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.6      | 7.8      | 7.7      | 7.8      | 7.7      | 7.6      | 7.7      |
| 110000    | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      |
| 120000    | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.2      | 7.7      | 7.7      | 7.6      | 7.7      | 7.6      | 7.7      | 7.6      |
| 130000    | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.6      | 7.7      | 7.6      | 7.6      | 7.7      | 7.7      | 7.6      |
| 140000    | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.6      | 7.7      | 7.6      | 7.6      | 7.7      | 7.8      | 7.8      |
| 150000    | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.5      | 7.6      | 7.8      | 7.7      | 7.8      | 7.6      | 7.7      | 7.6      |
| 160000    | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.4      | 7.5      | 7.5      | 7.7      | 7.7      | 7.8      | 7.6      | 7.7      | 7.6      |
| 170000    | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.5      | 7.4      | 7.6      | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.6      |
| 180000    | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.5      | 7.5      | 7.5      | 7.7      | 7.6      | 7.7      | 7.6      | 7.8      | 7.6      |
| 190000    | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.6      | 7.5      | 7.6      | 7.7      | 7.6      | 7.7      | 7.6      | 7.8      | 7.6      |
| 200000    | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.7      | 7.5      | 7.5      | 7.7      | 7.5      | 7.7      | 7.6      | 7.7      | 7.7      |
| 210000    | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.6      | 7.5      | 7.5      | 7.6      | 7.5      | 7.6      | 7.6      | 7.8      | 7.7      |
| 220000    | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.6      | 7.4      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      | 7.7      | 7.6      |
| 230000    | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.6      | 7.5      | 7.6      | 7.6      | 7.5      | 7.6      | 7.7      | 7.6      | 7.6      |
| Daily Max | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.7      | 7.5      | 7.7      | 7.8      | 7.8      | 7.8      | 7.7      | 7.8      | 7.8      |
| Daily Min | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.3      | 7.2      | 7.5      | 7.5      | 7.5      | 7.5      | 7.5      | 7.5      | 7.6      |
| Average   | 7.4      | 7.4      | 7.4      | 7.4      | 7.4      | 7.3      | 7.4      | 7.4      | 7.6      | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.6      |

High Falls Tailrace pH Summary - August 2017

| Time<br>HHMMSS | 08/01/17 | 08/02/17 | 08/03/17 | 08/04/17 | 08/05/17 | 08/06/17 | 08/07/17 | 08/08/17 | 08/09/17 | 08/10/17 | 08/11/17 | 08/12/17 | 08/13/17 | 08/14/17 | 08/15/17 | 08/16/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 7.7      | 7.5      | 7.6      | 7.8      | 7.7      | 7.6      | 7.6      | 7.5      | 7.5      | 7.5      | 7.6      | 7.8      | 7.6      | 7.5      | 7.7      | 7.5      |
| 10000          | 7.6      | 7.5      | 7.6      | 7.9      | 7.7      | 7.6      | 7.6      | 7.5      | 7.6      | 7.7      | 7.6      | 7.8      | 7.5      | 7.5      | 7.7      | 7.5      |
| 20000          | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.6      | 7.5      | 7.5      | 7.6      | 7.6      | 7.7      | 7.5      | 7.5      | 7.7      | 7.6      |
| 30000          | 7.6      | 7.5      | 7.7      | 7.8      | 7.7      | 7.6      | 7.6      | 7.5      | 7.6      | 7.6      | 7.6      | 7.8      | 7.6      | 7.5      | 7.7      | 7.6      |
| 40000          | 7.5      | 7.5      | 7.8      | 7.6      | 7.7      | 7.7      | 7.6      | 7.5      | 7.6      | 7.6      | 7.6      | 7.7      | 7.5      | 7.6      | 7.6      | 7.5      |
| 50000          | 7.5      | 7.5      | 7.8      | 7.7      | 7.7      | 7.6      | 7.6      | 7.5      | 7.5      | 7.6      | 7.6      | 7.6      | 7.5      | 7.6      | 7.7      | 7.6      |
| 60000          | 7.5      | 7.6      | 7.9      | 7.7      | 7.7      | 7.6      | 7.6      | 7.6      | 7.5      | 7.5      | 7.6      | 7.6      | 7.6      | 7.6      | 7.7      | 7.6      |
| 70000          | 7.5      | 7.7      | 7.9      | 7.8      | 7.7      | 7.6      | 7.6      | 7.6      | 7.5      | 7.6      | 7.6      | 7.6      | 7.5      | 7.6      | 7.7      | 7.6      |
| 80000          | 7.5      | 7.7      | 7.8      | 7.8      | 7.7      | 7.6      | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.6      |
| 90000          | 7.6      | 7.7      | 7.9      | 7.8      | 7.7      | 7.7      | 7.8      | 7.7      | 7.5      | 7.6      | 7.7      | 7.6      | 7.6      | 7.7      | 7.7      | 7.6      |
| 100000         | 7.5      | 7.7      | 7.8      | 7.8      | 7.7      | 7.7      | 7.7      | 7.6      | 7.5      | 7.5      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.7      |
| 110000         | 7.6      | 7.7      | 7.9      | 7.8      | 7.7      | 7.7      | 7.7      | 7.6      | 7.6      | 7.5      | 7.7      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      |
| 120000         | 7.5      | 7.7      | 7.8      | 7.9      | 7.7      | 7.7      | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      |
| 130000         | 7.5      | 7.8      | 8.0      | 7.9      | 7.7      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.7      |
| 140000         | 7.7      | 7.8      | 7.9      | 7.8      | 7.7      | 7.6      | 7.5      | 7.7      | 7.6      | 7.6      | 7.7      | 7.7      | 7.6      | 7.6      | 7.7      | 7.7      |
| 150000         | 7.5      | 7.9      | 7.9      | 7.8      | 7.7      | 7.6      | 7.5      | 7.6      | 7.7      | 7.6      | 7.7      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      |
| 160000         | 7.6      | 8.0      | 7.9      | 7.8      | 7.7      | 7.6      | 7.5      | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      |
| 170000         | 7.5      | 7.8      | 7.9      | 7.8      | 7.7      | 7.7      | 7.5      | 7.6      | 7.6      | 7.6      | 7.8      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      |
| 180000         | 7.5      | 7.8      | 7.8      | 7.8      | 7.7      | 7.7      | 7.5      | 7.6      | 7.6      | 7.6      | 7.8      | 7.6      | 7.6      | 7.6      | 7.6      | 7.6      |
| 190000         | 7.5      | 7.8      | 7.8      | 7.8      | 7.7      | 7.6      | 7.5      | 7.6      | 7.6      | 7.6      | 7.8      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      |
| 200000         | 7.5      | 7.7      | 7.8      | 7.7      | 7.6      | 7.6      | 7.5      | 7.5      | 7.5      | 7.5      | 7.8      | 7.6      | 7.5      | 7.6      | 7.6      | 7.6      |
| 210000         | 7.5      | 7.7      | 7.8      | 7.7      | 7.7      | 7.6      | 7.5      | 7.6      | 7.6      | 7.6      | 7.8      | 7.6      | 7.5      | 7.6      | 7.6      | 7.6      |
| 220000         | 7.6      | 7.8      | 7.9      | 7.7      | 7.6      | 7.6      | 7.5      | 7.6      | 7.6      | 7.5      | 7.8      | 7.6      | 7.5      | 7.7      | 7.6      | 7.6      |
| 230000         | 7.5      | 7.7      | 7.8      | 7.7      | 7.6      | 7.6      | 7.5      | 7.5      | 7.5      | 7.6      | 7.8      | 7.6      | 7.6      | 7.7      | 7.6      | 7.6      |
| Daily Max      | 7.7      | 8.0      | 8.0      | 7.9      | 7.7      | 7.7      | 7.8      | 7.7      | 7.7      | 7.7      | 7.8      | 7.8      | 7.6      | 7.7      | 7.7      | 7.7      |
| Daily Min      | 7.5      | 7.5      | 7.6      | 7.6      | 7.6      | 7.6      | 7.5      | 7.5      | 7.5      | 7.5      | 7.6      | 7.6      | 7.5      | 7.5      | 7.6      | 7.5      |
| Average        | 7.5      | 7.7      | 7.8      | 7.8      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.6      | 7.6      | 7.7      | 7.6      |

License maximum pH: 9

License minimum pH: 6



High Falls Tailrace pH Summary - August 2017

| Time      | 08/17/17 | 08/18/17 | 08/19/17 | 08/20/17 | 08/21/17 | 08/22/17 | 08/23/17 | 08/24/17 | 08/25/17 | 08/26/17 | 08/27/17 | 08/28/17 | 08/29/17 | 08/30/17 | 08/31/17 |
|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| HHMMSS    |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 0         | 7.6      | 7.6      | 7.7      | 7.6      | 7.7      | 7.6      | 7.7      | 7.9      | 7.7      | 7.5      | 7.6      | 7.5      | 7.6      | 7.5      | 7.7      |
| 10000     | 7.6      | 7.6      | 7.6      | 7.6      | 7.7      | 7.6      | 7.7      | 7.8      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      | 7.5      | 7.7      |
| 20000     | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.6      | 7.6      | 7.8      | 7.6      | 7.6      | 7.5      | 7.6      | 7.6      | 7.5      | 7.7      |
| 30000     | 7.6      | 7.7      | 7.6      | 7.7      | 7.7      | 7.6      | 7.6      | 7.8      | 7.6      | 7.6      | 7.5      | 7.6      | 7.6      | 7.5      | 7.7      |
| 40000     | 7.6      | 7.7      | 7.6      | 7.6      | 7.7      | 7.6      | 7.7      | 7.8      | 7.6      | 7.6      | 7.5      | 7.5      | 7.6      | 7.5      | 7.7      |
| 50000     | 7.6      | 7.7      | 7.6      | 7.6      | 7.7      | 7.6      | 7.7      | 7.8      | 7.6      | 7.6      | 7.5      | 7.6      | 7.6      | 7.5      | 7.7      |
| 60000     | 7.6      | 7.7      | 7.6      | 7.6      | 7.7      | 7.6      | 7.7      | 7.8      | 7.6      | 7.5      | 7.5      | 7.6      | 7.6      | 7.5      | 7.6      |
| 70000     | 7.6      | 7.8      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.8      | 7.6      | 7.5      | 7.5      | 7.6      | 7.6      | 7.5      | 7.6      |
| 80000     | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.7      | 7.8      | 7.8      | 7.6      | 7.6      | 7.6      | 7.6      | 7.6      | 7.5      | 7.7      |
| 90000     | 7.7      | 7.8      | 7.6      | 7.7      | 7.8      | 7.7      | 7.8      | 7.8      | 7.6      | 7.6      | 7.5      | 7.6      | 7.6      | 7.5      | 7.7      |
| 100000    | 7.6      | 7.8      | 7.6      | 7.7      | 7.8      | 7.8      | 7.9      | 7.8      | 7.7      | 7.7      | 7.5      | 7.6      | 7.6      | 7.5      | 7.8      |
| 110000    | 7.6      | 7.8      | 7.7      | 7.7      | 7.8      | 7.9      | 7.8      | 7.8      | 7.7      | 7.7      | 7.5      | 7.6      | 7.6      | 7.5      | 7.8      |
| 120000    | 7.6      | 7.8      | 7.6      | 7.7      | 7.8      | 7.8      | 7.9      | 7.8      | 7.7      | 7.7      | 7.5      | 7.6      | 7.6      | 7.5      | 7.8      |
| 130000    | 7.6      | 7.8      | 7.6      | 7.7      | 7.8      | 7.9      | 7.9      | 7.9      | 7.6      | 7.7      | 7.5      | 7.6      | 7.6      | 7.6      | 7.8      |
| 140000    | 7.6      | 7.9      | 7.7      | 7.7      | 7.7      | 7.9      | 7.9      | 7.9      | 7.6      | 7.7      | 7.5      | 7.6      | 7.6      | 7.6      | 7.8      |
| 150000    | 7.6      | 7.9      | 7.7      | 7.7      | 7.7      | 7.9      | 7.9      | 7.9      | 7.6      | 7.7      | 7.5      | 7.6      | 7.6      | 7.6      | 7.7      |
| 160000    | 7.6      | 7.9      | 7.7      | 7.7      | 7.7      | 7.9      | 7.9      | 7.9      | 7.7      | 7.6      | 7.7      | 7.5      | 7.6      | 7.6      | 7.7      |
| 170000    | 7.5      | 7.8      | 7.7      | 7.6      | 7.7      | 7.9      | 7.9      | 7.7      | 7.7      | 7.6      | 7.5      | 7.6      | 7.6      | 7.6      | 7.7      |
| 180000    | 7.5      | 7.8      | 7.7      | 7.6      | 7.7      | 7.9      | 7.9      | 7.7      | 7.6      | 7.6      | 7.5      | 7.6      | 7.6      | 7.5      | 7.7      |
| 190000    | 7.5      | 7.8      | 7.7      | 7.6      | 7.6      | 7.8      | 7.9      | 7.7      | 7.6      | 7.6      | 7.5      | 7.6      | 7.6      | 7.6      | 7.7      |
| 200000    | 7.5      | 7.8      | 7.6      | 7.6      | 7.6      | 7.8      | 7.9      | 7.7      | 7.6      | 7.6      | 7.5      | 7.5      | 7.6      | 7.6      | 7.7      |
| 210000    | 7.6      | 7.7      | 7.6      | 7.6      | 7.6      | 7.8      | 7.8      | 7.7      | 7.6      | 7.6      | 7.5      | 7.5      | 7.5      | 7.6      | 7.7      |
| 220000    | 7.6      | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.9      | 7.7      | 7.6      | 7.6      | 7.5      | 7.6      | 7.5      | 7.6      | 7.7      |
| 230000    | 7.6      | 7.7      | 7.6      | 7.7      | 7.6      | 7.7      | 7.8      | 7.7      | 7.6      | 7.6      | 7.5      | 7.6      | 7.5      | 7.7      | 7.7      |
| Daily Max | 7.7      | 7.9      | 7.7      | 7.7      | 7.8      | 7.9      | 7.9      | 7.9      | 7.7      | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.8      |
| Daily Min | 7.5      | 7.6      | 7.6      | 7.6      | 7.6      | 7.6      | 7.6      | 7.7      | 7.6      | 7.5      | 7.5      | 7.5      | 7.5      | 7.5      | 7.6      |
| Average   | 7.6      | 7.8      | 7.6      | 7.6      | 7.7      | 7.8      | 7.8      | 7.8      | 7.6      | 7.6      | 7.5      | 7.6      | 7.6      | 7.5      | 7.7      |

High Falls Tailrace pH Summary - September 2017

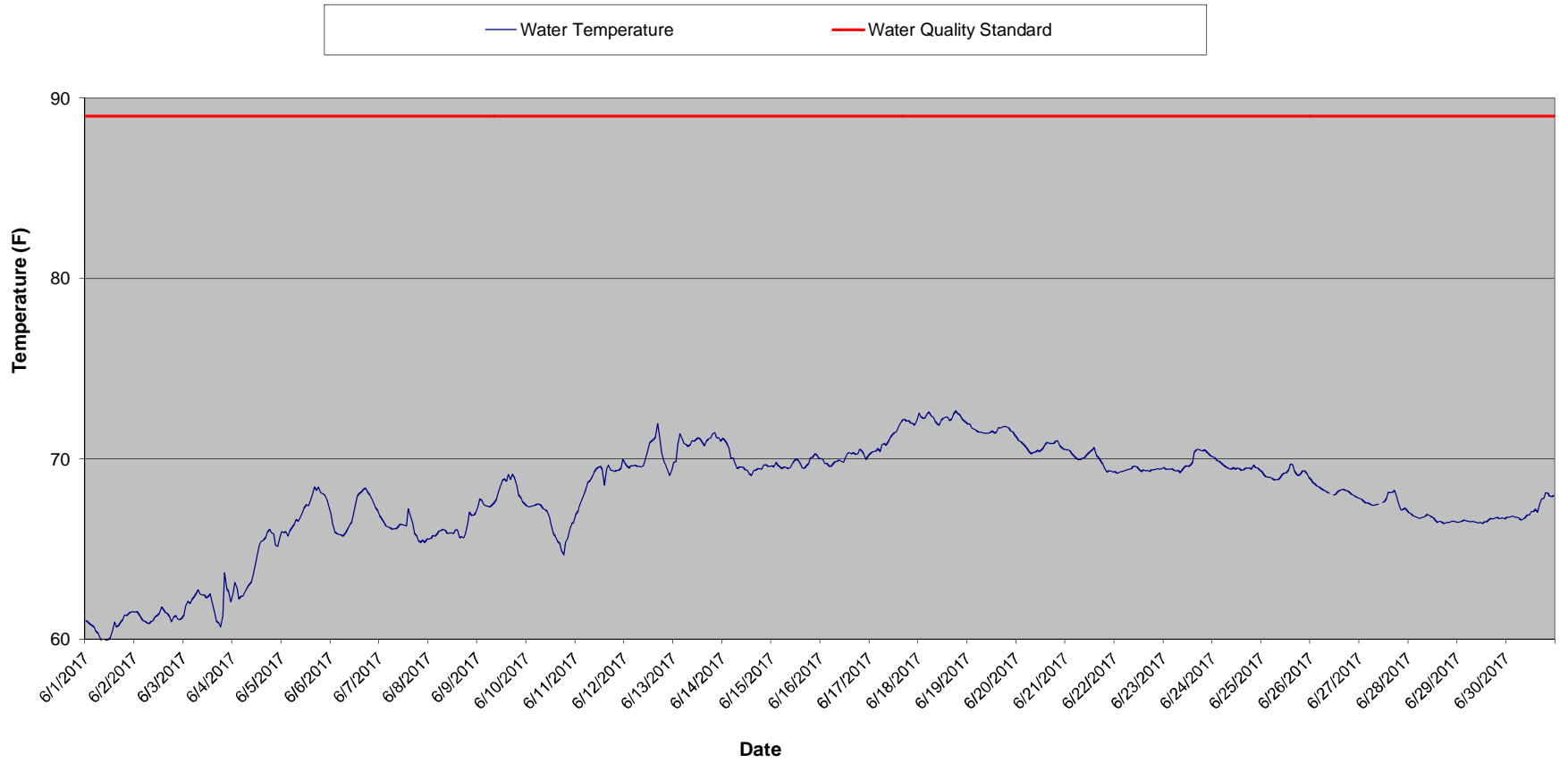
| Time<br>HHMMSS | 09/01/17 | 09/02/17 | 09/03/17 | 09/04/17 | 09/05/17 | 09/06/17 | 09/07/17 | 09/08/17 | 09/09/17 | 09/10/17 | 09/11/17 | 09/12/17 | 09/13/17 | 09/14/17 | 09/15/17 | 09/16/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.8      | 7.7      | 7.6      | 7.7      | 7.8      | 7.7      | 7.7      | 7.7      |
| 10000          | 7.6      | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.8      | 7.7      | 7.7      | 7.7      |
| 20000          | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.8      | 7.7      | 7.7      | 7.7      |
| 30000          | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.8      | 7.7      | 7.7      | 7.7      |
| 40000          | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      |
| 50000          | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      |
| 60000          | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      |
| 70000          | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      |
| 80000          | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      |
| 90000          | 7.7      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.8      | 7.7      | 7.7      | 7.8      | 7.7      | 7.8      | 7.7      | 7.7      |
| 100000         | 7.7      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.8      | 7.8      | 7.8      | 7.9      | 7.8      | 7.7      | 7.8      | 7.7      |
| 110000         | 7.7      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.8      | 7.8      | 7.8      | 7.7      | 7.9      | 7.8      | 7.7      | 7.7      | 7.8      |
| 120000         | 7.7      | 7.6      | 7.7      | 7.7      | 7.7      | 7.8      | 7.8      | 7.8      | 7.8      | 7.8      | 7.7      | 7.9      | 7.8      | 7.7      | 7.8      | 7.7      |
| 130000         | 7.7      | 7.6      | 7.7      | 7.7      | 7.7      | 7.8      | 7.7      | 7.8      | 7.8      | 7.8      | 7.7      | 7.8      | 7.8      | 7.7      | 7.8      | 7.7      |
| 140000         | 7.7      | 7.6      | 7.7      | 7.7      | 7.8      | 7.8      | 7.8      | 7.8      | 7.8      | 7.8      | 7.7      | 7.9      | 7.8      | 7.7      | 7.7      | 7.7      |
| 150000         | 7.7      | 7.6      | 7.7      | 7.7      | 7.7      | 7.8      | 7.8      | 7.8      | 7.8      | 7.8      | 7.7      | 7.9      | 7.8      | 7.7      | 7.7      | 7.7      |
| 160000         | 7.7      | 7.6      | 7.7      | 7.8      | 7.8      | 7.8      | 7.8      | 7.8      | 7.7      | 7.7      | 7.7      | 7.9      | 7.7      | 7.7      | 7.7      | 7.7      |
| 170000         | 7.6      | 7.6      | 7.7      | 7.7      | 7.8      | 7.8      | 7.8      | 7.8      | 7.8      | 7.7      | 7.7      | 7.9      | 7.7      | 7.7      | 7.7      | 7.7      |
| 180000         | 7.6      | 7.6      | 7.7      | 7.8      | 7.8      | 7.8      | 7.8      | 7.8      | 7.7      | 7.7      | 7.6      | 7.9      | 7.7      | 7.7      | 7.7      | 7.7      |
| 190000         | 7.6      | 7.5      | 7.6      | 7.8      | 7.8      | 7.8      | 7.8      | 7.7      | 7.7      | 7.7      | 7.6      | 7.8      | 7.7      | 7.7      | 7.7      | 7.7      |
| 200000         | 7.6      | 7.5      | 7.6      | 7.7      | 7.8      | 7.8      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.8      | 7.7      | 7.6      | 7.7      | 7.7      |
| 210000         | 7.6      | 7.6      | 7.6      | 7.7      | 7.8      | 7.8      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.8      | 7.7      | 7.6      | 7.7      | 7.7      |
| 220000         | 7.6      | 7.6      | 7.6      | 7.7      | 7.8      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.8      | 7.7      | 7.6      | 7.7      | 7.7      |
| 230000         | 7.6      | 7.6      | 7.6      | 7.7      | 7.8      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.8      | 7.7      | 7.7      | 7.7      | 7.7      |
| Daily Max      | 7.7      | 7.6      | 7.7      | 7.8      | 7.8      | 7.8      | 7.8      | 7.8      | 7.8      | 7.8      | 7.8      | 7.9      | 7.8      | 7.8      | 7.8      | 7.8      |
| Daily Min      | 7.6      | 7.5      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      |
| Average        | 7.6      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.8      | 7.7      | 7.7      | 7.7      | 7.7      |

License maximum pH: 9  
 License minimum pH: 6

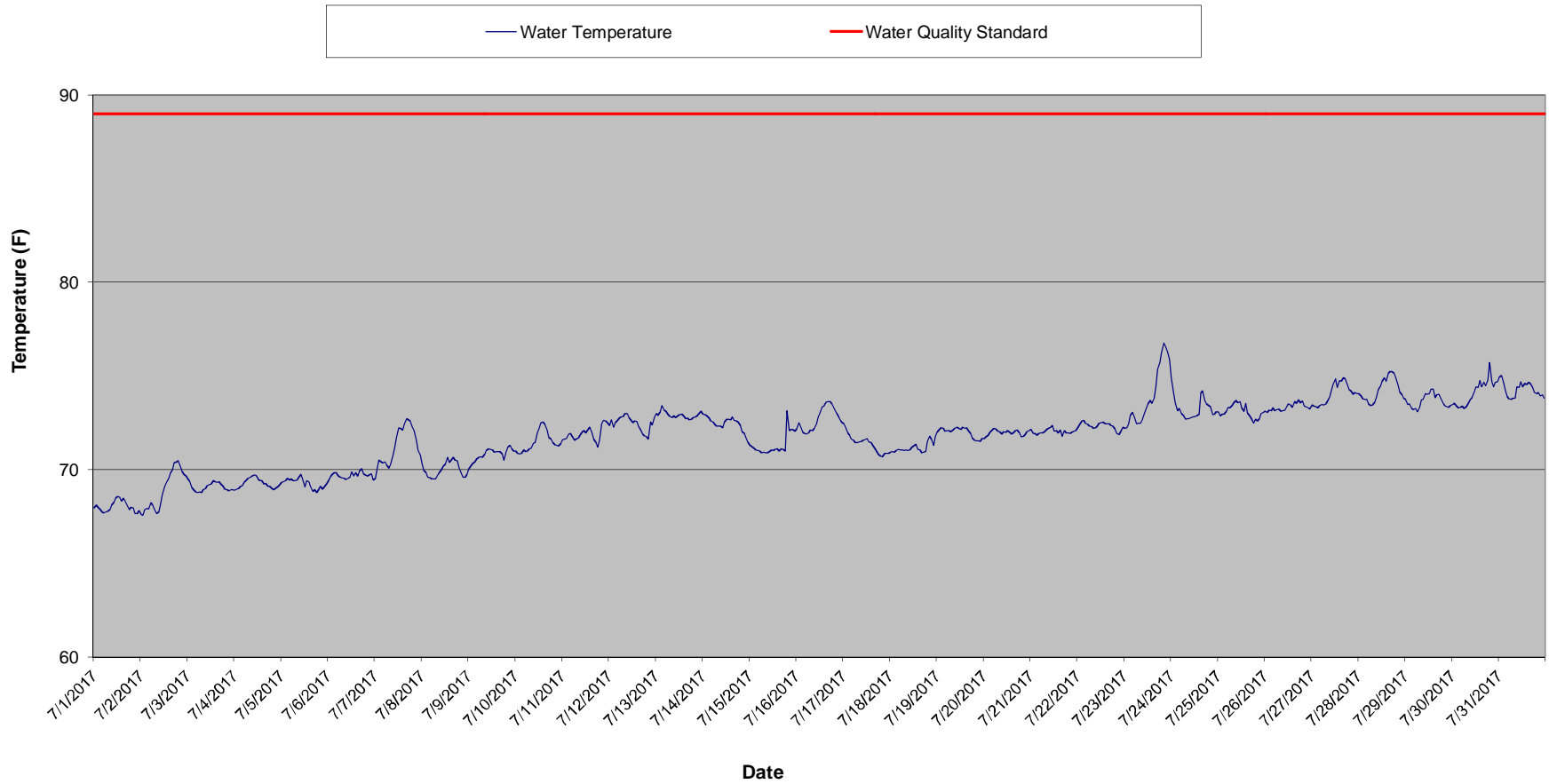
High Falls Tailrace pH Summary - September 2017

| Time<br>HHMMSS | 09/17/17 | 09/18/17 | 09/19/17 | 09/20/17 | 09/21/17 | 09/22/17 | 09/23/17 | 09/24/17 | 09/25/17 | 09/26/17 | 09/27/17 | 09/28/17 | 09/29/17 | 09/30/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.6      | 7.6      | 7.7      | 7.8      |
| 10000          | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.6      | 7.7      | 7.7      | 7.7      | 7.6      | 7.6      | 7.7      | 7.8      |
| 20000          | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.7      | 7.6      | 7.6      | 7.8      | 7.8      |
| 30000          | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.8      | 7.8      |
| 40000          | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.6      | 7.7      | 7.6      | 7.8      | 7.8      |
| 50000          | 7.7      | 7.8      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.8      | 7.8      |
| 60000          | 7.7      | 7.8      | 7.8      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.6      | 7.8      | 7.8      |
| 70000          | 7.7      | 7.8      | 7.8      | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.8      | 7.8      |
| 80000          | 7.7      | 7.8      | 7.8      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.8      | 7.8      |
| 90000          | 7.7      | 7.8      | 7.8      | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.8      | 7.8      |
| 100000         | 7.7      | 7.7      | 7.8      | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.6      | 7.7      | 7.6      | 7.8      | 7.8      |
| 110000         | 7.7      | 7.7      | 7.8      | 7.7      | 7.8      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.8      | 7.6      | 7.8      | 7.8      |
| 120000         | 7.7      | 7.7      | 7.8      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.8      | 7.6      | 7.9      | 7.8      |
| 130000         | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.6      | 7.8      | 7.6      | 7.9      | 7.8      |
| 140000         | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.6      | 7.6      | 7.7      | 7.6      | 7.6      | 7.8      | 7.6      | 7.8      | 7.8      |
| 150000         | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.8      | 7.6      | 7.6      | 7.6      | 7.6      | 7.8      | 7.6      | 7.8      | 7.8      |
| 160000         | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      | 7.8      | 7.6      | 7.8      | 7.8      |
| 170000         | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      | 7.8      | 7.6      | 7.8      | 7.8      |
| 180000         | 7.7      | 7.7      | 7.7      | 7.6      | 7.6      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      | 7.8      | 7.6      | 7.8      | 7.7      |
| 190000         | 7.7      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      | 7.6      | 7.6      | 7.6      | 7.5      | 7.9      | 7.6      | 7.8      | 7.7      |
| 200000         | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      | 7.8      | 7.6      | 7.8      | 7.7      |
| 210000         | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      | 7.7      | 7.6      | 7.8      | 7.7      |
| 220000         | 7.7      | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      | 7.7      | 7.6      | 7.8      | 7.7      |
| 230000         | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.7      | 7.6      | 7.6      | 7.6      | 7.7      | 7.6      | 7.8      | 7.7      |
| Daily Max      | 7.7      | 7.8      | 7.8      | 7.7      | 7.8      | 7.8      | 7.7      | 7.7      | 7.7      | 7.7      | 7.9      | 7.7      | 7.9      | 7.8      |
| Daily Min      | 7.7      | 7.6      | 7.6      | 7.6      | 7.6      | 7.6      | 7.6      | 7.6      | 7.6      | 7.5      | 7.6      | 7.6      | 7.7      | 7.7      |
| Average        | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.7      | 7.6      | 7.7      | 7.6      | 7.6      | 7.7      | 7.6      | 7.8      | 7.8      |

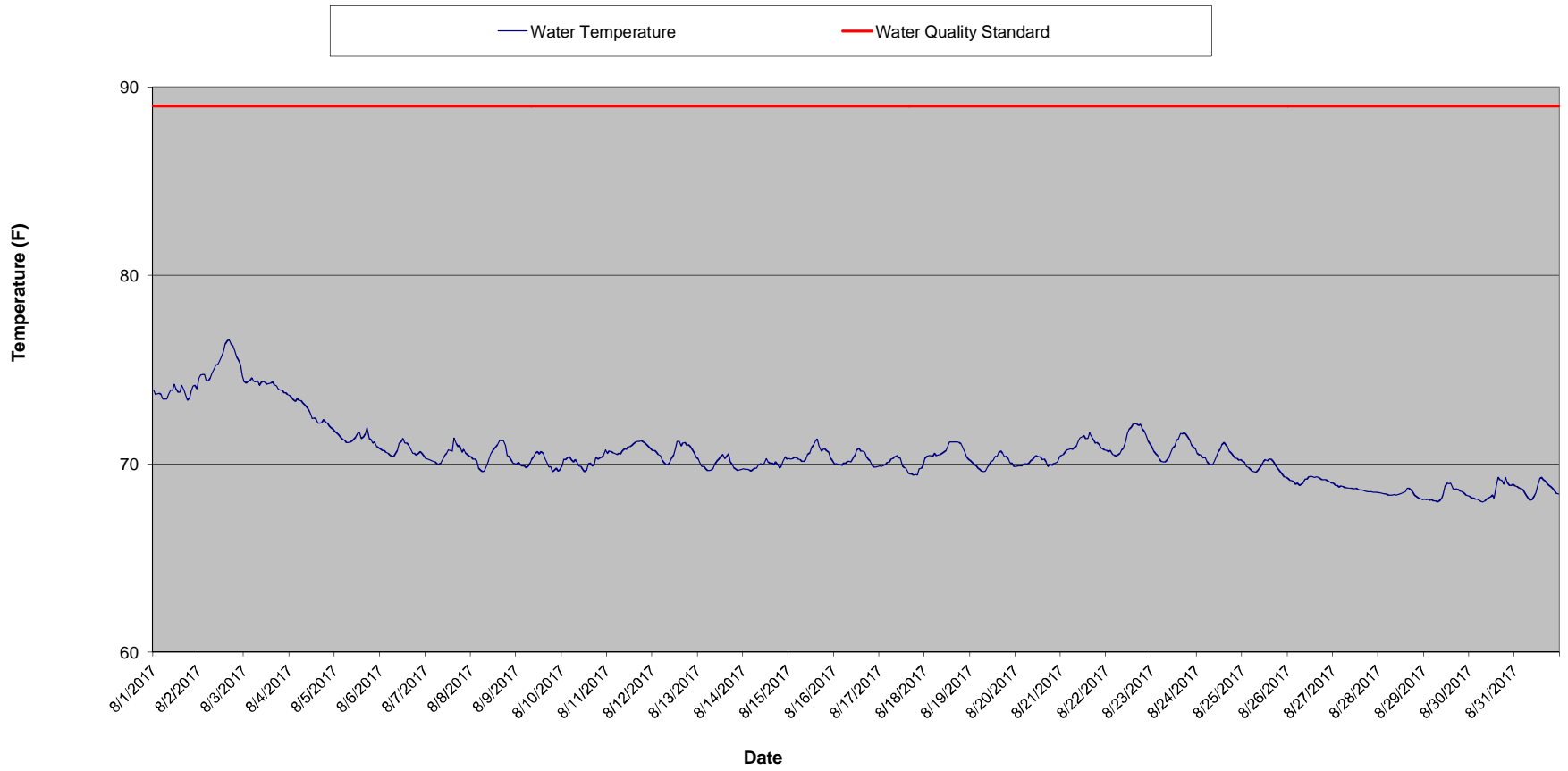
### High Falls Tailrace Water Temperature - June 2017



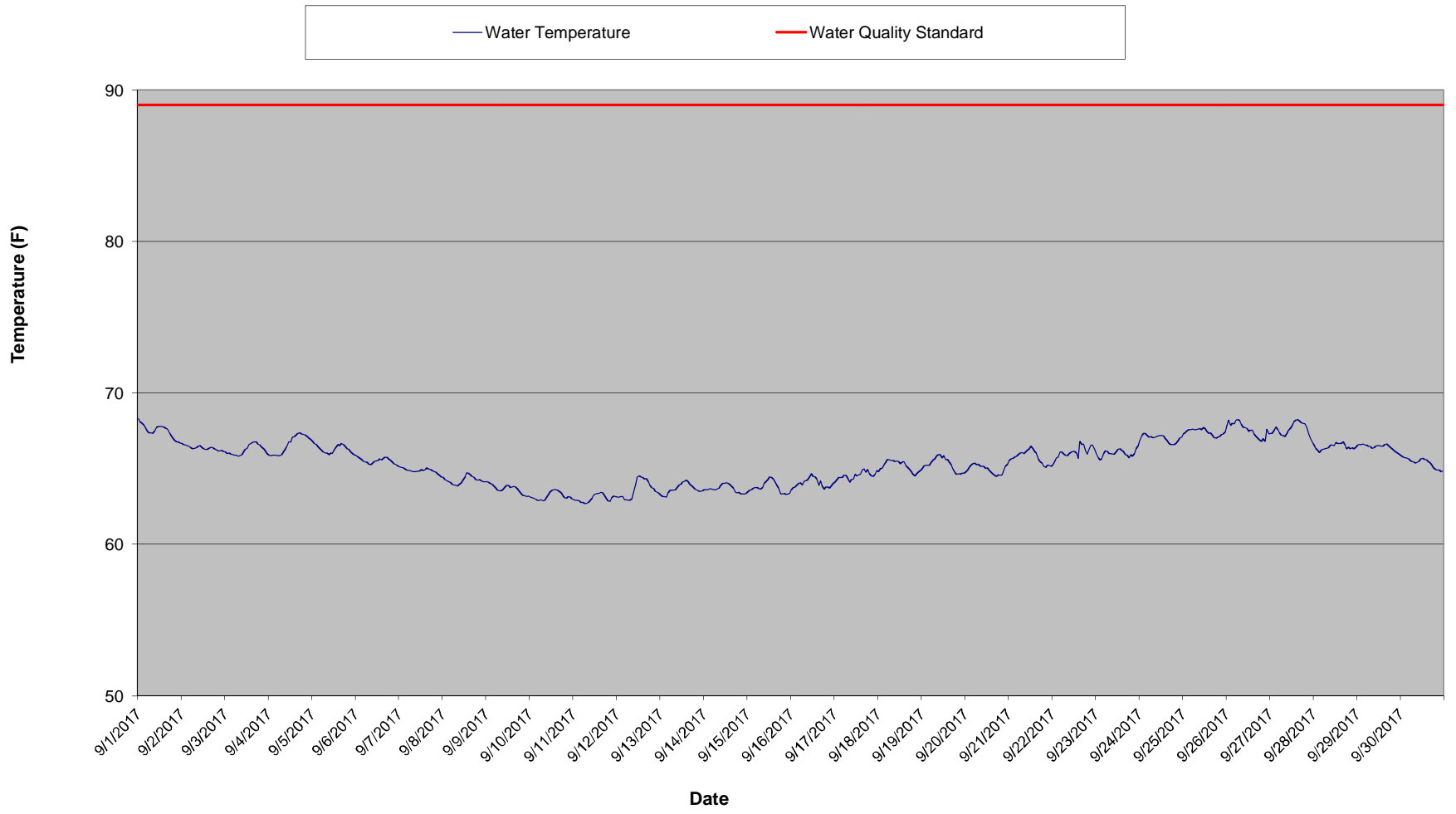
### High Falls Tailrace Water Temperature - July 2017



### High Falls Tailrace Water Temperature - August 2017



### High Falls Tailrace Water Temperature - September 2017



High Falls Tailrace Temperature Summary - June 2017

| Time<br>HHMMSS | 06/01/17 | 06/02/17 | 06/03/17 | 06/04/17 | 06/05/17 | 06/06/17 | 06/07/17 | 06/08/17 | 06/09/17 | 06/10/17 | 06/11/17 | 06/12/17 | 06/13/17 | 06/14/17 | 06/15/17 | 06/16/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 61.0     | 61.5     | 61.3     | 62.5     | 66.0     | 67.0     | 66.9     | 65.6     | 67.4     | 67.4     | 66.9     | 69.7     | 69.8     | 71.1     | 69.6     | 70.0     |
| 10000          | 61.0     | 61.5     | 61.8     | 63.1     | 65.9     | 66.4     | 66.7     | 65.6     | 67.8     | 67.3     | 67.1     | 69.6     | 69.8     | 71.0     | 69.5     | 70.0     |
| 20000          | 60.8     | 61.4     | 62.1     | 62.8     | 66.0     | 65.9     | 66.5     | 65.7     | 67.7     | 67.4     | 67.5     | 69.5     | 70.7     | 70.8     | 69.8     | 69.7     |
| 30000          | 60.8     | 61.2     | 62.0     | 62.2     | 65.7     | 65.8     | 66.3     | 65.7     | 67.5     | 67.4     | 67.8     | 69.6     | 71.4     | 70.6     | 69.7     | 69.7     |
| 40000          | 60.7     | 61.0     | 62.2     | 62.4     | 66.0     | 65.8     | 66.2     | 65.8     | 67.4     | 67.4     | 68.0     | 69.6     | 71.1     | 70.0     | 69.5     | 69.6     |
| 50000          | 60.5     | 61.0     | 62.4     | 62.4     | 66.2     | 65.8     | 66.2     | 66.0     | 67.4     | 67.5     | 68.4     | 69.6     | 70.8     | 70.0     | 69.5     | 69.6     |
| 60000          | 60.3     | 60.9     | 62.5     | 62.6     | 66.4     | 65.7     | 66.1     | 66.0     | 67.3     | 67.5     | 68.7     | 69.6     | 70.8     | 69.8     | 69.6     | 69.7     |
| 70000          | 60.0     | 60.8     | 62.7     | 62.9     | 66.6     | 65.9     | 66.1     | 66.1     | 67.4     | 67.4     | 68.8     | 69.6     | 70.7     | 69.5     | 69.5     | 69.8     |
| 80000          | 59.8     | 61.0     | 62.5     | 63.0     | 66.5     | 66.0     | 66.1     | 66.0     | 67.6     | 67.2     | 69.0     | 69.6     | 70.8     | 69.5     | 69.5     | 69.9     |
| 90000          | 59.8     | 61.0     | 62.4     | 63.2     | 66.7     | 66.3     | 66.2     | 65.9     | 67.7     | 67.2     | 69.2     | 69.6     | 71.0     | 69.5     | 69.5     | 69.9     |
| 100000         | 60.0     | 61.2     | 62.4     | 63.6     | 67.0     | 66.5     | 66.4     | 65.9     | 68.1     | 67.1     | 69.5     | 69.9     | 71.0     | 69.5     | 69.7     | 69.9     |
| 110000         | 60.0     | 61.3     | 62.3     | 64.2     | 67.3     | 66.9     | 66.4     | 65.9     | 68.5     | 66.7     | 69.5     | 70.4     | 71.1     | 69.4     | 69.9     | 69.8     |
| 120000         | 60.1     | 61.4     | 62.4     | 64.6     | 67.5     | 67.5     | 66.3     | 65.9     | 68.8     | 66.3     | 69.6     | 70.9     | 71.2     | 69.4     | 70.0     | 70.1     |
| 130000         | 60.4     | 61.8     | 62.5     | 65.2     | 67.4     | 67.9     | 66.3     | 66.1     | 68.9     | 65.8     | 69.4     | 71.0     | 71.1     | 69.2     | 69.9     | 70.3     |
| 140000         | 61.0     | 61.7     | 62.0     | 65.4     | 67.7     | 68.1     | 67.2     | 66.1     | 68.8     | 65.7     | 68.5     | 71.1     | 70.9     | 69.1     | 69.7     | 70.3     |
| 150000         | 60.7     | 61.5     | 61.5     | 65.5     | 68.1     | 68.2     | 66.8     | 65.6     | 69.1     | 65.4     | 69.4     | 71.2     | 70.7     | 69.3     | 69.5     | 70.3     |
| 160000         | 60.8     | 61.4     | 61.0     | 65.7     | 68.4     | 68.3     | 66.4     | 65.7     | 68.8     | 65.3     | 69.6     | 72.0     | 71.0     | 69.4     | 69.5     | 70.3     |
| 170000         | 60.9     | 61.2     | 60.9     | 65.9     | 68.2     | 68.4     | 65.9     | 65.6     | 69.1     | 64.9     | 69.3     | 71.3     | 71.1     | 69.4     | 69.6     | 70.2     |
| 180000         | 61.1     | 61.0     | 60.7     | 66.1     | 68.5     | 68.2     | 65.7     | 65.8     | 68.9     | 64.7     | 69.4     | 70.3     | 71.2     | 69.5     | 69.7     | 70.3     |
| 190000         | 61.3     | 61.2     | 61.3     | 65.9     | 68.1     | 68.0     | 65.5     | 66.4     | 68.5     | 65.4     | 69.3     | 69.9     | 71.4     | 69.4     | 70.0     | 70.5     |
| 200000         | 61.3     | 61.3     | 63.7     | 65.8     | 68.1     | 67.8     | 65.4     | 67.1     | 68.0     | 65.6     | 69.4     | 69.6     | 71.4     | 69.7     | 70.1     | 70.4     |
| 210000         | 61.4     | 61.1     | 62.8     | 65.2     | 68.0     | 67.5     | 65.5     | 66.8     | 67.8     | 66.0     | 69.3     | 69.3     | 71.2     | 69.7     | 70.3     | 70.3     |
| 220000         | 61.5     | 61.1     | 62.6     | 65.1     | 67.7     | 67.3     | 65.4     | 66.9     | 67.6     | 66.4     | 69.5     | 69.1     | 71.2     | 69.6     | 70.2     | 70.0     |
| 230000         | 61.5     | 61.1     | 62.1     | 65.7     | 67.4     | 67.1     | 65.5     | 67.0     | 67.5     | 66.5     | 70.0     | 69.4     | 71.0     | 69.6     | 70.0     | 70.1     |
| Daily Max      | 61.5     | 61.8     | 63.7     | 66.1     | 68.5     | 68.4     | 67.2     | 67.1     | 69.1     | 67.5     | 70.0     | 72.0     | 71.4     | 71.1     | 70.3     | 70.5     |
| Daily Min      | 59.8     | 60.8     | 60.7     | 62.2     | 65.7     | 65.7     | 65.4     | 65.6     | 67.3     | 64.7     | 66.9     | 69.1     | 69.8     | 69.1     | 69.5     | 69.6     |
| Average        | 60.7     | 61.2     | 62.1     | 64.2     | 67.1     | 67.0     | 66.2     | 66.0     | 68.1     | 66.5     | 68.9     | 70.1     | 70.9     | 69.7     | 69.7     | 70.0     |

Monthly average Temp: 67.6  
 License Maximum Temperature: 89 F



High Falls Tailrace Temperature Summary - June 2017

| Time<br>HHMMSS | 06/17/17 | 06/18/17 | 06/19/17 | 06/20/17 | 06/21/17 | 06/22/17 | 06/23/17 | 06/24/17 | 06/25/17 | 06/26/17 | 06/27/17 | 06/28/17 | 06/29/17 | 06/30/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 70.3     | 72.5     | 71.9     | 71.2     | 70.5     | 69.3     | 69.5     | 70.1     | 69.3     | 68.9     | 67.8     | 67.0     | 66.5     | 66.7     |
| 10000          | 70.4     | 72.3     | 71.9     | 71.0     | 70.5     | 69.2     | 69.4     | 70.0     | 69.1     | 68.7     | 67.8     | 67.0     | 66.5     | 66.8     |
| 20000          | 70.4     | 72.3     | 71.7     | 70.9     | 70.4     | 69.2     | 69.4     | 69.9     | 69.0     | 68.6     | 67.6     | 66.9     | 66.5     | 66.8     |
| 30000          | 70.4     | 72.2     | 71.6     | 70.8     | 70.3     | 69.3     | 69.4     | 69.9     | 69.0     | 68.5     | 67.6     | 66.8     | 66.6     | 66.8     |
| 40000          | 70.6     | 72.5     | 71.6     | 70.7     | 70.1     | 69.3     | 69.4     | 69.8     | 69.0     | 68.4     | 67.5     | 66.8     | 66.6     | 66.8     |
| 50000          | 70.4     | 72.6     | 71.5     | 70.6     | 70.0     | 69.3     | 69.3     | 69.7     | 68.9     | 68.3     | 67.5     | 66.7     | 66.5     | 66.8     |
| 60000          | 70.8     | 72.4     | 71.5     | 70.4     | 70.0     | 69.4     | 69.3     | 69.6     | 68.8     | 68.3     | 67.4     | 66.7     | 66.5     | 66.7     |
| 70000          | 70.8     | 72.3     | 71.5     | 70.3     | 70.0     | 69.4     | 69.3     | 69.5     | 68.9     | 68.2     | 67.4     | 66.8     | 66.5     | 66.6     |
| 80000          | 70.8     | 72.1     | 71.4     | 70.3     | 70.0     | 69.4     | 69.2     | 69.5     | 68.9     | 68.1     | 67.5     | 66.8     | 66.5     | 66.7     |
| 90000          | 70.9     | 71.9     | 71.4     | 70.4     | 70.1     | 69.6     | 69.4     | 69.4     | 69.0     | 68.1     | 67.5     | 66.9     | 66.5     | 66.7     |
| 100000         | 71.2     | 71.9     | 71.4     | 70.5     | 70.2     | 69.6     | 69.6     | 69.5     | 69.1     |          |          | 66.8     | 66.4     | 66.9     |
| 110000         | 71.3     | 72.1     | 71.4     | 70.4     | 70.3     | 69.5     | 69.6     | 69.4     | 69.2     | 68.0     | 67.6     | 66.8     | 66.5     | 66.9     |
| 120000         | 71.4     | 72.2     | 71.5     | 70.5     | 70.4     | 69.4     | 69.6     | 69.5     | 69.2     | 68.0     | 67.6     | 66.7     | 66.4     | 67.1     |
| 130000         | 71.5     | 72.3     | 71.4     | 70.6     | 70.5     | 69.3     | 69.6     | 69.5     | 69.4     | 68.1     | 67.8     | 66.6     | 66.5     | 67.1     |
| 140000         | 71.8     | 72.3     | 71.5     | 70.8     | 70.6     | 69.4     | 69.8     | 69.3     | 69.7     | 68.3     | 68.2     | 66.5     | 66.5     | 67.2     |
| 150000         | 72.0     | 72.1     | 71.7     | 70.9     | 70.2     | 69.3     | 70.4     | 69.4     | 69.7     | 68.3     | 68.1     | 66.5     | 66.6     | 67.0     |
| 160000         | 72.1     | 72.2     | 71.7     | 70.9     | 70.1     | 69.3     | 70.5     | 69.5     | 69.3     | 68.3     | 68.2     | 66.5     | 66.7     | 67.4     |
| 170000         | 72.2     | 72.5     | 71.8     | 70.8     | 69.9     | 69.3     | 70.5     | 69.5     | 69.1     | 68.2     | 68.2     | 66.4     | 66.7     | 67.8     |
| 180000         | 72.1     | 72.6     | 71.8     | 70.8     | 69.7     | 69.4     | 70.5     | 69.5     | 69.1     | 68.2     | 67.9     | 66.4     | 66.7     | 67.8     |
| 190000         | 72.1     | 72.5     | 71.8     | 71.0     | 69.5     | 69.4     | 70.4     | 69.4     | 69.2     | 68.1     | 67.5     | 66.5     | 66.8     | 68.1     |
| 200000         | 72.0     | 72.4     | 71.7     | 71.0     | 69.2     | 69.4     | 70.5     | 69.6     | 69.3     | 68.0     | 67.2     | 66.5     | 66.7     | 68.1     |
| 210000         | 72.0     | 72.2     | 71.5     | 70.7     | 69.3     | 69.4     | 70.4     | 69.5     | 69.3     | 68.0     | 67.2     | 66.5     | 66.7     | 67.9     |
| 220000         | 71.9     | 72.1     | 71.5     | 70.6     | 69.3     | 69.4     | 70.3     | 69.5     | 69.2     | 67.9     | 67.3     | 66.5     | 66.7     | 67.9     |
| 230000         | 72.1     | 72.0     | 71.3     | 70.5     | 69.3     | 69.5     | 70.2     | 69.4     | 69.0     | 67.9     | 67.2     | 66.5     | 66.6     | 68.0     |
| Daily Max      | 72.2     | 72.6     | 71.9     | 71.2     | 70.6     | 69.6     | 70.5     | 70.1     | 69.7     | 68.9     | 68.2     | 67.0     | 66.8     | 68.1     |
| Daily Min      | 70.3     | 71.9     | 71.3     | 70.3     | 69.2     | 69.2     | 69.2     | 69.3     | 68.8     | 67.9     | 67.2     | 66.4     | 66.4     | 66.6     |
| Average        | 71.3     | 72.3     | 71.6     | 70.7     | 70.0     | 69.4     | 69.8     | 69.6     | 69.1     | 68.2     | 67.6     | 66.7     | 66.6     | 67.2     |

Missing data due to equipment maintenance

High Falls Tailrace Temperature Summary - July 2017

| Time<br>HHMMSS | 07/01/17 | 07/02/17 | 07/03/17 | 07/04/17 | 07/05/17 | 07/06/17 | 07/07/17 | 07/08/17 | 07/09/17 | 07/10/17 | 07/11/17 | 07/12/17 | 07/13/17 | 07/14/17 | 07/15/17 | 07/16/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 68.0     | 67.6     | 69.5     | 68.9     | 69.3     | 69.4     | 69.5     | 70.3     | 70.0     | 71.0     | 71.6     | 72.3     | 73.0     | 73.0     | 71.3     | 72.2     |
| 10000          | 68.1     | 67.6     | 69.4     | 68.9     | 69.3     | 69.6     | 70.1     | 70.0     | 70.2     | 70.9     | 71.6     | 72.7     | 72.9     | 72.9     | 71.2     | 72.5     |
| 20000          | 68.0     | 67.9     | 69.1     | 69.0     | 69.4     | 69.7     | 70.5     | 69.8     | 70.3     | 70.8     | 71.7     | 72.3     | 73.1     | 72.9     | 71.2     | 72.3     |
| 30000          | 67.9     | 67.9     | 68.9     | 69.1     | 69.5     | 69.8     | 70.4     | 69.6     | 70.4     | 70.9     | 71.9     | 72.5     | 73.4     | 72.8     | 71.0     | 72.0     |
| 40000          | 67.8     | 67.9     | 68.8     | 69.1     | 69.4     | 69.8     | 70.4     | 69.6     | 70.6     | 71.0     | 71.9     | 72.6     | 73.2     | 72.6     | 71.0     | 71.9     |
| 50000          | 67.7     | 68.2     | 68.8     | 69.3     | 69.5     | 69.7     | 70.4     | 69.5     | 70.6     | 71.0     | 71.8     | 72.8     | 73.1     | 72.5     | 71.0     | 71.9     |
| 60000          | 67.7     | 68.1     | 68.8     | 69.4     | 69.4     | 69.6     | 70.2     | 69.5     | 70.7     | 71.0     | 71.6     | 72.8     | 72.9     | 72.4     | 70.9     | 72.0     |
| 70000          | 67.8     | 67.8     | 68.8     | 69.5     | 69.4     | 69.6     | 70.1     | 69.5     | 70.7     | 71.1     | 71.6     | 72.9     | 72.8     | 72.3     | 70.9     | 72.1     |
| 80000          | 67.9     | 67.6     | 68.9     | 69.6     | 69.4     | 69.5     | 70.3     | 69.7     | 70.8     | 71.1     | 71.7     | 73.0     | 72.8     | 72.3     | 70.9     | 72.1     |
| 90000          | 68.1     | 67.7     | 69.0     | 69.7     | 69.6     | 69.5     | 70.8     | 69.9     | 71.0     | 71.4     | 71.8     | 73.0     | 72.9     | 72.3     | 70.9     | 72.2     |
| 100000         | 68.2     | 68.2     | 69.2     | 69.7     | 69.7     | 69.5     | 71.2     | 70.0     | 71.1     | 71.4     | 72.0     | 72.8     | 72.8     | 72.2     | 71.0     | 72.4     |
| 110000         | 68.5     | 68.7     | 69.2     | 69.7     | 69.4     | 69.6     | 71.7     | 70.2     | 71.1     | 72.0     | 72.1     | 72.7     | 72.9     | 72.5     | 71.0     | 72.8     |
| 120000         | 68.6     | 69.1     | 69.2     | 69.5     | 69.1     | 69.9     | 72.2     | 70.3     | 71.1     | 72.2     | 72.0     | 72.5     | 72.9     | 72.7     | 71.0     | 73.0     |
| 130000         | 68.5     | 69.3     | 69.4     | 69.4     | 69.4     | 69.7     | 72.2     | 70.6     | 70.9     | 72.5     | 72.1     | 72.6     | 73.0     | 72.7     | 71.1     | 73.3     |
| 140000         | 68.3     | 69.5     | 69.3     | 69.4     | 69.3     | 69.8     | 72.1     | 70.4     | 70.9     | 72.5     | 72.3     | 72.6     | 72.9     | 72.7     | 71.1     | 73.4     |
| 150000         | 68.5     | 69.8     | 69.3     | 69.2     | 69.1     | 69.7     | 72.4     | 70.5     | 71.0     | 72.4     | 72.0     | 72.3     | 72.7     | 72.8     | 71.0     | 73.6     |
| 160000         | 68.3     | 70.0     | 69.3     | 69.3     | 68.8     | 69.9     | 72.7     | 70.7     | 71.0     | 72.1     | 71.6     | 72.1     | 72.7     | 72.6     | 71.1     | 73.6     |
| 170000         | 68.0     | 70.4     | 69.2     | 69.1     | 68.9     | 70.0     | 72.7     | 70.5     | 70.8     | 71.7     | 71.4     | 71.9     | 72.7     | 72.6     | 71.1     | 73.6     |
| 180000         | 67.9     | 70.4     | 69.1     | 69.1     | 68.8     | 69.8     | 72.6     | 70.5     | 70.5     | 71.6     | 71.2     | 71.8     | 72.7     | 72.5     | 71.0     | 73.5     |
| 190000         | 68.0     | 70.5     | 69.0     | 69.0     | 68.9     | 69.7     | 72.3     | 70.1     | 71.0     | 71.4     | 71.5     | 71.7     | 72.8     | 72.3     | 73.1     | 73.3     |
| 200000         | 67.9     | 70.2     | 68.9     | 68.9     | 69.1     | 69.7     | 72.1     | 69.8     | 71.2     | 71.3     | 72.4     | 71.6     | 72.8     | 72.0     | 72.1     | 73.1     |
| 210000         | 67.7     | 69.9     | 68.9     | 69.0     | 69.0     | 69.7     | 71.6     | 69.6     | 71.3     | 71.3     | 72.6     | 72.5     | 72.9     | 71.9     | 72.1     | 72.9     |
| 220000         | 67.7     | 69.8     | 68.9     | 69.1     | 69.1     | 69.8     | 71.0     | 69.6     | 71.1     | 71.3     | 72.6     | 72.4     | 73.0     | 71.7     | 72.1     | 72.7     |
| 230000         | 67.8     | 69.7     | 68.9     | 69.2     | 69.2     | 69.5     | 70.8     | 69.7     | 71.0     | 71.4     | 72.5     | 72.8     | 73.1     | 71.5     | 72.1     | 72.5     |
| Daily Max      | 68.6     | 70.5     | 69.5     | 69.7     | 69.7     | 70.0     | 72.7     | 70.7     | 71.3     | 72.5     | 72.6     | 73.0     | 73.4     | 73.0     | 73.1     | 73.6     |
| Daily Min      | 67.7     | 67.6     | 68.8     | 68.9     | 68.8     | 69.4     | 69.5     | 69.5     | 70.0     | 70.8     | 71.2     | 71.6     | 72.7     | 71.5     | 70.9     | 71.9     |
| Average        | 68.0     | 68.9     | 69.1     | 69.3     | 69.3     | 69.7     | 71.3     | 70.0     | 70.8     | 71.5     | 71.9     | 72.5     | 72.9     | 72.5     | 71.3     | 72.7     |

Monthly Average Temp: 71.8  
 License Maximum Temperature: 89 F

High Falls Tailrace Temperature Summary - July 2017

| Time      | 07/17/17 | 07/18/17 | 07/19/17 | 07/20/17 | 07/21/17 | 07/22/17 | 07/23/17 | 07/24/17 | 07/25/17 | 07/26/17 | 07/27/17 | 07/28/17 | 07/29/17 | 07/30/17 | 07/31/17 |
|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0         | 72.4     | 70.9     | 72.0     | 71.7     | 72.1     | 72.3     | 72.2     | 74.9     | 73.1     | 73.1     | 73.5     | 74.1     | 73.8     | 73.5     | 74.9     |
| 10000     | 72.2     | 71.0     | 72.2     | 71.7     | 71.9     | 72.4     | 72.2     | 74.1     | 72.9     | 73.1     | 73.4     | 73.9     | 73.5     | 73.5     | 75.0     |
| 20000     | 72.0     | 70.9     | 72.2     | 71.8     | 71.9     | 72.6     | 72.4     | 73.6     | 73.0     | 73.2     | 73.4     | 73.8     | 73.5     | 73.4     | 74.7     |
| 30000     | 71.8     | 71.0     | 72.2     | 72.0     | 71.8     | 72.6     | 72.9     | 73.1     | 73.0     | 73.2     | 73.3     | 73.8     | 73.3     | 73.3     | 74.2     |
| 40000     | 71.6     | 71.1     | 72.1     | 72.1     | 71.9     | 72.5     | 73.1     | 73.2     | 73.1     | 73.3     | 73.4     | 73.8     | 73.2     | 73.3     | 73.9     |
| 50000     | 71.6     | 71.1     | 72.1     | 72.2     | 72.0     | 72.4     | 72.8     | 73.0     | 73.3     | 73.1     | 73.5     | 73.5     | 73.3     | 73.4     | 73.8     |
| 60000     | 71.4     | 71.0     | 72.1     | 72.2     | 72.0     | 72.3     | 72.4     | 72.9     | 73.3     | 73.2     | 73.5     | 73.4     | 73.1     | 73.3     | 73.8     |
| 70000     | 71.4     | 71.0     | 72.0     | 72.0     | 72.0     | 72.3     | 72.5     | 72.7     | 73.4     | 73.2     | 73.5     | 73.4     | 73.3     | 73.3     | 73.8     |
| 80000     | 71.5     | 71.0     | 72.1     | 72.0     | 72.1     | 72.2     | 72.5     | 72.7     | 73.6     | 73.1     | 73.7     | 73.6     | 73.7     | 73.5     | 73.8     |
| 90000     | 71.5     | 71.0     | 72.2     | 71.9     | 72.2     | 72.2     | 72.7     | 72.7     | 73.7     | 73.1     | 73.9     | 73.9     | 73.8     | 73.7     | 74.4     |
| 100000    | 71.6     | 71.1     | 72.3     | 72.0     | 72.3     | 72.3     | 72.9     | 72.8     | 73.6     | 73.2     | 74.3     | 74.2     | 74.0     | 73.8     | 74.4     |
| 110000    | 71.6     | 71.2     | 72.2     | 72.0     | 72.4     | 72.5     | 73.3     | 72.8     | 73.6     | 73.3     | 74.6     | 74.4     | 74.0     | 74.2     | 74.7     |
| 120000    | 71.7     | 71.3     | 72.1     | 72.1     | 72.1     | 72.5     | 73.5     | 72.8     | 73.3     | 73.5     | 74.8     | 74.7     | 74.1     | 74.4     | 74.4     |
| 130000    | 71.5     | 71.3     | 72.3     | 72.0     | 72.1     | 72.5     | 73.7     | 72.9     | 73.1     | 73.4     | 74.4     | 74.9     | 74.3     | 74.4     | 74.6     |
| 140000    | 71.4     | 71.1     | 72.2     | 71.9     | 72.0     | 72.4     | 73.5     | 73.0     | 73.5     | 73.3     | 74.8     | 74.7     | 74.3     | 74.7     | 74.5     |
| 150000    | 71.3     | 71.0     | 72.2     | 71.9     | 72.1     | 72.4     | 73.8     | 74.1     | 73.0     | 73.6     | 74.7     | 75.2     | 73.8     | 74.4     | 74.7     |
| 160000    | 71.1     | 70.9     | 72.1     | 72.1     | 71.8     | 72.5     | 74.4     | 74.2     | 72.9     | 73.5     | 74.9     | 75.2     | 74.0     | 74.6     | 74.6     |
| 170000    | 71.0     | 70.9     | 71.9     | 72.1     | 72.1     | 72.4     | 75.3     | 73.7     | 72.7     | 73.7     | 74.8     | 75.2     | 74.0     | 74.5     | 74.4     |
| 180000    | 70.8     | 71.0     | 71.7     | 72.0     | 72.0     | 72.3     | 75.7     | 73.5     | 72.5     | 73.6     | 74.6     | 75.2     | 73.8     | 74.8     | 74.1     |
| 190000    | 70.7     | 71.5     | 71.6     | 71.8     | 72.0     | 72.2     | 76.3     | 73.4     | 72.7     | 73.6     | 74.3     | 74.9     | 73.6     | 75.7     | 74.1     |
| 200000    | 70.7     | 71.8     | 71.5     | 71.8     | 71.9     | 71.9     | 76.7     | 73.4     | 72.6     | 73.4     | 74.2     | 74.5     | 73.4     | 74.7     | 74.1     |
| 210000    | 70.9     | 71.6     | 71.5     | 71.9     | 72.0     | 71.9     | 76.6     | 72.9     | 72.7     | 73.4     | 74.0     | 74.1     | 73.3     | 74.4     | 73.9     |
| 220000    | 70.9     | 71.3     | 71.5     | 72.0     | 72.1     | 72.0     | 76.2     | 73.0     | 73.0     | 73.3     | 74.1     | 74.0     | 73.3     | 74.6     | 74.0     |
| 230000    | 70.9     | 71.8     | 71.7     | 72.1     | 72.1     | 72.2     | 75.9     | 73.1     | 73.0     | 73.2     | 74.1     | 73.8     | 73.4     | 74.7     | 73.8     |
| Daily Max | 72.4     | 71.8     | 72.3     | 72.2     | 72.4     | 72.6     | 76.7     | 74.9     | 73.7     | 73.7     | 74.9     | 75.2     | 74.3     | 75.7     | 75.0     |
| Daily Min | 70.7     | 70.9     | 71.5     | 71.7     | 71.8     | 71.9     | 72.2     | 72.7     | 72.5     | 73.1     | 73.3     | 73.4     | 73.1     | 73.3     | 73.8     |
| Average   | 71.4     | 71.2     | 72.0     | 72.0     | 72.0     | 72.3     | 73.9     | 73.3     | 73.1     | 73.3     | 74.1     | 74.3     | 73.7     | 74.1     | 74.3     |

High Falls Tailrace Temperature Summary - August 2017

| Time<br>HHMMSS | 08/01/17 | 08/02/17 | 08/03/17 | 08/04/17 | 08/05/17 | 08/06/17 | 08/07/17 | 08/08/17 | 08/09/17 | 08/10/17 | 08/11/17 | 08/12/17 | 08/13/17 | 08/14/17 | 08/15/17 | 08/16/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 73.9     | 74.5     | 74.4     | 73.6     | 71.7     | 70.8     | 70.3     | 70.4     | 70.0     | 69.9     | 70.6     | 70.7     | 70.2     | 69.7     | 70.3     | 70.0     |
| 10000          | 73.7     | 74.7     | 74.3     | 73.5     | 71.6     | 70.7     | 70.3     | 70.3     | 70.1     | 70.3     | 70.7     | 70.7     | 70.0     | 69.7     | 70.3     | 70.0     |
| 20000          | 73.7     | 74.7     | 74.4     | 73.4     | 71.5     | 70.7     | 70.2     | 70.3     | 70.0     | 70.2     | 70.7     | 70.6     | 69.9     | 69.7     | 70.3     | 70.0     |
| 30000          | 73.8     | 74.7     | 74.4     | 73.3     | 71.4     | 70.6     | 70.2     | 70.1     | 69.9     | 70.4     | 70.6     | 70.5     | 69.9     | 69.7     | 70.3     | 70.0     |
| 40000          | 73.7     | 74.4     | 74.6     | 73.5     | 71.3     | 70.5     | 70.1     | 69.8     | 69.9     | 70.4     | 70.6     | 70.4     | 69.7     | 69.6     | 70.3     | 69.9     |
| 50000          | 73.5     | 74.4     | 74.4     | 73.4     | 71.3     | 70.5     | 70.1     | 69.6     | 69.8     | 70.2     | 70.5     | 70.2     | 69.7     | 69.7     | 70.2     | 70.0     |
| 60000          | 73.5     | 74.6     | 74.4     | 73.3     | 71.1     | 70.4     | 70.0     | 69.6     | 69.8     | 70.1     | 70.6     | 70.1     | 69.7     | 69.8     | 70.2     | 70.0     |
| 70000          | 73.4     | 74.8     | 74.4     | 73.2     | 71.1     | 70.4     | 70.0     | 69.6     | 70.0     | 70.2     | 70.5     | 69.9     | 69.7     | 69.8     | 70.1     | 70.1     |
| 80000          | 73.7     | 75.1     | 74.2     | 73.1     | 71.2     | 70.5     | 70.0     | 69.8     | 70.3     | 70.1     | 70.7     | 70.0     | 69.8     | 69.9     | 70.1     | 70.1     |
| 90000          | 73.9     | 75.3     | 74.3     | 73.1     | 71.2     | 70.7     | 70.2     | 70.1     | 70.4     | 69.9     | 70.8     | 70.1     | 70.0     | 70.0     | 70.3     | 70.1     |
| 100000         | 73.9     | 75.3     | 74.4     | 72.9     | 71.3     | 71.1     | 70.4     | 70.4     | 70.6     | 69.9     | 70.8     | 70.3     | 70.2     | 70.0     | 70.5     | 70.3     |
| 110000         | 74.2     | 75.4     | 74.3     | 72.7     | 71.4     | 71.2     | 70.6     | 70.6     | 70.7     | 69.7     | 70.9     | 70.5     | 70.3     | 70.0     | 70.6     | 70.5     |
| 120000         | 74.0     | 75.7     | 74.2     | 72.4     | 71.6     | 71.3     | 70.7     | 70.8     | 70.5     | 69.6     | 70.9     | 70.8     | 70.4     | 70.3     | 70.9     | 70.7     |
| 130000         | 73.8     | 75.9     | 74.3     | 72.4     | 71.7     | 71.1     | 70.7     | 70.9     | 70.6     | 69.7     | 71.0     | 71.2     | 70.5     | 70.1     | 71.0     | 70.8     |
| 140000         | 73.8     | 76.4     | 74.3     | 72.4     | 71.3     | 71.1     | 70.7     | 71.0     | 70.5     | 70.0     | 71.1     | 71.2     | 70.3     | 70.0     | 71.2     | 70.7     |
| 150000         | 74.2     | 76.5     | 74.3     | 72.2     | 71.4     | 71.0     | 71.4     | 71.3     | 70.3     | 70.0     | 71.2     | 70.9     | 70.4     | 70.1     | 71.3     | 70.7     |
| 160000         | 73.9     | 76.6     | 74.2     | 72.2     | 71.6     | 70.8     | 71.1     | 71.2     | 70.1     | 69.9     | 71.2     | 71.1     | 70.5     | 69.9     | 70.9     | 70.6     |
| 170000         | 73.7     | 76.4     | 74.1     | 72.2     | 71.9     | 70.6     | 70.9     | 71.3     | 69.8     | 70.0     | 71.2     | 71.1     | 70.1     | 70.1     | 70.7     | 70.4     |
| 180000         | 73.4     | 76.2     | 73.9     | 72.3     | 71.4     | 70.6     | 71.0     | 71.0     | 69.9     | 70.3     | 71.2     | 71.0     | 70.0     | 69.9     | 70.8     | 70.3     |
| 190000         | 73.5     | 76.0     | 73.9     | 72.2     | 71.3     | 70.5     | 70.6     | 70.4     | 69.6     | 70.3     | 71.2     | 71.0     | 69.8     | 69.8     | 70.8     | 70.2     |
| 200000         | 73.9     | 75.7     | 73.9     | 72.2     | 71.1     | 70.6     | 70.8     | 70.4     | 69.6     | 70.3     | 71.1     | 70.9     | 69.7     | 69.9     | 70.7     | 69.9     |
| 210000         | 74.1     | 75.5     | 73.8     | 72.0     | 71.2     | 70.6     | 70.6     | 70.2     | 69.8     | 70.3     | 71.0     | 70.7     | 69.7     | 70.1     | 70.6     | 69.8     |
| 220000         | 74.2     | 75.3     | 73.8     | 71.9     | 70.9     | 70.6     | 70.5     | 70.0     | 69.6     | 70.4     | 70.9     | 70.6     | 69.7     | 70.4     | 70.3     | 69.8     |
| 230000         | 74.0     | 74.7     | 73.7     | 71.8     | 70.9     | 70.4     | 70.4     | 70.0     | 69.7     | 70.7     | 70.8     | 70.4     | 69.7     | 70.3     | 70.2     | 69.9     |
| Daily Max      | 74.2     | 76.6     | 74.6     | 73.6     | 71.9     | 71.3     | 71.4     | 71.3     | 70.7     | 70.7     | 71.2     | 71.2     | 70.5     | 70.4     | 71.3     | 70.8     |
| Daily Min      | 73.4     | 74.4     | 73.7     | 71.8     | 70.9     | 70.4     | 70.0     | 69.6     | 69.6     | 69.6     | 70.5     | 69.9     | 69.7     | 69.6     | 70.1     | 69.8     |
| Average        | 73.8     | 75.4     | 74.2     | 72.7     | 71.4     | 70.7     | 70.5     | 70.4     | 70.1     | 70.1     | 70.9     | 70.6     | 70.0     | 69.9     | 70.5     | 70.2     |

Monthly Average Temp: 70.6  
 License Maximum Temperature: 89 F

High Falls Tailrace Temperature Summary - August 2017

| Time      | 08/17/17 | 08/18/17 | 08/19/17 | 08/20/17 | 08/21/17 | 08/22/17 | 08/23/17 | 08/24/17 | 08/25/17 | 08/26/17 | 08/27/17 | 08/28/17 | 08/29/17 | 08/30/17 | 08/31/17 |
|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| HHMMSS    |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 0         | 69.9     | 70.3     | 70.2     | 69.9     | 70.4     | 70.7     | 70.9     | 70.6     | 70.1     | 69.2     | 69.0     | 68.5     | 68.1     | 68.3     | 68.8     |
| 10000     | 69.8     | 70.4     | 70.1     | 69.9     | 70.5     | 70.6     | 70.7     | 70.5     | 70.1     | 69.1     | 68.9     | 68.5     | 68.1     | 68.2     | 68.8     |
| 20000     | 69.9     | 70.4     | 70.0     | 69.9     | 70.6     | 70.7     | 70.5     | 70.5     | 69.9     | 69.1     | 68.9     | 68.4     | 68.1     | 68.2     | 68.7     |
| 30000     | 70.0     | 70.4     | 69.9     | 69.9     | 70.7     | 70.5     | 70.4     | 70.3     | 69.8     | 69.0     | 68.8     | 68.4     | 68.1     | 68.1     | 68.7     |
| 40000     | 70.1     | 70.4     | 69.8     | 70.0     | 70.8     | 70.5     | 70.3     | 70.3     | 69.7     | 68.9     | 68.8     | 68.4     | 68.1     | 68.1     | 68.7     |
| 50000     | 70.1     | 70.6     | 69.7     | 70.0     | 70.8     | 70.4     | 70.1     | 70.1     | 69.6     | 69.0     | 68.8     | 68.3     | 68.1     | 68.1     | 68.5     |
| 60000     | 70.3     | 70.4     | 69.6     | 70.0     | 70.8     | 70.5     | 70.1     | 70.0     | 69.6     | 68.9     | 68.7     | 68.4     | 68.0     | 68.0     | 68.3     |
| 70000     | 70.3     | 70.5     | 69.6     | 70.1     | 70.9     | 70.6     | 70.1     | 69.9     | 69.5     | 68.9     | 68.7     | 68.3     | 68.0     | 68.0     | 68.2     |
| 80000     | 70.4     | 70.5     | 69.6     | 70.2     | 70.9     | 70.7     | 70.2     | 69.9     | 69.6     | 69.0     | 68.7     | 68.4     | 68.0     | 68.1     | 68.1     |
| 90000     | 70.4     | 70.6     | 69.8     | 70.3     | 71.2     | 70.8     | 70.4     | 70.1     | 69.8     | 69.2     | 68.7     | 68.3     | 68.2     | 68.1     | 68.1     |
| 100000    | 70.3     | 70.6     | 70.0     | 70.4     | 71.4     | 71.2     | 70.6     | 70.3     | 69.9     | 69.2     | 68.7     | 68.4     | 68.4     | 68.2     | 68.3     |
| 110000    | 70.3     | 70.7     | 70.1     | 70.4     | 71.4     | 71.6     | 70.8     | 70.6     | 70.1     | 69.3     | 68.7     | 68.4     | 68.8     | 68.3     | 68.5     |
| 120000    | 69.9     | 70.9     | 70.2     | 70.4     | 71.5     | 71.8     | 71.0     | 70.8     | 70.2     | 69.4     | 68.7     | 68.4     | 69.0     | 68.3     | 68.8     |
| 130000    | 69.8     | 71.2     | 70.4     | 70.4     | 71.4     | 71.9     | 71.2     | 71.0     | 70.2     | 69.3     | 68.6     | 68.5     | 68.9     | 68.2     | 69.2     |
| 140000    | 69.8     | 71.2     | 70.4     | 70.2     | 71.3     | 72.1     | 71.3     | 71.1     | 70.2     | 69.3     | 68.6     | 68.5     | 69.0     | 68.9     | 69.3     |
| 150000    | 69.5     | 71.2     | 70.6     | 70.3     | 71.6     | 72.1     | 71.6     | 71.0     | 70.2     | 69.3     | 68.6     | 68.7     | 68.7     | 69.3     | 69.1     |
| 160000    | 69.5     | 71.2     | 70.7     | 70.1     | 71.5     | 72.1     | 71.6     | 70.9     | 70.1     | 69.3     | 68.6     | 68.7     | 68.7     | 69.2     | 69.1     |
| 170000    | 69.5     | 71.2     | 70.6     | 69.9     | 71.3     | 72.1     | 71.7     | 70.7     | 70.0     | 69.2     | 68.6     | 68.6     | 68.7     | 69.1     | 69.0     |
| 180000    | 69.4     | 71.1     | 70.4     | 70.0     | 71.1     | 72.1     | 71.6     | 70.6     | 69.8     | 69.2     | 68.5     | 68.5     | 68.6     | 68.9     | 68.8     |
| 190000    | 69.4     | 71.1     | 70.4     | 69.9     | 71.1     | 71.8     | 71.4     | 70.4     | 69.7     | 69.2     | 68.5     | 68.3     | 68.6     | 69.3     | 68.8     |
| 200000    | 69.4     | 70.9     | 70.2     | 70.0     | 71.0     | 71.7     | 71.3     | 70.3     | 69.6     | 69.2     | 68.5     | 68.2     | 68.5     | 69.0     | 68.7     |
| 210000    | 69.7     | 70.6     | 70.0     | 70.1     | 70.8     | 71.5     | 71.0     | 70.3     | 69.4     | 69.1     | 68.5     | 68.2     | 68.5     | 68.8     | 68.5     |
| 220000    | 69.8     | 70.4     | 70.0     | 70.1     | 70.8     | 71.2     | 70.9     | 70.2     | 69.3     | 69.0     | 68.5     | 68.1     | 68.3     | 68.9     | 68.4     |
| 230000    | 69.9     | 70.3     | 69.8     | 70.3     | 70.7     | 71.0     | 70.8     | 70.2     | 69.3     | 69.0     | 68.5     | 68.1     | 68.3     | 68.9     | 68.4     |
| Daily Max | 70.4     | 71.2     | 70.7     | 70.4     | 71.6     | 72.1     | 71.7     | 71.1     | 70.2     | 69.4     | 69.0     | 68.7     | 69.0     | 69.3     | 69.3     |
| Daily Min | 69.4     | 70.3     | 69.6     | 69.9     | 70.4     | 70.4     | 70.1     | 69.9     | 69.3     | 68.9     | 68.5     | 68.1     | 68.0     | 68.0     | 68.1     |
| Average   | 69.9     | 70.7     | 70.1     | 70.1     | 71.0     | 71.3     | 70.9     | 70.4     | 69.8     | 69.1     | 68.7     | 68.4     | 68.4     | 68.5     | 68.7     |

High Falls Tailrace Temperature Summary - September 2017

| Time                         | 09/01/17 | 09/02/17 | 09/03/17 | 09/04/17 | 09/05/17 | 09/06/17 | 09/07/17 | 09/08/17 | 09/09/17 | 09/10/17 | 09/11/17 | 09/12/17 | 09/13/17 | 09/14/17 | 09/15/17 | 09/16/17 |  |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--|
| HHMMSS                       |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |  |
| 0                            | 68.3     | 66.7     | 66.1     | 65.9     | 66.8     | 65.9     | 65.1     | 64.4     | 64.1     | 63.1     | 62.9     | 63.1     | 63.2     | 63.6     | 63.5     | 63.6     |  |
| 10000                        | 68.1     | 66.6     | 66.0     | 65.8     | 66.7     | 65.8     | 65.1     | 64.3     | 64.1     | 63.1     | 62.9     | 63.1     | 63.2     | 63.6     | 63.6     | 63.8     |  |
| 20000                        | 68.0     | 66.6     | 66.0     | 65.9     | 66.6     | 65.7     | 65.0     | 64.2     | 64.0     | 63.1     | 62.9     | 63.2     | 63.2     | 63.6     | 63.6     | 63.8     |  |
| 30000                        | 67.9     | 66.5     | 66.0     | 65.9     | 66.4     | 65.6     | 65.0     | 64.1     | 63.9     | 63.0     | 62.9     | 63.1     | 63.1     | 63.7     | 63.7     | 63.9     |  |
| 40000                        | 67.7     | 66.4     | 65.9     | 65.9     | 66.3     | 65.5     | 64.9     | 64.1     | 63.8     | 62.9     | 62.8     | 63.0     | 63.4     | 63.7     | 63.7     | 64.0     |  |
| 50000                        | 67.5     | 66.4     | 65.9     | 65.8     | 66.2     | 65.4     | 64.9     | 64.0     | 63.7     | 62.9     | 62.8     | 62.9     | 63.6     | 63.6     | 63.7     | 64.1     |  |
| 60000                        | 67.4     | 66.3     | 65.9     | 65.9     | 66.1     | 65.4     | 64.9     | 63.9     | 63.6     | 62.9     | 62.7     | 62.9     | 63.6     | 63.6     | 63.7     | 63.9     |  |
| 70000                        | 67.4     | 66.4     | 65.8     | 65.9     | 66.0     | 65.3     | 64.8     | 63.9     | 63.5     | 62.9     | 62.7     | 62.9     | 63.6     | 63.6     | 63.6     | 64.2     |  |
| 80000                        | 67.3     | 66.4     | 65.9     | 66.1     | 66.0     | 65.3     | 64.8     | 63.9     | 63.5     | 62.9     | 62.8     | 63.0     | 63.6     | 63.7     | 63.8     | 64.2     |  |
| 90000                        | 67.5     | 66.5     | 65.9     | 66.3     | 65.9     | 65.3     | 64.8     | 64.0     | 63.6     | 63.1     | 62.9     | 63.4     | 63.8     | 63.9     | 64.0     | 64.3     |  |
| 100000                       | 67.7     | 66.5     | 66.1     | 66.5     | 66.0     | 65.5     | 64.8     | 64.1     | 63.8     | 63.3     | 63.1     | 64.0     | 63.9     | 64.0     | 64.2     | 64.5     |  |
| 110000                       | 67.8     | 66.4     | 66.3     | 66.8     | 66.0     | 65.5     | 64.9     | 64.2     | 63.9     | 63.5     | 63.3     | 64.4     | 64.0     | 64.0     | 64.3     | 64.6     |  |
| 120000                       | 67.8     | 66.3     | 66.4     | 66.8     | 66.2     | 65.5     | 64.9     | 64.4     | 63.9     | 63.6     | 63.3     | 64.5     | 64.1     | 64.1     | 64.5     | 64.5     |  |
| 130000                       | 67.8     | 66.3     | 66.6     | 67.1     | 66.4     | 65.6     | 64.9     | 64.7     | 63.8     | 63.6     | 63.4     | 64.5     | 64.2     | 64.0     | 64.4     | 64.4     |  |
| 140000                       | 67.8     | 66.3     | 66.6     | 67.1     | 66.6     | 65.6     | 64.9     | 64.7     | 63.8     | 63.6     | 63.4     | 64.4     | 64.2     | 64.0     | 64.3     | 64.3     |  |
| 150000                       | 67.7     | 66.3     | 66.7     | 67.2     | 66.5     | 65.7     | 65.0     | 64.6     | 63.8     | 63.6     | 63.4     | 64.3     | 64.1     | 63.8     | 64.1     | 63.9     |  |
| 160000                       | 67.6     | 66.4     | 66.8     | 67.3     | 66.6     | 65.7     | 65.0     | 64.5     | 63.8     | 63.5     | 63.4     | 64.3     | 63.9     | 63.7     | 63.9     | 64.2     |  |
| 170000                       | 67.4     | 66.4     | 66.8     | 67.3     | 66.6     | 65.7     | 65.0     | 64.4     | 63.7     | 63.4     | 63.2     | 64.1     | 63.9     | 63.4     | 63.7     | 63.8     |  |
| 180000                       | 67.2     | 66.3     | 66.6     | 67.3     | 66.5     | 65.6     | 64.9     | 64.3     | 63.5     | 63.2     | 63.0     | 63.9     | 63.7     | 63.4     | 63.3     | 63.7     |  |
| 190000                       | 67.0     | 66.2     | 66.5     | 67.3     | 66.3     | 65.5     | 64.8     | 64.2     | 63.3     | 63.1     | 62.9     | 63.7     | 63.6     | 63.4     | 63.3     | 63.8     |  |
| 200000                       | 66.9     | 66.2     | 66.4     | 67.2     | 66.3     | 65.4     | 64.8     | 64.3     | 63.2     | 63.0     | 62.8     | 63.7     | 63.6     | 63.3     | 63.4     | 63.8     |  |
| 210000                       | 66.8     | 66.2     | 66.3     | 67.1     | 66.1     | 65.3     | 64.7     | 64.2     | 63.2     | 63.1     | 63.1     | 63.5     | 63.5     | 63.3     | 63.3     | 63.7     |  |
| 220000                       | 66.7     | 66.2     | 66.2     | 67.0     | 66.0     | 65.3     | 64.6     | 64.1     | 63.2     | 63.1     | 63.2     | 63.4     | 63.5     | 63.3     | 63.3     | 63.9     |  |
| 230000                       | 66.7     | 66.1     | 66.0     | 67.0     | 65.9     | 65.2     | 64.5     | 64.1     | 63.2     | 63.0     | 63.1     | 63.4     | 63.5     | 63.4     | 63.4     | 64.0     |  |
| Daily Max                    | 68.3     | 66.7     | 66.8     | 67.3     | 66.8     | 65.9     | 65.1     | 64.7     | 64.1     | 63.6     | 63.4     | 64.5     | 64.2     | 64.1     | 64.5     | 64.6     |  |
| Daily Min                    | 66.7     | 66.1     | 65.8     | 65.8     | 65.9     | 65.2     | 64.5     | 63.9     | 63.2     | 62.9     | 62.7     | 62.9     | 63.1     | 63.3     | 63.3     | 63.6     |  |
| Average                      | 67.5     | 66.4     | 66.2     | 66.6     | 66.3     | 65.5     | 64.9     | 64.2     | 63.7     | 63.2     | 63.0     | 63.6     | 63.7     | 63.7     | 63.8     | 64.0     |  |
| Monthly Average Temp:        |          |          |          | 65.4     |          |          |          |          |          |          |          |          |          |          |          |          |  |
| License Maximum Temperature: |          |          |          | 89 F     |          |          |          |          |          |          |          |          |          |          |          |          |  |

High Falls Tailrace Temperature Summary - September 2017

| Time<br>HHMMSS | 09/17/17 | 09/18/17 | 09/19/17 | 09/20/17 | 09/21/17 | 09/22/17 | 09/23/17 | 09/24/17 | 09/25/17 | 09/26/17 | 09/27/17 | 09/28/17 | 09/29/17 | 09/30/17 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0              | 64.1     | 64.8     | 65.0     | 64.8     | 65.5     | 65.2     | 66.0     | 66.9     | 67.3     | 67.9     | 67.3     | 66.5     | 66.5     | 65.9     |
| 10000          | 64.3     | 65.0     | 65.2     | 64.9     | 65.6     | 65.5     | 65.7     | 67.2     | 67.4     | 68.2     | 67.3     | 66.4     | 66.6     | 65.8     |
| 20000          | 64.4     | 65.0     | 65.2     | 65.1     | 65.7     | 65.7     | 65.6     | 67.3     | 67.5     | 67.8     | 67.5     | 66.2     | 66.6     | 65.7     |
| 30000          | 64.4     | 65.3     | 65.2     | 65.2     | 65.7     | 65.7     | 65.7     | 67.3     | 67.6     | 68.0     | 67.8     | 66.1     | 66.6     | 65.7     |
| 40000          | 64.4     | 65.4     | 65.2     | 65.3     | 65.8     | 66.1     | 66.0     | 67.2     | 67.6     | 68.0     | 67.6     | 66.2     | 66.6     | 65.7     |
| 50000          | 64.6     | 65.6     | 65.4     | 65.3     | 65.9     | 66.1     | 66.2     | 67.1     | 67.6     | 68.2     | 67.4     | 66.3     | 66.5     | 65.5     |
| 60000          | 64.5     | 65.6     | 65.6     | 65.2     | 66.0     | 66.0     | 66.1     | 67.1     | 67.6     | 68.2     | 67.2     | 66.3     | 66.5     | 65.5     |
| 70000          | 64.4     | 65.5     | 65.6     | 65.3     | 66.1     | 65.9     | 66.0     | 67.1     | 67.6     | 68.2     | 67.2     | 66.3     | 66.5     | 65.4     |
| 80000          | 64.1     | 65.5     | 65.8     | 65.1     | 66.0     | 65.9     | 66.0     | 67.0     | 67.6     | 67.9     | 67.1     | 66.4     | 66.4     | 65.4     |
| 90000          | 64.3     | 65.5     | 65.9     | 65.2     | 66.1     | 66.0     | 65.9     | 67.1     | 67.6     | 67.7     | 67.3     | 66.6     | 66.4     | 65.4     |
| 100000         | 64.3     | 65.5     | 65.9     | 65.1     | 66.2     | 66.1     | 66.0     | 67.2     | 67.6     | 67.7     | 67.5     | 66.6     | 66.5     | 65.5     |
| 110000         | 64.6     | 65.5     | 65.7     | 65.0     | 66.3     | 66.1     | 66.1     | 67.2     | 67.7     | 67.7     | 67.7     | 66.5     | 66.5     | 65.6     |
| 120000         | 64.5     | 65.3     | 65.8     | 65.0     | 66.5     | 66.1     | 66.3     | 67.2     | 67.6     | 67.5     | 67.8     | 66.7     | 66.5     | 65.7     |
| 130000         | 64.6     | 65.4     | 65.6     | 64.9     | 66.3     | 66.0     | 66.3     | 67.1     | 67.5     | 67.6     | 68.1     | 66.7     | 66.5     | 65.6     |
| 140000         | 64.6     | 65.5     | 65.6     | 64.8     | 66.1     | 65.7     | 66.2     | 67.0     | 67.3     | 67.5     | 68.2     | 66.7     | 66.5     | 65.6     |
| 150000         | 64.9     | 65.2     | 65.4     | 64.7     | 66.0     | 66.8     | 66.1     | 66.9     | 67.4     | 67.3     | 68.2     | 66.7     | 66.6     | 65.5     |
| 160000         | 65.0     | 65.1     | 65.2     | 64.6     | 65.6     | 66.6     | 65.9     | 66.7     | 67.2     | 67.1     | 68.1     | 66.8     | 66.6     | 65.4     |
| 170000         | 64.8     | 65.0     | 65.0     | 64.5     | 65.5     | 66.6     | 65.9     | 66.6     | 67.0     | 67.0     | 68.0     | 66.6     | 66.5     | 65.2     |
| 180000         | 64.9     | 64.8     | 64.7     | 64.6     | 65.4     | 66.2     | 65.7     | 66.6     | 67.0     | 66.9     | 68.0     | 66.3     | 66.4     | 65.0     |
| 190000         | 64.7     | 64.6     | 64.6     | 64.6     | 65.2     | 66.0     | 65.9     | 66.6     | 67.1     | 66.8     | 68.0     | 66.4     | 66.3     | 64.9     |
| 200000         | 64.5     | 64.5     | 64.6     | 64.6     | 65.1     | 66.2     | 65.8     | 66.7     | 67.1     | 67.0     | 67.7     | 66.3     | 66.2     | 64.9     |
| 210000         | 64.5     | 64.7     | 64.6     | 64.9     | 65.2     | 66.6     | 66.0     | 66.8     | 67.3     | 66.8     | 67.3     | 66.4     | 66.1     | 64.9     |
| 220000         | 64.6     | 64.8     | 64.7     | 65.1     | 65.2     | 66.6     | 66.3     | 67.0     | 67.3     | 67.6     | 67.0     | 66.3     | 66.0     | 64.8     |
| 230000         | 64.9     | 64.9     | 64.7     | 65.3     | 65.2     | 66.3     | 66.5     | 67.1     | 67.4     | 67.3     | 66.7     | 66.4     | 65.9     | 64.8     |
| Daily Max      | 65.0     | 65.6     | 65.9     | 65.3     | 66.5     | 66.8     | 66.5     | 67.3     | 67.7     | 68.2     | 68.2     | 66.8     | 66.6     | 65.9     |
| Daily Min      | 64.1     | 64.5     | 64.6     | 64.5     | 65.1     | 65.2     | 65.6     | 66.6     | 67.0     | 66.8     | 66.7     | 66.1     | 65.9     | 64.8     |
| Average        | 64.5     | 65.2     | 65.3     | 65.0     | 65.8     | 66.1     | 66.0     | 67.0     | 67.4     | 67.6     | 67.6     | 66.4     | 66.4     | 65.4     |

## APPENDIX B

### Documentation of Agency Consultation



**From:** [Metcalf, Mark W](#)  
**To:** [Laatsch, Cheryl](#); [Utrup, Nick](#)  
**Cc:** [McLennan, Robin](#); [Hudak, Andy](#); [Brandt, Edward S](#); [Bosacki, William K](#); [Nuthals, James D](#)  
**Subject:** High Falls - Annual water quality monitoring report (FERC No. 2595)  
**Date:** Monday, October 09, 2017 7:58:44 AM  
**Attachments:** [20171009 HF Annual WOM Rpt.pdf](#)  
[High Falls Bridge DO Summary 2017.xlsx](#)  
[High Falls Bridge pH Summary 2017.xlsx](#)  
[High Falls Bridge Temp Summary 2017.xlsx](#)

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Good morning,

Pursuant to the water quality monitoring plan for the Wisconsin Public Service (WPS) High Falls hydroelectric facility, WPS is submitting water quality monitoring data collected during the 2017 monitoring season for your review and comment.

As identified in the monitoring plan, the monitoring data is being provided in the attached excel spreadsheets. During the 2017 monitoring season, no deviations from the water quality standards for dissolved oxygen, pH, or temperature were observed. Please review the enclosed data and provide any comments you may have within 30 days. Should you have any questions or concerns, please do not hesitate to call me at (920) 433-1833.

Thanks,  
Mark

**Mark Metcalf**

Principal Environmental Consultant  
office: 920-433-1833  
mobile: 920-246-2717

*Please note my email address has changed. My new address is [mark.metcalf@wecenergygroup.com](mailto:mark.metcalf@wecenergygroup.com).*



Wisconsin Public Service Corporation  
 700 North Adams Street  
 Green Bay, WI 54301  
[www.wisconsinpublicservice.com](http://www.wisconsinpublicservice.com)

October 9, 2017

Ms. Cheryl Laatch  
 Wisconsin Department of Natural Resources  
 Office of Energy, Water Management Specialist  
 101 S. Webster St.  
 Madison, WI 53703

Mr. Nicholas Utrup  
 U.S. Fish & Wildlife Service  
 4101 American Blvd East  
 Bloomington, MN 55425

Dear Ms. Laatch and Mr. Utrup:

**SUBJECT: 2017 Water Quality Monitoring Report**

| <u>Hydro</u> | <u>FERC Project No.</u> | <u>NATDAM No.</u> | <u>License Article</u> |
|--------------|-------------------------|-------------------|------------------------|
| High Falls   | 2595                    | WI-00754          | 406                    |

Per the Order Amending Approved Water Quality Monitoring Plans under Article 406, dated October 13, 2015, Wisconsin Public Service Corporation (WPSC) is submitting water quality monitoring data collected during the 2017 monitoring season at the High Falls Hydroelectric project for your review and comment.

At the High Falls facility, WPSC is required to ensure flow releases from the project, as measured immediately downstream from the dam, maintain the following standards, except when natural conditions prohibit attainment of the standards: (1) DO concentrations shall not be less than 5.0 milligrams per liter (mg/L) (minus the precision of the monitoring instrument) for more than 24 hours per year; (2) water temperature shall not exceed 89 degrees Fahrenheit; and (3) the pH shall be within the range of 6.0 to 9.0, with no change greater than 0.5 units outside the estimated natural seasonal maximum and minimum. Natural conditions include inflows to the project less than the 95 percent exceedance flow.

As described in the water quality monitoring plan, monitoring is conducted downstream of the powerhouse annually from June 1 through September 30. The downstream monitoring equipment is located on the High Falls Road bridge near the middle of the river. Monitoring upstream of the project occurs every 5 years in conjunction with water quality monitoring conducted at the Caldron Falls Hydroelectric Project. The next upstream monitoring period is scheduled to occur in 2021.

Monitoring data was collected using portable water quality monitoring equipment manufactured by YSI, Inc. Monitoring for DO, temperature, and pH was conducted continuously on an hourly basis. As

October 9, 2017

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described in the water quality monitoring plan, the instrumentation was cleaned and calibrated according to manufacturer specification at least once every 14 days during the monitoring period. A post deployment calibration was conducted to determine the extent of calibration drift. Raw data was adjusted assuming a linear degradation of calibration based upon a post calibration of the equipment. The water quality monitoring equipment used to monitor DO has an accuracy of +/- 0.1 mg/l, per the manufacturer. For compliance purposes, DO concentrations more than 0.1 mg/l below the applicable water quality standard are potential deviations.

No deviations from the dissolved oxygen, pH or temperature water quality standards were observed during the 2017 monitoring season. Enclosed with this report are excel spreadsheets containing the monitoring data, in both tabular and graphical format, with the periods of missing data identified.

Please review the enclosed data and provide any comments you may have within 30 days of this letter. Should you have any questions or concerns, feel free to call me at (920) 433-1833.

Sincerely,

A handwritten signature in black ink that reads "Mark Metcalf". The signature is written in a cursive, flowing style.

Mark Metcalf  
Principal Environmental Consultant

Enc.

cc: Mr. Ed Brandt - WPS  
Mr. Bill Bosacki - WPS  
Mr. Jamie Nuthals - WBS

**Response to Comments from the Wisconsin Department of Natural Resources**

The Wisconsin Department of Natural Resources did not provide comments on the 2017 water quality monitoring report.

**Response to Comments from the United States Fish & Wildlife Service**

The US Fish & Wildlife Service did not provide comments on the 2017 water quality monitoring report.

Document Content(s)

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