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January 4, 2011

FERC Project No. 10855

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

Dear Secretary Bose:

Dead River Hydroelectric Project - 2010 Water Quality Monitoring Data

Per the Order Modifying and Approving Water Quality Monitoring Plan Under Article 408, dated April 17, 2003, and the Order Approving Modification to Approved Water Quality Monitoring Plan Under Article 408, dated March 3, 2005, Upper Peninsula Power Company (UPPCO) is pleased to submit water quality monitoring data collected at the Dead River Hydroelectric Project in 2010.

During the 2010 water quality monitoring period, water quality monitoring was conducted at the following locations:

- In the Dead River where County Road AAO crosses the Dead River (SE ¼ of NE ¼, section 22, T49N, R28W, Township of Champion).
- Downstream of the Hoist Powerhouse in the natural river channel (SE ¼, of the NE ¼ of Section 16, T48N, R26W, Township of Negaunee).
- Downstream of the McClure Dam in the Dead River, east of where the LS&I railroad crosses the Dead River (SW ¼ of NE ¼, section 16, T48N, R26W, Township of Negaunee).
- In the tailrace of the McClure Powerhouse upstream of the confluence of the tailrace and the Forestville Basin (SW ¼ of NE ¼, section 7, T48N, R25W, Township of Marquette).

Per the water quality monitoring plan, water temperature was monitored on an hourly basis from May 1st through October 31st, and dissolved oxygen was monitored from June 1st through September 30th at the above monitoring locations. Dissolved oxygen (D.O.) monitoring data is enclosed in Appendix A and temperature monitoring data is enclosed in Appendix B. Please note that all D.O. monitoring data in Appendix A has been corrected for any calibration drift of

more than 0.2 mg/l as defined in the water quality monitoring plan. Dissolved oxygen and temperature profiles were taken every two weeks during the months of June through September near the intake structures of the Dead River Storage Basin and the McClure Storage Basin. Profile data is enclosed in Appendix C. All quality assurance data is enclosed in Appendix D.

Due to low water levels in the Silver Lake Storage Basin, UPPCO released minimum flow (10 cfs) for most of the monitoring season in an attempt to maintain the reservoir elevation. In accordance with the Order Granting Temporary Variance From License Conditions dated August 11, 2010, UPPCO began operating the Silver Lake Storage Basin in run-of-river mode on August 12th in order to release all inflow downstream to the Hoist Reservoir in order to preserve reservoir elevations for recreation while still releasing flows downstream for aquatic resources. As a result, UPPCO released approximately 4 cfs of water rather than the license minimum from August 12th until September 5th, 2010.

At the County Road AAO monitoring location, deviations from the D.O. water quality standard were observed intermittently throughout the monitoring season. Temperature monitoring data collected showed a deviation from the License maximum monthly average water temperature limitation of 68°F. During the month of July, there were 21 days when the daily average water temperature recorded was above 68°F. The daily maximum average water temperature observed during the monitoring season was 73°F on August 12th, when a monitoring season hourly maximum temperature of 80°F was observed. The combination of low water flows and warm water temperatures likely caused the dissolved oxygen deviations observed. It is UPPCO's belief that refilling the Silver Lake Storage Basin will result in additional cold water being released downstream and will mitigate future dissolved oxygen and temperature deviations. Please note that on September 24th, the dissolved oxygen content recorded in the Dead River dropped suddenly. The likely cause of the D.O. drop was an increase in the release from Silver Lake earlier in the day from 25 cfs to 150 cfs to maintain run-of-river flows. The decrease in oxygen content was a result of the flush of debris, sediment, and stagnant water along the Dead River due to the increased release of water.

At the Hoist Powerhouse monitoring location, deviations from the dissolved oxygen water quality standard were observed in June, July and August. The deviations from the D.O. standard observed in early June were likely due to either a malfunction of the D.O. sensor or a buildup of sediment and debris around the D.O. sensor. A dissolved oxygen profile conducted at the Hoist Powerhouse intake on 6/9/10 shows that the reservoir is beginning to stratify, but dissolved oxygen concentrations were still at 6.2 mg/l or higher at all depths. This information suggests that reservoir stratification may have contributed to lower D.O. readings in the Dead River, but did not cause the low readings.

Deviations observed in July and August are likely due to warm, low D.O. water present in the Dead River Storage Basin due to stratification of the reservoir. The D.O. profile data shows that

the reservoir was stratified at this time (please refer to Appendix C), and low D.O. water was present in the hypolimnion when D.O. deviations were observed. Temperature monitoring data from reservoir profiles shows water temperatures at or above the License monthly maximum average temperature of 68°F in July and August. The corresponding monthly average water temperature measured at the monitoring location was above the License monthly maximum average temperature during these months. The warm temperatures in the reservoir likely influenced D.O. concentrations, and also caused the deviations from the License monthly maximum average temperature. As previously communicated, UPPCO believes that by refilling the Silver Lake Storage Basin and having more cold water available to be released downstream into the Dead River Storage Basin will result in the release of colder water from the Hoist powerhouse and mitigate water quality deviations.

At the monitoring location downstream of the McClure Storage Basin in the natural river channel of the Dead River, deviations from License monthly maximum average temperature in July and August was observed. The monthly average water temperature recorded during these months was 70°F and 71°F, respectively. The License monthly maximum average temperature is 68°F. The cause of the high temperature is due to the McClure Penstock and Powerhouse being out-of-service during the 2010 monitoring season and the volume of warm water which was released into the Dead River via the McClure Dam spillway. As the penstock is out-of-service, all water from the McClure Storage Basin is being released to the Dead River either by flowing over the spillway or through a 20 cfs deep water siphon. Under normal operation, the only water being released to the Dead River at the McClure dam comes from the deep water siphon.

Bi-weekly dissolved oxygen and temperature profiles conducted at the McClure Dam in July and August shows that the water temperature on the top of the reservoir was above the downstream water quality standard. The combination of warm surface water temperatures and volume of warm water being released over the spillway compared to the amount of cold water released resulted through the siphon resulted in a deviation from the temperature standard. Historical monitoring data when the penstock was in service does not show temperature deviations at this monitoring location, even during periods of low flow and when UPPCO was in dry year consultation with the resource agencies. Once the McClure Penstock is repaired and placed back in service, it is unlikely that temperature deviations will be observed in the future as the deep water siphon will be the primary mechanism for releasing water into the Dead River.

During the 2010 monitoring season, the McClure penstock and powerhouse were not in service due to the replacement of the McClure penstock. Consequently, all monitoring data collected at the McClure Powerhouse monitoring location is not representative of the water quality during normal hydroelectric facility operations. Deviations from D.O. standards were observed during the 2010 monitoring season, but were not due to facility operations. With limited water flow at the monitoring location, UPPCO observed a significant amount of siltation around the

monitor. As a result, the D.O. sensor was covered with sediment periodically. This resulted in readings that are not representative of actual water conditions.

UPPCO has consulted with the Michigan Department of Natural Resources and Environment (MDNRe) Surface Water Quality and Fisheries Divisions, and U.S. Fish and Wildlife Service (FWS) regarding the water quality monitoring data. No comments were received from MDNRe or FWS on the water quality monitoring data. Documentation of agency consultation is attached in Appendix E. Should you have any questions or concerns, please do not hesitate to call Mr. Mark Metcalf at (920) 433-1833. Thank you for your time and consideration.

Sincerely,

Terry P. Jensky
Vice President – Energy Supply Operations
for Wisconsin Public Service Corporation
Telephone: (920) 433-2900

cc: Mr. Keith Moyle, UPPCO - UISC
Mr. Virgil Schlorke, UPPCO - UISC
Mr. Robert Meyers, UPPCO - UISC
Mr. Gil Snyder, WPSC - D2
Mr. Shawn Puzen, IBS - D2
Mr. Robert Juidici, WPSC - D2
Ms. Joan Johanek, WPSC - D2
Ms. Patricia Grant, FERC - Chicago
Ms. Christie Deloria, USFWS (Cover Only)
Mr. Kyle Kruger, MDNRe (Cover Only)
Mr. Gerald Saalfeld, MDNRe (Cover Only)

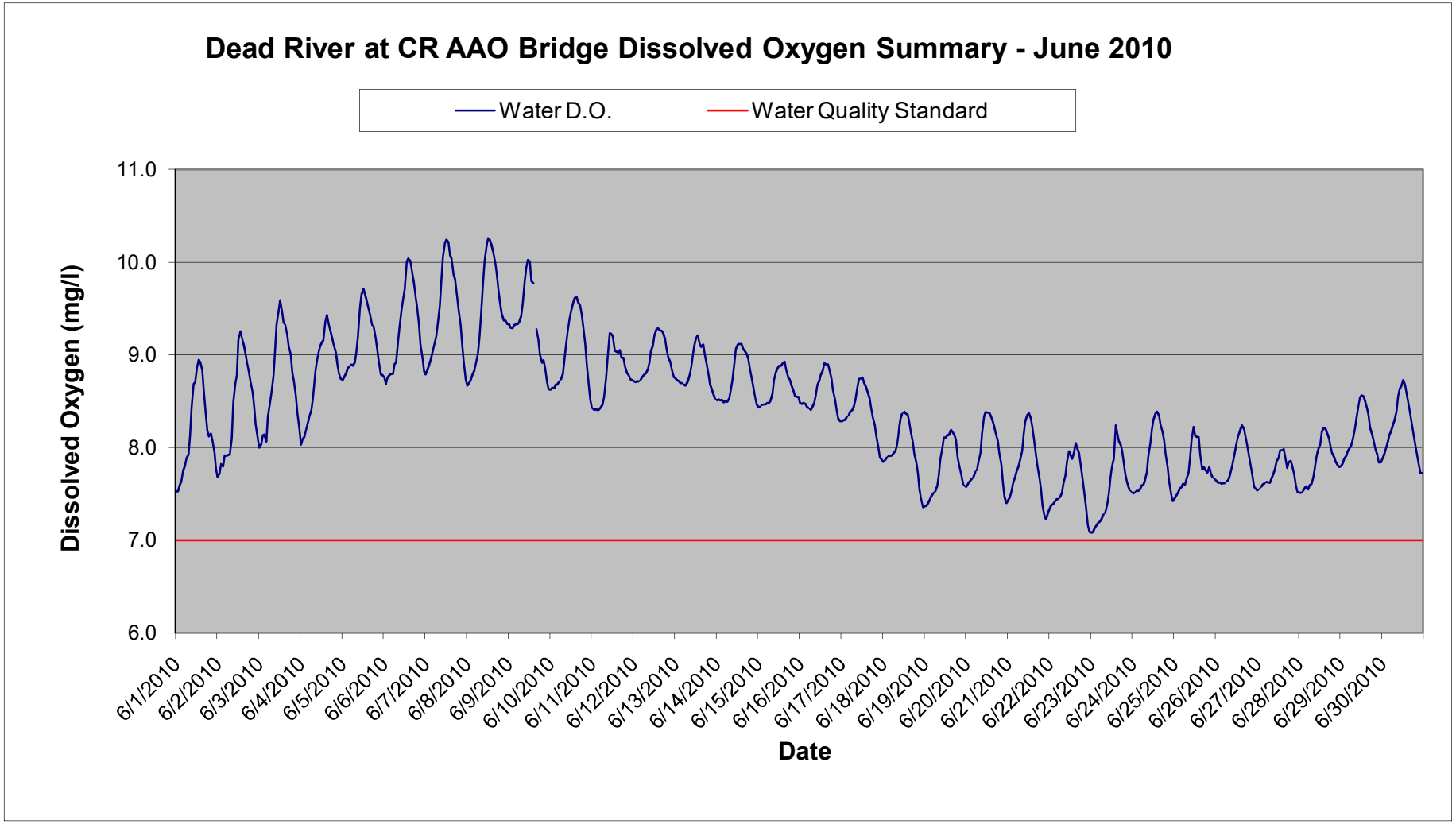
Dead River Hydroelectric Project

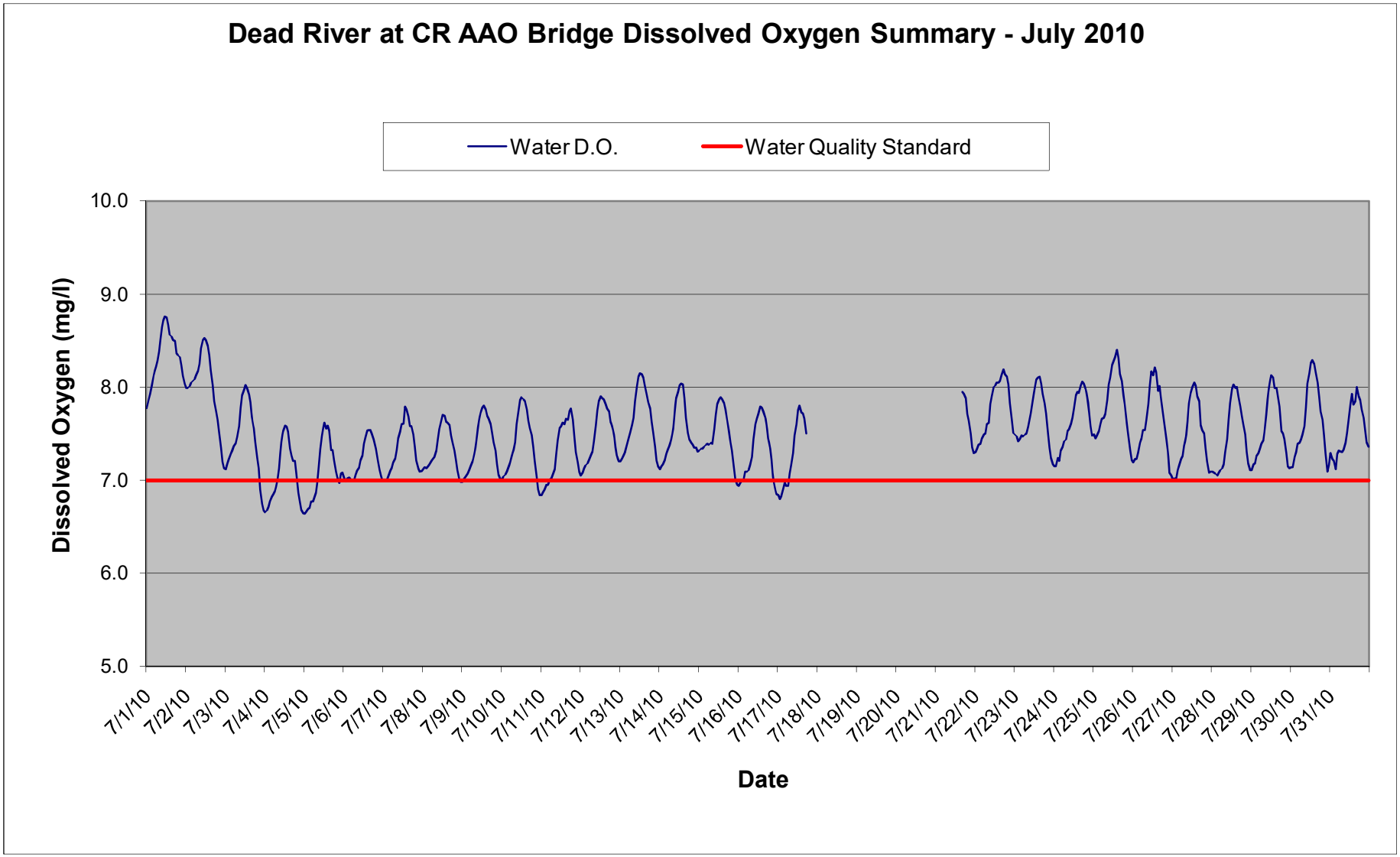
FERC Project No. 10855

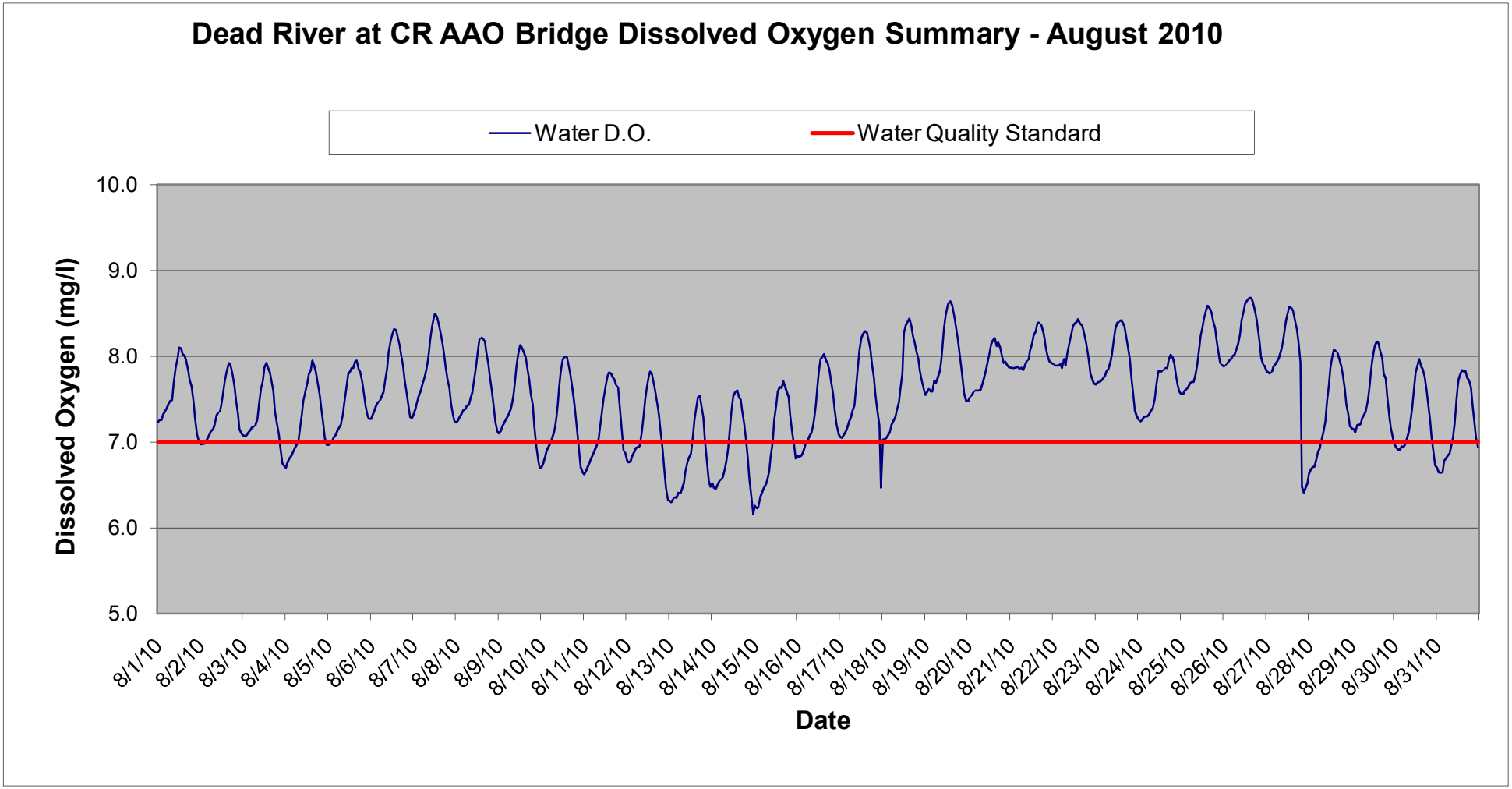
2010 Water Quality Monitoring Report

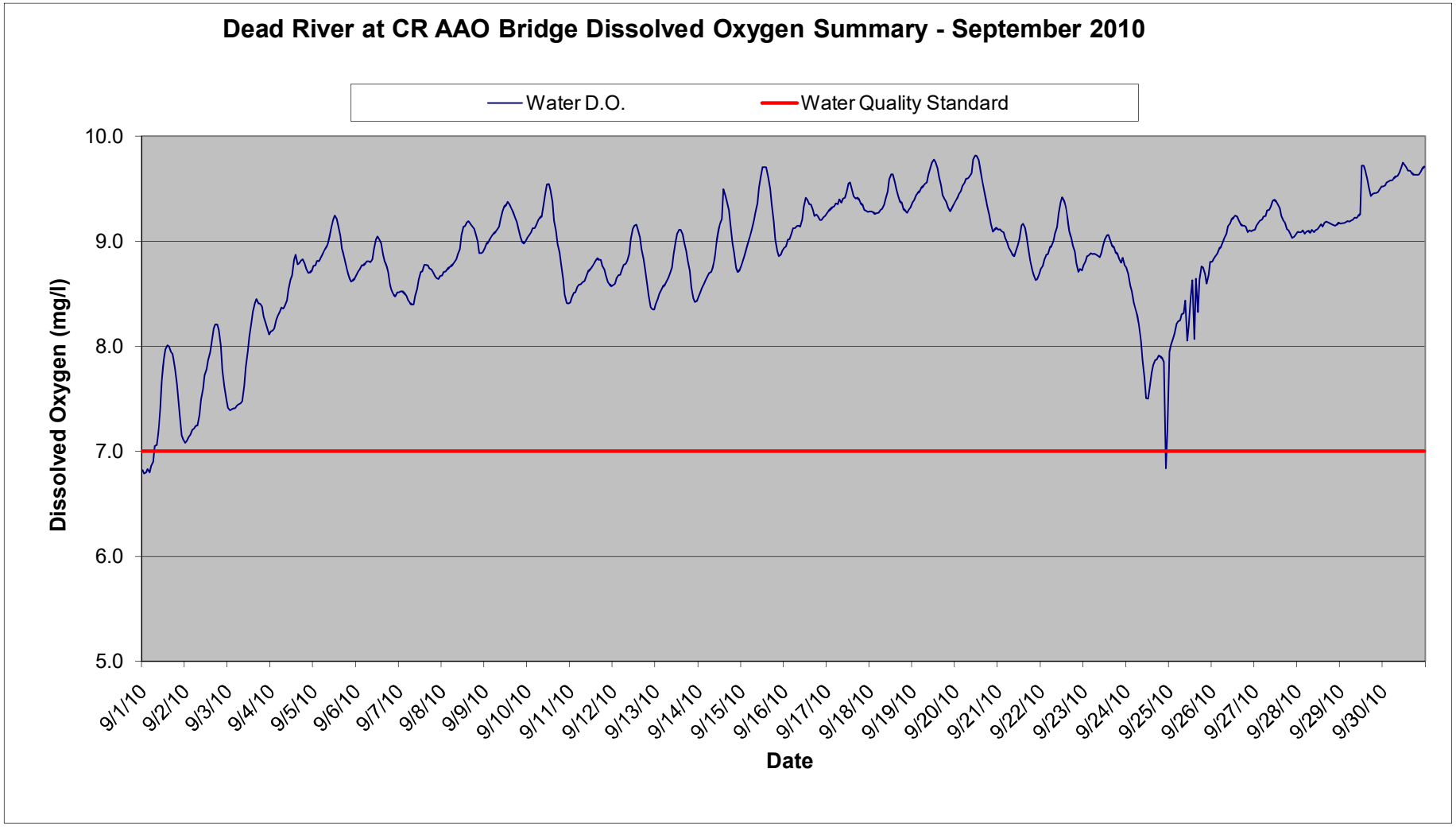
Appendix A

Dissolved Oxygen Monitoring Data









Dead River at County Road AAO Bridge - June 2010 Dissolved Oxygen Summary

Time HHMMSS	06/01/10	06/02/10	06/03/10	06/04/10	06/05/10	06/06/10	06/07/10	06/08/10	06/09/10	06/10/10	06/11/10	06/12/10	06/13/10	06/14/10	06/15/10	06/16/10
0	7.5	7.7	8.0	8.0	8.7	8.8	8.8	8.7	9.3	8.6	8.4	8.7	8.7	8.5	8.4	8.5
10000	7.5	7.7	8.0	8.1	8.8	8.7	8.8	8.7	9.3	8.6	8.4	8.7	8.7	8.5	8.5	8.5
20000	7.6	7.8	8.1	8.1	8.8	8.7	8.9	8.7	9.3	8.6	8.4	8.7	8.7	8.5	8.5	8.5
30000	7.6	7.8	8.1	8.2	8.9	8.8	9.0	8.8	9.3	8.7	8.4	8.7	8.7	8.5	8.5	8.4
40000	7.7	7.9	8.1	8.3	8.9	8.8	9.0	8.8	9.3	8.7	8.4	8.7	8.7	8.5	8.5	8.4
50000	7.8	7.9	8.3	8.3	8.9	8.8	9.1	8.9	9.3	8.7	8.4	8.8	8.7	8.5	8.5	8.4
60000	7.9	7.9	8.5	8.4	8.9	8.9	9.2	9.0	9.4	8.7	8.5	8.8	8.7	8.5	8.5	8.4
70000	7.9	7.9	8.6	8.5	8.9	8.9	9.3	9.2	9.4	8.8	8.5	8.8	8.7	8.6	8.6	8.5
80000	8.1	8.1	8.8	8.8	9.0	9.2	9.5	9.4	9.5	9.0	8.8	8.8	8.8	8.7	8.7	8.6
90000	8.4	8.5	9.0	8.9	9.2	9.3	9.8	9.8	9.8	9.1	9.0	8.9	8.9	8.9	8.8	8.7
100000	8.7	8.7	9.3	9.0	9.5	9.5	10.1	10.0	9.9	9.3	9.2	9.0	9.0	9.1	8.9	8.7
110000	8.7	8.8	9.5	9.1	9.6	9.6	10.2	10.2	10.0	9.4	9.2	9.1	9.1	9.1	8.9	8.8
120000	8.9	9.2	9.6	9.1	9.7	9.7	10.2	10.3	10.0	9.5	9.2	9.2	9.2	9.1	8.9	8.8
130000	8.9	9.3	9.5	9.2	9.6	10.0	10.2	10.2	9.8	9.6	9.0	9.3	9.2	9.1	8.9	8.9
140000	8.9	9.2	9.3	9.4	9.6	10.0	10.1	10.2	9.8	9.6	9.0	9.3	9.1	9.1	8.9	8.9
150000	8.8	9.1	9.3	9.4	9.5	10.0	10.0	10.1		9.6	9.0	9.3	9.1	9.0	8.8	8.9
160000	8.6	9.0	9.2	9.3	9.4	9.9	9.9	10.0	9.3	9.6	9.1	9.3	9.0	9.0	8.8	8.8
170000	8.4	8.9	9.1	9.3	9.3	9.8	9.8	9.9	9.2	9.5	9.0	9.2	8.9	9.0	8.7	8.7
180000	8.2	8.8	9.0	9.2	9.3	9.6	9.6	9.7	9.0	9.4	9.0	9.2	8.8	8.8	8.7	8.6
190000	8.1	8.7	8.8	9.1	9.2	9.5	9.5	9.5	8.9	9.3	8.9	9.1	8.7	8.8	8.6	8.5
200000	8.2	8.6	8.7	9.0	9.1	9.3	9.3	9.4	8.9	9.1	8.8	9.0	8.6	8.7	8.6	8.4
210000	8.1	8.4	8.6	8.9	8.9	9.1	9.1	9.4	8.9	8.9	8.8	8.9	8.6	8.5	8.5	8.3
220000	7.9	8.2	8.4	8.8	8.8	9.0	8.9	9.4	8.7	8.7	8.7	8.8	8.5	8.5	8.5	8.3
230000	7.8	8.1	8.2	8.7	8.8	8.8	8.7	9.3	8.6	8.5	8.7	8.8	8.5	8.4	8.5	8.3
Daily Max	8.9	9.3	9.6	9.4	9.7	10.0	10.2	10.3	10.0	9.6	9.2	9.3	9.2	9.1	8.9	8.9
Daily Min	7.5	7.7	8.0	8.0	8.7	8.7	8.7	8.7	8.6	8.5	8.4	8.7	8.5	8.4	8.4	8.3
Average	8.2	8.4	8.8	8.8	9.1	9.3	9.5	9.5	9.3	9.1	8.8	9.0	8.8	8.7	8.7	8.6

License Minimum Dissolved Oxygen: 7.0 mg/l

Readings below the water quality standard

No data - equiment being calibrated

Dead River at County Road AAO Bridge - June 2010 Dissolved Oxygen Summary

Time HHMMSS	06/17/10	06/18/10	06/19/10	06/20/10	06/21/10	06/22/10	06/23/10	06/24/10	06/25/10	06/26/10	06/27/10	06/28/10	06/29/10	06/30/10
0	8.3	7.9	7.4	7.6	7.5	7.4	7.1	7.5	7.4	7.6	7.5	7.5	7.8	7.9
10000	8.3	7.9	7.4	7.6	7.5	7.4	7.1	7.5	7.5	7.6	7.6	7.5	7.8	7.9
20000	8.3	7.9	7.4	7.7	7.6	7.4	7.2	7.5	7.5	7.6	7.6	7.5	7.9	8.0
30000	8.3	7.9	7.5	7.7	7.7	7.4	7.2	7.5	7.6	7.6	7.6	7.6	7.9	8.1
40000	8.4	7.9	7.5	7.7	7.7	7.4	7.2	7.5	7.6	7.6	7.6	7.6	8.0	8.1
50000	8.4	7.9	7.5	7.8	7.8	7.5	7.2	7.6	7.6	7.6	7.6	7.5	8.0	8.2
60000	8.4	8.0	7.6	7.8	7.9	7.5	7.3	7.6	7.6	7.6	7.6	7.6	8.0	8.2
70000	8.5	8.0	7.7	7.9	8.0	7.6	7.3	7.6	7.7	7.6	7.6	7.6	8.1	8.3
80000	8.6	8.2	7.9	8.2	8.1	7.7	7.4	7.7	7.7	7.7	7.7	7.7	8.2	8.4
90000	8.7	8.3	8.0	8.3	8.3	7.8	7.5	7.9	7.9	7.8	7.7	7.8	8.3	8.6
100000	8.7	8.4	8.1	8.4	8.4	8.0	7.6	8.0	8.1	7.9	7.8	7.9	8.4	8.6
110000	8.8	8.4	8.1	8.4	8.4	7.9	7.8	8.2	8.2	8.0	7.8	8.0	8.5	8.7
120000	8.7	8.4	8.1	8.4	8.3	7.9	7.9	8.3	8.1	8.1	7.9	8.0	8.6	8.7
130000	8.7	8.4	8.1	8.3	8.2	7.9	8.2	8.4	8.1	8.1	8.0	8.2	8.6	8.7
140000	8.6	8.3	8.2	8.3	8.1	8.0	8.2	8.4	8.1	8.2	8.0	8.2	8.5	8.6
150000	8.5	8.2	8.2	8.2	7.9	8.0	8.1	8.3	7.9	8.2	8.0	8.2	8.4	8.5
160000	8.4	8.1	8.1	8.1	7.8	7.9	8.1	8.2	7.8	8.2	7.9	8.2	8.3	8.3
170000	8.3	7.9	8.1	8.1	7.7	7.8	8.0	8.2	7.8	8.1	7.8	8.1	8.2	8.3
180000	8.2	7.8	7.9	7.9	7.5	7.6	7.9	8.1	7.8	8.0	7.8	8.0	8.1	8.1
190000	8.1	7.7	7.8	7.8	7.4	7.5	7.8	7.9	7.7	7.9	7.9	7.9	8.1	8.0
200000	8.0	7.5	7.7	7.6	7.3	7.3	7.7	7.8	7.8	7.8	7.8	7.9	8.0	7.9
210000	7.9	7.4	7.6	7.5	7.2	7.2	7.6	7.6	7.7	7.7	7.7	7.9	7.9	7.8
220000	7.9	7.4	7.6	7.4	7.3	7.1	7.5	7.5	7.7	7.6	7.6	7.8	7.8	7.7
230000	7.8	7.4	7.6	7.4	7.3	7.1	7.5	7.4	7.7	7.5	7.5	7.8	7.8	7.7
Daily Max	8.8	8.4	8.2	8.4	8.4	8.0	8.2	8.4	8.2	8.2	8.0	8.2	8.6	8.7
Daily Min	7.8	7.4	7.4	7.4	7.2	7.1	7.1	7.4	7.4	7.5	7.5	7.5	7.8	7.7
Average	8.4	8.0	7.8	7.9	7.8	7.6	7.6	7.9	7.8	7.8	7.7	7.8	8.1	8.2

Dead River at County Road AAO Bridge - July 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	07/01/10	07/02/10	07/03/10	07/04/10	07/05/10	07/06/10	07/07/10	07/08/10	07/09/10	07/10/10	07/11/10	07/12/10	07/13/10	07/14/10	07/15/10	07/16/10
0	7.8	8.0	7.1	6.7	6.6	7.0	7.0	7.1	7.0	7.0	6.8	7.1	7.2	7.1	7.3	6.9
10000	7.9	8.0	7.2	6.7	6.7	7.0	7.0	7.1	7.0	7.0	6.9	7.1	7.2	7.2	7.3	7.0
20000	7.9	8.0	7.2	6.7	6.7	7.0	7.0	7.1	7.0	7.1	6.9	7.1	7.3	7.2	7.3	7.0
30000	8.0	8.0	7.3	6.8	6.7	7.0	7.0	7.2	7.1	7.1	7.0	7.2	7.3	7.2	7.4	7.0
40000	8.1	8.1	7.3	6.8	6.8	7.0	7.1	7.2	7.1	7.2	7.0	7.2	7.4	7.3	7.4	7.1
50000	8.2	8.1	7.4	6.9	6.8	7.0	7.1	7.2	7.2	7.2	7.0	7.2	7.5	7.3	7.4	7.1
60000	8.3	8.1	7.4	6.9	6.8	7.0	7.2	7.2	7.2	7.3	7.0	7.3	7.5	7.4	7.4	7.1
70000	8.3	8.2	7.5	7.0	6.9	7.1	7.2	7.3	7.3	7.3	7.1	7.3	7.6	7.4	7.4	7.2
80000	8.5	8.2	7.6	7.1	7.0	7.1	7.3	7.3	7.4	7.4	7.1	7.4	7.7	7.6	7.4	7.3
90000	8.6	8.4	7.8	7.3	7.2	7.1	7.5	7.4	7.5	7.6	7.3	7.6	7.9	7.7	7.6	7.4
100000	8.7	8.5	7.9	7.4	7.4	7.2	7.5	7.6	7.6	7.8	7.4	7.8	8.0	7.9	7.7	7.6
110000	8.8	8.5	8.0	7.5	7.5	7.3	7.6	7.6	7.7	7.9	7.6	7.9	8.1	8.0	7.8	7.7
120000	8.7	8.5	8.0	7.6	7.6	7.4	7.6	7.7	7.8	7.9	7.6	7.9	8.2	8.0	7.9	7.7
130000	8.7	8.4	8.0	7.6	7.6	7.5	7.8	7.7	7.8	7.9	7.6	7.9	8.1	8.0	7.9	7.8
140000	8.6	8.3	7.9	7.5	7.6	7.5	7.8	7.6	7.8	7.9	7.6	7.9	8.1	8.0	7.9	7.8
150000	8.5	8.2	7.8	7.3	7.5	7.5	7.7	7.6	7.7	7.8	7.7	7.8	8.0	7.9	7.8	7.7
160000	8.5	8.0	7.7	7.3	7.3	7.5	7.6	7.6	7.7	7.6	7.7	7.8	7.9	7.7	7.8	7.7
170000	8.5	7.9	7.6	7.2	7.3	7.5	7.6	7.5	7.6	7.6	7.7	7.7	7.8	7.5	7.7	7.6
180000	8.4	7.7	7.4	7.2	7.2	7.4	7.5	7.4	7.5	7.5	7.8	7.6	7.8	7.4	7.5	7.5
190000	8.3	7.7	7.2	7.1	7.1	7.4	7.4	7.3	7.4	7.4	7.7	7.6	7.6	7.4	7.4	7.4
200000	8.3	7.5	7.1	6.9	7.0	7.3	7.2	7.2	7.3	7.2	7.5	7.5	7.5	7.4	7.3	7.2
210000	8.2	7.3	6.9	6.8	7.0	7.2	7.1	7.1	7.2	7.0	7.3	7.4	7.4	7.4	7.1	7.0
220000	8.1	7.2	6.7	6.7	7.1	7.1	7.1	7.0	7.1	6.9	7.2	7.3	7.2	7.4	7.0	6.9
230000	8.0	7.1	6.7	6.6	7.1	7.0	7.1	7.0	7.0	6.8	7.1	7.2	7.2	7.3	7.0	6.9
Daily Max	8.8	8.5	8.0	7.6	7.6	7.5	7.8	7.7	7.8	7.9	7.8	7.9	8.2	8.0	7.9	7.8
Daily Min	7.8	7.1	6.7	6.6	6.6	7.0	7.0	7.0	7.0	6.8	6.8	7.1	7.2	7.1	7.0	6.9
Average	8.3	8.0	7.4	7.1	7.1	7.2	7.3	7.3	7.4	7.4	7.3	7.5	7.6	7.5	7.5	7.3

License Minimum Dissolved Oxygen: 7.0 mg/l

Readings below the water quality standard

Dead River at County Road AAO Bridge - July 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	07/17/10	07/18/10	07/19/10	07/20/10	07/21/10	07/22/10	07/23/10	07/24/10	07/25/10	07/26/10	07/27/10	07/28/10	07/29/10	07/30/10	07/31/10
0	6.8					7.3	7.5	7.2	7.5	7.2	7.0	7.1	7.1	7.1	7.3
10000	6.8					7.3	7.5	7.2	7.5	7.2	7.0	7.1	7.2	7.1	7.2
20000	6.8					7.4	7.4	7.2	7.5	7.2	7.0	7.1	7.2	7.3	7.2
30000	6.9					7.4	7.4	7.2	7.5	7.3	7.1	7.1	7.3	7.3	7.1
40000	7.0					7.5	7.5	7.3	7.6	7.4	7.2	7.1	7.3	7.4	7.3
50000	6.9					7.5	7.5	7.4	7.7	7.5	7.2	7.1	7.3	7.4	7.3
60000	6.9					7.5	7.5	7.4	7.7	7.5	7.3	7.1	7.4	7.4	7.3
70000	7.1					7.6	7.5	7.4	7.7	7.5	7.4	7.2	7.4	7.5	7.3
80000	7.2					7.6	7.6	7.5	7.9	7.7	7.5	7.3	7.6	7.6	7.3
90000	7.3					7.8	7.7	7.6	8.0	7.8	7.6	7.4	7.7	7.8	7.4
100000	7.5					7.9	7.8	7.6	8.1	8.0	7.8	7.7	7.9	8.0	7.5
110000	7.6					8.0	7.9	7.7	8.2	8.2	8.0	7.8	8.1	8.2	7.6
120000	7.8					8.0	8.0	7.8	8.3	8.1	8.0	8.0	8.1	8.3	7.8
130000	7.8					8.1	8.1	7.9	8.3	8.2	8.1	8.0	8.1	8.3	7.9
140000	7.7					8.1	8.1	8.0	8.4	8.2	8.0	8.0	8.0	8.3	7.8
150000	7.7					8.1	8.1	7.9	8.3	8.0	7.9	8.0	8.0	8.2	7.9
160000	7.7				8.0	8.1	8.0	8.0	8.1	8.0	7.9	7.9	7.9	8.1	8.0
170000	7.5				7.9	8.2	7.9	8.1	8.1	7.9	7.6	7.8	7.8	7.9	7.9
180000					7.9	8.1	7.8	8.0	7.9	7.7	7.5	7.7	7.5	7.7	7.9
190000					7.7	8.1	7.7	8.0	7.8	7.6	7.5	7.6	7.5	7.7	7.8
200000					7.6	8.0	7.5	7.9	7.6	7.5	7.3	7.5	7.4	7.5	7.7
210000					7.5	7.8	7.4	7.7	7.5	7.3	7.2	7.3	7.3	7.3	7.5
220000					7.4	7.7	7.2	7.6	7.3	7.1	7.1	7.2	7.2	7.1	7.4
230000					7.3	7.5	7.2	7.5	7.2	7.1	7.1	7.1	7.1	7.2	7.4
Daily Max	7.8	0.0	0.0	0.0	8.0	8.2	8.1	8.1	8.4	8.2	8.1	8.0	8.1	8.3	8.0
Daily Min	6.8	0.0	0.0	0.0	7.3	7.3	7.2	7.2	7.2	7.1	7.0	7.1	7.1	7.1	7.1
Average	7.3	#DIV/0!	#DIV/0!	#DIV/0!	7.7	7.8	7.7	7.6	7.8	7.6	7.5	7.5	7.6	7.6	7.5

Electrical malfunction of monitoring equipment

Dead River at County Road AAO Bridge - August 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	8/1/2010	8/2/2010	8/3/2010	8/4/2010	8/5/2010	8/6/2010	8/7/2010	8/8/2010	8/9/2010	8/10/2010	8/11/2010	8/12/2010	8/13/2010	8/14/2010	8/15/2010	8/16/2010	8/17/2010
0	7.2	7.0	7.1	6.7	7.0	7.3	7.3	7.2	7.1	6.7	6.6	6.8	6.3	6.5	6.3	6.8	7.1
10000	7.3	7.0	7.1	6.8	7.0	7.3	7.4	7.3	7.1	6.8	6.7	6.8	6.3	6.5	6.2	6.8	7.1
20000	7.3	7.0	7.1	6.8	7.0	7.4	7.5	7.3	7.2	6.8	6.7	6.8	6.3	6.5	6.2	6.8	7.1
30000	7.3	7.0	7.1	6.8	7.1	7.4	7.5	7.3	7.2	6.9	6.8	6.8	6.4	6.5	6.4	6.9	7.1
40000	7.4	7.0	7.1	6.9	7.1	7.5	7.6	7.4	7.3	6.9	6.8	6.9	6.4	6.5	6.4	6.9	7.2
50000	7.4	7.1	7.2	6.9	7.1	7.5	7.7	7.4	7.3	7.0	6.9	6.9	6.4	6.6	6.5	7.0	7.2
60000	7.5	7.1	7.2	7.0	7.2	7.5	7.8	7.4	7.4	7.0	6.9	6.9	6.4	6.6	6.5	7.0	7.3
70000	7.5	7.2	7.2	7.0	7.2	7.6	7.8	7.4	7.4	7.1	7.0	6.9	6.4	6.7	6.6	7.1	7.4
80000	7.5	7.2	7.3	7.1	7.3	7.7	8.0	7.5	7.5	7.2	7.0	7.1	6.5	6.8	6.7	7.1	7.4
90000	7.7	7.3	7.4	7.3	7.4	7.9	8.1	7.6	7.7	7.4	7.2	7.2	6.7	6.9	6.8	7.2	7.6
100000	7.9	7.3	7.6	7.5	7.6	8.0	8.3	7.7	7.9	7.7	7.4	7.4	6.8	7.1	7.0	7.4	7.9
110000	8.0	7.4	7.7	7.6	7.8	8.2	8.4	7.9	8.0	7.9	7.5	7.6	6.8	7.4	7.3	7.6	8.1
120000	8.1	7.5	7.9	7.7	7.8	8.3	8.5	8.1	8.1	8.0	7.6	7.7	6.9	7.5	7.4	7.8	8.2
130000	8.1	7.6	7.9	7.8	7.9	8.3	8.5	8.2	8.1	8.0	7.8	7.8	7.1	7.6	7.6	8.0	8.3
140000	8.0	7.8	7.9	7.8	7.9	8.3	8.4	8.2	8.0	8.0	7.8	7.8	7.3	7.6	7.6	8.0	8.3
150000	8.0	7.8	7.8	7.9	7.9	8.2	8.3	8.2	8.0	7.9	7.8	7.7	7.4	7.5	7.6	8.0	8.3
160000	8.0	7.9	7.7	7.9	7.9	8.1	8.2	8.2	7.9	7.8	7.8	7.6	7.5	7.5	7.7	8.0	8.2
170000	7.8	7.9	7.6	7.8	7.8	8.0	8.0	8.0	7.7	7.7	7.7	7.5	7.5	7.4	7.6	7.9	8.1
180000	7.7	7.8	7.4	7.7	7.8	7.9	7.9	7.9	7.6	7.5	7.7	7.3	7.4	7.2	7.6	7.8	7.9
190000	7.7	7.7	7.2	7.5	7.7	7.7	7.7	7.8	7.4	7.4	7.6	7.1	7.3	7.1	7.5	7.7	7.7
200000	7.5	7.5	7.1	7.4	7.5	7.6	7.6	7.6	7.2	7.1	7.4	6.9	7.0	6.8	7.3	7.6	7.5
210000	7.3	7.3	6.9	7.2	7.4	7.4	7.5	7.4	7.0	6.9	7.2	6.7	6.8	6.6	7.1	7.4	7.4
220000	7.1	7.2	6.8	7.1	7.3	7.3	7.3	7.2	6.8	6.7	6.9	6.5	6.5	6.4	7.0	7.2	7.2
230000	7.0	7.1	6.7	7.0	7.3	7.3	7.2	7.1	6.7	6.6	6.9	6.3	6.5	6.2	6.8	7.1	6.5
Daily Max	8.1	7.9	7.9	7.9	7.9	8.3	8.5	8.2	8.1	8.0	7.8	7.8	7.5	7.6	7.7	8.0	8.3
Daily Min	7.0	7.0	6.7	6.7	7.0	7.3	7.2	7.1	6.7	6.6	6.6	6.3	6.3	6.2	6.2	6.8	6.5
Average	7.6	7.4	7.3	7.3	7.5	7.7	7.9	7.6	7.5	7.3	7.2	7.1	6.8	6.9	7.0	7.4	7.6

License Minimum Dissolved Oxygen: 7.0 mg/l

Readings below the water quality standard

Dead River at County Road AAO Bridge - August 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	8/18/2010	8/19/2010	8/20/2010	8/21/2010	8/22/2010	8/23/2010	8/24/2010	8/25/2010	8/26/2010	8/27/2010	8/28/2010	8/29/2010	8/30/2010	8/31/2010
0	7.0	7.6	7.5	7.9	7.9	7.7	7.3	7.6	7.9	7.8	6.6	7.2	7.0	6.7
10000	7.0	7.6	7.5	7.9	7.9	7.7	7.2	7.6	7.9	7.8	6.7	7.2	6.9	6.7
20000	7.1	7.6	7.5	7.9	7.9	7.7	7.3	7.6	7.9	7.8	6.7	7.1	6.9	6.6
30000	7.1	7.6	7.6	7.9	7.9	7.7	7.3	7.6	8.0	7.8	6.7	7.2	6.9	6.7
40000	7.1	7.6	7.6	7.9	7.9	7.7	7.3	7.6	8.0	7.9	6.8	7.2	7.0	6.8
50000	7.2	7.7	7.6	7.9	7.9	7.8	7.3	7.7	8.0	7.9	6.9	7.2	6.9	6.8
60000	7.2	7.7	7.6	7.9	8.0	7.8	7.3	7.7	8.0	7.9	6.9	7.3	7.0	6.8
70000	7.3	7.8	7.6	7.8	7.9	7.9	7.4	7.7	8.1	8.0	7.0	7.3	7.0	6.9
80000	7.4	7.8	7.7	7.9	8.1	7.9	7.4	7.8	8.1	8.0	7.1	7.4	7.1	7.0
90000	7.5	8.0	7.8	7.9	8.2	8.0	7.5	7.9	8.3	8.1	7.2	7.5	7.2	7.1
100000	7.6	8.2	7.8	8.0	8.2	8.2	7.7	8.1	8.4	8.3	7.5	7.7	7.4	7.3
110000	7.8	8.4	7.9	8.1	8.4	8.3	7.8	8.2	8.5	8.4	7.7	7.9	7.6	7.5
120000	8.3	8.6	8.0	8.2	8.4	8.4	7.8	8.4	8.6	8.5	7.9	8.0	7.8	7.7
130000	8.4	8.6	8.1	8.2	8.4	8.4	7.8	8.5	8.7	8.6	8.0	8.1	7.9	7.8
140000	8.4	8.6	8.2	8.3	8.4	8.4	7.8	8.5	8.7	8.6	8.1	8.2	8.0	7.8
150000	8.4	8.6	8.2	8.4	8.4	8.4	7.9	8.6	8.7	8.5	8.1	8.2	7.9	7.8
160000	8.4	8.5	8.1	8.4	8.4	8.4	7.9	8.6	8.7	8.4	8.0	8.1	7.9	7.8
170000	8.2	8.4	8.2	8.4	8.3	8.2	8.0	8.5	8.6	8.3	8.0	8.0	7.8	7.8
180000	8.2	8.2	8.1	8.3	8.2	8.1	8.0	8.4	8.5	8.2	7.9	7.8	7.6	7.7
190000	8.1	8.1	8.0	8.2	8.1	8.0	8.0	8.3	8.4	7.9	7.8	7.7	7.5	7.6
200000	8.0	7.9	7.9	8.1	8.0	7.8	7.9	8.2	8.2	6.5	7.6	7.5	7.3	7.4
210000	7.8	7.7	7.9	8.0	7.8	7.5	7.8	8.0	8.0	6.4	7.4	7.3	7.1	7.2
220000	7.7	7.6	7.9	7.9	7.7	7.4	7.7	7.9	7.9	6.5	7.3	7.2	6.9	7.1
230000	7.6	7.5	7.9	7.9	7.7	7.3	7.6	7.9	7.9	6.5	7.2	7.1	6.7	6.9
Daily Max	8.4	8.6	8.2	8.4	8.4	8.4	8.0	8.6	8.7	8.6	8.1	8.2	8.0	7.8
Daily Min	7.0	7.5	7.5	7.8	7.7	7.3	7.2	7.6	7.9	6.4	6.6	7.1	6.7	6.6
Average	7.7	8.0	7.8	8.0	8.1	7.9	7.6	8.0	8.2	7.9	7.4	7.5	7.3	7.2

Dead River at County Road AAO Bridge - September 2010 Dissolved Oxygen Data

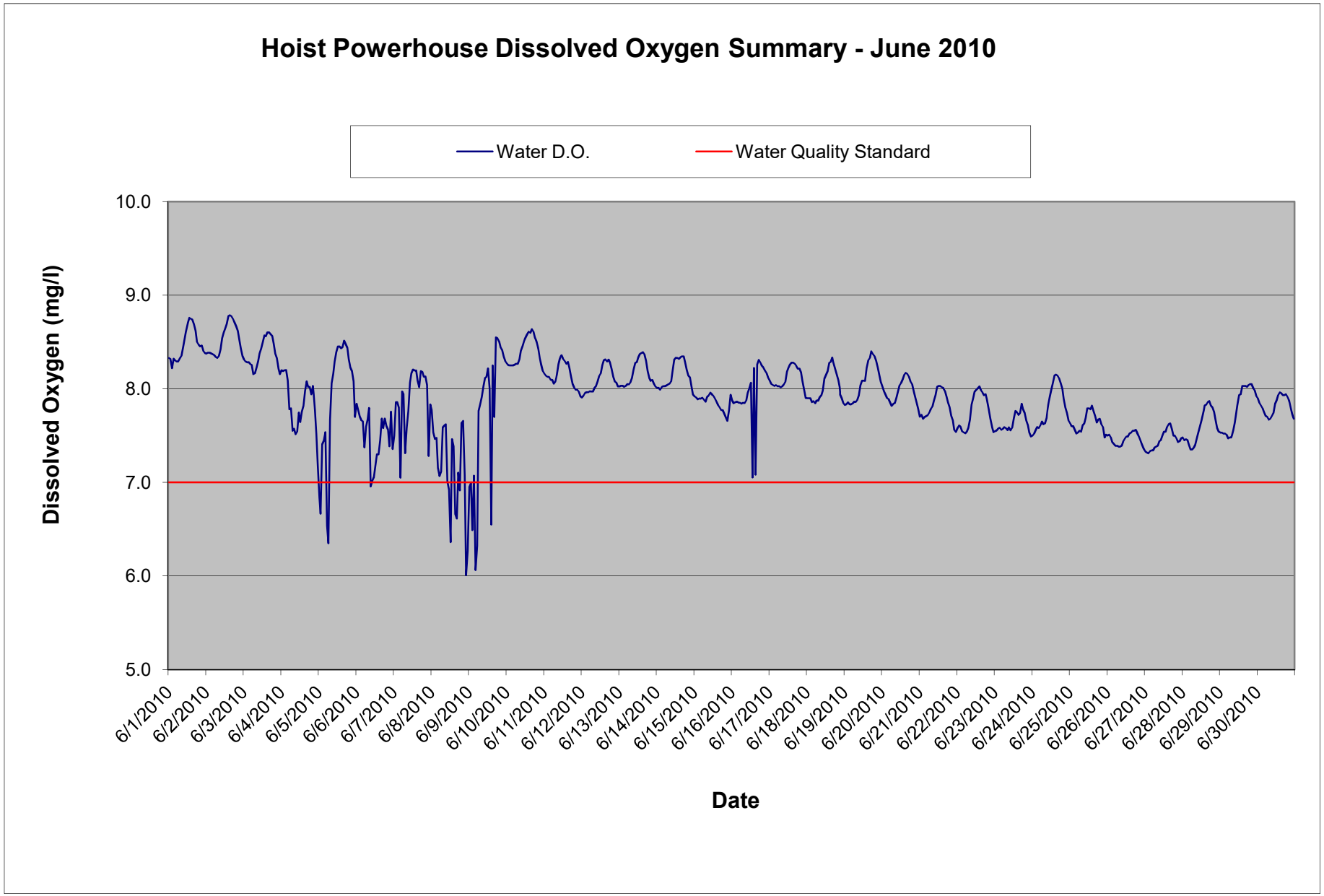
Time HHMMSS	9/1/2010	9/2/2010	9/3/2010	9/4/2010	9/5/2010	9/6/2010	9/7/2010	9/8/2010	9/9/2010	9/10/2010	9/11/2010	9/12/2010	9/13/2010	9/14/2010	9/15/2010	9/16/2010
0	6.8	7.1	7.4	8.1	8.8	8.7	8.5	8.7	8.9	9.0	8.4	8.6	8.4	8.5	8.8	8.9
10000	6.8	7.1	7.4	8.2	8.8	8.7	8.5	8.7	9.0	9.1	8.5	8.6	8.4	8.5	8.8	8.9
20000	6.8	7.1	7.4	8.2	8.8	8.7	8.5	8.7	9.0	9.1	8.5	8.6	8.5	8.6	8.9	9.0
30000	6.8	7.2	7.4	8.2	8.8	8.8	8.5	8.7	9.0	9.1	8.5	8.7	8.5	8.6	8.9	9.0
40000	6.8	7.2	7.4	8.3	8.8	8.8	8.5	8.8	9.1	9.1	8.6	8.7	8.6	8.6	9.0	9.1
50000	6.9	7.2	7.4	8.3	8.9	8.8	8.4	8.8	9.1	9.2	8.6	8.7	8.6	8.7	9.1	9.1
60000	6.9	7.2	7.4	8.4	8.9	8.8	8.4	8.8	9.1	9.2	8.6	8.8	8.6	8.7	9.1	9.1
70000	7.1	7.2	7.5	8.4	8.9	8.8	8.4	8.8	9.1	9.2	8.6	8.8	8.7	8.7	9.2	9.1
80000	7.1	7.3	7.5	8.4	9.0	8.8	8.4	8.8	9.1	9.2	8.6	8.8	8.7	8.7	9.3	9.1
90000	7.2	7.5	7.6	8.4	9.1	8.8	8.5	8.9	9.2	9.3	8.7	8.9	8.8	8.8	9.4	9.1
100000	7.4	7.6	7.8	8.5	9.1	8.9	8.5	8.9	9.3	9.5	8.7	9.0	8.9	9.0	9.5	9.2
110000	7.7	7.7	8.0	8.6	9.2	9.0	8.6	9.1	9.3	9.5	8.7	9.1	9.0	9.1	9.6	9.3
120000	7.9	7.8	8.1	8.7	9.2	9.0	8.7	9.1	9.3	9.5	8.7	9.1	9.1	9.2	9.7	9.4
130000	8.0	7.9	8.2	8.8	9.2	9.0	8.7	9.1	9.4	9.5	8.8	9.2	9.1	9.2	9.7	9.4
140000	8.0	7.9	8.3	8.9	9.1	9.0	8.8	9.2	9.3	9.4	8.8	9.1	9.1	9.5	9.7	9.4
150000	8.0	8.0	8.4	8.8	9.1	8.9	8.8	9.2	9.3	9.2	8.8	9.0	9.1	9.4	9.6	9.4
160000	7.9	8.2	8.4	8.8	8.9	8.8	8.8	9.2	9.3	9.1	8.8	8.9	9.0	9.4	9.5	9.3
170000	7.9	8.2	8.4	8.8	8.9	8.8	8.7	9.1	9.2	9.0	8.8	8.8	8.9	9.3	9.4	9.2
180000	7.8	8.2	8.4	8.8	8.8	8.7	8.7	9.1	9.2	8.9	8.8	8.7	8.8	9.2	9.2	9.3
190000	7.7	8.2	8.4	8.8	8.7	8.6	8.7	9.1	9.1	8.8	8.7	8.6	8.7	9.0	9.0	9.2
200000	7.5	8.0	8.3	8.7	8.7	8.5	8.7	9.0	9.0	8.6	8.7	8.5	8.6	8.9	8.9	9.2
210000	7.4	7.8	8.2	8.7	8.6	8.5	8.6	8.9	9.0	8.5	8.6	8.4	8.5	8.7	8.9	9.2
220000	7.2	7.6	8.2	8.7	8.6	8.5	8.6	8.9	9.0	8.4	8.6	8.4	8.4	8.7	8.9	9.2
230000	7.1	7.5	8.1	8.7	8.6	8.5	8.7	8.9	9.0	8.4	8.6	8.4	8.4	8.7	8.9	9.2
Daily Max	8.0	8.2	8.4	8.9	9.2	9.0	8.8	9.2	9.4	9.5	8.8	9.2	9.1	9.5	9.7	9.4
Daily Min	6.8	7.1	7.4	8.1	8.6	8.5	8.4	8.7	8.9	8.4	8.4	8.4	8.4	8.5	8.8	8.9
Average	7.4	7.6	7.9	8.6	8.9	8.8	8.6	8.9	9.1	9.1	8.7	8.8	8.7	8.9	9.2	9.2

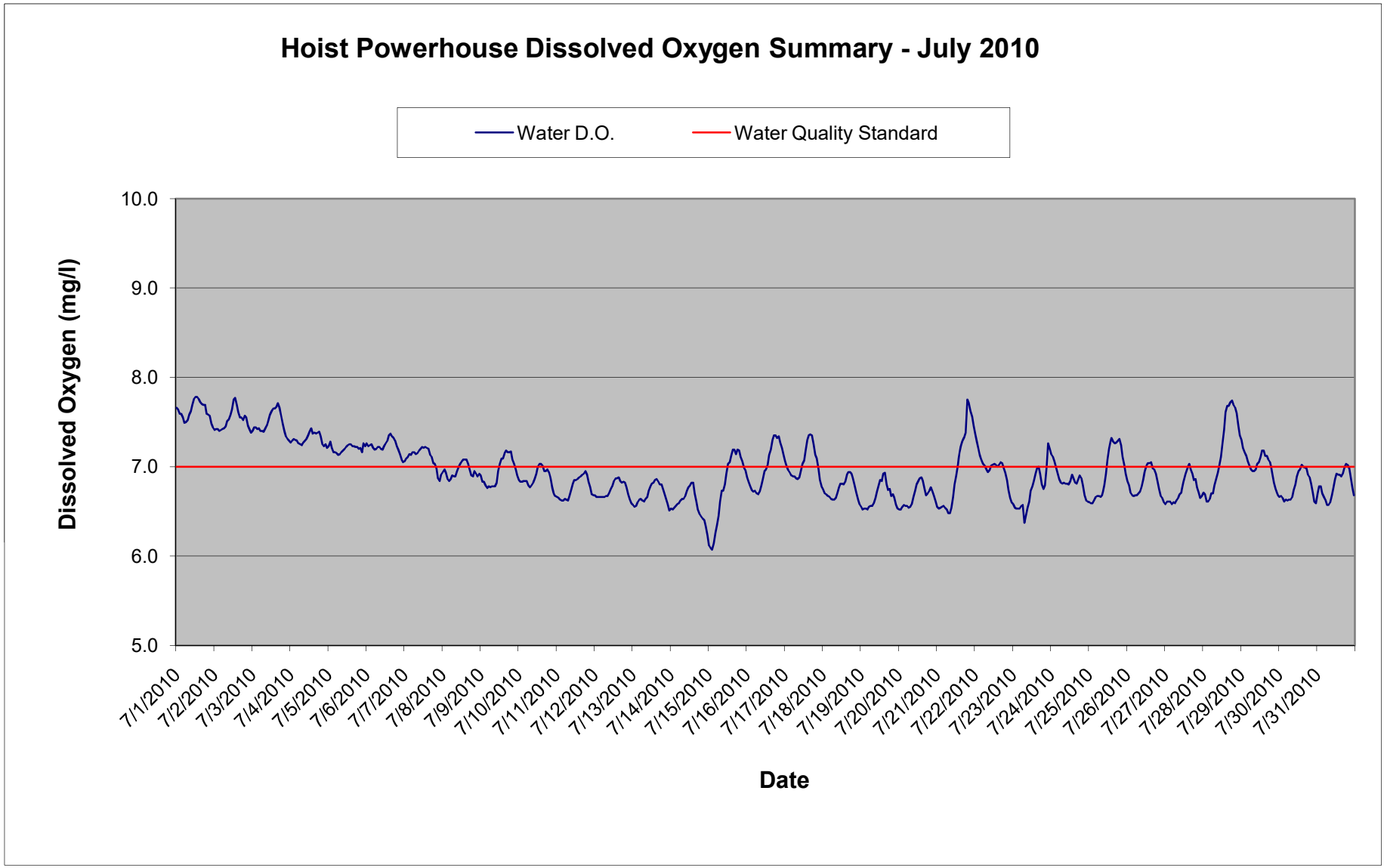
License Minimum Dissolved Oxygen: 7.0 mg/l

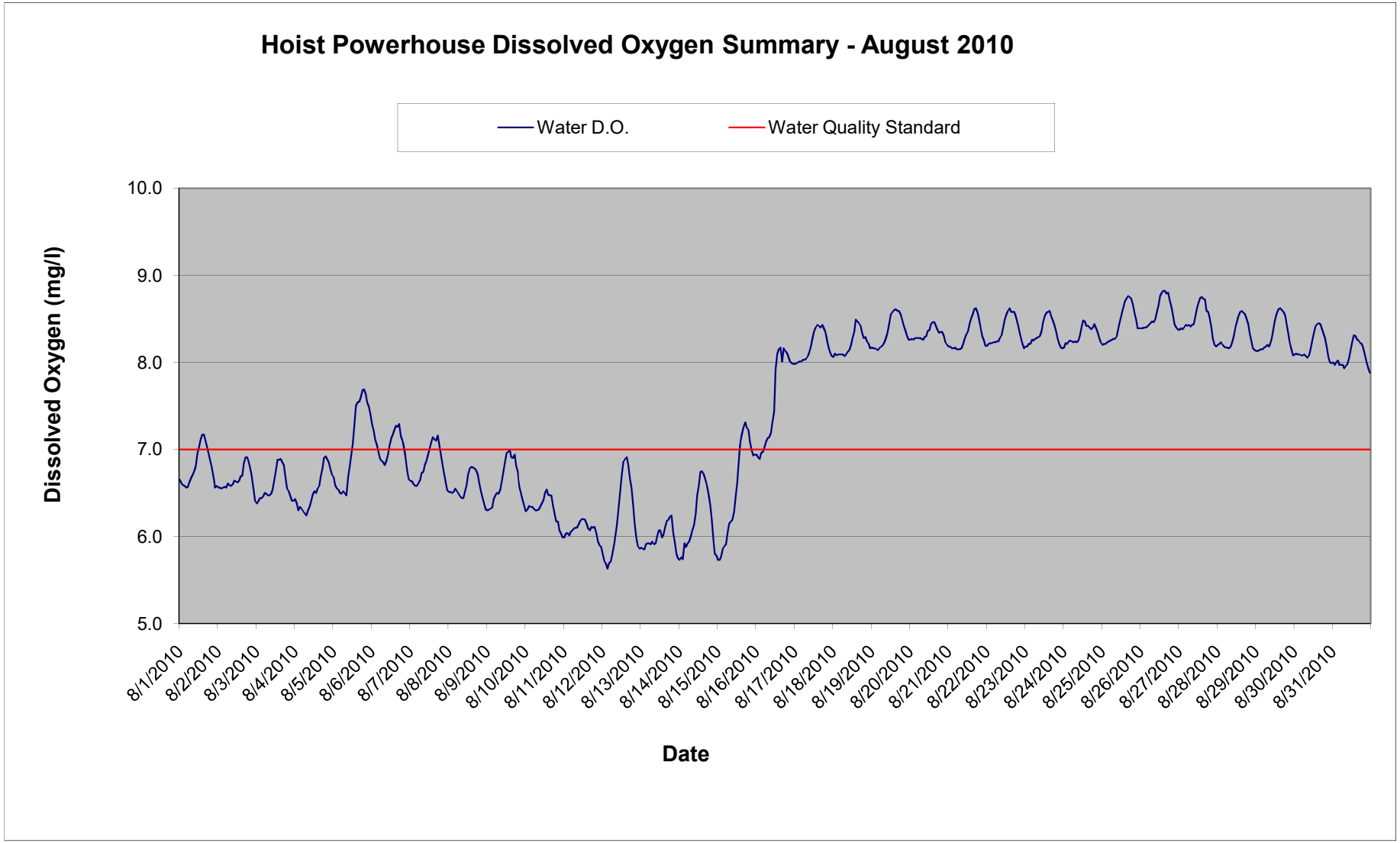
Readings below the water quality standard

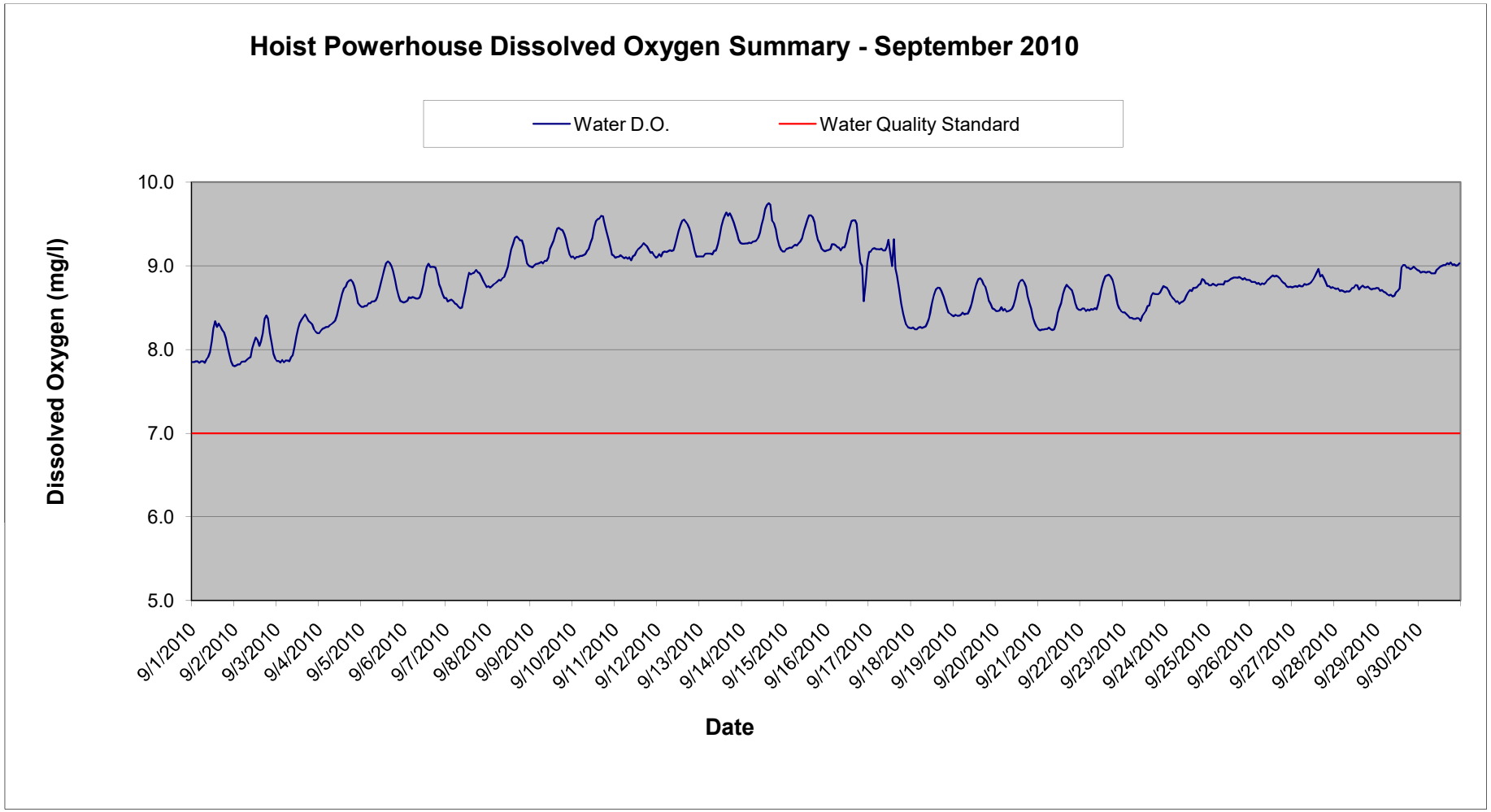
Dead River at County Road AAO Bridge - September 2010 Dissolved Oxygen Data

Time HHMMSS	9/17/2010	9/18/2010	9/19/2010	9/20/2010	9/21/2010	9/22/2010	9/23/2010	9/24/2010	9/25/2010	9/26/2010	9/27/2010	9/28/2010	9/29/2010	9/30/2010
0	9.3	9.3	9.4	9.4	9.1	8.7	8.8	8.7	7.9	8.8	9.1	9.1	9.2	9.5
10000	9.3	9.3	9.4	9.4	9.1	8.8	8.8	8.7	8.0	8.8	9.1	9.1	9.2	9.5
20000	9.3	9.3	9.4	9.4	9.1	8.8	8.9	8.6	8.1	8.9	9.2	9.1	9.2	9.6
30000	9.3	9.3	9.5	9.5	9.1	8.9	8.9	8.5	8.1	8.9	9.2	9.1	9.2	9.6
40000	9.3	9.3	9.5	9.5	9.0	8.9	8.9	8.4	8.2	8.9	9.2	9.1	9.2	9.6
50000	9.4	9.3	9.5	9.6	9.0	8.9	8.9	8.4	8.2	8.9	9.2	9.1	9.2	9.6
60000	9.3	9.3	9.5	9.6	8.9	9.0	8.9	8.3	8.2	9.0	9.2	9.1	9.2	9.6
70000	9.4	9.3	9.5	9.6	8.9	9.0	8.9	8.2	8.3	9.0	9.3	9.1	9.2	9.6
80000	9.4	9.3	9.6	9.6	8.9	9.1	8.9	8.0	8.3	9.1	9.3	9.1	9.2	9.6
90000	9.4	9.4	9.6	9.6	8.9	9.1	8.8	7.9	8.4	9.1	9.3	9.1	9.2	9.7
100000	9.4	9.5	9.7	9.8	8.9	9.3	8.9	7.7	8.1	9.2	9.4	9.1	9.2	9.7
110000	9.5	9.6	9.7	9.8	9.0	9.4	9.0	7.5	8.2	9.2	9.4	9.1	9.3	9.8
120000	9.6	9.6	9.8	9.8	9.0	9.4	9.0	7.5	8.5	9.2	9.4	9.1	9.7	9.7
130000	9.6	9.6	9.8	9.8	9.1	9.4	9.1	7.6	8.6	9.2	9.4	9.2	9.7	9.7
140000	9.5	9.6	9.7	9.7	9.2	9.3	9.1	7.7	8.1	9.2	9.3	9.1	9.7	9.7
150000	9.4	9.5	9.6	9.6	9.1	9.2	9.0	7.8	8.6	9.2	9.2	9.2	9.6	9.7
160000	9.4	9.4	9.5	9.5	9.0	9.1	9.0	7.9	8.3	9.2	9.2	9.2	9.5	9.7
170000	9.4	9.4	9.4	9.4	8.9	9.0	8.9	7.9	8.6	9.2	9.2	9.2	9.4	9.6
180000	9.4	9.4	9.4	9.3	8.8	9.0	8.9	7.9	8.8	9.1	9.1	9.2	9.5	9.6
190000	9.4	9.3	9.4	9.2	8.7	8.9	8.9	7.9	8.8	9.1	9.1	9.2	9.5	9.6
200000	9.3	9.3	9.3	9.2	8.7	8.8	8.8	7.9	8.7	9.1	9.1	9.2	9.5	9.6
210000	9.3	9.3	9.3	9.1	8.6	8.7	8.8	7.9	8.6	9.1	9.0	9.1	9.5	9.7
220000	9.3	9.3	9.3	9.1	8.6	8.7	8.8	6.8	8.7	9.1	9.0	9.2	9.5	9.7
230000	9.3	9.3	9.4	9.1	8.7	8.7	8.8	7.2	8.8	9.1	9.1	9.2	9.5	9.7
Daily Max	9.6	9.6	9.8	9.8	9.2	9.4	9.1	8.7	8.8	9.2	9.4	9.2	9.7	9.8
Daily Min	9.3	9.3	9.3	9.1	8.6	8.7	8.8	6.8	7.9	8.8	9.0	9.1	9.2	9.5
Average	9.4	9.4	9.5	9.5	8.9	9.0	8.9	8.0	8.4	9.1	9.2	9.1	9.4	9.6









Dead River Below Hoist Powerhouse - June 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	06/01/10	06/02/10	06/03/10	06/04/10	06/05/10	06/06/10	06/07/10	06/08/10	06/09/10	06/10/10	06/11/10	06/12/10	06/13/10	06/14/10	06/15/10	06/16/10
0	8.3	8.4	8.3	8.2	6.9	7.8	7.5	7.8	6.9	8.3	8.2	7.9	8.0	8.0	7.9	7.9
10000	8.3	8.4	8.3	8.2	6.7	7.8	7.9	7.5	7.0	8.3	8.1	7.9	8.0	8.0	7.9	7.8
20000	8.2	8.4	8.3	8.2	7.4	7.7	7.9	7.5	6.5	8.3	8.1	8.0	8.0	8.0	7.9	7.9
30000	8.3	8.4	8.3	8.2	7.4	7.7	7.8	7.5	7.1	8.2	8.1	8.0	8.0	8.0	7.9	7.9
40000	8.3	8.4	8.3	8.1	7.5	7.7	7.0	7.2	6.1	8.2	8.1	8.0	8.0	8.0	7.9	7.9
50000	8.3	8.4	8.3	7.8	6.5	7.4	8.0	7.1	6.3	8.3	8.1	8.0	8.0	8.0	7.9	7.9
60000	8.3	8.3	8.2	7.8	6.3	7.6	7.9	7.1	7.8	8.3	8.1	8.0	8.0	8.0	7.9	7.8
70000	8.3	8.3	8.2	7.6	7.7	7.7	7.3	7.6	7.8	8.3	8.1	8.0	8.1	8.0	7.9	7.8
80000	8.4	8.3	8.2	7.6	8.1	7.8	7.6	7.6	7.9	8.3	8.2	8.0	8.1	8.1	7.9	7.8
90000	8.4	8.4	8.3	7.5	8.2	7.0	7.8	7.6	8.0	8.4	8.3	8.0	8.2	8.1	7.9	7.9
100000	8.5	8.5	8.4	7.5	8.3	7.0	8.1	7.0	8.1	8.5	8.3	8.1	8.3	8.2	8.0	8.0
110000	8.6	8.6	8.4	7.7	8.4	7.1	8.2	6.9	8.1	8.5	8.4	8.1	8.3	8.3	7.9	8.0
120000	8.7	8.6	8.5	7.6	8.5	7.2	8.2	6.4	8.2	8.6	8.3	8.2	8.3	8.3	7.9	8.1
130000	8.8	8.7	8.6	7.8	8.5	7.3	8.2	7.5	8.0	8.6	8.3	8.3	8.4	8.3	7.9	7.1
140000	8.7	8.8	8.6	7.8	8.4	7.3	8.2	7.4	6.5	8.6	8.3	8.3	8.4	8.3	7.9	8.2
150000	8.7	8.8	8.6	8.0	8.4	7.5	8.1	6.7	8.2	8.6	8.3	8.3	8.4	8.3	7.8	7.1
160000	8.7	8.8	8.6	8.1	8.5	7.7	8.0	6.6	7.7	8.6	8.2	8.3	8.4	8.3	7.8	8.3
170000	8.6	8.7	8.6	8.0	8.5	7.6	8.2	7.1	8.5	8.6	8.1	8.3	8.3	8.3	7.8	8.3
180000	8.5	8.7	8.6	8.0	8.4	7.7	8.2	6.9	8.5	8.5	8.1	8.3	8.2	8.3	7.8	8.3
190000	8.5	8.7	8.5	7.9	8.3	7.6	8.1	7.6	8.5	8.5	8.0	8.2	8.1	8.2	7.7	8.2
200000	8.5	8.6	8.4	8.0	8.2	7.6	8.1	7.7	8.4	8.4	8.0	8.1	8.1	8.1	7.7	8.2
210000	8.5	8.5	8.3	7.9	8.2	7.4	8.0	7.1	8.4	8.3	8.0	8.1	8.1	8.1	7.7	8.2
220000	8.4	8.4	8.2	7.6	8.1	7.8	7.3	6.0	8.3	8.3	8.0	8.1	8.1	8.0	7.8	8.2
230000	8.4	8.4	8.2	7.2	7.7	7.4	7.8	6.3	8.3	8.2	7.9	8.0	8.0	7.9	7.9	8.1
Daily Max	8.8	8.8	8.6	8.2	8.5	7.8	8.2	7.8	8.5	8.6	8.4	8.3	8.4	8.3	8.0	8.3
Daily Min	8.2	8.3	8.2	7.2	6.3	7.0	7.0	6.0	6.1	8.2	7.9	7.9	8.0	7.9	7.7	7.1
Average	8.5	8.5	8.4	7.8	7.9	7.5	7.9	7.1	7.7	8.4	8.1	8.1	8.2	8.1	7.9	7.9

Water Quality Standard: 7 mg/l Dissolved Oxygen

Dead River Below Hoist Powerhouse - June 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	06/17/10	06/18/10	06/19/10	06/20/10	06/21/10	06/22/10	06/23/10	06/24/10	06/25/10	06/26/10	06/27/10	06/28/10	06/29/10	06/30/10
0	8.1	7.9	7.8	8.0	7.7	7.6	7.5	7.5	7.6	7.5	7.3	7.5	7.5	7.9
10000	8.1	7.9	7.8	8.0	7.7	7.6	7.6	7.5	7.6	7.5	7.3	7.5	7.5	7.9
20000	8.0	7.9	7.9	7.9	7.7	7.6	7.6	7.6	7.6	7.5	7.3	7.5	7.5	7.8
30000	8.0	7.9	7.8	7.9	7.7	7.5	7.6	7.6	7.6	7.4	7.3	7.5	7.5	7.8
40000	8.0	7.9	7.8	7.9	7.7	7.5	7.6	7.6	7.5	7.4	7.3	7.4	7.5	7.8
50000	8.0	7.8	7.8	7.8	7.7	7.5	7.6	7.6	7.5	7.4	7.3	7.4	7.5	7.7
60000	8.0	7.9	7.9	7.8	7.7	7.5	7.6	7.7	7.6	7.4	7.4	7.4	7.5	7.7
70000	8.0	7.9	7.9	7.8	7.8	7.6	7.6	7.6	7.5	7.4	7.4	7.4	7.5	7.7
80000	8.0	7.9	7.9	7.8	7.8	7.7	7.6	7.6	7.6	7.4	7.4	7.4	7.5	7.7
90000	8.0	7.9	7.9	7.9	7.9	7.8	7.6	7.7	7.6	7.4	7.4	7.5	7.6	7.7
100000	8.1	8.0	8.0	8.0	7.9	7.9	7.6	7.8	7.7	7.4	7.5	7.5	7.7	7.7
110000	8.2	8.1	8.1	8.0	8.0	8.0	7.6	7.9	7.8	7.5	7.5	7.6	7.8	7.8
120000	8.2	8.1	8.1	8.1	8.0	8.0	7.7	8.0	7.8	7.5	7.5	7.7	7.9	7.9
130000	8.3	8.2	8.1	8.1	8.0	8.0	7.8	8.1	7.8	7.5	7.5	7.7	7.9	7.9
140000	8.3	8.3	8.2	8.2	8.0	8.0	7.8	8.1	7.8	7.5	7.6	7.8	8.0	8.0
150000	8.3	8.3	8.3	8.2	8.0	8.0	7.7	8.2	7.8	7.5	7.6	7.8	8.0	8.0
160000	8.3	8.3	8.3	8.2	8.0	8.0	7.7	8.1	7.7	7.6	7.6	7.9	8.0	7.9
170000	8.2	8.3	8.4	8.1	7.9	7.9	7.8	8.1	7.6	7.6	7.6	7.9	8.0	7.9
180000	8.2	8.2	8.4	8.1	7.9	7.9	7.8	8.1	7.7	7.6	7.5	7.8	8.0	7.9
190000	8.2	8.2	8.3	8.0	7.8	7.9	7.7	8.0	7.7	7.5	7.5	7.8	8.1	7.9
200000	8.2	8.1	8.3	8.0	7.7	7.8	7.7	7.9	7.6	7.5	7.5	7.8	8.1	7.9
210000	8.1	7.9	8.2	7.9	7.7	7.7	7.6	7.8	7.6	7.5	7.4	7.7	8.0	7.8
220000	8.0	7.9	8.2	7.9	7.6	7.6	7.5	7.7	7.5	7.4	7.4	7.6	8.0	7.7
230000	7.9	7.8	8.1	7.8	7.5	7.5	7.5	7.7	7.5	7.4	7.5	7.5	7.9	7.7
Daily Max	8.3	8.3	8.4	8.2	8.0	8.0	7.8	8.2	7.8	7.6	7.6	7.9	8.1	8.0
Daily Min	7.9	7.8	7.8	7.8	7.5	7.5	7.5	7.5	7.5	7.4	7.3	7.4	7.5	7.7
Average	8.1	8.0	8.1	8.0	7.8	7.8	7.6	7.8	7.6	7.5	7.5	7.6	7.8	7.8

Dead River Below Hoist Powerhouse - July 2010 Dissolved Oxygen Monitoring Data

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

Water Quality Standard: 7 mg/l Dissolved Oxygen

Dead River Below Hoist Powerhouse - July 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	07/17/10	07/18/10	07/19/10	07/20/10	07/21/10	07/22/10	07/23/10	07/24/10	07/25/10	07/26/10	07/27/10	07/28/10	07/29/10	07/30/10	07/31/10
0	7.1	6.8	6.6	6.5	6.6	7.4	6.6	7.1	6.6	6.8	6.6	6.7	7.3	6.7	6.7
10000	7.0	6.7	6.5	6.5	6.5	7.3	6.5	7.1	6.6	6.8	6.6	6.7	7.2	6.7	6.8
20000	7.0	6.7	6.5	6.6	6.5	7.2	6.5	7.1	6.6	6.7	6.6	6.6	7.2	6.7	6.8
30000	6.9	6.7	6.5	6.6	6.6	7.1	6.5	7.0	6.6	6.7	6.6	6.6	7.1	6.6	6.7
40000	6.9	6.7	6.5	6.6	6.6	7.1	6.5	6.9	6.7	6.7	6.6	6.6	7.1	6.6	6.7
50000	6.9	6.6	6.6	6.6	6.5	7.0	6.6	6.9	6.7	6.7	6.6	6.7	7.0	6.6	6.6
60000	6.9	6.6	6.6	6.5	6.5	7.0	6.6	6.8	6.7	6.7	6.6	6.7	7.0	6.6	6.6
70000	6.9	6.6	6.6	6.6	6.5	7.0	6.4	6.8	6.7	6.7	6.6	6.8	7.0	6.6	6.6
80000	6.9	6.7	6.6	6.6	6.5	6.9	6.5	6.8	6.7	6.7	6.7	6.9	7.0	6.7	6.6
90000	6.9	6.7	6.7	6.7	6.5	7.0	6.5	6.8	6.8	6.8	6.7	6.9	7.0	6.7	6.7
100000	7.0	6.8	6.7	6.7	6.7	7.0	6.6	6.8	6.9	6.9	6.7	7.0	7.0	6.8	6.8
110000	7.0	6.8	6.8	6.8	6.8	7.0	6.7	6.8	7.0	7.0	6.8	7.1	7.1	6.9	6.9
120000	7.1	6.8	6.9	6.8	6.9	7.0	6.8	6.8	7.2	7.0	6.9	7.3	7.1	7.0	6.9
130000	7.2	6.8	6.8	6.9	7.0	7.0	6.8	6.9	7.3	7.0	6.9	7.4	7.2	7.0	6.9
140000	7.3	6.8	6.9	6.9	7.2	7.0	6.9	6.9	7.3	7.0	7.0	7.6	7.2	7.0	6.9
150000	7.4	6.9	6.9	6.8	7.2	7.0	7.0	6.8	7.3	7.1	7.0	7.7	7.1	7.0	6.9
160000	7.4	6.9	6.8	6.8	7.3	7.1	7.0	6.8	7.3	7.0	7.0	7.7	7.1	7.0	6.9
170000	7.4	6.9	6.7	6.7	7.3	7.0	6.9	6.9	7.3	7.0	6.9	7.7	7.1	7.0	7.0
180000	7.3	6.9	6.8	6.7	7.4	7.0	6.8	6.9	7.3	6.9	6.9	7.7	7.1	6.9	7.0
190000	7.1	6.9	6.7	6.7	7.8	6.9	6.8	6.9	7.3	6.8	6.9	7.7	7.0	6.9	7.0
200000	7.1	6.8	6.7	6.8	7.7	6.9	6.8	6.8	7.2	6.8	6.8	7.7	6.9	6.8	7.0
210000	7.0	6.7	6.7	6.7	7.6	6.7	7.0	6.7	7.1	6.7	6.7	7.6	6.8	6.7	6.9
220000	6.9	6.6	6.6	6.7	7.6	6.7	7.3	6.6	7.0	6.7	6.7	7.5	6.7	6.6	6.8
230000	6.8	6.6	6.5	6.6	7.5	6.6	7.2	6.6	6.9	6.6	6.7	7.4	6.7	6.6	6.7
Daily Max	7.4	6.9	6.9	6.9	7.8	7.4	7.3	7.1	7.3	7.1	7.0	7.7	7.3	7.0	7.0
Daily Min	6.8	6.6	6.5	6.5	6.5	6.6	6.4	6.6	6.6	6.6	6.6	6.6	6.7	6.6	6.6
Average	7.0	6.8	6.7	6.7	7.0	7.0	6.7	6.9	6.9	6.8	6.7	7.2	7.0	6.8	6.8

Dead River Below Hoist Powerhouse - August 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	8/1/2010	8/2/2010	8/3/2010	8/4/2010	8/5/2010	8/6/2010	8/7/2010	8/8/2010	8/9/2010	8/10/2010	8/11/2010	8/12/2010	8/13/2010	8/14/2010	8/15/2010	8/16/2010	8/17/2010
0	6.7	6.6	6.4	6.4	6.7	7.3	6.6	6.5	6.3	6.3	6.0	5.8	5.9	5.7	5.7	6.9	8.0
10000	6.6	6.6	6.4	6.4	6.6	7.2	6.6	6.5	6.3	6.3	6.0	5.7	5.9	5.8	5.7	6.9	8.0
20000	6.6	6.6	6.4	6.3	6.6	7.1	6.6	6.5	6.3	6.4	6.0	5.7	5.9	5.7	5.8	6.9	8.0
30000	6.6	6.6	6.4	6.3	6.5	7.1	6.6	6.5	6.3	6.3	6.0	5.6	5.9	5.9	5.9	7.0	8.0
40000	6.6	6.6	6.5	6.3	6.5	7.0	6.6	6.6	6.4	6.3	6.1	5.7	5.9	5.9	5.9	7.0	8.0
50000	6.6	6.6	6.5	6.3	6.5	6.9	6.6	6.5	6.5	6.3	6.1	5.7	5.9	5.9	5.9	7.0	8.0
60000	6.6	6.6	6.5	6.3	6.5	6.9	6.7	6.5	6.5	6.3	6.1	5.8	5.9	5.9	6.1	7.1	8.0
70000	6.7	6.6	6.5	6.2	6.5	6.9	6.7	6.5	6.5	6.3	6.1	5.9	5.9	6.0	6.2	7.1	8.0
80000	6.7	6.6	6.5	6.3	6.5	6.8	6.7	6.4	6.5	6.3	6.1	6.0	5.9	6.1	6.2	7.1	8.1
90000	6.8	6.6	6.5	6.3	6.7	6.9	6.8	6.4	6.6	6.3	6.1	6.2	5.9	6.1	6.2	7.2	8.1
100000	6.8	6.6	6.5	6.4	6.8	7.0	6.9	6.5	6.8	6.4	6.2	6.3	6.0	6.3	6.3	7.3	8.2
110000	7.0	6.6	6.7	6.5	6.9	7.1	6.9	6.6	6.9	6.4	6.2	6.5	6.1	6.5	6.4	7.4	8.3
120000	7.0	6.6	6.8	6.5	7.1	7.1	7.0	6.7	7.0	6.5	6.2	6.7	6.1	6.6	6.6	7.9	8.4
130000	7.1	6.6	6.9	6.5	7.3	7.2	7.1	6.8	7.0	6.5	6.2	6.9	6.0	6.7	6.9	8.1	8.4
140000	7.2	6.7	6.9	6.6	7.5	7.2	7.1	6.8	7.0	6.5	6.1	6.9	6.0	6.8	7.1	8.2	8.4
150000	7.2	6.7	6.9	6.6	7.5	7.3	7.1	6.8	6.9	6.5	6.1	6.9	6.1	6.7	7.2	8.2	8.4
160000	7.1	6.8	6.9	6.7	7.6	7.3	7.1	6.8	6.9	6.5	6.1	6.8	6.2	6.7	7.3	8.0	8.4
170000	7.0	6.9	6.8	6.8	7.6	7.3	7.2	6.8	6.9	6.4	6.1	6.7	6.2	6.6	7.3	8.2	8.4
180000	7.0	6.9	6.7	6.9	7.7	7.2	7.0	6.7	6.8	6.3	6.1	6.6	6.2	6.5	7.3	8.1	8.4
190000	6.9	6.9	6.6	6.9	7.7	7.1	6.9	6.6	6.7	6.2	6.1	6.4	6.2	6.4	7.2	8.1	8.4
200000	6.8	6.8	6.5	6.9	7.6	7.0	6.8	6.5	6.6	6.2	6.0	6.2	6.0	6.2	7.1	8.1	8.3
210000	6.7	6.7	6.5	6.9	7.5	6.9	6.7	6.5	6.5	6.1	5.9	6.0	5.9	6.0	7.0	8.0	8.2
220000	6.6	6.5	6.4	6.8	7.5	6.8	6.6	6.4	6.4	6.0	5.9	5.9	5.8	5.8	6.9	8.0	8.1
230000	6.6	6.4	6.4	6.7	7.4	6.7	6.5	6.3	6.4	6.0	5.9	5.9	5.8	5.8	6.9	8.0	8.1
Daily Max	7.2	6.9	6.9	6.9	7.7	7.3	7.2	6.8	7.0	6.5	6.2	6.9	6.2	6.8	7.3	8.2	8.4
Daily Min	6.6	6.4	6.4	6.2	6.5	6.7	6.5	6.3	6.3	6.0	5.9	5.6	5.8	5.7	5.7	6.9	8.0
Average	6.8	6.6	6.6	6.5	7.1	7.0	6.8	6.6	6.6	6.3	6.1	6.2	6.0	6.2	6.5	7.6	8.2

Water Quality Standard: 7.0 mg/l Dissolved Oxygen

Reading below water quality standard

Dead River Below Hoist Powerhouse - August 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	8/18/2010	8/19/2010	8/20/2010	8/21/2010	8/22/2010	8/23/2010	8/24/2010	8/25/2010	8/26/2010	8/27/2010	8/28/2010	8/29/2010	8/30/2010	8/31/2010
0	8.1	8.2	8.3	8.2	8.2	8.2	8.2	8.2	8.4	8.4	8.2	8.1	8.1	8.0
10000	8.1	8.2	8.3	8.2	8.2	8.2	8.2	8.2	8.4	8.4	8.2	8.1	8.1	8.0
20000	8.1	8.2	8.3	8.2	8.2	8.2	8.2	8.2	8.4	8.4	8.2	8.1	8.1	8.0
30000	8.1	8.2	8.3	8.2	8.2	8.2	8.2	8.2	8.4	8.4	8.2	8.2	8.1	8.0
40000	8.1	8.1	8.3	8.2	8.2	8.3	8.3	8.2	8.4	8.4	8.2	8.2	8.1	8.0
50000	8.1	8.2	8.3	8.2	8.2	8.3	8.2	8.3	8.4	8.4	8.2	8.2	8.1	8.0
60000	8.1	8.2	8.3	8.2	8.2	8.3	8.2	8.3	8.5	8.4	8.2	8.2	8.1	8.0
70000	8.1	8.2	8.3	8.2	8.2	8.3	8.2	8.3	8.5	8.4	8.2	8.2	8.1	7.9
80000	8.1	8.2	8.3	8.2	8.3	8.3	8.2	8.3	8.5	8.4	8.2	8.2	8.1	8.0
90000	8.1	8.3	8.3	8.2	8.3	8.3	8.3	8.3	8.5	8.4	8.2	8.2	8.1	8.0
100000	8.1	8.4	8.3	8.3	8.4	8.4	8.3	8.4	8.6	8.5	8.3	8.3	8.2	8.1
110000	8.2	8.5	8.4	8.3	8.5	8.5	8.4	8.5	8.7	8.6	8.4	8.4	8.3	8.1
120000	8.3	8.6	8.4	8.4	8.6	8.5	8.5	8.6	8.8	8.7	8.5	8.5	8.3	8.2
130000	8.4	8.6	8.4	8.4	8.6	8.6	8.5	8.6	8.8	8.7	8.5	8.6	8.4	8.3
140000	8.5	8.6	8.5	8.5	8.6	8.6	8.4	8.7	8.8	8.8	8.6	8.6	8.4	8.3
150000	8.5	8.6	8.5	8.6	8.6	8.6	8.4	8.7	8.8	8.7	8.6	8.6	8.5	8.3
160000	8.5	8.6	8.4	8.6	8.6	8.5	8.4	8.8	8.8	8.7	8.6	8.6	8.4	8.3
170000	8.4	8.6	8.4	8.6	8.6	8.5	8.4	8.8	8.8	8.6	8.6	8.6	8.4	8.2
180000	8.3	8.6	8.3	8.6	8.5	8.4	8.4	8.7	8.7	8.6	8.5	8.5	8.3	8.2
190000	8.3	8.5	8.4	8.5	8.4	8.4	8.4	8.7	8.6	8.5	8.4	8.4	8.3	8.2
200000	8.3	8.4	8.4	8.4	8.4	8.3	8.4	8.6	8.5	8.4	8.3	8.3	8.2	8.1
210000	8.2	8.4	8.3	8.3	8.3	8.2	8.4	8.5	8.4	8.3	8.2	8.2	8.1	8.0
220000	8.2	8.3	8.2	8.3	8.2	8.2	8.3	8.4	8.4	8.2	8.2	8.2	8.0	7.9
230000	8.2	8.3	8.2	8.2	8.2	8.2	8.2	8.4	8.4	8.2	8.1	8.1	8.0	7.9
Daily Max	8.5	8.6	8.5	8.6	8.6	8.6	8.5	8.8	8.8	8.8	8.6	8.6	8.5	8.3
Daily Min	8.1	8.1	8.2	8.2	8.2	8.2	8.2	8.2	8.4	8.2	8.1	8.1	8.0	7.9
Average	8.2	8.4	8.3	8.3	8.4	8.3	8.3	8.4	8.6	8.5	8.3	8.3	8.2	8.1

Reading below water quality standard

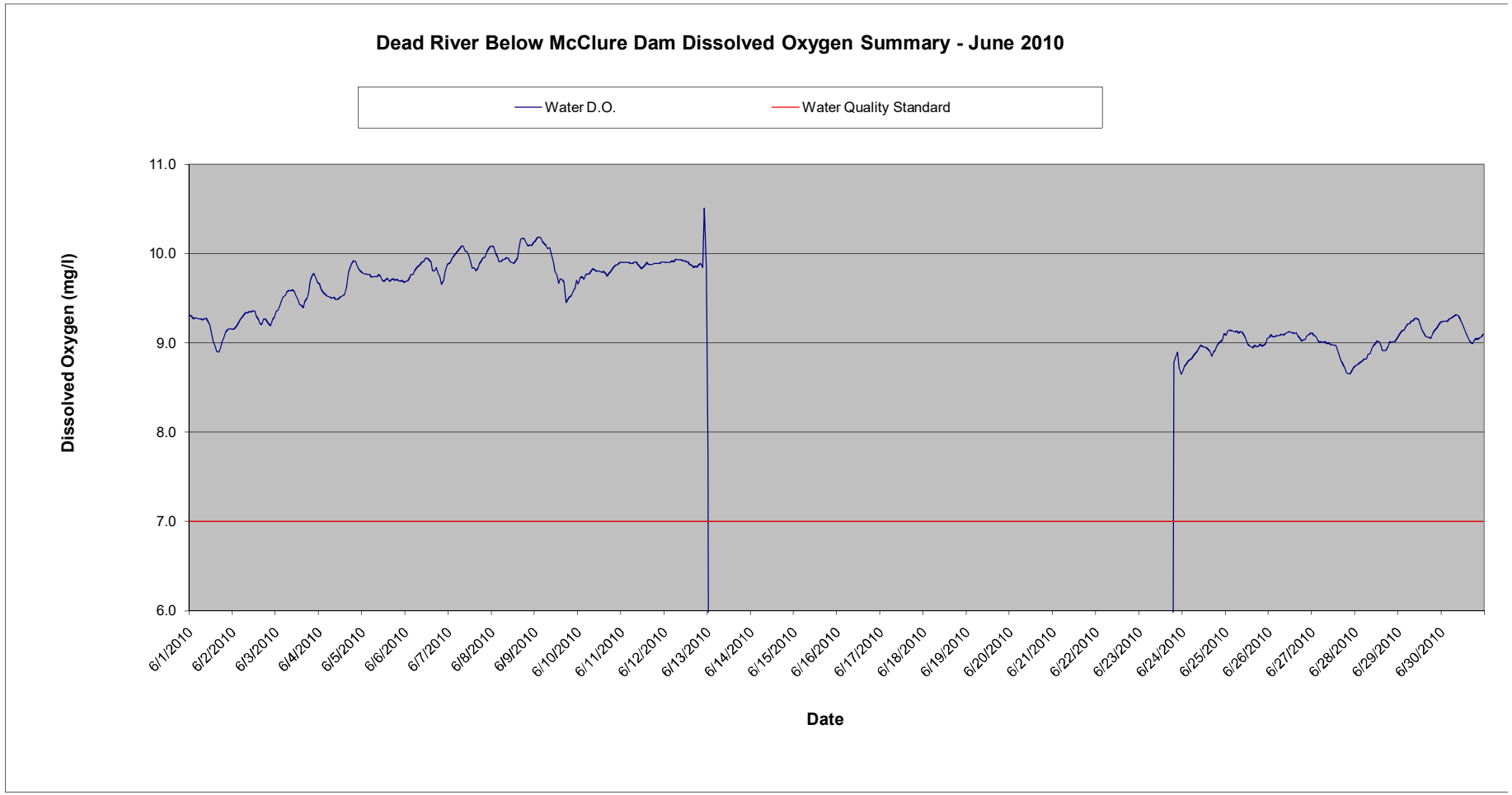
Dead River Below Hoist Powerhouse - September 2010 Dissolved Oxygen Monitoring Data

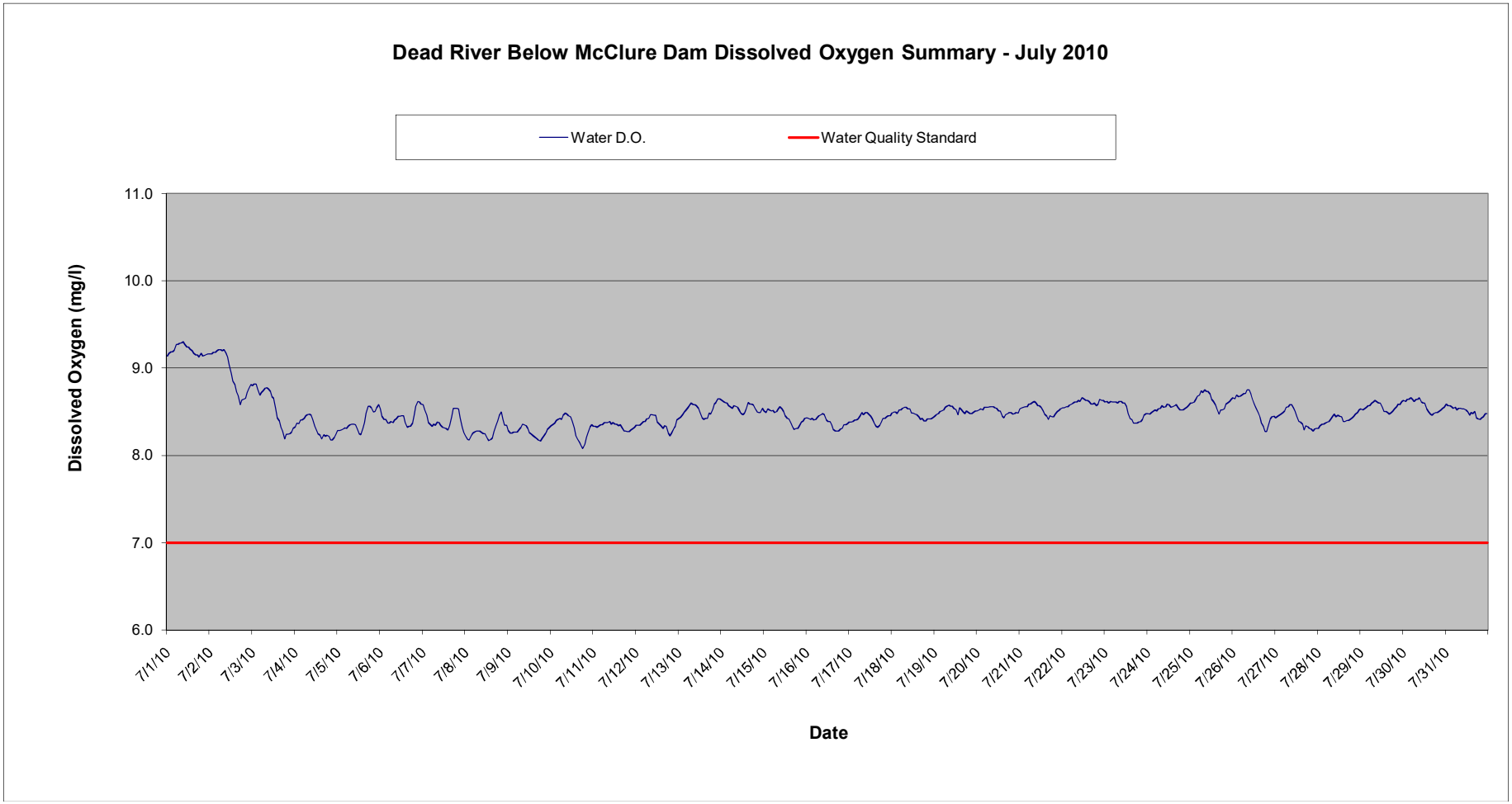
Time HHMMSS	9/1/2010	9/2/2010	9/3/2010	9/4/2010	9/5/2010	9/6/2010	9/7/2010	9/8/2010	9/9/2010	9/10/2010	9/11/2010	9/12/2010	9/13/2010	9/14/2010	9/15/2010	9/16/2010
0	7.9	7.8	7.9	8.2	8.5	8.6	8.6	8.8	9.0	9.1	9.1	9.1	9.1	9.3	9.2	9.2
10000	7.9	7.8	7.9	8.2	8.5	8.6	8.6	8.7	9.0	9.1	9.1	9.1	9.1	9.3	9.2	9.2
20000	7.9	7.8	7.8	8.2	8.5	8.6	8.6	8.8	9.0	9.1	9.1	9.1	9.1	9.3	9.2	9.2
30000	7.9	7.8	7.9	8.3	8.5	8.6	8.6	8.8	9.0	9.1	9.1	9.2	9.1	9.3	9.2	9.3
40000	7.8	7.9	7.8	8.3	8.6	8.6	8.6	8.8	9.0	9.1	9.1	9.2	9.1	9.3	9.2	9.3
50000	7.9	7.9	7.9	8.3	8.6	8.6	8.5	8.8	9.0	9.1	9.1	9.2	9.1	9.3	9.2	9.2
60000	7.9	7.9	7.9	8.3	8.6	8.6	8.5	8.8	9.0	9.1	9.1	9.2	9.1	9.3	9.3	9.2
70000	7.8	7.9	7.9	8.3	8.6	8.6	8.5	8.8	9.0	9.1	9.1	9.2	9.1	9.3	9.2	9.2
80000	7.9	7.9	7.9	8.3	8.6	8.6	8.5	8.9	9.1	9.2	9.1	9.2	9.2	9.3	9.3	9.2
90000	7.9	7.9	7.9	8.3	8.6	8.6	8.5	8.9	9.1	9.2	9.1	9.2	9.2	9.3	9.3	9.2
100000	8.0	8.0	8.0	8.4	8.7	8.7	8.6	8.9	9.1	9.3	9.1	9.2	9.2	9.4	9.3	9.2
110000	8.1	8.1	8.2	8.5	8.8	8.8	8.7	9.0	9.2	9.3	9.1	9.3	9.3	9.5	9.4	9.3
120000	8.3	8.1	8.3	8.6	8.9	8.9	8.8	9.1	9.3	9.5	9.2	9.4	9.5	9.6	9.5	9.4
130000	8.3	8.1	8.3	8.7	9.0	9.0	8.9	9.2	9.3	9.5	9.2	9.5	9.5	9.7	9.6	9.5
140000	8.3	8.0	8.4	8.7	9.0	9.0	8.9	9.3	9.4	9.6	9.2	9.5	9.6	9.7	9.6	9.5
150000	8.3	8.1	8.4	8.8	9.1	9.0	8.9	9.3	9.4	9.6	9.2	9.6	9.6	9.7	9.6	9.5
160000	8.3	8.2	8.4	8.8	9.0	9.0	8.9	9.4	9.5	9.6	9.3	9.5	9.6	9.7	9.6	9.5
170000	8.2	8.4	8.4	8.8	9.0	9.0	9.0	9.3	9.4	9.6	9.3	9.5	9.6	9.5	9.5	9.5
180000	8.2	8.4	8.3	8.8	8.9	9.0	8.9	9.3	9.4	9.5	9.2	9.4	9.6	9.5	9.4	9.3
190000	8.1	8.4	8.3	8.8	8.8	8.9	8.9	9.3	9.4	9.4	9.2	9.4	9.5	9.4	9.3	9.0
200000	8.0	8.2	8.3	8.8	8.7	8.8	8.9	9.2	9.3	9.3	9.2	9.3	9.5	9.3	9.3	9.0
210000	7.9	8.1	8.2	8.7	8.6	8.7	8.8	9.1	9.2	9.2	9.2	9.2	9.4	9.2	9.2	8.6
220000	7.9	8.0	8.2	8.6	8.6	8.7	8.8	9.0	9.1	9.1	9.1	9.1	9.3	9.2	9.2	8.8
230000	7.8	7.9	8.2	8.5	8.6	8.6	8.7	9.0	9.1	9.1	9.1	9.1	9.3	9.2	9.2	9.0
Daily Max	8.3	8.4	8.4	8.8	9.1	9.0	9.0	9.4	9.5	9.6	9.3	9.6	9.6	9.7	9.6	9.5
Daily Min	7.8	7.8	7.8	8.2	8.5	8.6	8.5	8.7	9.0	9.1	9.1	9.1	9.1	9.2	9.2	8.6
Average	8.0	8.0	8.1	8.5	8.7	8.8	8.7	9.0	9.2	9.3	9.1	9.3	9.3	9.4	9.3	9.2

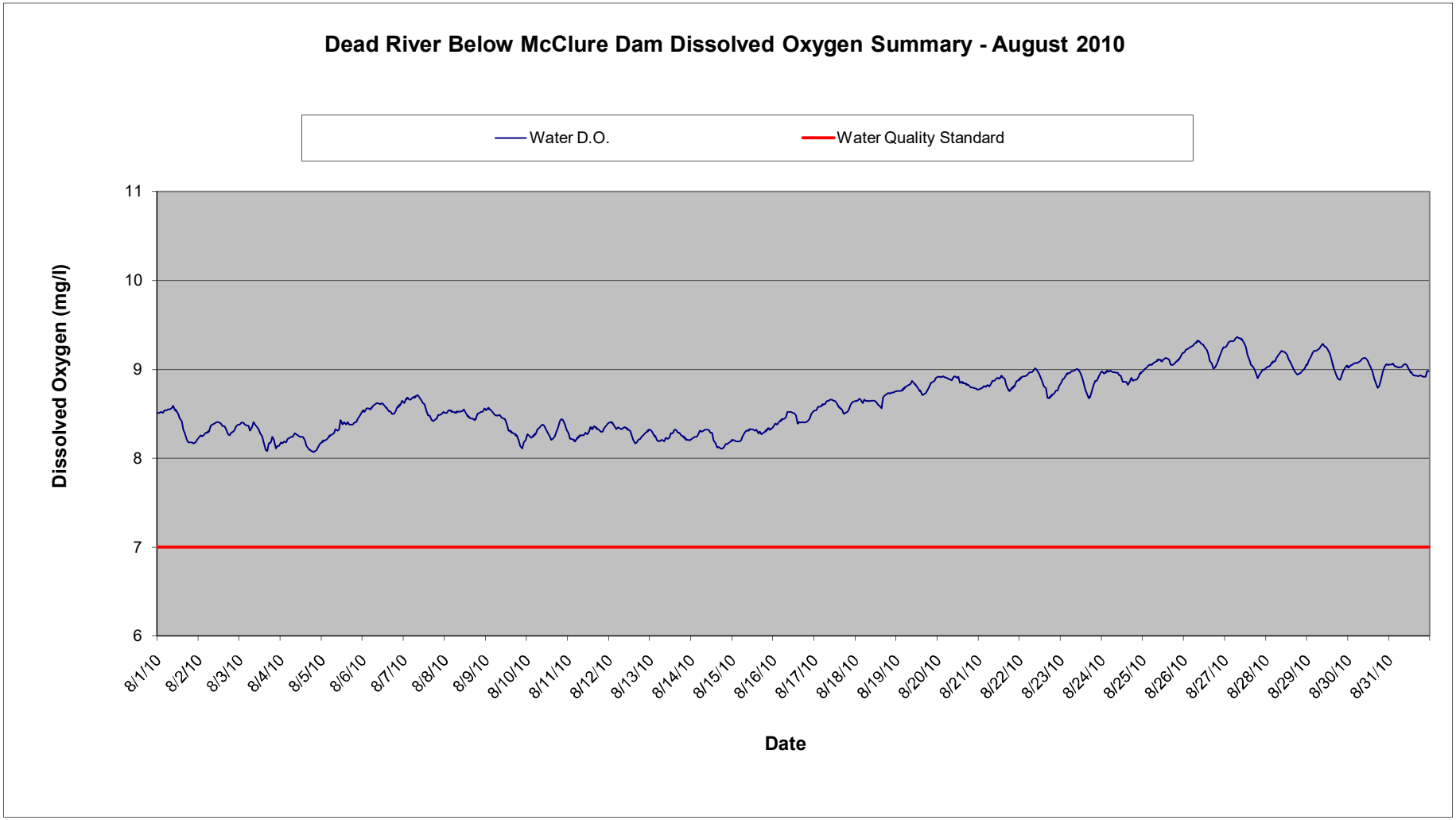
Water Quality Standard: 7 mg/l Dissolved Oxygen

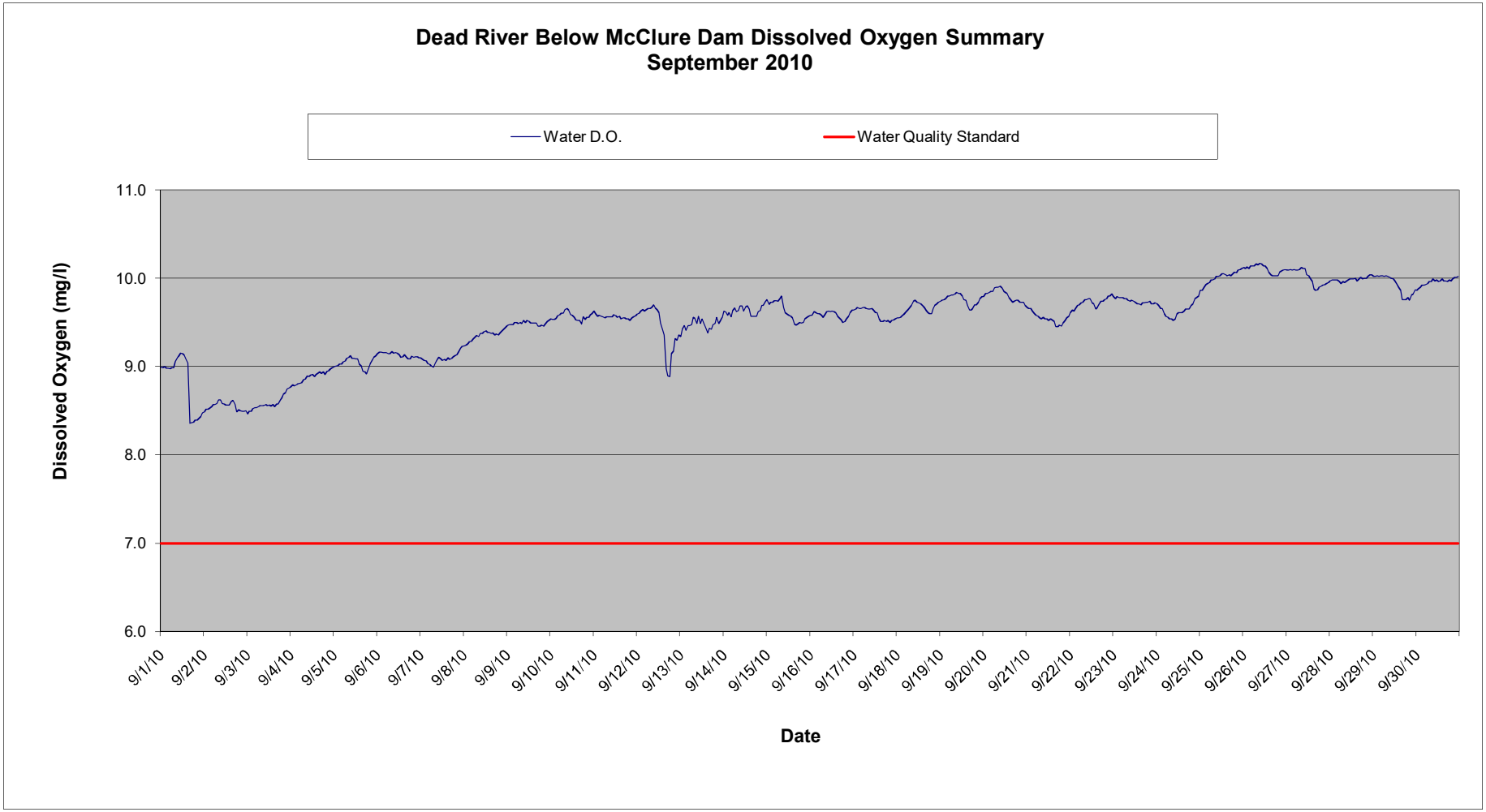
Dead River Below Hoist Powerhouse - September 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	9/17/2010	9/18/2010	9/19/2010	9/20/2010	9/21/2010	9/22/2010	9/23/2010	9/24/2010	9/25/2010	9/26/2010	9/27/2010	9/28/2010	9/29/2010	9/30/2010
0	9.2	8.3	8.4	8.5	8.2	8.5	8.4	8.7	8.8	8.8	8.7	8.7	8.7	8.9
10000	9.2	8.3	8.4	8.5	8.2	8.5	8.4	8.7	8.8	8.8	8.8	8.7	8.7	8.9
20000	9.2	8.2	8.4	8.5	8.2	8.5	8.4	8.7	8.8	8.8	8.8	8.7	8.7	8.9
30000	9.2	8.2	8.4	8.5	8.2	8.5	8.4	8.7	8.8	8.8	8.7	8.7	8.7	8.9
40000	9.2	8.3	8.4	8.5	8.2	8.5	8.4	8.6	8.8	8.8	8.8	8.7	8.7	8.9
50000	9.2	8.3	8.4	8.5	8.2	8.5	8.4	8.6	8.8	8.8	8.8	8.7	8.7	8.9
60000	9.2	8.3	8.4	8.5	8.3	8.5	8.4	8.6	8.8	8.8	8.8	8.7	8.7	8.9
70000	9.2	8.3	8.4	8.5	8.2	8.5	8.4	8.6	8.8	8.8	8.8	8.7	8.6	8.9
80000	9.2	8.3	8.4	8.5	8.2	8.5	8.4	8.5	8.8	8.8	8.8	8.7	8.7	8.9
90000	9.2	8.3	8.5	8.5	8.2	8.5	8.4	8.6	8.8	8.8	8.8	8.7	8.6	8.9
100000	9.2	8.4	8.5	8.5	8.3	8.5	8.3	8.6	8.8	8.8	8.8	8.7	8.6	9.0
110000	9.3	8.5	8.6	8.6	8.4	8.6	8.4	8.6	8.8	8.8	8.8	8.7	8.7	9.0
120000	9.2	8.6	8.7	8.7	8.5	8.7	8.4	8.6	8.8	8.9	8.8	8.8	8.7	9.0
130000	9.0	8.7	8.8	8.8	8.6	8.8	8.5	8.7	8.8	8.9	8.9	8.8	8.7	9.0
140000	9.3	8.7	8.8	8.8	8.7	8.9	8.5	8.7	8.9	8.9	8.9	8.7	9.0	9.0
150000	9.0	8.7	8.9	8.8	8.7	8.9	8.5	8.7	8.9	8.9	9.0	8.7	9.0	9.0
160000	8.9	8.7	8.8	8.8	8.8	8.9	8.6	8.7	8.9	8.9	8.9	8.8	9.0	9.0
170000	8.7	8.7	8.8	8.7	8.8	8.9	8.7	8.7	8.9	8.9	8.9	8.7	9.0	9.0
180000	8.6	8.6	8.7	8.6	8.7	8.8	8.7	8.7	8.9	8.8	8.9	8.7	9.0	9.0
190000	8.5	8.6	8.7	8.6	8.7	8.8	8.7	8.8	8.9	8.8	8.8	8.8	9.0	9.0
200000	8.4	8.5	8.6	8.5	8.6	8.7	8.7	8.8	8.8	8.8	8.8	8.7	9.0	9.0
210000	8.3	8.4	8.5	8.4	8.6	8.5	8.7	8.8	8.9	8.8	8.8	8.7	9.0	9.0
220000	8.3	8.4	8.5	8.3	8.5	8.5	8.7	8.8	8.8	8.7	8.7	8.7	9.0	9.0
230000	8.3	8.4	8.5	8.3	8.5	8.5	8.8	8.8	8.8	8.8	8.7	8.7	9.0	9.0
Daily Max	9.3	8.7	8.9	8.8	8.8	8.9	8.8	8.8	8.9	8.9	9.0	8.8	9.0	9.0
Daily Min	8.3	8.2	8.4	8.3	8.2	8.5	8.3	8.5	8.8	8.7	8.7	8.7	8.6	8.9
Average	8.9	8.4	8.6	8.6	8.4	8.6	8.5	8.7	8.8	8.8	8.8	8.7	8.8	9.0









Dead River Below McClure Dam - June 2010 Dissolved Oxygen Summary

Time HHMMSS	06/01/10	06/02/10	06/03/10	06/04/10	06/05/10	06/06/10	06/07/10	06/08/10	06/09/10	06/10/10	06/11/10	06/12/10	06/13/10	06/14/10	06/15/10	06/16/10
0	9.3	9.1	9.4	9.7	9.8	9.7	9.9	10.1	10.1	9.7	9.9	9.9	7.8	0.1	0.1	0.1
10000	9.3	9.2	9.4	9.6	9.8	9.7	9.9	10.1	10.2	9.7	9.9	9.9	0.1	0.1	0.1	0.1
20000	9.3	9.2	9.4	9.6	9.8	9.7	10.0	10.0	10.2	9.7	9.9	9.9	0.1	0.1	0.1	0.1
30000	9.3	9.2	9.5	9.5	9.8	9.8	10.0	10.0	10.2	9.7	9.9	9.9	0.1	0.1	0.1	0.1
40000	9.3	9.3	9.5	9.5	9.8	9.8	10.0	9.9	10.1	9.8	9.9	9.9	0.1	0.1	0.1	0.1
50000	9.3	9.3	9.5	9.5	9.7	9.8	10.0	9.9	10.1	9.8	9.9	9.9	0.1	0.1	0.1	0.1
60000	9.3	9.3	9.6	9.5	9.7	9.8	10.1	9.9	10.1	9.8	9.9	9.9	0.1	0.1	0.1	0.1
70000	9.3	9.3	9.6	9.5	9.7	9.9	10.1	9.9	10.1	9.8	9.9	9.9	0.1	0.1	0.1	0.1
80000	9.3	9.3	9.6	9.5	9.7	9.9	10.1	10.0	10.1	9.8	9.9	9.9	0.1	0.1	0.1	0.1
90000	9.3	9.4	9.6	9.5	9.8	9.9	10.0	9.9	10.0	9.8	9.9	9.9	0.1	0.1	0.1	0.1
100000	9.2	9.3	9.6	9.5	9.7	9.9	10.0	9.9	9.9	9.8	9.9	9.9	0.1	0.1	0.1	0.1
110000	9.2	9.4	9.5	9.5	9.7	9.9	10.0	9.9	9.8	9.8	9.8	9.9	0.1	0.1	0.1	0.1
120000	9.1	9.4	9.5	9.5	9.7	10.0	9.9	9.9	9.8	9.8	9.9	9.9	0.1	0.1	0.1	0.1
130000	9.0	9.3	9.4	9.5	9.7	9.9	9.8	9.9	9.7	9.8	9.9	9.9	0.1	0.1	0.1	0.1
140000	9.0	9.3	9.4	9.5	9.7	9.9	9.8	9.9	9.7	9.8	9.9	9.9	0.1	0.1	0.1	0.1
150000	8.9	9.2	9.4	9.6	9.7	9.8	9.8	10.1	9.7	9.8	9.9	9.9	0.1	0.1	0.1	0.1
160000	8.9	9.2	9.5	9.8	9.7	9.8	9.8	10.2	9.7	9.8	9.9	9.8	0.1	0.1	0.1	0.1
170000	8.9	9.3	9.5	9.8	9.7	9.8	9.9	10.2	9.5	9.8	9.9	9.9	0.1	0.1	0.1	0.1
180000	9.0	9.3	9.6	9.9	9.7	9.8	9.9	10.2	9.5	9.8	9.9	9.9	0.1	0.1	0.1	0.1
190000	9.1	9.2	9.7	9.9	9.7	9.7	10.0	10.1	9.5	9.8	9.9	9.9	0.1	0.1	0.1	0.1
200000	9.1	9.2	9.8	9.9	9.7	9.7	10.0	10.1	9.5	9.9	9.9	9.9	0.1	0.1	0.1	0.1
210000	9.2	9.2	9.8	9.9	9.7	9.7	10.0	10.1	9.6	9.9	9.9	9.8	0.1	0.1	0.1	0.1
220000	9.2	9.3	9.7	9.8	9.7	9.8	10.0	10.1	9.6	9.9	9.9	10.5	0.1	0.1	0.1	0.1
230000	9.2	9.3	9.7	9.8	9.7	9.9	10.1	10.1	9.7	9.9	9.9	9.8	0.1	0.1	0.1	0.1
Daily Max	9.3	9.4	9.8	9.9	9.8	10.0	10.1	10.2	10.2	9.9	9.9	10.5	7.8	0.1	0.1	0.1
Daily Min	8.9	9.1	9.4	9.5	9.7	9.7	9.8	9.9	9.5	9.7	9.8	9.8	0.1	0.1	0.1	0.1
Average	9.2	9.3	9.5	9.6	9.7	9.8	10.0	10.0	9.8	9.8	9.9	9.9	0.4	0.1	0.1	0.1

License Minimum Dissolved Oxygen: 7.0 mg/l

DO sensor failure - data not representative of actual conditions.

Dead River Below McClure Dam - June 2010 Dissolved Oxygen Summary

Time HHMMSS	06/17/10	06/18/10	06/19/10	06/20/10	06/21/10	06/22/10	06/23/10	06/24/10	06/25/10	06/26/10	06/27/10	06/28/10	06/29/10	06/30/10
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	8.7	9.1	9.1	9.1	8.7	9.1	9.2
10000	0.1	0.1	0.2	0.1	0.1	0.1	0.2	8.7	9.1	9.1	9.1	8.8	9.1	9.2
20000	0.1	0.1	0.2	0.1	0.1	0.1	0.2	8.8	9.1	9.1	9.1	8.8	9.1	9.2
30000	0.1	0.1	0.2	0.1	0.1	0.1	0.2	8.8	9.1	9.1	9.0	8.8	9.1	9.2
40000	0.1	0.1	0.2	0.1	0.1	0.1	0.2	8.8	9.1	9.1	9.0	8.8	9.2	9.3
50000	0.1	0.1	0.1	0.1	0.1	0.1	0.2	8.8	9.1	9.1	9.0	8.8	9.2	9.3
60000	0.1	0.1	0.1	0.1	0.1	0.1	0.2	8.9	9.1	9.1	9.0	8.8	9.2	9.3
70000	0.1	0.1	0.1	0.1	0.1	0.1	0.2	8.9	9.1	9.1	9.0	8.9	9.2	9.3
80000	0.1	0.1	0.1	0.1	0.1	0.2	0.2	8.9	9.1	9.1	9.0	8.9	9.2	9.3
90000	0.1	0.1	0.1	0.1	0.1	0.2	0.2	8.9	9.1	9.1	9.0	8.9	9.3	9.3
100000	0.1	0.1	0.1	0.1	0.1	0.2	0.2	9.0	9.1	9.1	9.0	9.0	9.3	9.3
110000	0.1	0.1	0.1	0.1	0.2	0.2	0.2	9.0	9.0	9.1	9.0	9.0	9.3	9.2
120000	0.1	0.1	0.1	0.1	0.2	0.2	0.2	9.0	9.0	9.1	9.0	9.0	9.2	9.2
130000	0.1	0.1	0.2	0.1	0.2	0.2	0.2	8.9	9.0	9.1	9.0	9.0	9.1	9.1
140000	0.1	0.2	0.2	0.1	0.2	0.2	0.2	8.9	9.0	9.1	8.9	9.0	9.1	9.1
150000	0.1	0.2	0.2	0.2	0.2	0.2	0.2	8.9	8.9	9.1	8.8	8.9	9.1	9.0
160000	0.1	0.2	0.1	0.1	0.1	0.2	0.2	8.8	9.0	9.1	8.8	8.9	9.1	9.0
170000	0.1	0.2	0.2	0.1	0.1	0.1	0.2	8.9	9.0	9.1	8.8	8.9	9.1	9.0
180000	0.1	0.2	0.2	0.1	0.1	0.1	0.2	8.9	9.0	9.0	8.7	9.0	9.1	9.0
190000	0.1	0.2	0.2	0.1	0.1	0.1	8.8	9.0	9.0	9.0	8.7	9.0	9.1	9.0
200000	0.1	0.2	0.1	0.1	0.1	0.1	8.8	9.0	9.0	9.0	8.7	9.0	9.1	9.0
210000	0.1	0.1	0.1	0.1	0.1	0.1	8.9	9.0	9.0	9.1	8.7	9.0	9.2	9.1
220000	0.1	0.1	0.1	0.1	0.1	0.1	8.7	9.0	9.0	9.1	8.7	9.0	9.2	9.1
230000	0.1	0.1	0.1	0.1	0.1	0.1	8.6	9.1	9.1	9.1	8.7	9.1	9.2	9.1
Daily Max	0.1	0.2	0.2	0.2	0.2	0.2	8.9	9.1	9.1	9.1	9.1	9.1	9.3	9.3
Daily Min	0.1	0.1	0.1	0.1	0.1	0.1	0.1	8.7	8.9	9.0	8.7	8.7	9.1	9.0
Average	0.1	0.1	0.1	0.1	0.1	0.1	2.0	8.9	9.0	9.1	8.9	8.9	9.2	9.2

Dead River Below McClure Dam - July 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	07/01/10	07/02/10	07/03/10	07/04/10	07/05/10	07/06/10	07/07/10	07/08/10	07/09/10	07/10/10	07/11/10	07/12/10	07/13/10	07/14/10	07/15/10	07/16/10
0	9.1	9.2	8.8	8.3	8.3	8.5	8.6	8.2	8.3	8.3	8.3	8.3	8.4	8.6	8.5	8.4
10000	9.2	9.2	8.8	8.4	8.3	8.5	8.5	8.2	8.3	8.3	8.3	8.3	8.4	8.6	8.5	8.4
20000	9.2	9.2	8.8	8.4	8.3	8.4	8.5	8.2	8.3	8.4	8.3	8.3	8.5	8.6	8.5	8.4
30000	9.2	9.2	8.8	8.4	8.3	8.4	8.4	8.2	8.3	8.4	8.3	8.4	8.5	8.6	8.5	8.4
40000	9.2	9.2	8.7	8.4	8.3	8.4	8.4	8.3	8.3	8.4	8.4	8.4	8.5	8.6	8.5	8.4
50000	9.3	9.2	8.7	8.4	8.3	8.4	8.3	8.3	8.3	8.4	8.4	8.4	8.5	8.6	8.5	8.4
60000	9.3	9.2	8.7	8.5	8.3	8.4	8.4	8.3	8.3	8.4	8.4	8.4	8.6	8.5	8.5	8.4
70000	9.3	9.2	8.8	8.5	8.4	8.4	8.3	8.3	8.3	8.5	8.4	8.4	8.6	8.6	8.5	8.5
80000	9.3	9.2	8.8	8.5	8.4	8.4	8.4	8.3	8.4	8.5	8.4	8.5	8.6	8.6	8.5	8.5
90000	9.3	9.2	8.8	8.5	8.4	8.4	8.4	8.3	8.4	8.5	8.4	8.5	8.6	8.6	8.6	8.5
100000	9.3	9.1	8.7	8.4	8.3	8.4	8.3	8.2	8.3	8.5	8.4	8.5	8.6	8.5	8.5	8.5
110000	9.2	9.0	8.7	8.3	8.3	8.4	8.3	8.2	8.3	8.4	8.4	8.5	8.5	8.5	8.5	8.4
120000	9.2	8.9	8.7	8.3	8.2	8.5	8.3	8.2	8.3	8.4	8.4	8.4	8.5	8.5	8.5	8.4
130000	9.2	8.8	8.5	8.3	8.2	8.5	8.3	8.2	8.2	8.3	8.4	8.4	8.4	8.5	8.4	8.4
140000	9.2	8.8	8.4	8.2	8.3	8.4	8.3	8.2	8.2	8.2	8.3	8.3	8.4	8.5	8.4	8.3
150000	9.2	8.7	8.4	8.2	8.4	8.3	8.3	8.2	8.2	8.2	8.3	8.3	8.4	8.6	8.4	8.3
160000	9.1	8.7	8.3	8.2	8.5	8.3	8.4	8.3	8.2	8.1	8.3	8.3	8.4	8.6	8.3	8.3
170000	9.1	8.6	8.3	8.2	8.6	8.3	8.5	8.3	8.2	8.1	8.3	8.3	8.5	8.6	8.3	8.3
180000	9.1	8.6	8.2	8.2	8.6	8.4	8.5	8.4	8.2	8.1	8.3	8.3	8.5	8.6	8.3	8.3
190000	9.2	8.6	8.2	8.2	8.5	8.5	8.5	8.5	8.2	8.1	8.3	8.2	8.5	8.5	8.3	8.3
200000	9.1	8.7	8.2	8.2	8.5	8.6	8.5	8.5	8.2	8.2	8.3	8.3	8.6	8.5	8.3	8.3
210000	9.1	8.7	8.2	8.2	8.5	8.6	8.4	8.4	8.3	8.3	8.3	8.3	8.6	8.5	8.4	8.4
220000	9.2	8.8	8.3	8.2	8.5	8.6	8.3	8.3	8.3	8.3	8.3	8.3	8.6	8.5	8.4	8.4
230000	9.2	8.8	8.3	8.2	8.6	8.6	8.3	8.3	8.3	8.4	8.3	8.4	8.6	8.5	8.4	8.4
Daily Max	9.3	9.2	8.8	8.5	8.6	8.6	8.6	8.5	8.4	8.5	8.4	8.5	8.6	8.6	8.6	8.5
Daily Min	9.1	8.6	8.2	8.2	8.2	8.3	8.3	8.2	8.2	8.1	8.3	8.2	8.4	8.5	8.3	8.3
Average	9.2	9.0	8.5	8.3				8.3	8.3	8.3	8.3	8.4	8.5	8.6	8.4	8.4

License Minimum Dissolved Oxygen: 7.0 mg/l

Dead River Below McClure Dam - July 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	07/17/10	07/18/10	07/19/10	07/20/10	07/21/10	07/22/10	07/23/10	07/24/10	07/25/10	07/26/10	07/27/10	07/28/10	07/29/10	07/30/10	07/31/10
0	8.4	8.5	8.4	8.5	8.5	8.5	8.6	8.5	8.6	8.7	8.4	8.3	8.5	8.6	8.6
10000	8.4	8.5	8.5	8.5	8.5	8.5	8.6	8.5	8.6	8.7	8.5	8.3	8.5	8.6	8.6
20000	8.4	8.5	8.5	8.5	8.6	8.6	8.6	8.5	8.6	8.7	8.5	8.4	8.5	8.6	8.6
30000	8.4	8.5	8.5	8.5	8.6	8.6	8.6	8.5	8.6	8.7	8.5	8.4	8.6	8.6	8.6
40000	8.4	8.5	8.5	8.6	8.6	8.6	8.6	8.5	8.7	8.7	8.5	8.4	8.6	8.7	8.5
50000	8.4	8.5	8.5	8.6	8.6	8.6	8.6	8.5	8.7	8.7	8.5	8.4	8.6	8.6	8.6
60000	8.5	8.5	8.6	8.6	8.6	8.6	8.6	8.5	8.7	8.7	8.6	8.4	8.6	8.6	8.5
70000	8.5	8.5	8.6	8.6	8.6	8.6	8.6	8.5	8.7	8.7	8.6	8.4	8.6	8.6	8.5
80000	8.5	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.8	8.8	8.6	8.5	8.6	8.6	8.5
90000	8.5	8.5	8.6	8.6	8.6	8.6	8.6	8.6	8.7	8.8	8.6	8.5	8.6	8.7	8.5
100000	8.5	8.5	8.6	8.5	8.6	8.6	8.6	8.6	8.7	8.7	8.5	8.4	8.6	8.6	8.5
110000	8.5	8.5	8.5	8.5	8.6	8.7	8.6	8.6	8.7	8.7	8.5	8.5	8.6	8.6	8.5
120000	8.5	8.5	8.5	8.5	8.5	8.7	8.6	8.6	8.6	8.6	8.5	8.5	8.6	8.6	8.5
130000	8.4	8.5	8.5	8.5	8.5	8.6	8.5	8.6	8.6	8.5	8.4	8.4	8.5	8.5	8.5
140000	8.4	8.5	8.5	8.4	8.5	8.6	8.4	8.6	8.6	8.5	8.4	8.4	8.5	8.5	8.5
150000	8.3	8.4	8.5	8.4	8.5	8.6	8.4	8.6	8.5	8.5	8.4	8.4	8.5	8.5	8.5
160000	8.3	8.4	8.5	8.5	8.4	8.6	8.4	8.6	8.5	8.4	8.3	8.4	8.5	8.5	8.5
170000	8.3	8.4	8.5	8.5	8.5	8.6	8.4	8.6	8.5	8.3	8.3	8.4	8.5	8.5	8.4
180000	8.4	8.4	8.5	8.5	8.4	8.6	8.4	8.5	8.5	8.3	8.3	8.4	8.5	8.5	8.4
190000	8.4	8.4	8.5	8.5	8.4	8.6	8.4	8.5	8.5	8.3	8.3	8.4	8.5	8.5	8.4
200000	8.4	8.4	8.5	8.5	8.5	8.6	8.4	8.5	8.6	8.4	8.3	8.5	8.6	8.5	8.4
210000	8.4	8.4	8.5	8.5	8.5	8.6	8.4	8.5	8.6	8.4	8.3	8.5	8.6	8.5	8.4
220000	8.5	8.4	8.5	8.5	8.5	8.6	8.5	8.6	8.6	8.4	8.3	8.5	8.6	8.5	8.5
230000	8.5	8.4	8.5	8.5	8.5	8.6	8.5	8.6	8.6	8.5	8.3	8.5	8.6	8.6	8.5
Daily Max	8.5	8.6	8.6	8.6	8.6	8.7	8.6	8.6	8.8	8.8	8.6	8.5	8.6	8.7	8.6
Daily Min	8.3	8.4	8.4	8.4	8.4	8.5	8.4	8.5	8.5	8.3	8.3	8.3	8.5	8.5	8.4
Average	8.4	8.5	8.5	8.5	8.5	8.6	8.5	8.5	8.6	8.6	8.4	8.4	8.6	8.6	8.5

Dead River Below McClure Dam - August 2010 Dissolved Oxugen Monitoring Data

Time HHMMSS	8/1/2010	8/2/2010	8/3/2010	8/4/2010	8/5/2010	8/6/2010	8/7/2010	8/8/2010	8/9/2010	8/10/2010	8/11/2010	8/12/2010	8/13/2010	8/14/2010	8/15/2010	8/16/2010
0	8.5	8.2	8.4	8.2	8.2	8.5	8.6	8.5	8.5	8.3	8.3	8.4	8.3	8.2	8.2	8.4
10000	8.5	8.3	8.4	8.2	8.2	8.5	8.7	8.5	8.6	8.3	8.2	8.4	8.3	8.2	8.2	8.4
20000	8.5	8.3	8.4	8.2	8.2	8.6	8.7	8.5	8.6	8.2	8.2	8.4	8.3	8.2	8.2	8.4
30000	8.5	8.3	8.4	8.2	8.2	8.6	8.7	8.5	8.5	8.2	8.2	8.4	8.2	8.2	8.2	8.4
40000	8.5	8.3	8.4	8.2	8.2	8.6	8.7	8.5	8.5	8.3	8.2	8.3	8.2	8.3	8.2	8.4
50000	8.5	8.3	8.4	8.2	8.3	8.6	8.7	8.5	8.5	8.3	8.2	8.4	8.2	8.3	8.2	8.4
60000	8.6	8.3	8.3	8.2	8.3	8.6	8.7	8.5	8.5	8.3	8.2	8.3	8.2	8.3	8.3	8.4
70000	8.6	8.4	8.4	8.2	8.3	8.6	8.7	8.5	8.5	8.3	8.3	8.3	8.2	8.3	8.3	8.5
80000	8.6	8.4	8.4	8.3	8.3	8.6	8.7	8.5	8.5	8.4	8.3	8.3	8.2	8.3	8.3	8.5
90000	8.6	8.4	8.4	8.3	8.3	8.6	8.7	8.5	8.5	8.4	8.3	8.4	8.2	8.3	8.3	8.5
100000	8.6	8.4	8.4	8.3	8.3	8.6	8.7	8.5	8.5	8.4	8.3	8.3	8.2	8.3	8.3	8.5
110000	8.5	8.4	8.3	8.2	8.4	8.6	8.6	8.6	8.4	8.3	8.3	8.3	8.2	8.3	8.3	8.5
120000	8.5	8.4	8.3	8.2	8.4	8.6	8.6	8.5	8.4	8.3	8.3	8.3	8.3	8.3	8.3	8.5
130000	8.5	8.4	8.3	8.2	8.4	8.6	8.5	8.5	8.3	8.3	8.4	8.3	8.3	8.2	8.3	8.5
140000	8.4	8.4	8.2	8.2	8.4	8.6	8.5	8.5	8.3	8.2	8.3	8.2	8.3	8.2	8.3	8.4
150000	8.3	8.4	8.1	8.1	8.4	8.5	8.5	8.5	8.3	8.2	8.4	8.2	8.3	8.1	8.3	8.4
160000	8.3	8.3	8.1	8.1	8.4	8.5	8.4	8.5	8.3	8.3	8.4	8.2	8.3	8.1	8.3	8.4
170000	8.2	8.3	8.2	8.1	8.4	8.5	8.4	8.4	8.3	8.3	8.3	8.2	8.3	8.1	8.3	8.4
180000	8.2	8.3	8.2	8.1	8.4	8.5	8.4	8.5	8.3	8.3	8.3	8.2	8.3	8.1	8.3	8.4
190000	8.2	8.3	8.2	8.1	8.4	8.5	8.5	8.5	8.2	8.4	8.3	8.3	8.3	8.1	8.3	8.4
200000	8.2	8.3	8.2	8.1	8.4	8.6	8.5	8.5	8.1	8.4	8.3	8.3	8.2	8.2	8.3	8.4
210000	8.2	8.3	8.1	8.1	8.5	8.6	8.5	8.5	8.1	8.4	8.3	8.3	8.2	8.2	8.3	8.5
220000	8.2	8.4	8.1	8.1	8.5	8.6	8.5	8.5	8.2	8.4	8.4	8.3	8.2	8.2	8.3	8.5
230000	8.2	8.4	8.1	8.2	8.5	8.7	8.5	8.6	8.2	8.3	8.4	8.3	8.2	8.2	8.3	8.5
Daily Max	8.6	8.4	8.4	8.3	8.5	8.7	8.7	8.6	8.6	8.4	8.4	8.4	8.3	8.3	8.3	8.5
Daily Min	8.2	8.2	8.1	8.1	8.2	8.5	8.4	8.4	8.1	8.2	8.2	8.2	8.2	8.1	8.2	8.4
Average	8.4	8.3	8.3	8.2	8.3	8.6	8.6	8.5	8.4	8.3	8.3	8.3	8.2	8.2	8.3	8.4

License Minimum Dissolved Oxygen: 7.0 mg/l

Dead River Below McClure Dam - August 2010 Dissolved Oxugen Monitoring Data

Time HHMMSS	8/17/2010	8/18/2010	8/19/2010	8/20/2010	8/21/2010	8/22/2010	8/23/2010	8/24/2010	8/25/2010	8/26/2010	8/27/2010	8/28/2010	8/29/2010	8/30/2010	8/31/2010
0	8.5	8.6	8.8	8.9	8.8	8.9	8.8	9.0	9.0	9.2	9.3	9.0	9.1	9.0	9.1
10000	8.5	8.7	8.8	8.9	8.8	8.9	8.9	9.0	9.0	9.2	9.3	9.0	9.1	9.0	9.1
20000	8.6	8.7	8.8	8.9	8.8	8.9	8.9	9.0	9.0	9.2	9.3	9.0	9.1	9.0	9.1
30000	8.6	8.7	8.8	8.9	8.8	8.9	8.9	9.0	9.0	9.2	9.3	9.1	9.2	9.1	9.0
40000	8.6	8.6	8.8	8.9	8.8	8.9	9.0	9.0	9.1	9.3	9.3	9.1	9.2	9.1	9.0
50000	8.6	8.7	8.8	8.9	8.8	9.0	9.0	9.0	9.0	9.3	9.3	9.1	9.2	9.1	9.0
60000	8.6	8.6	8.8	8.9	8.8	9.0	9.0	9.0	9.1	9.3	9.4	9.1	9.2	9.1	9.0
70000	8.6	8.7	8.8	8.9	8.8	9.0	9.0	9.0	9.1	9.3	9.4	9.2	9.2	9.1	9.0
80000	8.7	8.6	8.8	8.9	8.9	9.0	9.0	9.0	9.1	9.3	9.4	9.2	9.3	9.1	9.0
90000	8.7	8.7	8.9	8.9	8.9	9.0	9.0	9.0	9.1	9.3	9.3	9.2	9.3	9.1	9.1
100000	8.7	8.7	8.8	8.9	8.9	9.0	9.0	8.9	9.1	9.3	9.3	9.2	9.3	9.1	9.1
110000	8.7	8.7	8.8	8.9	8.9	9.0	9.0	8.9	9.1	9.3	9.3	9.2	9.3	9.1	9.0
120000	8.6	8.6	8.8	8.9	8.9	8.9	8.9	8.9	9.1	9.3	9.3	9.2	9.2	9.1	9.0
130000	8.6	8.6	8.8	8.8	8.9	8.9	8.9	8.9	9.1	9.2	9.2	9.1	9.2	9.0	9.0
140000	8.6	8.6	8.7	8.9	8.9	8.8	8.8	8.9	9.1	9.2	9.1	9.1	9.1	9.0	8.9
150000	8.6	8.6	8.7	8.8	8.9	8.8	8.7	8.8	9.1	9.1	9.0	9.0	9.0	8.9	8.9
160000	8.6	8.7	8.7	8.8	8.8	8.7	8.7	8.9	9.1	9.1	9.0	9.0	9.0	8.9	8.9
170000	8.5	8.7	8.7	8.8	8.8	8.7	8.7	8.9	9.0	9.0	9.0	9.0	8.9	8.8	8.9
180000	8.5	8.7	8.8	8.8	8.8	8.7	8.7	8.9	9.1	9.0	9.0	8.9	8.9	8.8	8.9
190000	8.5	8.7	8.8	8.8	8.8	8.7	8.8	8.9	9.1	9.1	8.9	9.0	8.9	8.9	8.9
200000	8.6	8.7	8.8	8.8	8.8	8.7	8.9	8.9	9.1	9.1	8.9	9.0	8.9	9.0	8.9
210000	8.6	8.7	8.9	8.8	8.8	8.8	8.9	8.9	9.1	9.2	9.0	9.0	9.0	9.0	8.9
220000	8.6	8.7	8.9	8.8	8.9	8.8	8.9	8.9	9.1	9.2	9.0	9.0	9.0	9.1	9.0
230000	8.6	8.8	8.9	8.8	8.9	8.8	9.0	9.0	9.2	9.2	9.0	9.0	9.0	9.1	9.0
Daily Max	8.7	8.8	8.9	8.9	8.9	9.0	9.0	9.0	9.2	9.3	9.4	9.2	9.3	9.1	9.1
Daily Min	8.5	8.6	8.7	8.8	8.8	8.7	8.7	8.8	9.0	9.0	8.9	8.9	8.9	8.8	8.9
Average	8.6	8.7	8.8	8.9	8.8	8.9	8.9	8.9	9.1	9.2	9.2	9.1	9.1	9.0	9.0

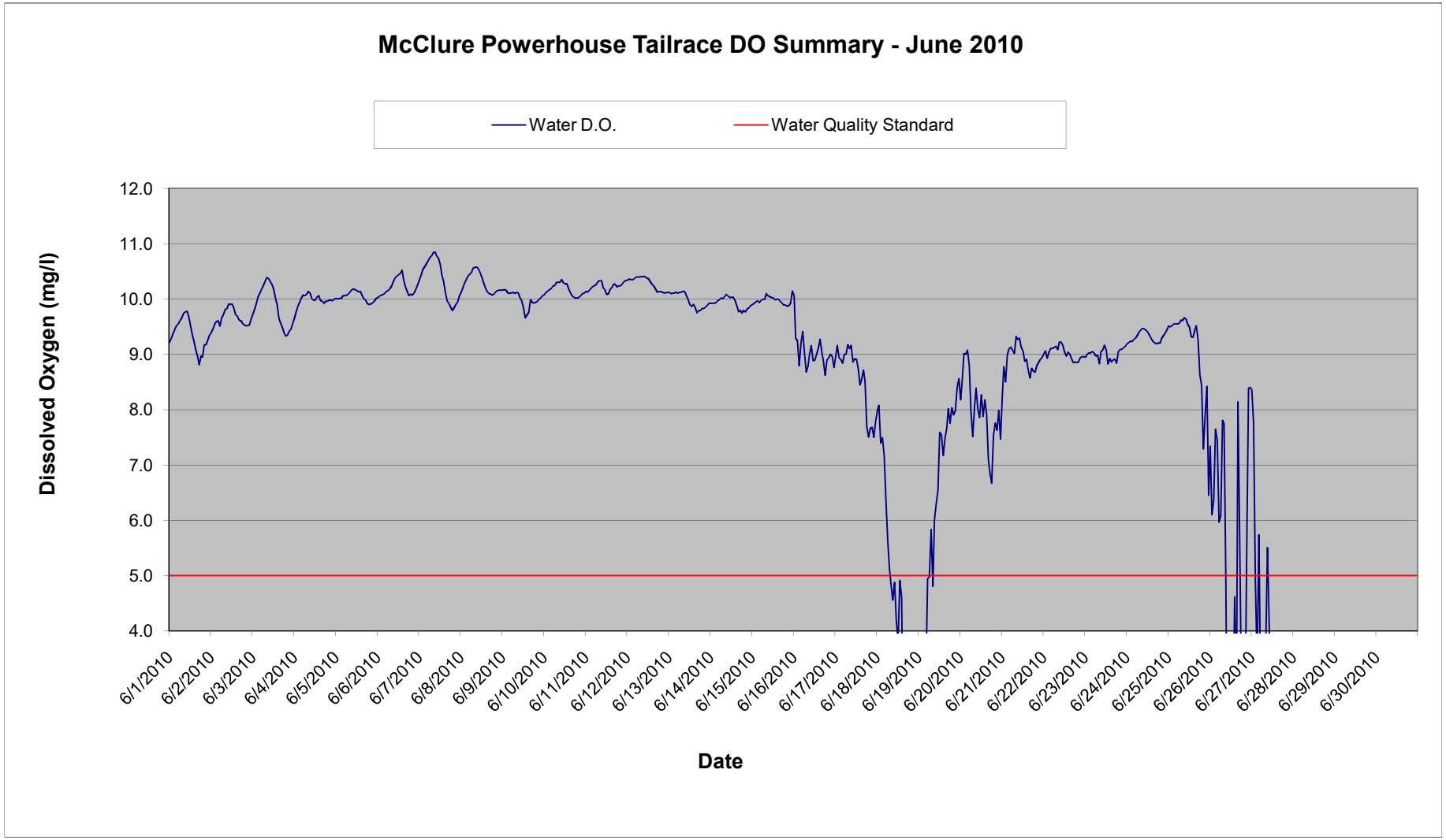
Dead River Below McClure Dam - September 2010 Dissolved Oxygen Data

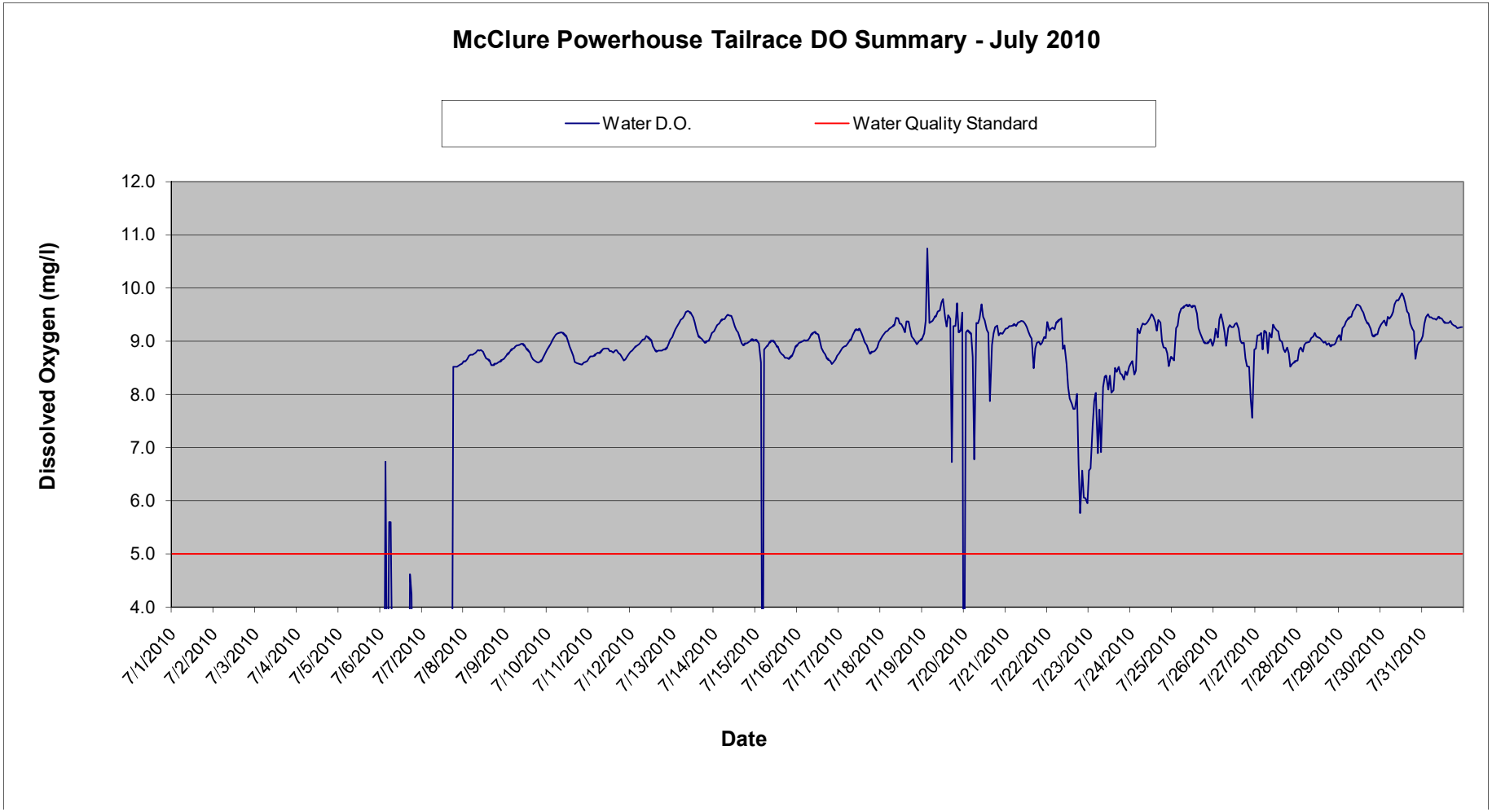
Time HHMMSS	9/1/2010	9/2/2010	9/3/2010	9/4/2010	9/5/2010	9/6/2010	9/7/2010	9/8/2010	9/9/2010	9/10/2010	9/11/2010	9/12/2010	9/13/2010	9/14/2010	9/15/2010	9/16/2010
0	9.0	8.5	8.5	8.8	9.0	9.1	9.1	9.2	9.5	9.5	9.6	9.6	9.3	9.6	9.8	9.6
10000	9.0	8.5	8.5	8.8	9.0	9.2	9.1	9.2	9.5	9.5	9.6	9.6	9.4	9.6	9.7	9.6
20000	9.0	8.5	8.5	8.8	9.0	9.2	9.1	9.3	9.5	9.5	9.6	9.6	9.5	9.6	9.7	9.6
30000	9.0	8.5	8.5	8.8	9.0	9.2	9.1	9.3	9.5	9.5	9.6	9.6	9.4	9.6	9.7	9.6
40000	9.0	8.5	8.5	8.8	9.0	9.2	9.0	9.3	9.5	9.6	9.6	9.6	9.5	9.6	9.7	9.6
50000	9.0	8.6	8.5	8.8	9.1	9.2	9.0	9.3	9.5	9.6	9.6	9.6	9.5	9.6	9.7	9.6
60000	9.0	8.6	8.5	8.8	9.1	9.1	9.0	9.3	9.5	9.6	9.6	9.7	9.5	9.7	9.7	9.6
70000	9.0	8.6	8.6	8.9	9.1	9.1	9.0	9.4	9.5	9.6	9.6	9.7	9.6	9.6	9.8	9.6
80000	9.1	8.6	8.6	8.9	9.1	9.2	9.0	9.3	9.5	9.6	9.6	9.7	9.5	9.6	9.8	9.6
90000	9.1	8.6	8.6	8.9	9.1	9.1	9.1	9.4	9.5	9.7	9.6	9.7	9.5	9.7	9.7	9.6
100000	9.1	8.6	8.6	8.9	9.1	9.2	9.1	9.4	9.5	9.6	9.6	9.7	9.6	9.7	9.6	9.6
110000	9.2	8.6	8.6	8.9	9.1	9.2	9.1	9.4	9.5	9.6	9.6	9.6	9.5	9.6	9.6	9.6
120000	9.1	8.6	8.6	8.9	9.1	9.1	9.1	9.4	9.5	9.6	9.6	9.6	9.5	9.7	9.6	9.6
130000	9.1	8.6	8.6	8.9	9.1	9.1	9.1	9.4	9.5	9.6	9.6	9.5	9.5	9.7	9.6	9.6
140000	9.1	8.6	8.6	8.9	9.0	9.1	9.1	9.4	9.5	9.5	9.6	9.4	9.4	9.6	9.6	9.6
150000	9.0	8.6	8.5	8.9	9.0	9.1	9.1	9.4	9.5	9.5	9.5	9.4	9.4	9.6	9.5	9.6
160000	8.4	8.6	8.6	8.9	8.9	9.1	9.1	9.4	9.5	9.5	9.5	9.0	9.4	9.6	9.5	9.6
170000	8.4	8.6	8.6	8.9	8.9	9.1	9.1	9.4	9.5	9.5	9.5	8.9	9.4	9.6	9.5	9.5
180000	8.4	8.5	8.6	8.9	8.9	9.1	9.1	9.4	9.5	9.6	9.5	8.9	9.5	9.6	9.5	9.5
190000	8.4	8.5	8.6	8.9	9.0	9.1	9.1	9.4	9.5	9.5	9.5	9.1	9.5	9.6	9.5	9.5
200000	8.4	8.5	8.7	8.9	9.0	9.1	9.1	9.4	9.5	9.6	9.5	9.2	9.6	9.6	9.5	9.5
210000	8.4	8.5	8.7	9.0	9.1	9.1	9.2	9.4	9.5	9.6	9.6	9.3	9.5	9.7	9.5	9.6
220000	8.4	8.5	8.7	9.0	9.1	9.1	9.2	9.4	9.5	9.6	9.6	9.3	9.5	9.7	9.6	9.6
230000	8.5	8.5	8.8	9.0	9.1	9.1	9.2	9.4	9.5	9.6	9.6	9.4	9.6	9.7	9.6	9.6
Daily Max	9.2	8.6	8.8	9.0	9.1	9.2	9.2	9.4	9.5	9.7	9.6	9.7	9.6	9.7	9.8	9.6
Daily Min	8.4	8.5	8.5	8.8	8.9	9.1	9.0	9.2	9.5	9.5	9.5	8.9	9.3	9.6	9.5	9.5
Average	8.8	8.5	8.6	8.9	9.0	9.1	9.1	9.4	9.5	9.6	9.6	9.4	9.5	9.6	9.6	9.6

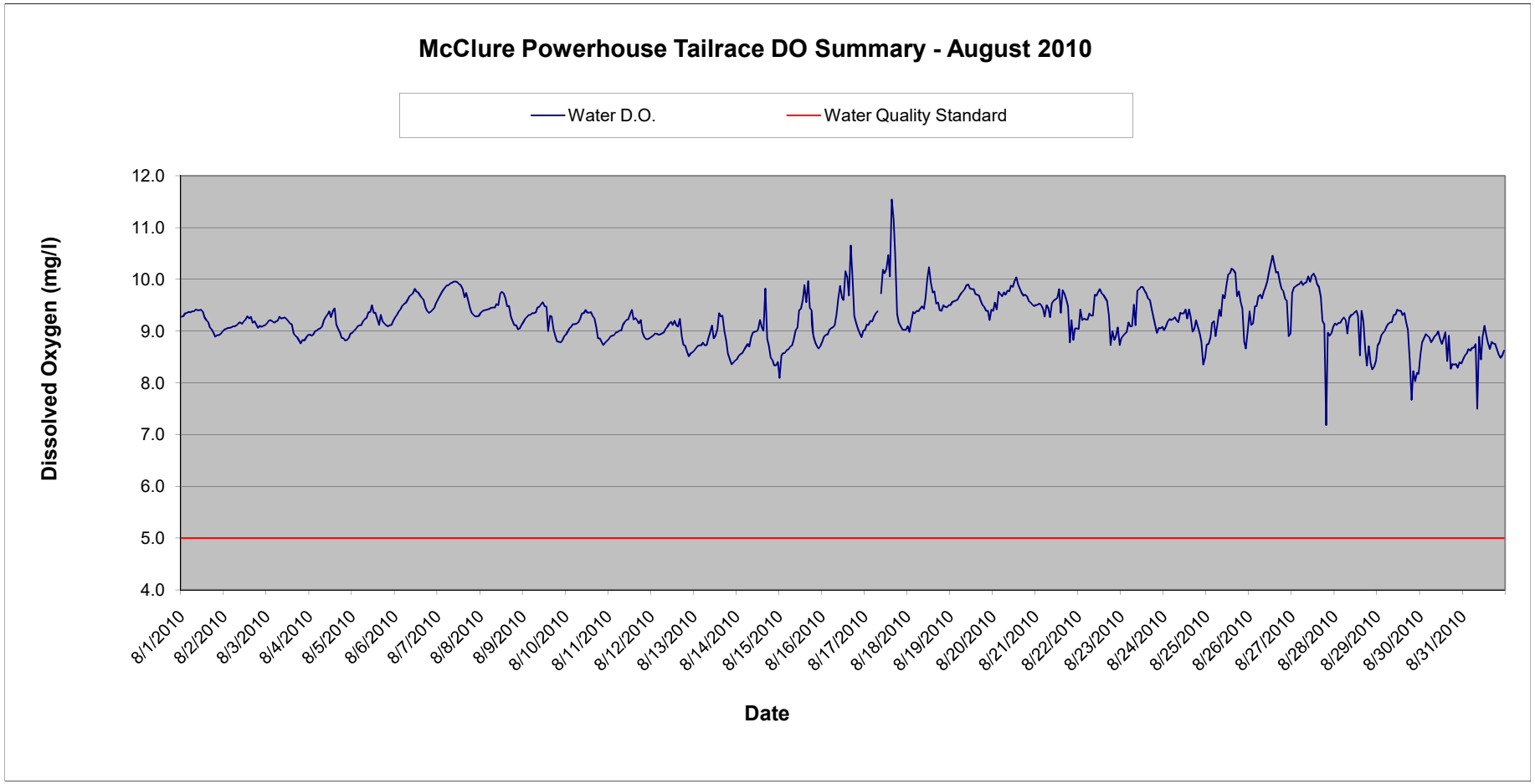
License Minimum Dissolved Oxygen: 7.0 mg/l

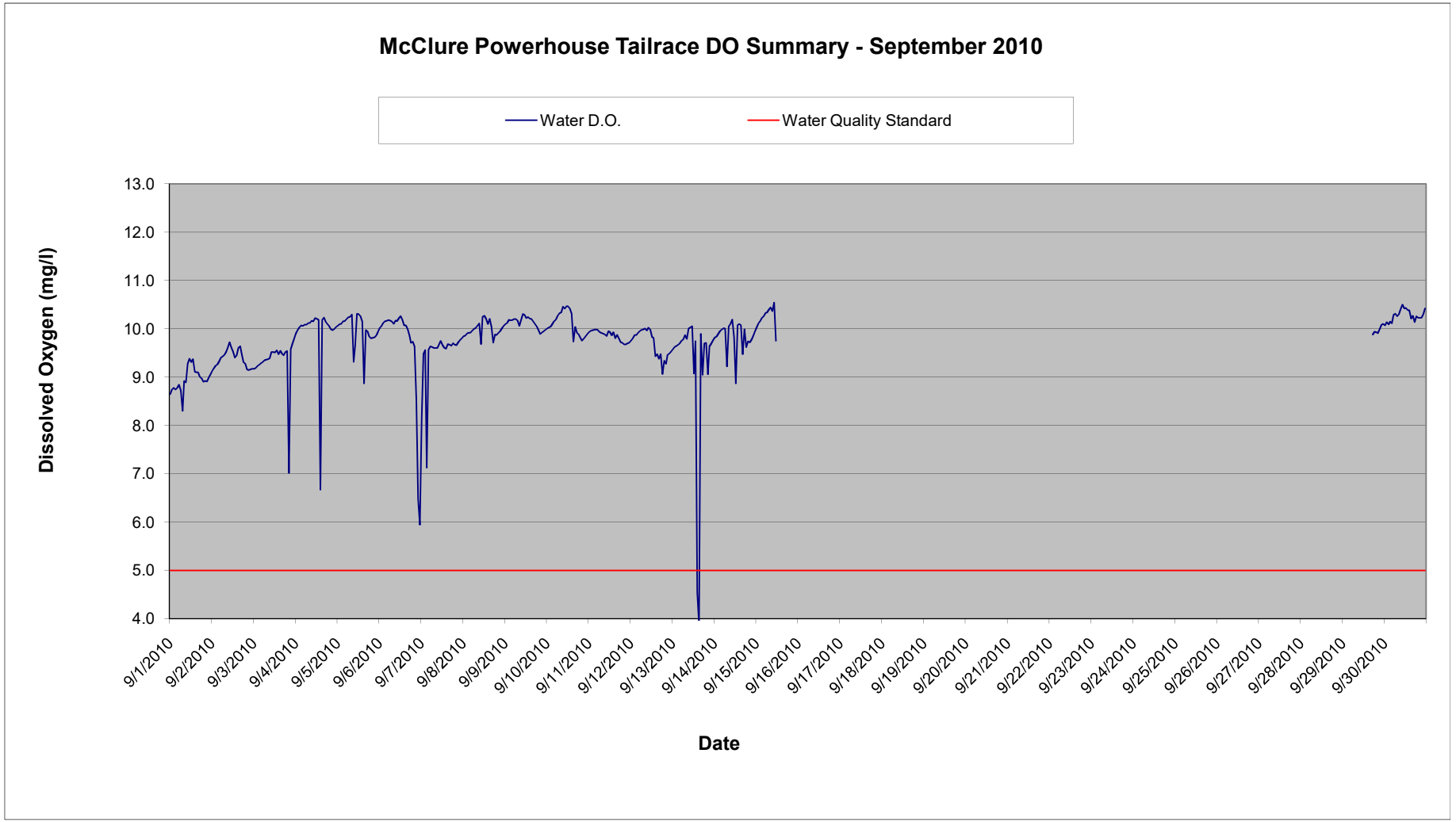
Dead River Below McClure Dam - September 2010 Dissolved Oxygen Data

Time HHMMSS	9/17/2010	9/18/2010	9/19/2010	9/20/2010	9/21/2010	9/22/2010	9/23/2010	9/24/2010	9/25/2010	9/26/2010	9/27/2010	9/28/2010	9/29/2010	9/30/2010
0	9.6	9.6	9.7	9.8	9.7	9.6	9.8	9.7	9.9	10.1	10.1	10.0	10.0	9.9
10000	9.7	9.6	9.8	9.8	9.7	9.6	9.8	9.7	9.9	10.1	10.1	10.0	10.0	9.9
20000	9.7	9.6	9.8	9.8	9.7	9.6	9.8	9.7	9.9	10.1	10.1	10.0	10.0	9.9
30000	9.7	9.6	9.8	9.8	9.6	9.7	9.8	9.7	9.9	10.1	10.1	10.0	10.0	9.9
40000	9.7	9.6	9.8	9.9	9.6	9.7	9.8	9.6	9.9	10.1	10.1	10.0	10.0	9.9
50000	9.7	9.6	9.8	9.9	9.6	9.7	9.8	9.6	10.0	10.1	10.1	10.0	10.0	9.9
60000	9.7	9.6	9.8	9.9	9.6	9.7	9.8	9.6	10.0	10.1	10.1	9.9	10.0	9.9
70000	9.7	9.7	9.8	9.9	9.6	9.7	9.8	9.5	10.0	10.2	10.1	10.0	10.0	10.0
80000	9.7	9.7	9.8	9.9	9.5	9.8	9.8	9.5	10.0	10.2	10.1	10.0	10.0	10.0
90000	9.7	9.7	9.8	9.9	9.6	9.8	9.7	9.5	10.0	10.2	10.1	10.0	10.0	10.0
100000	9.7	9.8	9.8	9.9	9.5	9.8	9.8	9.5	10.0	10.2	10.1	10.0	10.0	10.0
110000	9.6	9.7	9.8	9.9	9.5	9.8	9.7	9.6	10.0	10.1	10.0	10.0	10.0	10.0
120000	9.6	9.7	9.8	9.8	9.5	9.7	9.7	9.6	10.1	10.1	10.0	10.0	10.0	10.0
130000	9.6	9.7	9.8	9.8	9.5	9.7	9.7	9.6	10.1	10.1	10.0	10.0	9.9	10.0
140000	9.5	9.7	9.8	9.8	9.5	9.7	9.7	9.6	10.0	10.1	10.0	10.0	9.9	10.0
150000	9.5	9.7	9.7	9.8	9.5	9.7	9.7	9.6	10.0	10.0	9.9	10.0	9.9	10.0
160000	9.5	9.6	9.6	9.7	9.5	9.7	9.7	9.7	10.0	10.0	9.9	10.0	9.8	10.0
170000	9.5	9.6	9.6	9.7	9.5	9.7	9.7	9.7	10.0	10.0	9.9	10.0	9.8	10.0
180000	9.5	9.6	9.7	9.8	9.5	9.7	9.7	9.7	10.1	10.0	9.9	10.0	9.8	10.0
190000	9.5	9.6	9.7	9.8	9.5	9.8	9.7	9.7	10.1	10.0	9.9	10.0	9.8	10.0
200000	9.5	9.7	9.7	9.7	9.5	9.8	9.7	9.7	10.1	10.1	9.9	10.0	9.8	10.0
210000	9.5	9.7	9.7	9.7	9.5	9.8	9.7	9.8	10.1	10.1	9.9	10.0	9.8	10.0
220000	9.5	9.7	9.8	9.7	9.6	9.8	9.7	9.8	10.1	10.1	9.9	10.0	9.8	10.0
230000	9.5	9.7	9.8	9.7	9.6	9.8	9.7	9.8	10.1	10.1	10.0	10.0	9.9	10.0
Daily Max	9.7	9.8	9.8	9.9	9.7	9.8	9.8	9.8	10.1	10.2	10.1	10.0	10.0	10.0
Daily Min	9.5	9.6	9.6	9.7	9.5	9.6	9.7	9.5	9.9	10.0	9.9	9.9	9.8	9.9
Average	9.6	9.7	9.8	9.8	9.5	9.7	9.7	9.6	10.0	10.1	10.0	10.0	9.9	10.0









McClure Powerhouse Tailrace - June 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	06/01/10	06/02/10	06/03/10	06/04/10	06/05/10	06/06/10	06/07/10	06/08/10	06/09/10	06/10/10	06/11/10	06/12/10	06/13/10	06/14/10	06/15/10	06/16/10
0	9.2	9.4	9.7	9.7	10.0	10.0	10.4	10.1	10.2	10.1	10.1	10.3	10.1	9.9	9.9	10.1
10000	9.3	9.5	9.8	9.8	10.0	10.1	10.4	10.2	10.2	10.1	10.1	10.4	10.1	9.9	9.9	9.3
20000	9.4	9.6	9.9	9.9	10.0	10.1	10.5	10.3	10.2	10.1	10.2	10.4	10.1	9.9	9.9	9.2
30000	9.5	9.6	10.0	9.9	10.0	10.1	10.6	10.4	10.1	10.2	10.2	10.3	10.1	9.9	10.0	8.8
40000	9.5	9.6	10.1	10.0	10.1	10.1	10.6	10.4	10.1	10.2	10.2	10.4	10.1	10.0	9.9	9.2
50000	9.6	9.5	10.2	10.1	10.1	10.1	10.7	10.5	10.1	10.2	10.2	10.4	10.1	10.0	10.0	9.4
60000	9.6	9.7	10.2	10.1	10.1	10.2	10.8	10.5	10.1	10.2	10.3	10.4	10.1	10.0	10.0	9.0
70000	9.7	9.7	10.3	10.1	10.1	10.2	10.8	10.6	10.1	10.3	10.3	10.4	10.1	10.0	10.0	8.7
80000	9.7	9.8	10.4	10.1	10.1	10.2	10.8	10.6	10.1	10.3	10.3	10.4	10.1	10.0	10.1	8.8
90000	9.8	9.8	10.4	10.1	10.2	10.3	10.9	10.6	10.1	10.3	10.3	10.4	10.1	10.1	10.1	9.0
100000	9.8	9.9	10.3	10.0	10.2	10.4	10.8	10.6	10.0	10.4	10.2	10.4	10.1	10.1	10.0	9.2
110000	9.7	9.9	10.3	10.0	10.2	10.4	10.7	10.5	10.0	10.3	10.2	10.4	10.0	10.0	10.0	8.9
120000	9.5	9.9	10.2	10.0	10.2	10.4	10.6	10.4	9.9	10.3	10.1	10.4	9.9	10.0	10.0	8.9
130000	9.4	9.8	10.0	10.0	10.1	10.5	10.4	10.3	9.7	10.3	10.1	10.3	9.9	10.0	10.0	9.0
140000	9.2	9.7	9.9	10.1	10.1	10.5	10.3	10.2	9.7	10.2	10.2	10.3	9.9	10.0	10.0	9.1
150000	9.1	9.7	9.7	10.0	10.1	10.3	10.1	10.1	9.8	10.1	10.2	10.2	9.8	9.9	10.0	9.3
160000	9.0	9.6	9.6	10.0	10.0	10.2	10.0	10.1	10.0	10.1	10.3	10.2	9.8	9.8	10.0	9.0
170000	8.8	9.6	9.5	9.9	10.0	10.1	9.9	10.1	9.9	10.0	10.3	10.1	9.8	9.8	9.9	8.9
180000	9.0	9.6	9.4	10.0	9.9	10.1	9.9	10.1	9.9	10.0	10.2	10.1	9.8	9.7	9.9	8.6
190000	9.0	9.5	9.3	10.0	9.9	10.1	9.8	10.1	9.9	10.0	10.2	10.1	9.8	9.8	9.9	8.9
200000	9.2	9.5	9.4	10.0	9.9	10.1	9.8	10.1	10.0	10.0	10.2	10.1	9.8	9.8	9.9	8.9
210000	9.2	9.5	9.4	10.0	9.9	10.1	9.9	10.2	10.0	10.1	10.3	10.1	9.9	9.8	9.9	9.0
220000	9.3	9.5	9.5	10.0	10.0	10.2	9.9	10.2	10.0	10.1	10.3	10.1	9.9	9.8	9.9	9.0
230000	9.4	9.6	9.6	10.0	10.0	10.3	10.1	10.2	10.1	10.1	10.3	10.1	9.9	9.9	10.1	8.8
Daily Max	9.8	9.9	10.4	10.1	10.2	10.5	10.9	10.6	10.2	10.4	10.3	10.4	10.1	10.1	10.1	10.1
Daily Min	8.8	9.4	9.3	9.7	9.9	10.0	9.8	10.1	9.7	10.0	10.1	10.1	9.8	9.7	9.9	8.6
Average	9.4	9.7	9.9	10.0	10.0	10.2	10.4	10.3	10.0	10.2	10.2	10.3	10.0	9.9	10.0	9.0

License Minimum Dissolved Oxygen: 5.0 mg/l

McClure Powerhouse Tailrace - June 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	06/17/10	06/18/10	06/19/10	06/20/10	06/21/10	06/22/10	06/23/10	06/24/10	06/25/10	06/26/10	06/27/10	06/28/10	06/29/10	06/30/10
0	9.0	8.0	1.6	8.2	8.2	9.0	8.9	9.2	9.5	7.3	8.4	0.1	0.1	0.1
10000	9.2	8.1	1.9	8.5	8.8	9.1	9.0	9.2	9.5	6.1	7.8	0.1	0.1	0.1
20000	8.9	7.4	1.9	9.0	8.5	8.9	9.0	9.2	9.5	6.4	4.9	0.1	0.1	0.1
30000	8.9	7.5	2.7	9.0	9.0	9.0	9.0	9.2	9.6	7.7	3.4	0.1	0.1	0.1
40000	8.8	7.2	3.1	9.1	9.1	9.1	9.1	9.3	9.6	7.5	5.7	0.1	0.1	0.1
50000	9.0	6.3	4.9	8.8	9.1	9.1	9.0	9.3	9.6	6.0	3.0	0.1	0.1	0.1
60000	9.0	5.6	5.0	8.0	9.1	9.1	9.0	9.4	9.6	6.1	3.1	0.1	0.1	0.1
70000	9.2	5.1	5.8	7.5	9.0	9.1	9.0	9.4	9.6	7.8	1.0	0.1	0.1	0.1
80000	9.1	4.8	4.8	8.1	9.3	9.1	8.8	9.4	9.6	7.8	3.7	0.1	0.1	0.1
90000	9.2	4.6	6.0	8.4	9.3	9.2	9.0	9.5	9.7	5.0	5.5	0.1	0.1	0.1
100000	8.9	4.9	6.3	8.0	9.3	9.2	9.1	9.5	9.6	0.6	4.1	0.1	0.1	0.1
110000	8.9	4.2	6.5	7.9	9.1	9.2	9.2	9.4	9.5	0.1	2.2	0.1	0.1	0.1
120000	8.9	3.8	7.6	8.3	9.1	9.0	9.1	9.4	9.5	0.1	1.0	0.1	0.1	0.1
130000	8.7	4.9	7.5	7.9	8.9	9.0	8.8	9.3	9.3	2.0	0.2	0.1	0.1	0.1
140000	8.4	4.6	7.2	8.2	8.9	9.0	8.9	9.3	9.3	4.6	0.1	0.1	0.1	0.1
150000	8.6	1.9	7.5	7.9	8.7	9.0	8.9	9.2	9.4	2.6	0.1	0.1	0.1	0.1
160000	8.7	0.7	7.7	7.1	8.6	8.9	8.9	9.2	9.5	8.1	0.1	0.1	0.1	0.1
170000	8.5	0.7	8.0	6.9	8.7	8.9	8.9	9.2	9.3	5.6	0.1	0.1	0.1	0.1
180000	7.7	2.4	7.8	6.7	8.7	8.9	8.8	9.2	8.6	2.9	0.1	0.1	0.1	0.1
190000	7.5	1.5	8.0	7.5	8.7	8.9	9.1	9.2	8.4	1.3	0.1	0.1	0.1	0.1
200000	7.7	1.2	7.9	7.8	8.8	8.9	9.1	9.3	7.3	2.3	0.1	0.1	0.1	0.1
210000	7.7	1.8	8.0	7.6	8.9	8.9	9.1	9.3	7.9	5.5	0.1	0.1	0.1	0.1
220000	7.5	2.1	8.4	8.0	8.9	9.0	9.1	9.4	8.4	8.4	0.1	0.1	0.1	0.1
230000	7.8	1.9	8.6	7.5	8.9	9.0	9.2	9.5	6.5	8.4	0.1	0.1	0.1	0.0
Daily Max	9.2	8.1	8.6	9.1	9.3	9.2	9.2	9.5	9.7	8.4	8.4	0.1	0.1	0.1
Daily Min	7.5	0.7	1.6	6.7	8.2	8.9	8.8	9.2	6.5	0.1	0.1	0.1	0.1	0.0
Average	8.6							9.3	9.1	5.0	2.3	0.1	0.1	0.1

No data - Equipment Power Failure

McClure Powerhouse Tailrace - July 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	07/01/10	07/02/10	07/03/10	07/04/10	07/05/10	07/06/10	07/07/10	07/08/10	07/09/10	07/10/10	07/11/10	07/12/10	07/13/10	07/14/10	07/15/10	07/16/10
0	0.1	0.1	0.1	0.1	0.1	0.1	0.4	8.6	8.7	8.8	8.7	8.8	9.1	9.2	9.0	8.9
10000	0.1	0.1	0.1	0.1	0.1	0.5	0.1	8.6	8.7	8.9	8.7	8.8	9.2	9.2	9.0	9.0
20000	0.1	0.1	0.1	0.1	0.1	0.3	0.2	8.7	8.8	9.0	8.7	8.9	9.2	9.3	9.0	9.0
30000	0.1	0.1	0.1	0.1	0.1	6.7	1.8	8.7	8.8	9.0	8.7	8.9	9.3	9.3	8.6	9.0
40000	0.1	0.1	0.1	0.1	0.1	1.3	1.1	8.7	8.8	9.1	8.8	8.9	9.3	9.4	0.2	9.0
50000	0.1	0.1	0.1	0.1	0.1	5.6	0.2	8.7	8.9	9.1	8.8	8.9	9.4	9.4	8.8	9.0
60000	0.1	0.1	0.1	0.1	0.1	5.6	0.1	8.8	8.9	9.1	8.8	9.0	9.4	9.4	8.9	9.0
70000	0.1	0.1	0.1	0.1	0.1	1.8	0.1	8.8	8.9	9.2	8.8	9.0	9.5	9.5	8.9	9.1
80000	0.1	0.1	0.1	0.1	0.1	0.1	0.1	8.8	8.9	9.2	8.8	9.0	9.5	9.5	9.0	9.1
90000	0.1	0.1	0.1	0.1	0.1	0.1	0.4	8.8	9.0	9.2	8.9	9.1	9.6	9.5	9.0	9.2
100000	0.1	0.1	0.1	0.1	0.1	0.1	0.3	8.8	9.0	9.1	8.9	9.1	9.5	9.5	9.0	9.2
110000	0.1	0.1	0.1	0.1	0.1	1.4	0.1	8.8	8.9	9.1	8.9	9.0	9.5	9.4	9.0	9.1
120000	0.1	0.1	0.1	0.1	0.1	0.8	0.3	8.7	8.9	9.0	8.8	9.0	9.4	9.3	8.9	9.1
130000	0.1	0.1	0.1	0.1	0.1	0.8	0.1	8.7	8.8	8.9	8.8	8.9	9.4	9.2	8.9	9.0
140000	0.1	0.1	0.1	0.1	0.1	0.5	0.1	8.7	8.8	8.8	8.8	8.8	9.2	9.2	8.8	8.9
150000	0.1	0.1	0.1	0.1	0.1	0.1	0.1	8.6	8.7	8.7	8.8	8.8	9.1	9.0	8.8	8.8
160000	0.1	0.1	0.1	0.1	0.1	0.3	0.1	8.6	8.7	8.6	8.8	8.8	9.1	9.0	8.7	8.8
170000	0.1	0.1	0.1	0.1	0.1	4.6	0.1	8.6	8.6	8.6	8.8	8.8	9.0	8.9	8.7	8.7
180000	0.1	0.1	0.1	0.1	0.1	4.2	8.5	8.6	8.6	8.6	8.8	8.8	9.0	9.0	8.7	8.6
190000	0.1	0.1	0.1	0.1	0.1	0.3	8.5	8.6	8.6	8.6	8.7	8.8	9.0	9.0	8.7	8.6
200000	0.1	0.1	0.1	0.1	0.1	0.1	8.5	8.6	8.6	8.6	8.6	8.8	9.0	9.0	8.7	8.6
210000	0.1	0.1	0.1	0.1	0.1	0.1	8.5	8.6	8.6	8.6	8.7	8.9	9.0	9.0	8.7	8.6
220000	0.1	0.1	0.1	0.1	0.1	0.1	8.6	8.6	8.7	8.6	8.7	8.9	9.1	9.0	8.8	8.7
230000	0.1	0.1	0.1	0.1	0.1	0.2	8.6	8.7	8.8	8.6	8.8	9.0	9.2	9.0	8.9	8.7
Daily Max	0.1	0.1	0.1	0.1	0.1	6.7	8.6	8.8	9.0	9.2	8.9	9.1	9.6	9.5	9.0	9.2
Daily Min	0.1	0.1	0.1	0.1	0.1	0.1	0.1	8.6	8.6	8.6	8.6	8.8	9.0	8.9	0.2	8.6
Average	0.1	0.1	0.1	0.1	0.1	1.5	2.4	8.7	8.8	8.9	8.8	8.9	9.3	9.2	8.5	8.9

License Minimum Dissolved Oxygen: 5.0 mg/l

McClure Powerhouse Tailrace - July 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	07/17/10	07/18/10	07/19/10	07/20/10	07/21/10	07/22/10	07/23/10	07/24/10	07/25/10	07/26/10	07/27/10	07/28/10	07/29/10	07/30/10	07/31/10
0	8.8	9.0	9.0	0.2	9.2	9.4	6.6	8.6	8.7	9.0	8.9	8.6	9.1	9.3	9.0
10000	8.8	9.1	9.1	9.2	9.2	9.2	6.6	8.6	8.6	9.2	9.1	8.8	9.0	9.4	9.1
20000	8.9	9.1	9.4	9.2	9.3	9.2	7.4	8.4	9.2	9.1	9.1	8.9	9.2	9.4	9.3
30000	8.9	9.2	10.7	9.2	9.3	9.3	7.9	8.5	9.3	9.4	9.2	8.8	9.3	9.3	9.5
40000	8.9	9.2	9.3	9.1	9.3	9.2	8.0	9.2	9.5	9.5	8.8	8.9	9.4	9.5	9.5
50000	9.0	9.2	9.4	8.7	9.3	9.3	6.9	9.2	9.6	9.3	9.2	9.0	9.4	9.4	9.5
60000	9.0	9.3	9.4	6.8	9.3	9.4	7.7	9.3	9.6	9.2	9.2	9.0	9.5	9.5	9.5
70000	9.0	9.3	9.5	9.3	9.4	9.4	6.9	9.3	9.7	8.9	8.8	9.0	9.5	9.6	9.4
80000	9.1	9.3	9.5	9.3	9.4	9.4	8.1	9.3	9.7	9.2	9.2	9.1	9.6	9.7	9.4
90000	9.2	9.4	9.6	9.4	9.4	8.9	8.3	9.3	9.7	9.3	9.1	9.1	9.6	9.8	9.4
100000	9.2	9.4	9.6	9.7	9.4	8.9	8.4	9.4	9.7	9.3	9.3	9.2	9.7	9.8	9.5
110000	9.2	9.3	9.7	9.5	9.3	8.6	8.1	9.4	9.6	9.3	9.3	9.1	9.7	9.8	9.4
120000	9.2	9.3	9.8	9.4	9.3	8.1	8.4	9.5	9.7	9.3	9.2	9.1	9.7	9.9	9.4
130000	9.1	9.2	9.5	9.2	9.2	7.9	8.0	9.5	9.7	9.3	9.2	9.1	9.6	9.8	9.4
140000	9.1	9.2	9.3	9.2	9.1	7.8	8.1	9.4	9.5	9.2	9.0	9.0	9.5	9.7	9.3
150000	9.0	9.4	9.5	7.9	9.1	7.7	8.5	9.2	9.2	9.0	9.0	9.0	9.4	9.6	9.3
160000	8.9	9.4	9.4	8.9	8.5	7.7	8.4	9.4	9.2	9.0	8.9	9.0	9.4	9.5	9.3
170000	8.8	9.2	6.7	9.1	8.9	8.0	8.5	9.4	9.1	9.0	8.8	8.9	9.3	9.3	9.4
180000	8.8	9.1	9.3	9.3	9.0	6.7	8.4	9.0	9.0	8.7	8.9	9.0	9.2	9.2	9.3
190000	8.8	9.0	9.3	9.3	9.0	5.8	8.4	8.9	9.0	8.5	8.8	8.9	9.1	9.2	9.3
200000	8.8	9.0	9.7	9.1	8.9	6.6	8.3	8.9	9.0	8.5	8.5	8.9	9.1	8.7	9.3
210000	8.8	8.9	9.2	9.2	9.0	6.1	8.4	8.8	9.0	7.9	8.6	8.9	9.1	8.9	9.2
220000	8.9	9.0	9.2	9.1	9.1	6.1	8.4	8.5	9.0	7.6	8.6	9.0	9.1	9.0	9.3
230000	9.0	9.0	9.5	9.2	9.1	6.0	8.5	8.7	8.9	8.8	8.6	9.1	9.2	9.0	9.3
Daily Max	9.2	9.4	10.7	9.7	9.4	9.4	8.5	9.5	9.7	9.5	9.3	9.2	9.7	9.9	9.5
Daily Min	8.8	8.9	6.7	0.2	8.5	5.8	6.6	8.4	8.6	7.6	8.5	8.6	9.0	8.7	9.0
Average	9.0	9.2	9.4	8.7	9.2	8.1	8.0	9.1	9.3	9.0	9.0	9.0	9.4	9.4	9.3

McClure Powerhouse Tailrace - August 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	8/1/2010	8/2/2010	8/3/2010	8/4/2010	8/5/2010	8/6/2010	8/7/2010	8/8/2010	8/9/2010	8/10/2010	8/11/2010	8/12/2010	8/13/2010	8/14/2010	8/15/2010	8/16/2010
0	9.3	9.0	9.2	8.9	9.0	9.3	9.6	9.4	9.2	8.9	8.8	8.9	8.6	8.5	8.1	8.8
10000	9.3	9.0	9.2	8.9	9.0	9.3	9.7	9.4	9.2	9.0	8.9	8.9	8.7	8.5	8.5	8.9
20000	9.3	9.1	9.2	8.9	9.0	9.4	9.7	9.4	9.3	9.1	8.9	8.9	8.7	8.6	8.6	8.9
30000	9.4	9.1	9.2	9.0	9.1	9.4	9.8	9.4	9.3	9.1	8.9	8.9	8.7	8.6	8.6	8.9
40000	9.4	9.1	9.2	9.0	9.1	9.5	9.8	9.4	9.3	9.1	9.0	8.9	8.7	8.6	8.6	9.0
50000	9.4	9.1	9.2	9.0	9.1	9.5	9.9	9.4	9.3	9.1	9.0	8.9	8.8	8.7	8.6	9.1
60000	9.4	9.1	9.2	9.1	9.2	9.5	9.9	9.4	9.3	9.1	9.0	9.0	8.7	8.8	8.7	9.1
70000	9.4	9.1	9.3	9.1	9.2	9.6	9.9	9.5	9.4	9.2	9.0	9.0	8.7	8.7	8.7	9.1
80000	9.4	9.2	9.2	9.2	9.3	9.7	9.9	9.5	9.5	9.2	9.1	9.0	8.9	8.9	8.8	9.3
90000	9.4	9.2	9.3	9.3	9.4	9.7	10.0	9.5	9.5	9.3	9.2	9.1	9.0	9.0	9.0	9.6
100000	9.4	9.1	9.3	9.3	9.4	9.7	10.0	9.5	9.5	9.3	9.2	9.1	9.1	9.0	9.1	9.9
110000	9.4	9.2	9.2	9.4	9.5	9.8	9.9	9.7	9.6	9.4	9.2	9.2	8.9	9.0	9.4	9.7
120000	9.4	9.2	9.2	9.3	9.3	9.8	9.9	9.8	9.5	9.4	9.3	9.1	8.9	9.0	9.4	9.6
130000	9.3	9.3	9.2	9.4	9.4	9.7	9.9	9.7	9.5	9.4	9.4	9.2	9.0	9.2	9.6	10.2
140000	9.2	9.2	9.1	9.4	9.2	9.7	9.8	9.6	9.0	9.4	9.2	9.1	9.3	9.1	9.9	10.0
150000	9.2	9.3	9.0	9.1	9.1	9.6	9.7	9.5	9.3	9.3	9.2	9.1	9.3	9.0	9.6	9.7
160000	9.1	9.2	8.9	9.0	9.3	9.6	9.7	9.5	9.3	9.2	9.2	9.2	9.3	9.8	10.0	10.7
170000	9.0	9.2	8.9	9.0	9.2	9.5	9.6	9.3	9.0	9.1	9.1	8.9	9.0	8.8	9.4	10.0
180000	9.0	9.1	8.8	8.9	9.1	9.4	9.4	9.2	8.9	8.9	9.2	8.7	8.8	8.7	9.4	9.3
190000	8.9	9.1	8.8	8.9	9.1	9.3	9.4	9.1	8.8	8.9	9.0	8.7	8.6	8.5	8.9	9.2
200000	8.9	9.1	8.8	8.8	9.1	9.4	9.3	9.1	8.8	8.8	8.9	8.6	8.5	8.4	8.8	9.0
210000	8.9	9.1	8.8	8.8	9.1	9.4	9.3	9.0	8.8	8.7	8.8	8.5	8.4	8.3	8.7	9.0
220000	8.9	9.1	8.9	8.9	9.1	9.4	9.3	9.1	8.8	8.8	8.8	8.6	8.4	8.3	8.7	8.9
230000	9.0	9.1	8.9	9.0	9.2	9.5	9.3	9.1	8.9	8.8	8.9	8.6	8.4	8.4	8.7	9.0
Daily Max	9.4	9.3	9.3	9.4	9.5	9.8	10.0	9.8	9.6	9.4	9.4	9.2	9.3	9.8	10.0	10.7
Daily Min	8.9	9.0	8.8	8.8	9.0	9.3	9.3	9.0	8.8	8.7	8.8	8.5	8.4	8.3	8.1	8.8
Average	9.2	9.1	9.1	9.1	9.2	9.5	9.7	9.4	9.2	9.1	9.1	8.9	8.8	8.8	9.0	9.4

License Minimum Dissolved Oxygen: 5.0 mg/l

McClure Powerhouse Tailrace - August 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	8/17/2010	8/18/2010	8/19/2010	8/20/2010	8/21/2010	8/22/2010	8/23/2010	8/24/2010	8/25/2010	8/26/2010	8/27/2010	8/28/2010	8/29/2010	8/30/2010	8/31/2010
0	9.0	9.1	9.5	9.4	9.5	9.0	8.9	9.0	8.7	9.4	9.7	9.2	8.7	8.6	8.5
10000	9.1	9.0	9.6	9.6	9.5	9.4	8.9	9.1	8.8	9.1	9.8	9.1	8.8	8.8	8.5
20000	9.1	9.2	9.6	9.4	9.5	9.2	9.0	9.2	8.9	9.2	9.9	9.2	8.9	8.9	8.6
30000	9.2	9.4	9.6	9.8	9.5	9.2	9.0	9.2	9.2	9.5	9.9	9.2	9.0	8.9	8.7
40000	9.2	9.3	9.6	9.7	9.4	9.2	9.2	9.2	9.2	9.5	9.9	9.2	9.0	8.9	8.6
50000	9.3	9.4	9.7	9.7	9.3	9.2	9.1	9.2	8.9	9.7	10.0	9.3	9.1	8.9	8.7
60000	9.3	9.4	9.7	9.8	9.5	9.3	9.1	9.3	9.1	9.7	9.9	9.2	9.1	8.8	8.7
70000	9.4	9.4	9.8	9.7	9.4	9.3	9.5	9.2	9.4	9.6	9.9	9.0	9.2	8.8	8.8
80000		9.5	9.8	9.8	9.3	9.3	9.1	9.2	9.3	9.8	9.9	9.3	9.2	8.9	7.5
90000	9.7	9.4	9.9	9.8	9.5	9.7	9.8	9.4	9.7	9.9	10.1	9.3	9.3	8.9	8.9
100000	10.2	9.6	9.9	9.9	9.6	9.7	9.8	9.3	9.6	10.0	10.0	9.3	9.3	9.0	8.5
110000	10.1	10.0	9.8	9.9	9.6	9.8	9.9	9.3	9.9	10.2	10.1	9.4	9.4	8.9	8.9
120000	10.2	10.2	9.8	10.0	9.6	9.8	9.9	9.4	10.1	10.3	10.1	9.4	9.4	8.8	9.1
130000	10.5	9.9	9.8	10.0	9.8	9.7	9.8	9.2	10.1	10.5	10.0	9.3	9.4	8.9	8.9
140000	10.1	9.7	9.7	9.9	9.4	9.7	9.7	9.4	10.2	10.3	9.9	8.5	9.3	9.0	8.8
150000	11.5	9.8	9.7	9.8	9.8	9.6	9.6	9.3	10.2	10.1	9.9	9.4	9.4	8.4	8.7
160000	11.2	9.5	9.7	9.7	9.7	9.6	9.6	9.0	10.1	10.1	9.7	9.2	9.2	8.9	8.8
170000	10.5	9.6	9.6	9.7	9.6	9.3	9.4	9.1	9.7	10.0	9.2	8.6	9.0	8.3	8.8
180000	9.3	9.4	9.5	9.7	9.5	8.7	9.3	9.2	9.8	9.8	9.1	8.3	8.4	8.4	8.8
190000	9.2	9.4	9.5	9.7	8.8	9.0	9.1	9.1	9.6	9.8	7.2	8.7	7.7	8.4	8.6
200000	9.1	9.5	9.4	9.6	9.2	8.8	9.0	9.0	9.4	9.6	9.0	8.4	8.2	8.4	8.6
210000	9.0	9.5	9.4	9.6	8.8	8.9	9.1	8.8	8.8	9.6	8.9	8.3	8.0	8.3	8.5
220000	9.0	9.5	9.2	9.5	9.1	9.1	9.1	8.4	8.7	8.9	9.0	8.3	8.2	8.4	8.5
230000	9.0	9.5	9.4	9.5	9.1	8.7	9.1	8.5	9.0	9.0	9.1	8.4	8.2	8.4	8.6
Daily Max	11.5	10.2	9.9	10.0	9.8	9.8	9.9	9.4	10.2	10.5	10.1	9.4	9.4	9.0	9.1
Daily Min	9.0	9.0	9.2	9.4	8.8	8.7	8.9	8.4	8.7	8.9	7.2	8.3	7.7	8.3	7.5
Average	9.7	9.5	9.6	9.7	9.4	9.3	9.3	9.1	9.4	9.7	9.6	9.0	8.9	8.7	8.6

Equipment malfunction

Monitor found out of water upon retreival. Data not representative of in-stream conditions.

McClure Powerhouse Tailrace - September 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	9/1/2010	9/2/2010	9/3/2010	9/4/2010	9/5/2010	9/6/2010	9/7/2010	9/8/2010	9/9/2010	9/10/2010	9/11/2010	9/12/2010	9/13/2010	9/14/2010	9/15/2010	9/16/2010
0	8.7	9.1	9.2	9.9	10.1	10.0	8.1	9.8	10.1	10.0	9.9	9.8	9.6	9.8	10.0	0.0
10000	8.7	9.2	9.2	10.0	10.1	10.1	9.5	9.9	10.1	10.0	10.0	9.8	9.6	9.8	10.1	0.0
20000	8.8	9.2	9.2	10.0	10.1	10.1	9.6	9.9	10.2	10.0	10.0	9.9	9.6	9.9	10.2	0.0
30000	8.7	9.3	9.3	10.1	10.2	10.2	7.1	9.9	10.2	10.1	10.0	9.9	9.7	10.0	10.2	0.0
40000	8.8	9.3	9.3	10.1	10.2	10.2	9.6	9.9	10.2	10.2	10.0	9.9	9.7	10.0	10.3	0.0
50000	8.8	9.4	9.3	10.1	10.2	10.2	9.6	10.0	10.2	10.2	10.0	9.9	9.8	10.0	10.3	0.0
60000	8.7	9.4	9.4	10.1	10.2	10.2	9.6	10.0	10.2	10.3	9.9	10.0	9.8	10.0	10.3	0.0
70000	8.3	9.5	9.4	10.1	10.2	10.2	9.6	10.0	10.2	10.3	9.9	10.0	9.9	9.2	10.4	0.0
80000	8.9	9.5	9.4	10.1	10.3	10.1	9.6	10.1	10.1	10.3	9.9	10.0	9.8	10.1	10.4	0.0
90000	8.9	9.6	9.4	10.2	9.3	10.2	9.6	10.1	10.2	10.5	9.9	10.0	10.0	10.1	10.4	0.0
100000	9.3	9.7	9.5	10.2	9.7	10.2	9.7	9.7	10.3	10.4	9.9	10.0	10.0	10.2	10.5	0.0
110000	9.4	9.6	9.5	10.2	10.3	10.2	9.7	10.3	10.3	10.5	9.9	10.0	10.1	9.8	9.8	0.0
120000	9.3	9.5	9.5	10.2	10.3	10.3	9.7	10.3	10.2	10.5	9.9	9.8	9.1	8.9	0.0	0.0
130000	9.4	9.4	9.6	10.2	10.3	10.2	9.6	10.2	10.2	10.4	9.9	9.8	9.7	10.1	0.0	0.0
140000	9.1	9.5	9.5	6.7	10.1	10.1	9.6	10.1	10.2	10.3	9.9	9.4	4.5	10.1	0.0	0.0
150000	9.1	9.6	9.5	10.2	8.9	10.1	9.7	10.2	10.2	9.7	9.8	9.5	3.9	10.1	0.0	0.0
160000	9.1	9.6	9.5	10.2	10.0	10.0	9.7	10.0	10.1	10.0	9.9	9.4	9.9	9.5	0.0	0.0
170000	9.0	9.5	9.5	10.1	9.9	9.9	9.7	9.7	10.1	9.9	9.8	9.5	9.0	10.0	0.0	0.0
180000	9.0	9.3	9.5	10.1	9.8	9.7	9.7	9.9	10.0	9.9	9.7	9.1	9.7	9.6	0.0	0.0
190000	8.9	9.3	9.5	10.1	9.8	9.7	9.7	9.9	10.0	9.8	9.7	9.3	9.7	9.7	0.0	0.0
200000	8.9	9.2	7.0	10.0	9.8	9.6	9.7	9.9	9.9	9.8	9.7	9.3	9.1	9.7	0.0	0.0
210000	8.9	9.1	9.6	10.0	9.8	8.5	9.7	9.9	9.9	9.8	9.7	9.5	9.6	9.8	0.0	0.0
220000	9.0	9.2	9.7	10.0	9.9	6.5	9.8	10.0	10.0	9.8	9.7	9.5	9.7	9.8	0.0	0.0
230000	9.1	9.2	9.8	10.0	9.9	5.9	9.8	10.1	10.0	9.9	9.7	9.5	9.8	9.9	0.0	0.0
Daily Max	9.4	9.7	9.8	10.2	10.3	10.3	9.8	10.3	10.3	10.5	10.0	10.0	10.1	10.2	10.5	0.0
Daily Min	8.3	9.1	7.0	6.7	8.9	5.9	7.1	9.7	9.9	9.7	9.7	9.1	3.9	8.9	0.0	0.0
Average	8.9	9.4	9.3	9.9	10.0	9.7	9.5	10.0	10.1	10.1	9.9	9.7	9.2	9.8	5.1	0.0

License Minimum Dissolved Oxygen: 5.0 mg/l

Anomolies - possibly due to equipment malfunction

McClure Powerhouse Tailrace - September 2010 Dissolved Oxygen Monitoring Data

Time HHMMSS	9/17/2010	9/18/2010	9/19/2010	9/20/2010	9/21/2010	9/22/2010	9/23/2010	9/24/2010	9/25/2010	9/26/2010	9/27/2010	9/28/2010	9/29/2010	9/30/2010
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1
10000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1
20000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1
30000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.2
40000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1
50000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3
60000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3
70000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3
80000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3
90000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4
100000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5
110000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4
120000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4
130000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4
140000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4
150000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.2
160000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3
170000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9	10.1
180000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9	10.3
190000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9	10.2
200000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9	10.2
210000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.2
220000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1	10.3
230000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1	10.4
Daily Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1	10.5
Daily Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	10.3

No data collected. Monitoring equipment not programmed correctly.

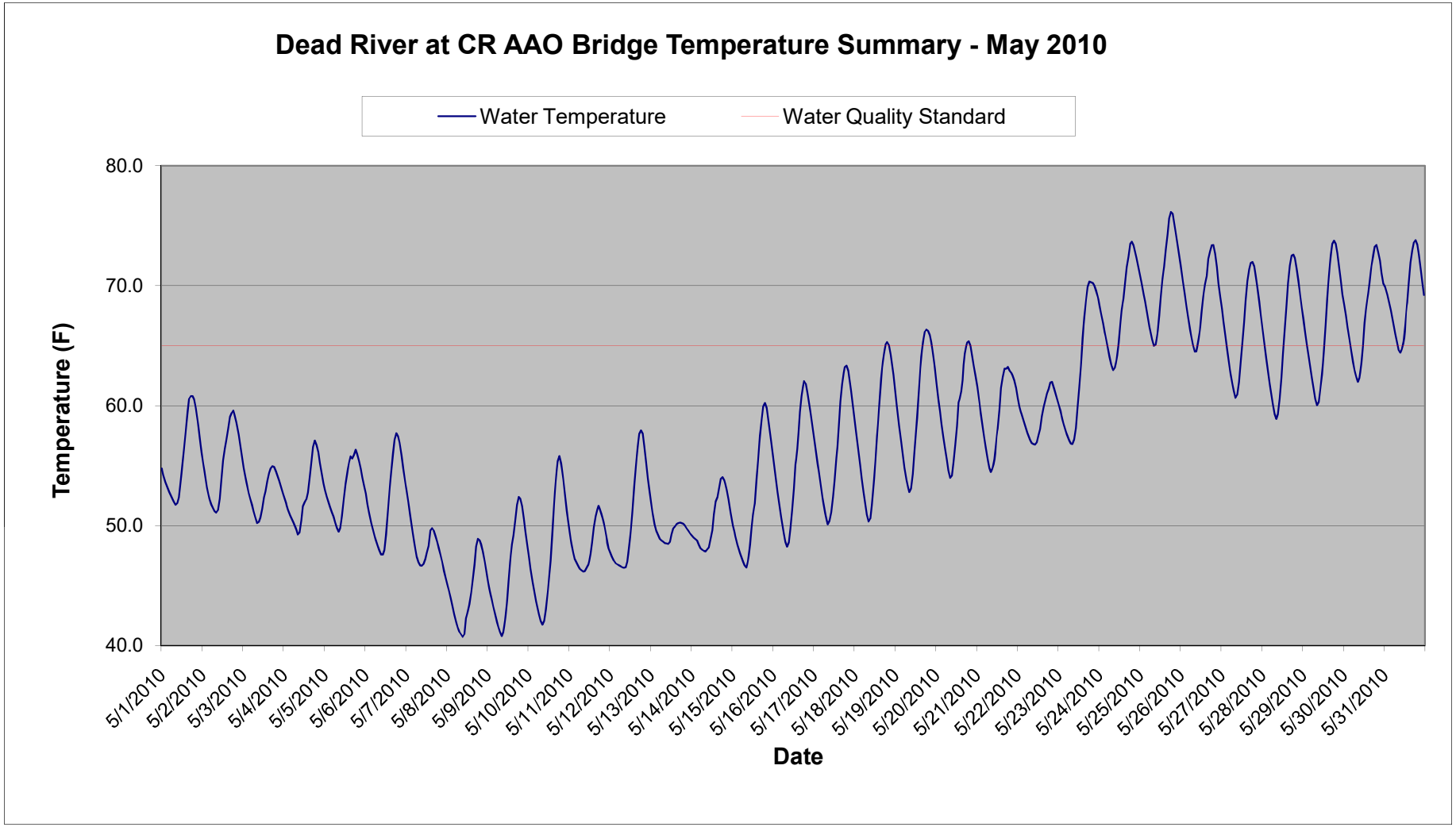
Dead River Hydroelectric Project

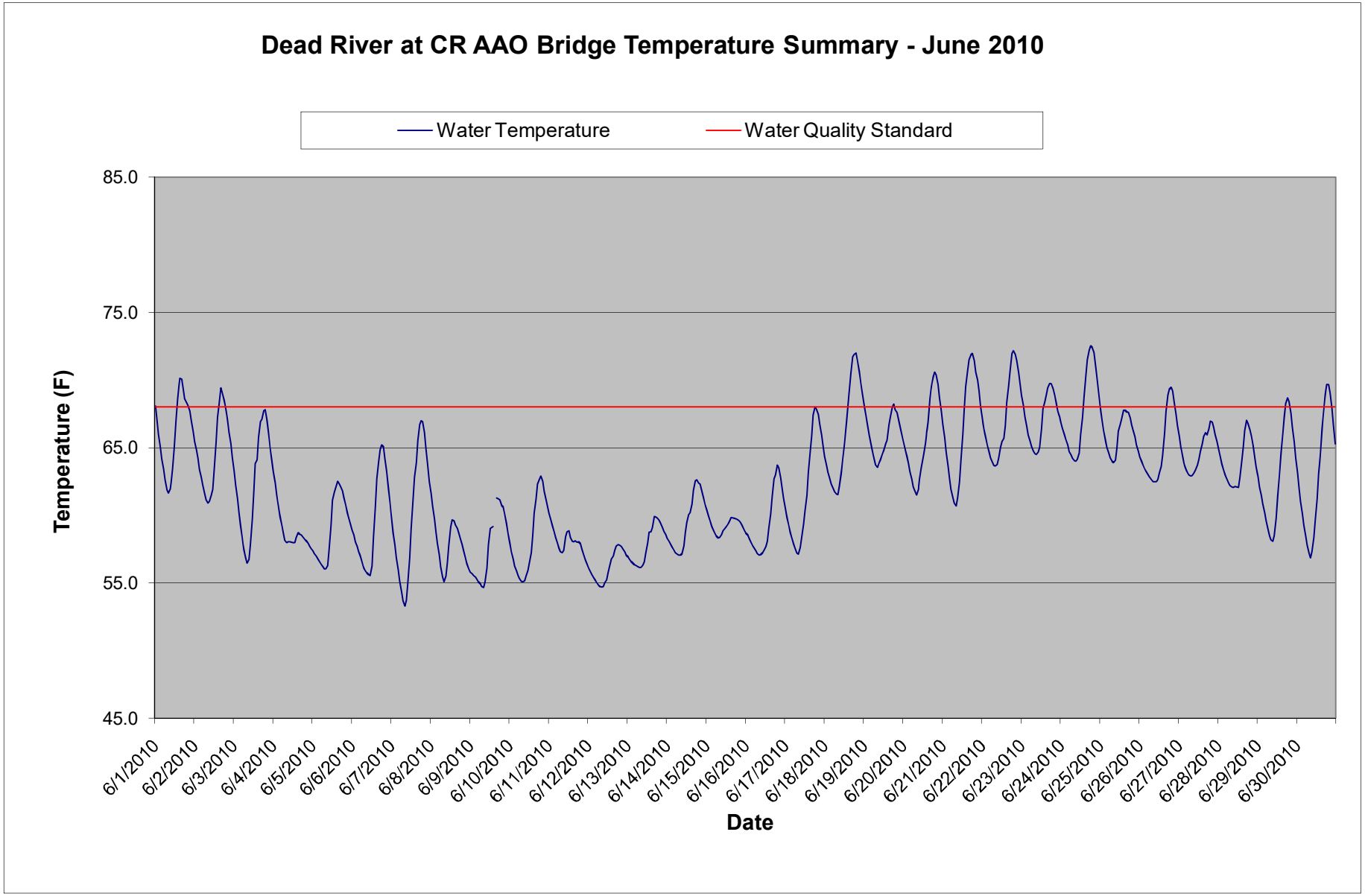
FERC Project No. 10855

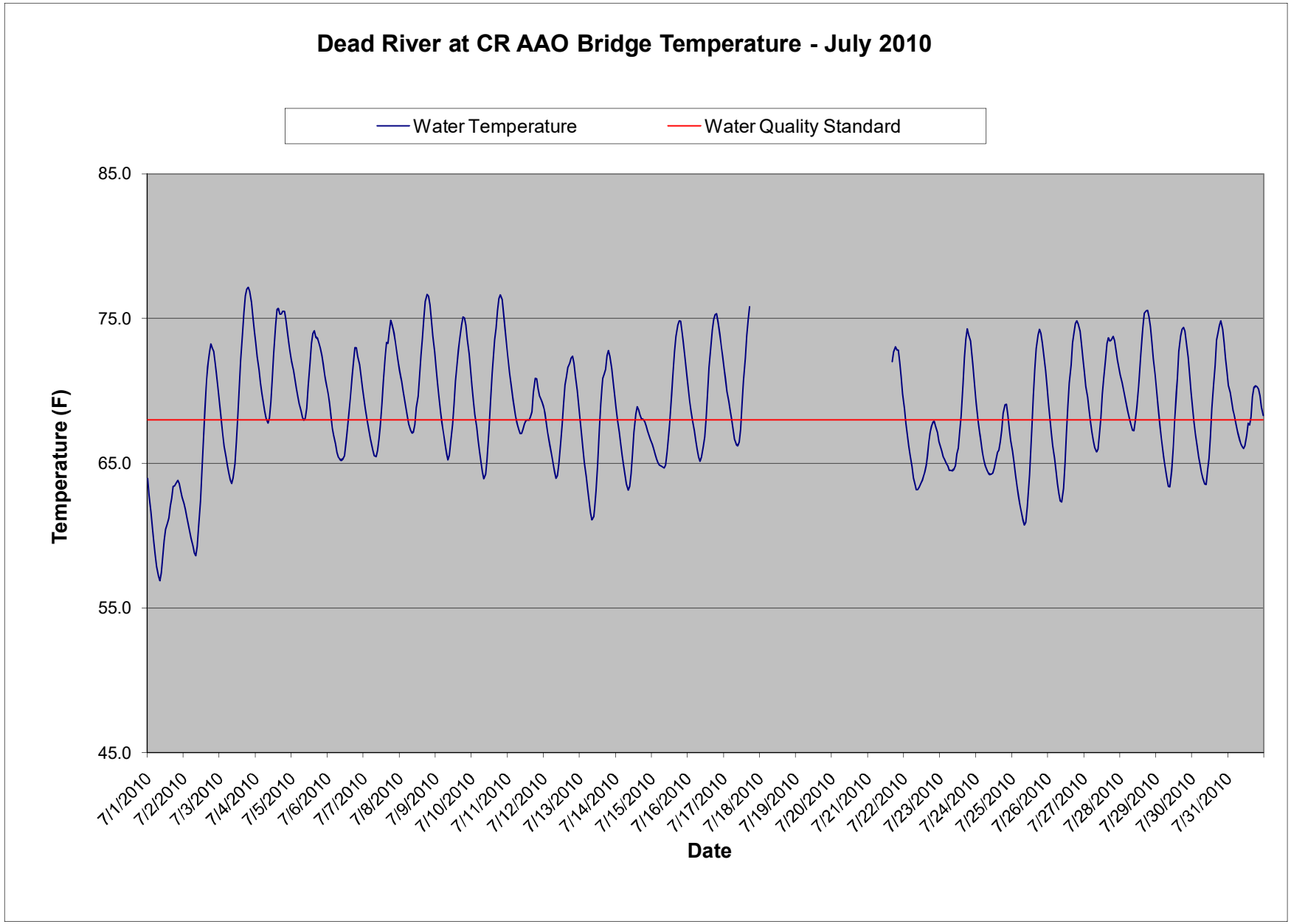
2010 Water Quality Monitoring Report

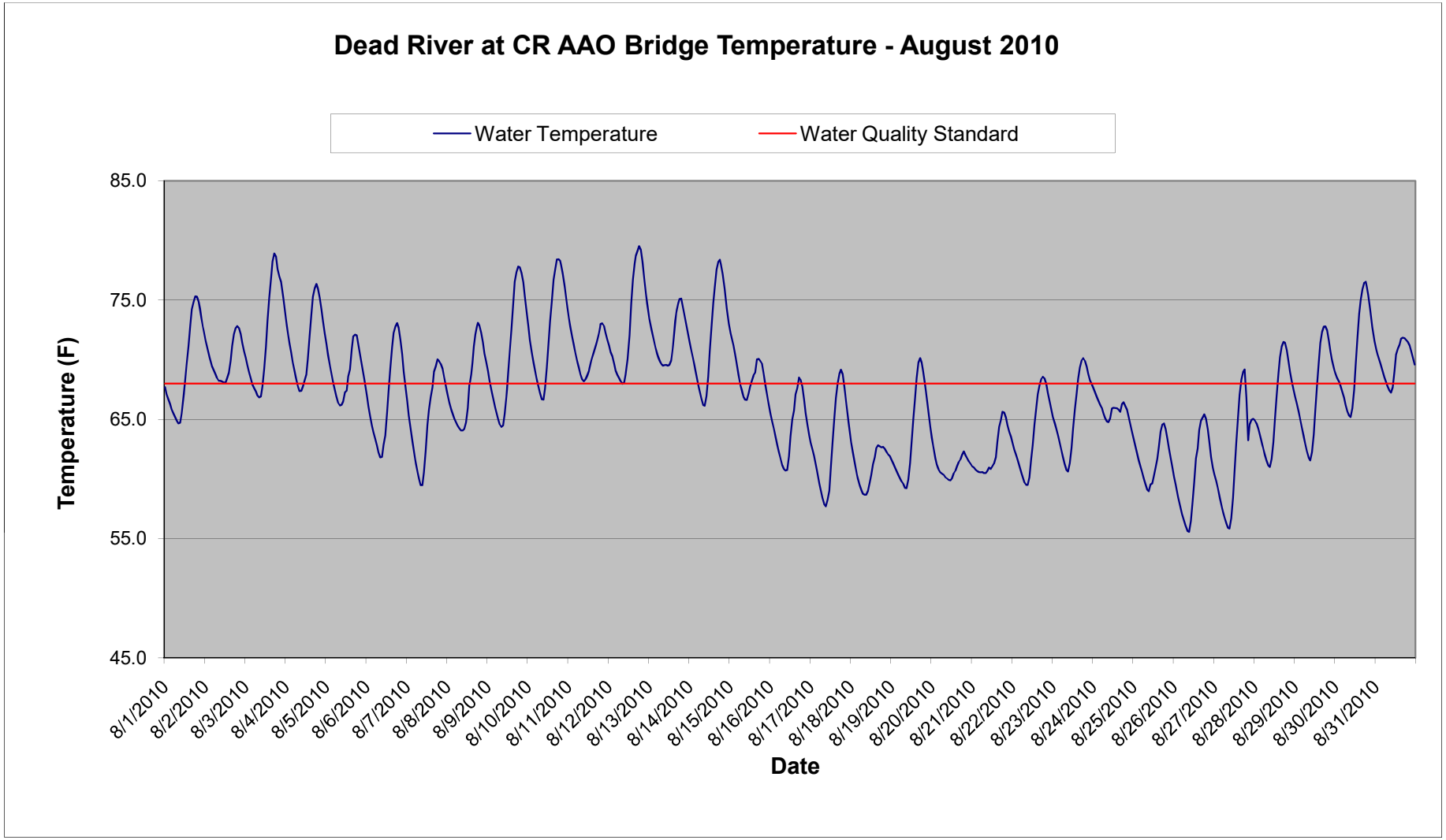
Appendix B

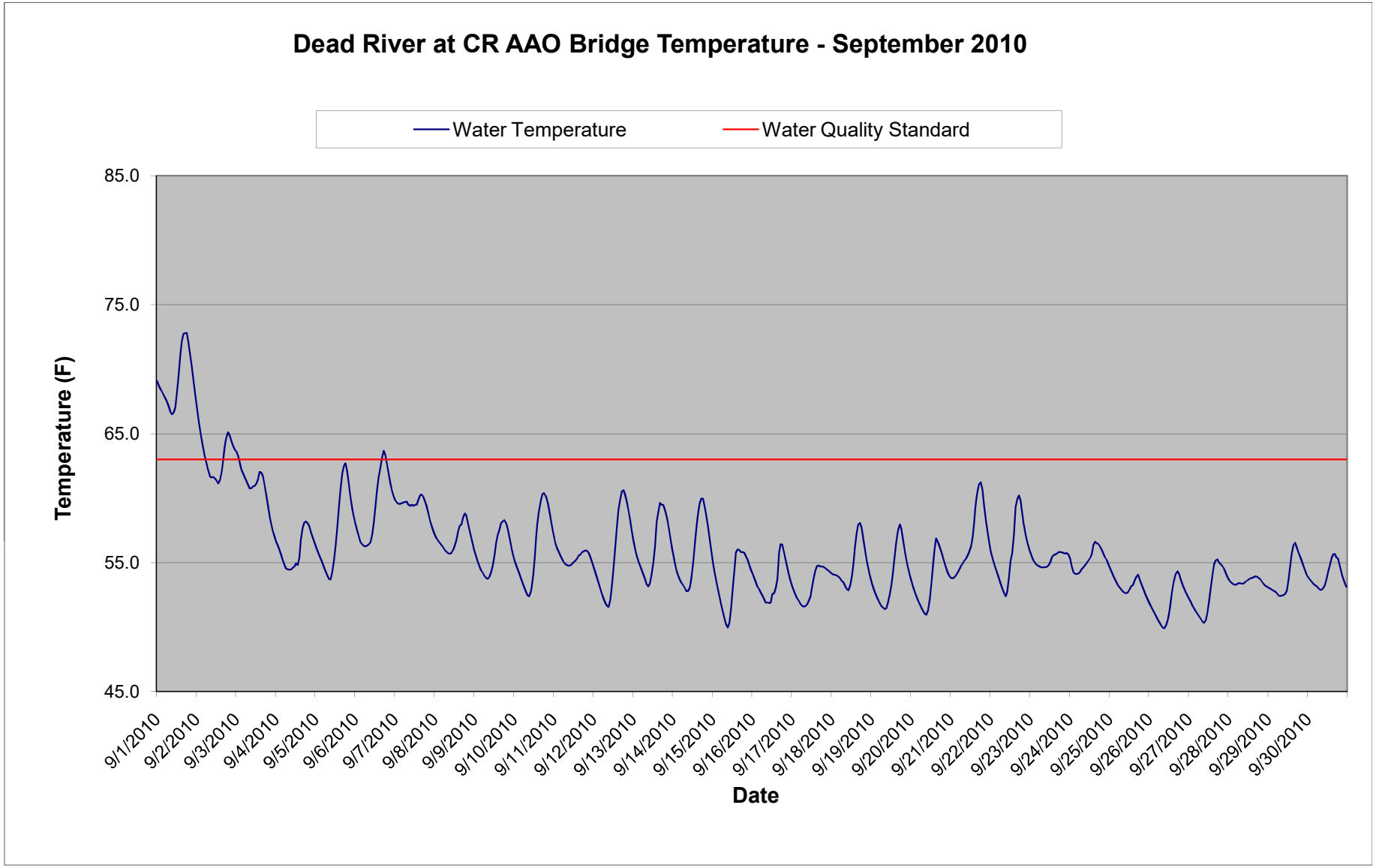
Temperature Monitoring Data

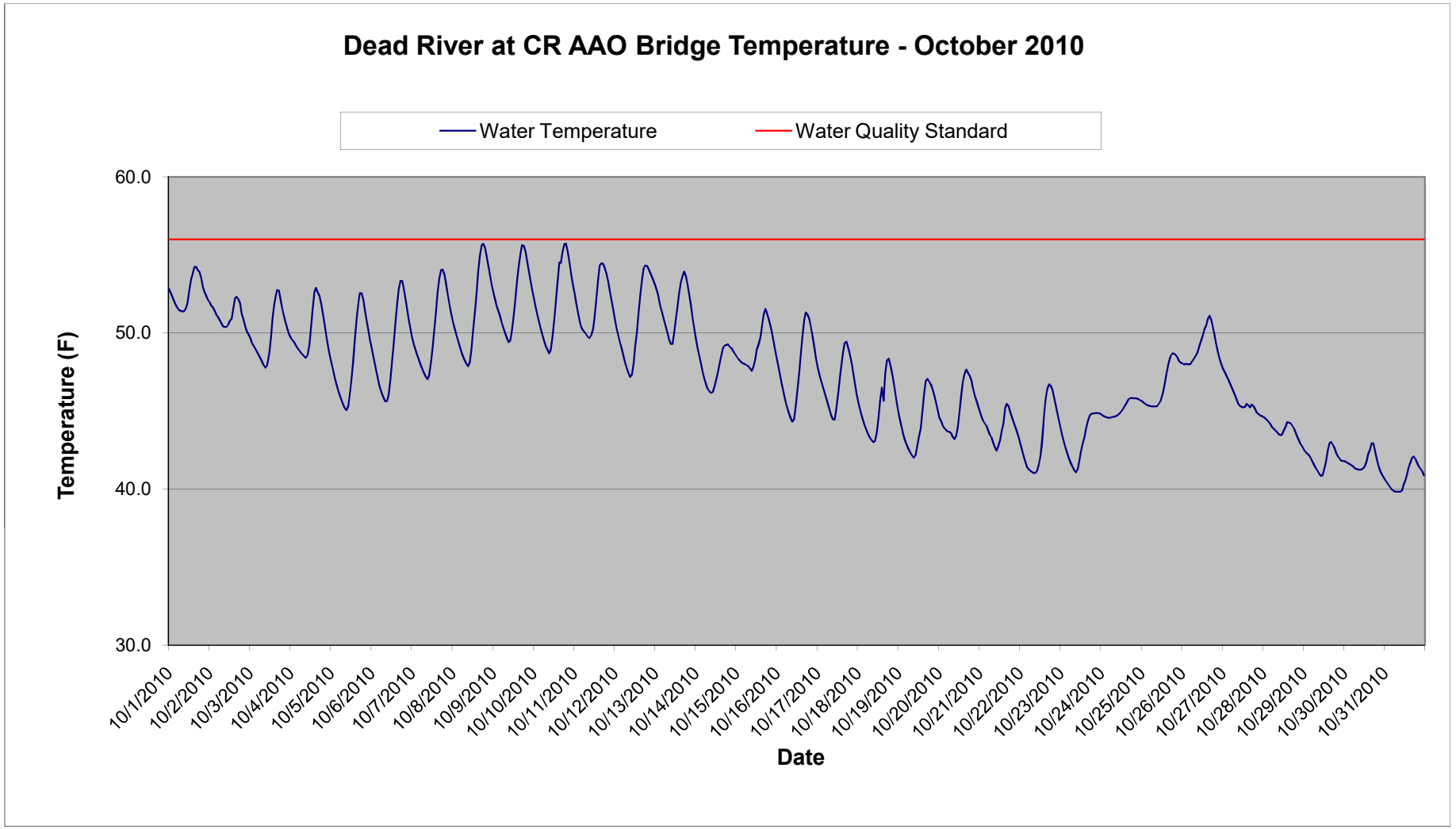












Dead River at County Road AAO Bridge - May 2010 Temperature Monitoring Data

Time HHMMSS	5/1/10	5/2/10	5/3/10	5/4/10	5/5/10	5/6/10	5/7/10	5/8/10	5/9/10	5/10/10	5/11/10	5/12/10	5/13/10	5/14/10	5/15/10	5/16/10
0	54.8	55.5	55.0	52.3	53.0	52.7	53.0	45.1	45.3	47.4	49.5	47.7	51.9	49.2	50.1	55.5
10000	54.1	54.5	54.1	51.9	52.4	51.8	52.0	44.5	44.5	46.4	48.5	47.4	50.9	49.0	49.5	54.4
20000	53.6	53.6	53.4	51.4	51.9	51.0	51.0	44.0	43.9	45.5	47.8	47.1	50.1	48.9	48.8	53.3
30000	53.3	52.8	52.8	51.0	51.5	50.3	50.0	43.3	43.3	44.6	47.2	46.9	49.6	48.7	48.3	52.2
40000	52.9	52.2	52.2	50.6	51.1	49.7	49.0	42.7	42.7	43.9	46.9	46.8	49.2	48.4	47.8	51.1
50000	52.5	51.8	51.7	50.4	50.7	49.2	48.2	42.1	42.1	43.2	46.6	46.7	48.9	48.1	47.4	50.2
60000	52.3	51.5	51.2	50.1	50.3	48.7	47.4	41.5	41.6	42.6	46.4	46.6	48.8	48.0	47.0	49.3
70000	52.0	51.2	50.6	49.7	49.8	48.3	46.9	41.1	41.1	42.0	46.3	46.5	48.7	47.9	46.7	48.7
80000	51.7	51.1	50.2	49.2	49.5	47.9	46.7	40.9	40.8	41.7	46.2	46.5	48.5	47.8	46.5	48.2
90000	51.9	51.3	50.3	49.4	49.8	47.6	46.7	40.7	41.1	42.0	46.2	46.5	48.5	48.0	47.0	48.6
100000	52.3	52.3	50.7	50.4	50.8	47.6	46.8	40.9	42.1	43.0	46.5	47.0	48.5	48.2	48.2	49.7
110000	53.7	53.7	51.4	51.6	52.2	48.0	47.2	42.3	43.5	44.3	46.8	48.2	48.6	48.9	49.7	51.3
120000	55.1	55.4	52.3	51.9	53.5	49.3	47.8	42.8	45.2	45.9	47.3	49.6	49.2	49.6	50.9	53.1
130000	56.3	56.4	52.9	52.2	54.2	51.3	48.3	43.4	47.0	47.6	48.5	51.4	49.8	51.0	51.8	55.1
140000	57.8	57.2	53.7	52.8	55.2	53.0	49.6	44.3	48.4	49.6	49.5	53.2	49.9	52.0	54.0	56.5
150000	59.5	58.1	54.4	54.0	55.8	54.5	49.8	45.5	49.2	52.2	50.5	54.9	50.1	52.4	55.4	58.2
160000	60.6	59.1	54.8	55.4	55.6	55.9	49.6	46.7	50.4	54.2	51.2	56.6	50.2	53.2	57.5	60.0
170000	60.8	59.4	55.0	56.6	55.9	57.2	49.1	48.3	51.7	55.3	51.6	57.7	50.3	53.9	58.8	61.3
180000	60.8	59.6	54.9	57.1	56.3	57.7	48.6	48.9	52.4	55.8	51.3	57.9	50.2	54.0	59.9	62.0
190000	60.5	59.1	54.5	56.7	55.9	57.4	48.1	48.8	52.3	55.2	50.8	57.7	50.1	53.8	60.2	61.8
200000	59.8	58.4	54.2	56.1	55.4	56.9	47.6	48.4	51.6	54.2	50.3	56.6	50.0	53.3	59.8	61.1
210000	58.7	57.7	53.8	55.2	54.7	55.9	47.0	47.8	50.6	52.9	49.6	55.3	49.8	52.6	58.7	60.2
220000	57.5	56.8	53.3	54.4	54.0	54.8	46.2	47.0	49.5	51.6	48.7	53.9	49.6	51.7	57.6	59.2
230000	56.5	55.8	52.8	53.5	53.3	53.8	45.6	46.1	48.4	50.6	48.0	52.9	49.3	50.9	56.5	58.2
Daily Max	60.8	59.6	55.0	57.1	56.3	57.7	53.0	48.9	52.4	55.8	51.6	57.9	51.9	54.0	60.2	62.0
Daily Min	51.7	51.1	50.2	49.2	49.5	47.6	45.6	40.7	40.8	41.7	46.2	46.5	48.5	47.8	46.5	48.2
Average	55.8	55.2	52.9	52.7	53.0	52.1	48.4	44.5	46.2	48.0	48.4	50.9	49.6	50.4	52.4	55.0

Monthly average temp (F): 57.3

License Maximum Monthly Average: 65ºF

Dead River at County Road AAO Bridge - May 2010 Temperature Monitoring Data

Time HHMMSS	5/17/10	5/18/10	5/19/10	5/20/10	5/21/10	5/22/10	5/23/10	5/24/10	5/25/10	5/26/10	5/27/10	5/28/10	5/29/10	5/30/10	5/31/10
0	57.2	58.6	60.8	61.9	61.6	60.5	60.0	68.3	70.8	71.4	68.1	66.3	67.2	68.4	69.9
10000	56.1	57.4	59.5	60.7	60.5	59.8	59.5	67.6	70.0	70.4	67.0	65.1	66.2	67.5	69.4
20000	55.1	56.2	58.3	59.5	59.4	59.3	58.9	66.9	69.2	69.4	65.9	64.0	65.1	66.6	68.9
30000	54.2	55.0	57.1	58.4	58.3	58.8	58.4	66.1	68.5	68.4	64.7	63.0	64.1	65.6	68.3
40000	53.2	53.9	56.0	57.4	57.4	58.4	57.9	65.4	67.6	67.4	63.7	62.0	63.3	64.7	67.6
50000	52.3	52.8	55.0	56.4	56.5	57.9	57.5	64.7	66.9	66.6	62.8	61.0	62.3	63.8	66.8
60000	51.4	51.8	54.1	55.5	55.6	57.6	57.1	64.0	66.1	65.8	61.9	60.1	61.4	63.0	66.0
70000	50.6	50.9	53.3	54.6	54.8	57.2	56.8	63.3	65.4	65.0	61.2	59.3	60.6	62.4	65.4
80000	50.1	50.3	52.8	54.0	54.5	56.9	56.8	63.0	65.0	64.5	60.6	58.9	60.0	62.0	64.7
90000	50.4	50.6	53.1	54.2	54.8	56.8	57.2	63.1	65.1	64.5	60.9	59.3	60.3	62.3	64.4
100000	51.1	51.8	54.3	55.3	55.5	56.8	58.1	63.8	66.0	65.4	62.0	60.6	61.6	63.4	64.7
110000	52.4	53.5	56.0	56.7	56.7	56.9	59.7	65.0	67.4	66.2	63.5	62.3	62.6	65.0	65.4
120000	53.7	55.4	58.0	58.3	58.1	57.6	61.5	66.6	69.0	67.7	65.2	64.3	64.5	66.9	66.8
130000	55.6	57.5	60.0	60.3	59.7	58.0	63.3	68.0	70.6	69.0	66.9	66.4	66.8	68.2	68.6
140000	57.3	59.5	62.2	60.8	61.5	59.1	65.6	68.9	71.6	70.1	68.8	68.4	68.9	69.3	70.2
150000	59.5	61.4	64.1	61.7	62.4	59.9	67.4	70.4	73.1	70.8	70.4	70.2	70.8	70.3	71.9
160000	61.3	63.2	65.3	63.6	63.1	60.4	68.8	71.6	74.3	72.2	71.4	71.7	72.5	71.7	73.0
170000	62.4	64.3	66.2	64.5	63.1	61.0	69.9	72.4	75.6	72.9	71.9	72.5	73.5	72.4	73.6
180000	63.2	65.1	66.3	65.3	63.2	61.4	70.4	73.5	76.2	73.4	72.0	72.6	73.8	73.3	73.8
190000	63.3	65.3	66.2	65.4	62.9	61.9	70.3	73.7	76.0	73.4	71.6	72.3	73.5	73.4	73.4
200000	62.9	65.0	65.9	65.0	62.7	62.0	70.2	73.4	75.2	72.7	70.8	71.4	72.7	72.8	72.6
210000	61.9	64.3	65.3	64.1	62.5	61.5	70.0	72.8	74.2	71.5	69.8	70.4	71.5	72.1	71.4
220000	60.9	63.2	64.2	63.3	62.0	61.1	69.5	72.1	73.3	70.2	68.7	69.3	70.4	71.0	70.2
230000	59.8	62.0	63.1	62.5	61.3	60.5	69.0	71.4	72.4	69.1	67.5	68.1	69.3	70.2	69.2
Daily Max	63.3	65.3	66.3	65.4	63.2	62.0	70.4	73.7	76.2	73.4	72.0	72.6	73.8	73.4	73.8
Daily Min	50.1	50.3	52.8	54.0	54.5	56.8	56.8	63.0	65.0	64.5	60.6	58.9	60.0	62.0	64.4
Average	56.5	57.9	59.9	60.0	59.5	59.2	63.1	68.2	70.4	69.1	66.5	65.8	66.8	67.8	69.0

Dead River at County Road AAO Bridge - June 2010 Temperature Monitoring Data

Time HHMMSS	06/01/10	06/02/10	06/03/10	06/04/10	06/05/10	06/06/10	06/07/10	06/08/10	06/09/10	06/10/10	06/11/10	06/12/10	06/13/10	06/14/10	06/15/10	06/16/10
0	68.1	65.4	63.2	63.2	57.4	58.9	59.8	61.6	55.8	58.0	60.2	56.1	56.9	58.3	60.4	58.7
10000	67.1	64.8	62.2	62.4	57.2	58.5	58.7	60.7	55.7	57.3	59.7	55.9	56.7	58.1	60.0	58.5
20000	66.0	64.2	61.2	61.5	57.0	58.1	57.8	59.7	55.6	56.8	59.3	55.6	56.6	57.9	59.6	58.3
30000	65.0	63.4	60.2	60.6	56.8	57.7	56.9	58.8	55.4	56.3	58.8	55.5	56.5	57.7	59.2	58.0
40000	64.2	62.8	59.3	59.9	56.6	57.3	56.0	58.0	55.3	55.9	58.4	55.2	56.4	57.5	58.9	57.8
50000	63.4	62.2	58.3	59.3	56.4	56.9	55.1	57.1	55.1	55.6	57.9	55.0	56.3	57.3	58.7	57.6
60000	62.6	61.6	57.5	58.7	56.2	56.6	54.4	56.2	55.0	55.3	57.5	54.8	56.2	57.1	58.5	57.4
70000	61.9	61.2	56.8	58.1	56.0	56.1	53.7	55.4	54.7	55.1	57.3	54.8	56.1	57.1	58.3	57.2
80000	61.6	60.9	56.4	58.0	56.0	55.9	53.3	55.1	54.7	55.1	57.3	54.7	56.2	57.1	58.4	57.1
90000	62.0	61.0	56.7	58.0	56.3	55.7	53.7	55.5	55.1	55.2	57.4	54.8	56.3	57.2	58.6	57.1
100000	62.8	61.5	57.9	58.0	57.5	55.6	55.0	56.5	56.1	55.5	58.4	55.0	56.6	57.7	58.9	57.3
110000	64.1	61.9	59.7	58.0	59.2	55.6	56.9	57.8	57.8	55.9	58.8	55.2	57.2	58.7	59.0	57.4
120000	65.9	63.4	61.7	58.0	61.1	56.2	59.0	59.1	59.0	56.5	58.9	55.7	58.0	59.5	59.2	57.7
130000	67.6	65.4	63.8	58.0	61.7	58.4	61.2	59.7	59.1	57.3	58.4	56.4	58.7	60.0	59.3	58.1
140000	69.2	67.2	64.1	58.4	62.1	60.6	62.8	59.6	59.2	58.5	58.1	56.8	58.8	60.2	59.6	59.0
150000	70.1	68.5	65.8	58.7	62.5	62.7	63.9	59.3		60.2	58.1	57.0	59.1	60.8	59.8	60.1
160000	70.1	69.4	66.9	58.6	62.3	64.0	65.5	59.0	61.3	61.2	58.1	57.4	59.9	61.8	59.8	61.3
170000	69.4	68.9	67.1	58.6	62.2	64.9	66.7	58.7	61.2	62.3	58.0	57.7	59.9	62.6	59.8	62.7
180000	68.6	68.5	67.7	58.4	61.8	65.2	67.0	58.2	61.1	62.7	58.1	57.8	59.8	62.6	59.7	63.0
190000	68.3	67.7	67.8	58.2	61.3	65.0	66.9	57.8	60.7	62.9	57.9	57.8	59.6	62.4	59.7	63.7
200000	68.1	67.0	67.0	58.1	60.7	64.2	66.1	57.4	60.6	62.5	57.5	57.7	59.4	62.3	59.6	63.5
210000	67.7	66.2	66.1	58.0	60.2	63.2	65.0	56.9	60.1	61.8	57.1	57.5	59.1	61.9	59.4	62.8
220000	67.0	65.3	65.0	57.7	59.7	62.1	63.6	56.4	59.4	61.1	56.7	57.3	58.8	61.3	59.2	62.0
230000	66.2	64.3	64.0	57.5	59.3	60.9	62.5	56.0	58.7	60.6	56.4	57.1	58.6	60.8	58.9	61.3
Daily Max	70.1	69.4	67.8	63.2	62.5	65.2	67.0	61.6	61.3	62.9	60.2	57.8	59.9	62.6	60.4	63.7
Daily Min	61.6	60.9	56.4	57.5	56.0	55.6	53.3	55.1	54.7	55.1	56.4	54.7	56.1	57.1	58.3	57.1
Average	66.1	64.7	62.4	58.9	59.1	59.6	60.1	57.9	57.7	58.3	58.1	56.2	57.8	59.5	59.3	59.5

Monthly average temp (F): 62.3

License Maximum Monthly Average: 68ºF

No data - equipment being calibrated

Dead River at County Road AAO Bridge - June 2010 Temperature Monitoring Data

Time HHMMSS	06/17/10	06/18/10	06/19/10	06/20/10	06/21/10	06/22/10	06/23/10	06/24/10	06/25/10	06/26/10	06/27/10	06/28/10	06/29/10	06/30/10
0	60.5	64.3	68.1	65.4	66.7	67.2	68.9	66.8	67.8	64.3	65.8	64.9	62.9	63.1
10000	59.8	63.7	67.3	64.9	65.7	66.4	68.1	66.4	67.0	64.0	65.0	64.3	62.1	62.0
20000	59.3	63.2	66.7	64.4	64.7	65.8	67.3	66.0	66.3	63.7	64.4	63.8	61.5	61.0
30000	58.7	62.7	66.0	63.8	63.7	65.2	66.6	65.6	65.6	63.4	63.8	63.3	60.8	60.1
40000	58.3	62.3	65.4	63.2	62.7	64.7	65.9	65.2	65.0	63.2	63.4	63.0	60.2	59.3
50000	57.9	62.0	64.7	62.7	61.9	64.3	65.5	64.7	64.6	63.0	63.2	62.7	59.6	58.5
60000	57.5	61.8	64.2	62.1	61.3	64.0	65.1	64.5	64.3	62.8	63.0	62.4	59.0	57.8
70000	57.2	61.6	63.7	61.8	60.9	63.7	64.7	64.2	64.0	62.7	62.9	62.2	58.5	57.2
80000	57.1	61.5	63.5	61.5	60.7	63.6	64.6	64.0	63.9	62.5	62.9	62.1	58.2	56.9
90000	57.6	62.2	63.9	61.9	61.3	63.8	64.5	64.0	64.1	62.5	63.1	62.1	58.1	57.3
100000	58.4	63.1	64.1	63.0	62.5	64.2	64.7	64.1	65.0	62.5	63.4	62.2	58.5	58.3
110000	59.3	64.2	64.5	63.8	64.1	65.0	65.0	64.6	66.2	62.7	63.7	62.1	59.8	59.6
120000	60.3	65.4	64.8	64.3	66.0	65.4	66.4	66.0	66.7	63.1	64.1	62.1	61.4	61.2
130000	61.5	66.5	65.3	65.0	67.9	65.7	67.9	67.2	67.2	63.6	64.7	62.8	63.0	63.1
140000	63.2	68.0	65.5	66.1	69.5	66.6	68.4	68.7	67.8	64.5	65.3	64.0	64.5	64.6
150000	64.7	69.5	66.7	66.9	70.7	68.3	68.9	70.4	67.8	66.1	65.8	65.0	66.0	66.3
160000	65.9	70.7	67.3	68.6	71.5	69.6	69.4	71.5	67.6	67.7	66.1	66.3	67.3	67.8
170000	67.4	71.7	68.0	69.5	71.9	70.6	69.7	72.2	67.6	68.9	65.9	67.0	68.3	69.0
180000	68.0	71.9	68.2	70.3	72.0	72.0	69.7	72.5	67.2	69.3	66.4	66.8	68.7	69.7
190000	67.9	72.0	67.8	70.6	71.4	72.2	69.4	72.4	66.7	69.5	67.0	66.3	68.4	69.7
200000	67.5	71.4	67.6	70.4	70.6	71.9	69.0	72.0	66.3	69.2	66.9	65.9	67.6	69.1
210000	66.7	70.6	67.1	69.7	70.0	71.4	68.3	71.1	65.8	68.4	66.5	65.1	66.5	67.9
220000	65.9	69.7	66.5	68.7	69.2	70.5	67.7	70.0	65.2	67.5	66.0	64.3	65.4	66.7
230000	65.1	68.9	65.9	67.7	68.1	69.7	67.3	68.9	64.7	66.6	65.5	63.6	64.2	65.3
Daily Max	68.0	72.0	68.2	70.6	72.0	72.2	69.7	72.5	67.8	69.5	67.0	67.0	68.7	69.7
Daily Min	57.1	61.5	63.5	61.5	60.7	63.6	64.5	64.0	63.9	62.5	62.9	62.1	58.1	56.9
Average	61.9	66.2	66.0	65.7	66.5			67.6	66.0	65.1	64.8	63.9	62.9	63.0

Dead River at County Road AAO Bridge - July 2010 Temperature Monitoring Data

Time HHMMSS	07/01/10	07/02/10	07/03/10	07/04/10	07/05/10	07/06/10	07/07/10	07/08/10	07/09/10	07/10/10	07/11/10	07/12/10	07/13/10	07/14/10	07/15/10	07/16/10
0	64.0	62.2	69.0	73.3	72.0	69.9	69.5	71.4	71.6	70.3	72.3	68.8	68.0	68.9	66.3	70.2
10000	62.8	61.8	68.0	72.4	71.4	69.2	68.8	70.7	70.6	69.3	71.3	68.1	67.0	68.0	66.0	69.3
20000	61.6	61.3	67.0	71.5	70.8	68.4	68.1	70.0	69.6	68.4	70.4	67.4	66.0	67.2	65.6	68.6
30000	60.6	60.8	66.2	70.6	70.2	67.5	67.4	69.4	68.7	67.5	69.6	66.8	65.0	66.3	65.3	68.0
40000	59.6	60.3	65.4	69.8	69.6	66.9	66.9	68.9	67.8	66.6	69.0	66.2	64.1	65.6	65.0	67.2
50000	58.7	59.8	64.9	69.2	69.1	66.3	66.3	68.3	67.0	65.8	68.3	65.6	63.2	64.9	64.9	66.6
60000	57.8	59.3	64.3	68.6	68.6	65.8	65.9	67.7	66.3	65.1	67.8	65.0	62.4	64.2	64.8	65.9
70000	57.2	58.8	63.9	68.1	68.2	65.4	65.5	67.3	65.7	64.4	67.3	64.4	61.6	63.6	64.7	65.4
80000	56.9	58.6	63.6	67.8	68.0	65.3	65.5	67.1	65.2	63.9	67.0	64.0	61.1	63.1	64.7	65.1
90000	57.4	59.3	64.0	68.1	68.1	65.2	65.9	67.2	65.6	64.3	67.1	64.2	61.3	63.4	64.9	65.4
100000	58.5	60.6	65.0	69.2	68.8	65.3	66.7	67.7	66.5	65.3	67.4	65.0	62.3	64.3	65.7	66.2
110000	59.7	62.4	66.5	70.8	70.3	65.5	67.7	68.8	67.7	66.8	67.7	66.5	63.8	65.7	66.8	66.8
120000	60.4	64.4	68.3	72.6	71.9	66.5	69.0	69.6	69.1	68.5	67.9	67.7	65.5	67.2	68.2	68.1
130000	60.9	66.5	70.2	74.5	73.3	67.3	70.6	71.0	70.7	70.3	68.0	69.1	67.3	68.4	69.9	69.9
140000	61.2	68.6	72.1	75.6	74.0	68.4	72.3	72.5	71.7	72.2	68.0	70.4	69.3	68.9	71.3	71.6
150000	62.0	70.3	74.0	75.7	74.2	69.3	73.4	73.7	72.8	73.5	68.2	71.0	70.9	68.7	72.7	73.1
160000	62.6	71.7	75.4	75.3	73.7	71.0	73.3	75.0	73.8	74.3	68.6	71.6	71.2	68.3	73.8	74.2
170000	63.4	72.7	76.6	75.3	73.6	72.0	74.2	76.2	74.6	75.5	69.9	71.9	71.5	68.1	74.6	74.9
180000	63.4	73.2	77.0	75.5	73.3	73.0	74.9	76.7	75.1	76.4	70.9	72.3	72.4	68.1	74.8	75.3
190000	63.7	73.0	77.2	75.5	72.9	73.0	74.6	76.6	75.1	76.6	70.8	72.4	72.8	67.9	74.8	75.3
200000	63.8	72.7	76.9	74.9	72.5	72.4	74.0	76.0	74.6	76.3	70.2	71.9	72.4	67.6	74.1	74.8
210000	63.6	71.8	76.1	74.1	71.8	71.8	73.3	74.9	73.6	75.3	69.7	71.0	71.5	67.2	73.2	73.9
220000	63.1	70.9	75.1	73.3	71.1	71.0	72.6	73.8	72.6	74.3	69.4	70.0	70.6	66.9	72.2	73.1
230000	62.6	69.9	74.2	72.6	70.4	70.2	71.9	72.7	71.5	73.3	69.2	69.0	69.7	66.6	71.2	72.4
Daily Max	64.0	73.2	77.2	75.7	74.2	73.0	74.9	76.7	75.1	76.6	72.3	72.4	72.8	68.9	74.8	75.3
Daily Min	56.9	58.6	63.6	67.8	68.0	65.2	65.5	67.1	65.2	63.9	67.0	64.0	61.1	63.1	64.7	65.1
Average	61.1	65.5	70.0	72.3	71.2	68.6	69.9	71.4	70.3	70.2	69.0	68.3	67.1	66.6	69.0	70.1

Monthly average temp (F): 68.7
License Maximum Monthly Average: 68ºF

Dead River at County Road AAO Bridge - July 2010 Temperature Monitoring Data

Time HHMMSS	07/17/10	07/18/10	07/19/10	07/20/10	07/21/10	07/22/10	07/23/10	07/24/10	07/25/10	07/26/10	07/27/10	07/28/10	07/29/10	07/30/10	07/31/10
0	71.5					68.8	66.2	69.2	65.8	69.2	71.3	71.1	70.1	68.9	70.4
10000	70.8					67.8	65.8	68.1	65.1	68.1	70.3	70.6	68.9	67.9	69.9
20000	70.0					67.0	65.5	67.2	64.2	67.1	69.6	70.2	68.0	67.0	69.3
30000	69.3					66.2	65.2	66.5	63.5	66.2	68.7	69.5	67.0	66.2	68.6
40000	68.6					65.6	65.0	65.8	62.8	65.3	67.9	69.1	66.1	65.5	68.2
50000	68.0					64.8	64.8	65.2	62.2	64.5	67.2	68.5	65.3	64.9	67.7
60000	67.4					64.0	64.5	64.8	61.6	63.6	66.6	68.1	64.5	64.4	67.2
70000	66.7					63.6	64.5	64.5	61.1	62.9	66.1	67.7	63.9	64.0	66.8
80000	66.3					63.2	64.5	64.3	60.7	62.4	65.8	67.3	63.4	63.6	66.4
90000	66.2					63.2	64.6	64.2	60.9	62.3	66.0	67.3	63.4	63.5	66.2
100000	66.5					63.3	64.8	64.3	62.0	63.3	67.0	67.9	64.4	64.5	66.0
110000	67.4					63.6	65.7	64.3	63.6	64.9	68.1	69.0	65.9	65.3	66.2
120000	69.1					63.8	66.1	64.7	65.6	67.0	69.7	70.3	67.9	66.8	67.0
130000	70.7					64.2	67.2	65.3	67.5	68.9	70.9	71.7	69.3	68.8	67.8
140000	72.3					64.5	68.3	65.8	69.7	70.5	72.2	73.2	70.8	70.5	67.7
150000	73.8					65.1	70.4	65.9	71.5	71.8	73.3	74.4	72.7	71.8	68.2
160000	74.9				72.0	66.2	72.3	66.5	72.9	73.3	73.7	75.4	73.8	73.5	69.6
170000	75.8				72.7	67.0	73.6	67.3	73.9	74.0	73.5	75.5	74.3	74.0	70.2
180000					73.1	67.6	74.3	68.5	74.3	74.7	73.5	75.6	74.4	74.5	70.4
190000					72.8	67.8	73.9	69.0	74.0	74.8	73.8	75.1	74.1	74.8	70.3
200000					72.8	67.9	73.4	69.1	73.3	74.6	73.5	74.4	73.3	74.3	70.1
210000					72.0	67.5	72.5	68.3	72.5	74.1	72.8	73.4	72.3	73.3	69.7
220000					71.0	67.1	71.2	67.4	71.4	73.2	72.1	72.2	71.1	72.2	68.9
230000					69.8	66.5	70.2	66.6	70.3	72.2	71.6	71.1	69.9	71.4	68.3
Daily Max	75.8	0.0	0.0	0.0	73.1	68.8	74.3	69.2	74.3	74.8	73.8	75.6	74.4	74.8	70.4
Daily Min	66.2	0.0	0.0	0.0	69.8	63.2	64.5	64.2	60.7	62.3	65.8	67.3	63.4	63.5	66.0
Average	69.7	#DIV/0!	#DIV/0!	#DIV/0!	72.0	65.7	68.1	66.4	67.1	68.7	70.2	71.2	69.0	68.8	68.4

No data - Monitor power failure

Dead River at County Road AAO Bridge - August 2010 Temperature Monitoring Data

Time HHMMSS	8/1/2010	8/2/2010	8/3/2010	8/4/2010	8/5/2010	8/6/2010	8/7/2010	8/8/2010	8/9/2010	8/10/2010	8/11/2010	8/12/2010	8/13/2010	8/14/2010	8/15/2010	8/16/2010
0	67.7	71.7	70.1	73.3	71.3	67.0	66.5	67.1	69.0	72.8	73.7	71.2	73.5	71.5	72.4	65.5
10000	67.1	71.1	69.5	72.3	70.4	66.1	65.3	66.5	68.3	71.6	72.8	70.6	72.7	70.7	71.8	64.9
20000	66.7	70.5	69.0	71.4	69.6	65.2	64.3	65.9	67.5	70.7	72.0	70.3	72.1	70.1	71.2	64.3
30000	66.3	69.9	68.4	70.6	68.8	64.5	63.2	65.5	66.8	69.9	71.3	69.7	71.4	69.4	70.5	63.6
40000	65.8	69.5	67.9	69.8	68.1	63.9	62.3	65.1	66.2	69.1	70.6	69.1	70.9	68.6	69.6	62.9
50000	65.5	69.1	67.6	69.1	67.4	63.4	61.4	64.7	65.6	68.4	69.9	68.7	70.3	68.0	68.8	62.2
60000	65.2	68.8	67.3	68.4	66.9	62.8	60.7	64.5	65.1	67.8	69.4	68.4	70.0	67.3	67.9	61.8
70000	64.9	68.5	67.0	67.8	66.4	62.2	60.0	64.3	64.6	67.2	68.8	68.2	69.7	66.8	67.5	61.2
80000	64.7	68.2	66.8	67.4	66.1	61.8	59.5	64.1	64.4	66.7	68.4	68.0	69.5	66.2	66.9	60.8
90000	64.7	68.2	66.9	67.4	66.2	61.8	59.5	64.1	64.5	66.7	68.2	68.1	69.5	66.1	66.6	60.7
100000	65.5	68.2	67.7	67.7	66.5	62.8	60.5	64.2	65.4	67.6	68.3	68.8	69.6	66.9	66.6	60.7
110000	66.9	68.1	69.2	68.2	67.3	63.6	62.3	64.7	66.8	69.3	68.7	69.9	69.5	68.6	67.2	61.9
120000	68.3	68.1	71.1	68.7	67.4	65.6	64.5	65.9	68.9	71.4	69.0	71.8	69.5	70.7	67.7	63.6
130000	69.7	68.4	73.2	70.1	68.6	67.4	65.8	67.9	70.5	73.2	69.7	74.2	69.9	72.8	68.2	65.0
140000	71.1	68.9	75.2	72.0	69.2	69.3	66.8	68.6	72.5	74.9	70.2	76.1	71.1	74.8	68.7	65.7
150000	72.9	69.9	76.8	73.8	70.9	71.0	67.7	70.3	74.7	76.7	70.6	77.7	72.4	76.1	68.9	67.1
160000	74.2	71.2	78.2	75.3	71.9	72.2	69.0	71.4	76.5	77.5	71.1	78.7	73.9	77.5	70.0	67.6
170000	74.8	72.1	78.9	76.0	72.1	72.8	69.4	72.4	77.3	78.4	71.6	79.1	74.6	78.2	70.1	68.5
180000	75.3	72.6	78.6	76.3	72.0	73.1	70.0	73.1	77.8	78.4	72.2	79.5	75.1	78.4	69.9	68.3
190000	75.3	72.8	77.6	76.0	71.3	72.7	69.9	72.9	77.7	78.3	73.0	79.2	75.1	77.7	69.7	67.7
200000	74.9	72.6	77.0	75.2	70.4	71.7	69.6	72.3	77.3	77.7	73.0	78.1	74.4	76.7	68.8	66.6
210000	74.1	72.1	76.5	74.2	69.6	70.4	69.2	71.4	76.5	76.7	72.8	76.8	73.7	75.7	67.9	65.5
220000	73.2	71.4	75.6	73.2	68.8	69.0	68.5	70.5	75.3	75.7	72.2	75.5	72.9	74.4	67.1	64.6
230000	72.4	70.7	74.5	72.2	67.9	67.7	67.8	69.8	74.0	74.6	71.7	74.4	72.2	73.3	66.2	63.7
Daily Max	75.3	72.8	78.9	76.3	72.1	73.1	70.0	73.1	77.8	78.4	73.7	79.5	75.1	78.4	72.4	68.5
Daily Min	64.7	68.1	66.8	67.4	66.1	61.8	59.5	64.1	64.4	66.7	68.2	68.0	69.5	66.1	66.2	60.7
Average	69.5	70.1	72.1	71.5	69.0	67.0	65.2	67.8	70.6	72.5	70.8	73.0	71.8	71.9	68.8	64.3

Monthly average temp (F): 67.0
License Maximum Monthly Average: 68ºF

Dead River at County Road AAO Bridge - August 2010 Temperature Monitoring Data

Time HHMMSS	8/17/2010	8/18/2010	8/19/2010	8/20/2010	8/21/2010	8/22/2010	8/23/2010	8/24/2010	8/25/2010	8/26/2010	8/27/2010	8/28/2010	8/29/2010	8/30/2010	8/31/2010
0	63.0	63.1	61.6	63.4	61.1	63.0	65.2	67.6	63.3	60.2	60.4	64.9	66.9	68.8	71.0
10000	62.5	62.2	61.3	62.6	61.0	62.5	64.7	67.3	62.7	59.5	59.8	64.7	66.3	68.4	70.4
20000	61.9	61.5	61.0	61.8	60.8	62.0	64.2	66.9	62.2	58.8	59.3	64.3	65.7	68.2	70.0
30000	61.2	60.7	60.7	61.2	60.7	61.6	63.7	66.6	61.6	58.1	58.6	63.7	65.0	67.8	69.5
40000	60.5	60.0	60.4	60.8	60.6	61.1	63.1	66.2	61.0	57.4	57.9	63.2	64.3	67.3	69.0
50000	59.7	59.5	60.0	60.5	60.5	60.6	62.4	66.0	60.5	56.9	57.3	62.6	63.6	66.8	68.5
60000	59.0	59.1	59.8	60.4	60.6	60.2	61.8	65.5	60.0	56.5	56.8	62.0	62.9	66.2	68.1
70000	58.4	58.8	59.6	60.4	60.5	59.7	61.2	65.1	59.5	56.0	56.3	61.5	62.3	65.7	67.8
80000	57.9	58.7	59.3	60.1	60.5	59.5	60.7	64.8	59.1	55.6	55.9	61.1	61.8	65.3	67.4
90000	57.7	58.7	59.2	60.0	60.7	59.5	60.6	64.8	59.0	55.6	55.8	61.0	61.6	65.2	67.2
100000	58.2	59.0	59.9	59.9	61.0	60.1	61.3	65.1	59.5	56.5	56.7	61.7	62.2	65.9	67.7
110000	59.0	59.7	61.3	59.9	60.8	61.7	62.6	65.9	59.6	58.1	58.4	63.1	63.7	67.4	69.0
120000	61.0	60.3	63.1	60.0	61.0	62.8	64.2	66.0	60.2	59.7	60.6	65.0	65.7	69.5	70.4
130000	63.1	61.2	65.1	60.5	61.3	64.5	65.8	65.9	60.9	61.7	63.1	67.0	67.8	71.8	70.9
140000	65.2	61.8	66.8	60.7	61.8	65.9	67.1	65.9	61.7	62.6	65.2	68.8	69.8	73.9	71.2
150000	66.8	62.6	68.5	61.1	63.1	67.1	68.4	65.8	62.7	64.1	67.0	70.2	71.4	75.0	71.8
160000	68.0	62.8	69.7	61.4	64.4	67.8	69.4	65.6	64.0	64.9	68.3	71.1	72.3	75.9	71.9
170000	68.8	62.7	70.1	61.6	65.0	68.4	69.9	66.3	64.6	65.2	69.0	71.5	72.8	76.5	71.8
180000	69.2	62.7	69.7	62.0	65.6	68.6	70.1	66.4	64.7	65.4	69.2	71.4	72.8	76.5	71.7
190000	68.8	62.7	68.9	62.3	65.6	68.4	69.9	66.1	64.2	65.0	66.8	70.8	72.5	75.9	71.5
200000	67.7	62.5	67.8	62.0	65.1	67.9	69.4	65.8	63.3	64.2	63.2	69.8	71.6	74.8	71.2
210000	66.5	62.3	66.7	61.8	64.5	67.2	68.8	65.3	62.6	63.1	64.6	69.0	70.7	73.7	70.7
220000	65.3	62.1	65.6	61.5	64.0	66.5	68.3	64.6	61.7	61.8	65.0	68.2	69.9	72.6	70.2
230000	64.1	61.9	64.4	61.3	63.5	65.8	67.9	63.9	60.9	60.9	65.0	67.5	69.3	71.7	69.6
Daily Max	69.2	63.1	70.1	63.4	65.6	68.6	70.1	67.6	64.7	65.4	69.2	71.5	72.8	76.5	71.9
Daily Min	57.7	58.7	59.2	59.9	60.5	59.5	60.6	63.9	59.0	55.6	55.8	61.0	61.6	65.2	67.2
Average	63.1	61.1	63.8	61.1	62.2	63.9	65.4	65.8	61.6	60.3	61.7	66.0	67.2	70.4	69.9

Dead River at County Road AAO Bridge - September 2010 Temperature Monitoring Data

Time HHMMSS	9/1/2010	9/2/2010	9/3/2010	9/4/2010	9/5/2010	9/6/2010	9/7/2010	9/8/2010	9/9/2010	9/10/2010	9/11/2010	9/12/2010	9/13/2010	9/14/2010	9/15/2010	9/16/2010
0	69.1	67.1	63.6	56.6	56.3	57.9	59.8	57.1	55.8	55.2	57.0	54.6	56.8	55.6	55.1	54.2
10000	68.7	66.2	63.2	56.3	55.9	57.5	59.6	56.9	55.4	54.9	56.4	54.2	56.1	55.0	54.3	53.8
20000	68.5	65.4	62.7	56.0	55.6	57.0	59.6	56.7	55.1	54.5	56.1	53.8	55.6	54.4	53.5	53.5
30000	68.3	64.5	62.2	55.6	55.3	56.6	59.6	56.5	54.7	54.1	55.8	53.4	55.1	54.0	53.0	53.1
40000	68.0	63.8	62.0	55.2	55.0	56.4	59.6	56.4	54.4	53.8	55.5	53.0	54.7	53.7	52.4	52.9
50000	67.8	63.2	61.6	54.8	54.6	56.3	59.7	56.2	54.2	53.5	55.2	52.6	54.4	53.4	51.8	52.7
60000	67.5	62.7	61.3	54.6	54.3	56.3	59.7	56.0	54.0	53.0	55.0	52.2	54.1	53.3	51.2	52.4
70000	67.1	62.1	61.0	54.5	54.0	56.3	59.7	55.8	53.8	52.8	54.9	51.9	53.7	53.0	50.7	52.2
80000	66.7	61.7	60.7	54.5	53.7	56.4	59.5	55.7	53.8	52.5	54.8	51.7	53.3	52.8	50.2	51.9
90000	66.5	61.6	60.8	54.5	53.7	56.6	59.4	55.7	53.9	52.4	54.8	51.6	53.2	52.8	50.0	51.9
100000	66.6	61.6	60.9	54.6	54.3	57.2	59.5	55.7	54.3	52.8	54.8	52.1	53.4	53.1	50.3	51.9
110000	67.0	61.5	61.0	54.7	55.2	58.1	59.4	56.0	54.8	53.5	54.9	53.3	54.1	53.7	51.5	51.9
120000	68.2	61.4	61.1	55.0	56.4	59.4	59.5	56.3	55.6	54.9	55.1	54.7	55.0	54.8	53.0	52.6
130000	69.5	61.1	61.4	54.8	57.8	60.6	59.5	56.8	56.5	56.7	55.2	56.3	56.2	56.2	54.4	52.6
140000	71.1	61.4	62.0	55.4	59.4	61.6	59.9	57.4	57.1	58.2	55.3	57.7	58.2	57.6	55.8	53.0
150000	72.1	62.0	62.0	56.8	60.8	62.3	60.2	57.9	57.6	59.1	55.6	59.1	58.9	58.7	56.0	53.7
160000	72.7	63.0	61.7	57.7	62.0	63.1	60.3	58.0	58.1	59.8	55.6	59.9	59.6	59.6	56.0	55.8
170000	72.8	64.1	61.0	58.1	62.5	63.7	60.1	58.5	58.2	60.3	55.8	60.5	59.5	60.0	55.8	56.4
180000	72.8	64.7	60.2	58.2	62.7	63.3	59.8	58.8	58.3	60.4	55.9	60.6	59.5	60.0	55.8	56.4
190000	72.1	65.1	59.5	58.1	62.1	62.6	59.4	58.7	58.1	60.2	56.0	60.3	59.1	59.4	55.8	55.9
200000	71.1	64.9	58.6	57.8	61.1	61.9	58.8	58.2	57.6	59.8	55.9	59.7	58.6	58.7	55.5	55.3
210000	70.2	64.4	58.0	57.4	60.0	61.2	58.2	57.5	57.0	59.1	55.8	59.0	58.0	57.9	55.2	54.6
220000	69.1	64.0	57.4	57.0	59.2	60.6	57.8	56.8	56.4	58.4	55.4	58.2	57.2	56.9	54.8	54.0
230000	68.1	63.8	57.1	56.6	58.5	60.2	57.5	56.3	55.7	57.6	55.0	57.5	56.4	56.0	54.5	53.5
Daily Max	72.8	67.1	63.6	58.2	62.7	63.7	60.3	58.8	58.3	60.4	57.0	60.6	59.6	60.0	56.0	56.4
Daily Min	66.5	61.1	57.1	54.5	53.7	56.3	57.5	55.7	53.8	52.4	54.8	51.6	53.2	52.8	50.0	51.9
Average	69.2	63.4	60.9	56.0	57.5	59.3	59.4	56.9	55.8	56.1	55.5	55.7	56.3	55.9	53.6	53.6

Monthly average temp (F): 56.1
License Maximum Monthly Average: 63ºF

Dead River at County Road AAO Bridge - September 2010 Temperature Monitoring Data

Time HHMMSS	9/17/2010	9/18/2010	9/19/2010	9/20/2010	9/21/2010	9/22/2010	9/23/2010	9/24/2010	9/25/2010	9/26/2010	9/27/2010	9/28/2010	9/29/2010	9/30/2010
0	53.2	54.1	53.5	53.6	53.8	55.9	55.7	55.3	54.6	51.8	52.2	53.7	53.0	53.9
10000	52.8	54.1	53.1	53.1	53.8	55.4	55.4	54.7	54.3	51.6	51.9	53.5	53.0	53.7
20000	52.5	54.1	52.7	52.7	53.9	55.0	55.1	54.2	54.0	51.3	51.7	53.4	52.9	53.5
30000	52.2	54.0	52.4	52.4	54.0	54.5	54.9	54.1	53.7	51.1	51.4	53.3	52.8	53.4
40000	52.0	53.9	52.1	52.1	54.2	54.2	54.8	54.1	53.5	50.8	51.2	53.3	52.8	53.3
50000	51.8	53.8	51.8	51.8	54.5	53.8	54.7	54.2	53.2	50.6	51.0	53.3	52.6	53.2
60000	51.7	53.6	51.6	51.5	54.7	53.4	54.7	54.3	53.1	50.3	50.8	53.4	52.4	53.0
70000	51.6	53.5	51.5	51.3	54.9	53.0	54.6	54.5	52.9	50.2	50.6	53.4	52.4	52.9
80000	51.6	53.2	51.4	51.1	55.1	52.6	54.6	54.6	52.8	50.0	50.5	53.4	52.4	52.9
90000	51.8	53.0	51.5	51.0	55.3	52.4	54.6	54.8	52.7	49.9	50.3	53.4	52.5	53.0
100000	52.1	52.9	51.9	51.3	55.5	52.7	54.7	55.0	52.6	50.2	50.5	53.5	52.6	53.3
110000	52.4	53.2	52.5	52.1	55.9	53.8	54.8	55.1	52.7	50.6	51.1	53.6	52.8	53.7
120000	53.1	53.9	53.4	53.2	56.2	55.1	55.1	55.3	52.9	51.3	52.1	53.7	53.7	54.3
130000	53.8	55.0	54.4	54.5	57.0	55.7	55.4	55.6	53.2	52.1	53.1	53.8	54.8	54.8
140000	54.4	56.3	55.6	56.0	58.2	57.2	55.6	56.4	53.3	53.0	54.0	53.8	55.7	55.3
150000	54.7	57.3	56.7	56.9	59.5	59.3	55.6	56.6	53.6	53.7	54.9	53.9	56.3	55.7
160000	54.8	58.0	57.5	56.6	60.5	59.9	55.7	56.5	53.9	54.2	55.2	53.9	56.6	55.7
170000	54.7	58.1	58.0	56.3	61.1	60.2	55.8	56.4	54.1	54.3	55.3	53.9	56.2	55.4
180000	54.7	57.7	57.7	55.9	61.2	59.8	55.8	56.3	53.7	54.1	55.0	53.8	55.8	55.3
190000	54.7	56.9	56.8	55.5	60.7	58.9	55.8	56.0	53.4	53.6	54.9	53.7	55.5	54.8
200000	54.6	55.9	56.0	55.0	59.4	58.0	55.7	55.7	53.0	53.3	54.7	53.5	55.1	54.2
210000	54.5	55.1	55.2	54.6	58.3	57.3	55.7	55.4	52.7	53.0	54.5	53.3	54.7	53.8
220000	54.4	54.5	54.6	54.2	57.4	56.7	55.7	55.2	52.4	52.7	54.2	53.2	54.4	53.5
230000	54.2	54.0	54.1	54.0	56.6	56.2	55.6	54.9	52.1	52.4	53.9	53.1	54.1	53.1
Daily Max	54.8	58.1	58.0	56.9	61.2	60.2	55.8	56.6	54.6	54.3	55.3	53.9	56.6	55.7
Daily Min	51.6	52.9	51.4	51.0	53.8	52.4	54.6	54.1	52.1	49.9	50.3	53.1	52.4	52.9
Average	53.3	54.8	54.0	53.6	56.7	55.9	55.3	55.2	53.3	51.9	52.7	53.5	54.0	54.0

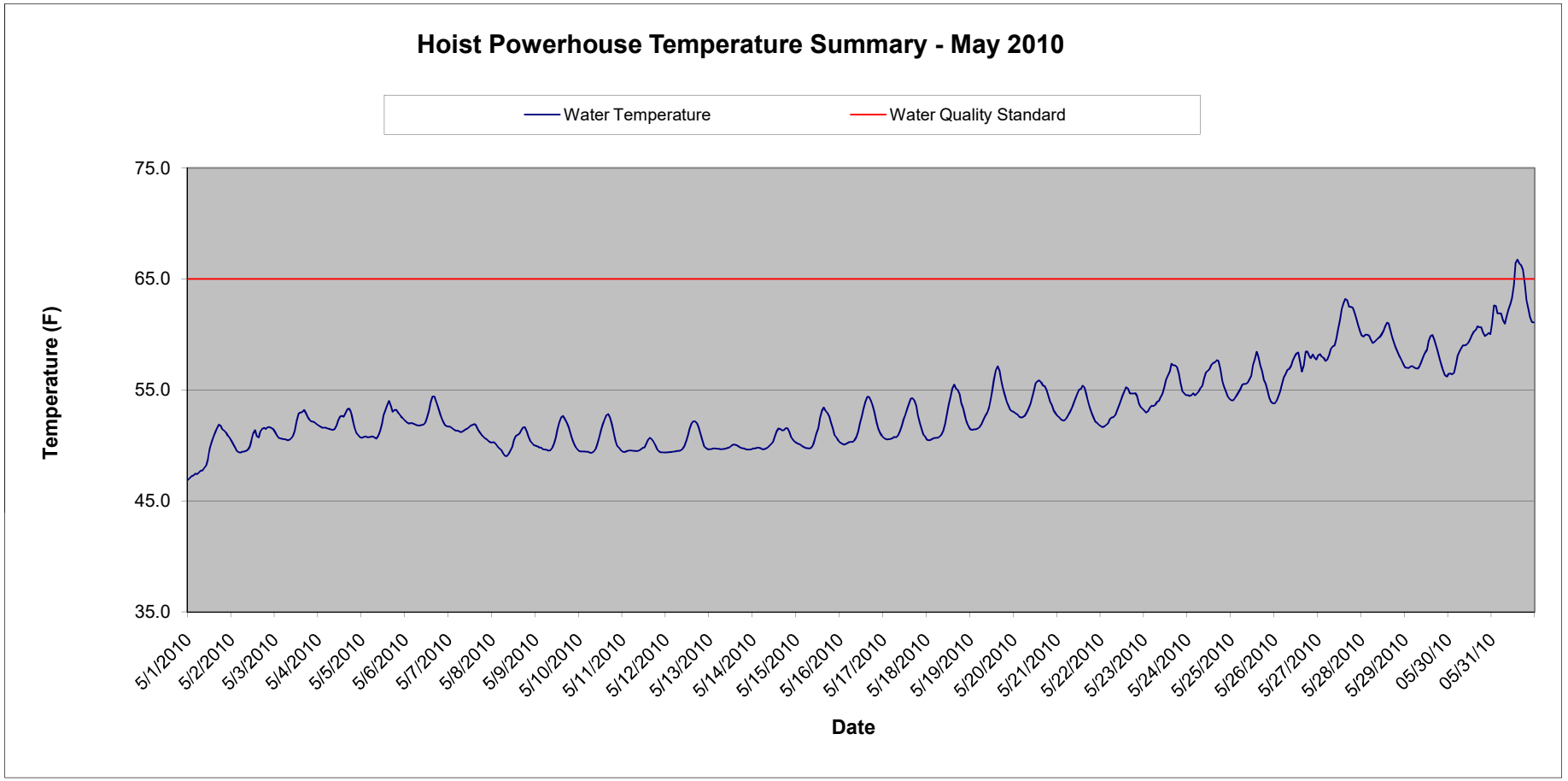
Dead River at County Road AAO Bridge - October 2010 Temperature Monitoring Data

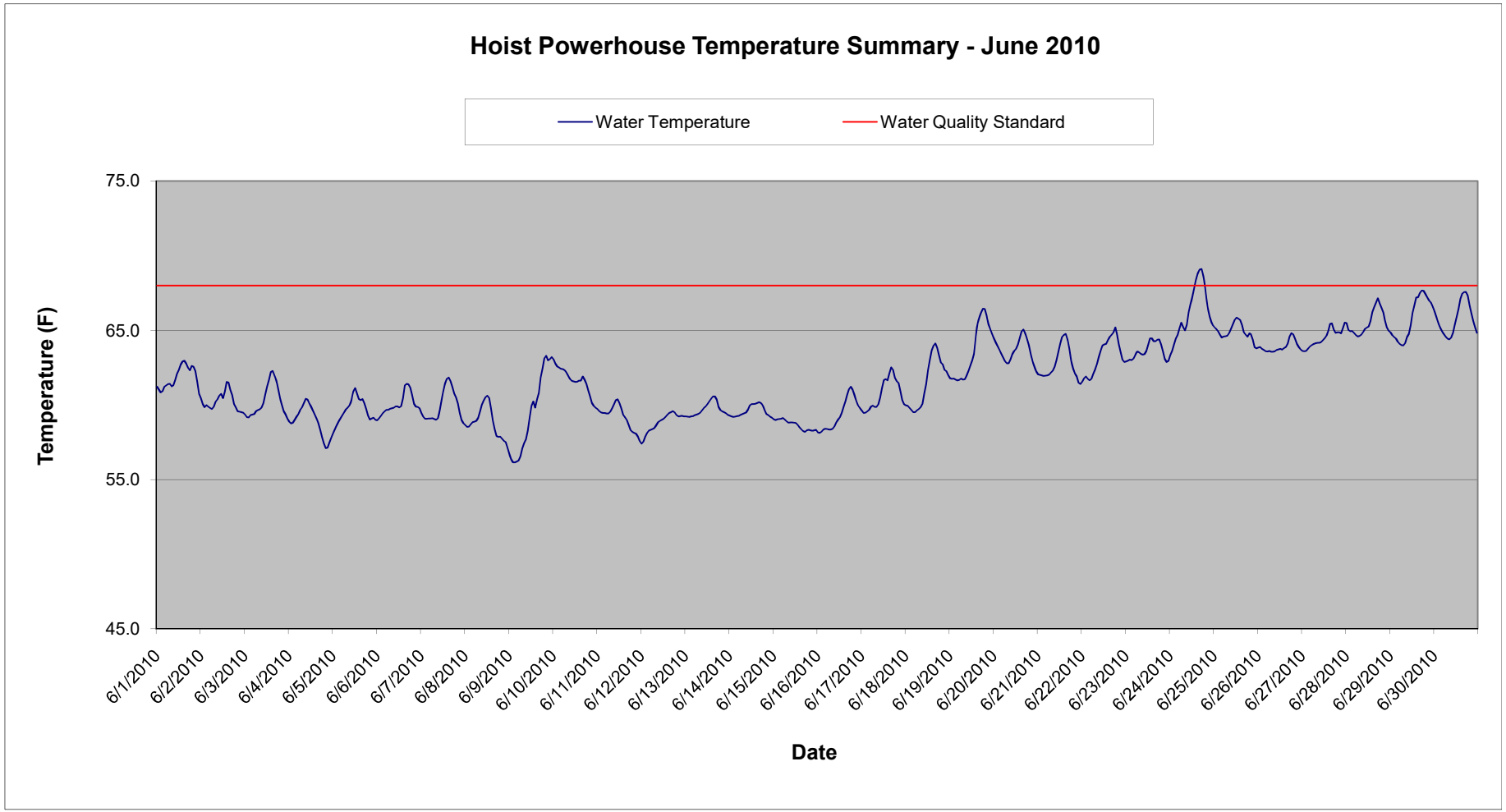
Time HHMMSS	10/1/2010	10/2/2010	10/3/2010	10/4/2010	10/5/2010	10/6/2010	10/7/2010	10/8/2010	10/9/2010	10/10/2010	10/11/2010	10/12/2010	10/13/2010	10/14/2010	10/15/2010	10/16/2010 #
0	52.8	52.0	49.7	49.7	48.1	49.0	49.7	50.8	52.6	52.2	52.6	50.9	53.0	49.6	48.5	48.2
10000	52.5	51.7	49.4	49.5	47.7	48.4	49.2	50.3	52.2	51.7	51.9	50.3	52.6	49.0	48.3	47.7
20000	52.3	51.6	49.2	49.4	47.2	47.9	48.9	49.9	51.7	51.2	51.4	49.8	52.2	48.5	48.2	47.1
30000	52.0	51.4	49.0	49.2	46.7	47.4	48.5	49.5	51.4	50.7	50.8	49.4	51.7	48.0	48.1	46.6
40000	51.8	51.2	48.8	49.0	46.4	46.9	48.2	49.2	51.0	50.3	50.4	49.0	51.2	47.5	48.0	46.1
50000	51.6	51.0	48.6	48.9	46.0	46.4	47.9	48.8	50.6	49.9	50.2	48.5	50.8	47.0	48.0	45.6
60000	51.5	50.8	48.4	48.7	45.7	46.1	47.7	48.5	50.3	49.5	50.0	48.1	50.4	46.7	47.9	45.2
70000	51.4	50.6	48.2	48.6	45.4	45.8	47.4	48.2	50.0	49.2	49.9	47.7	50.0	46.4	47.9	44.8
80000	51.4	50.4	47.9	48.5	45.2	45.6	47.2	48.0	49.7	48.9	49.7	47.4	49.6	46.2	47.7	44.5
90000	51.4	50.4	47.8	48.4	45.1	45.6	47.0	47.9	49.4	48.7	49.7	47.2	49.3	46.1	47.6	44.3
100000	51.6	50.4	47.9	48.6	45.3	46.0	47.3	48.1	49.5	48.9	49.8	47.3	49.3	46.2	47.8	44.5
110000	51.9	50.5	48.5	49.2	46.1	46.9	48.1	49.0	50.2	49.7	50.2	48.1	49.9	46.6	48.3	45.2
120000	52.7	50.8	49.4	50.3	47.1	48.2	49.1	50.1	51.1	50.8	51.0	49.2	50.8	47.1	48.9	46.3
130000	53.4	50.9	50.6	51.5	48.2	49.2	50.1	51.3	52.1	52.0	52.2	50.1	51.7	47.5	49.3	47.4
140000	53.8	51.5	51.6	52.6	49.5	50.6	51.4	52.6	53.2	53.2	53.4	51.3	52.5	48.0	49.7	48.5
150000	54.2	52.2	52.4	52.9	50.8	51.9	52.6	53.9	54.3	54.5	54.3	52.4	53.2	48.6	50.3	49.7
160000	54.2	52.3	52.7	52.6	51.9	52.8	53.5	55.0	55.1	54.5	54.5	53.4	53.7	49.0	51.2	50.8
170000	54.0	52.2	52.7	52.4	52.5	53.3	54.0	55.6	55.6	55.2	54.4	54.1	53.9	49.2	51.5	51.3
180000	53.9	51.9	52.1	51.9	52.5	53.3	54.1	55.7	55.6	55.7	54.2	54.3	53.6	49.2	51.3	51.2
190000	53.5	51.3	51.5	51.3	52.1	52.9	53.8	55.5	55.2	55.7	53.8	54.3	53.1	49.3	50.9	50.9
200000	53.0	50.9	51.1	50.6	51.4	52.2	53.2	55.0	54.6	55.2	53.3	54.1	52.4	49.1	50.4	50.4
210000	52.6	50.4	50.7	49.8	50.8	51.4	52.5	54.3	53.9	54.5	52.7	53.8	51.7	49.0	49.9	49.8
220000	52.4	50.1	50.3	49.2	50.1	50.8	51.8	53.7	53.3	53.8	52.1	53.5	50.9	48.8	49.4	49.1
230000	52.1	49.9	49.9	48.6	49.5	50.2	51.2	53.1	52.8	53.2	51.4	53.3	50.2	48.7	48.8	48.4
Daily Max	54.2	52.3	52.7	52.9	52.5	53.3	54.1	55.7	55.6	55.7	54.5	54.3	53.9	49.6	51.5	51.3
Daily Min	51.4	49.9	47.8	48.4	45.1	45.6	47.0	47.9	49.4	48.7	49.7	47.2	49.3	46.1	47.6	44.3
Average	52.6	51.1	49.9	50.1	48.4	49.1	50.2	51.4	52.3	52.1	51.8	50.7	51.6	48.0	49.1	47.7

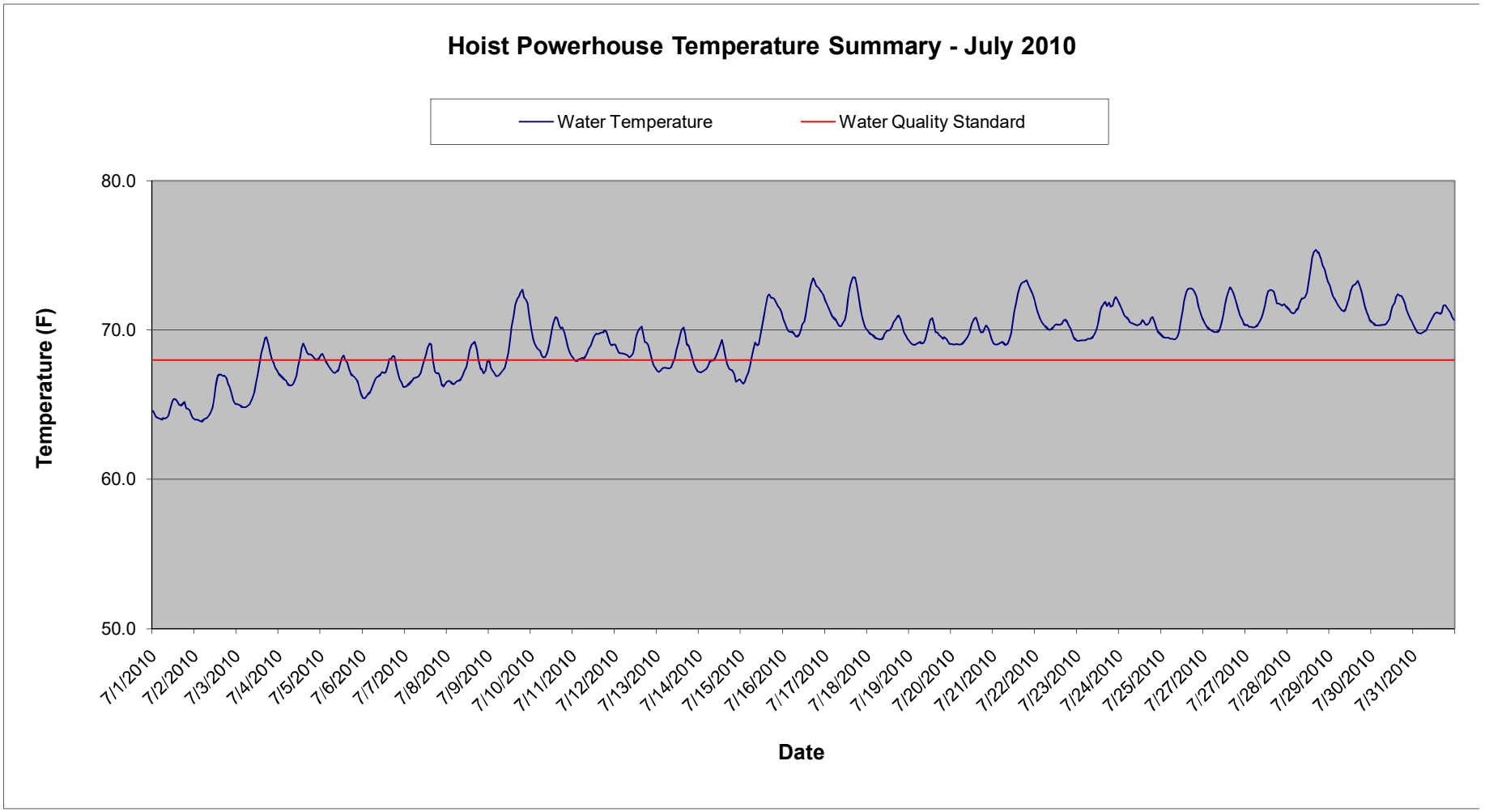
Monthly average temp (F): 47.7
License Maximum Monthly Average: 56ºF

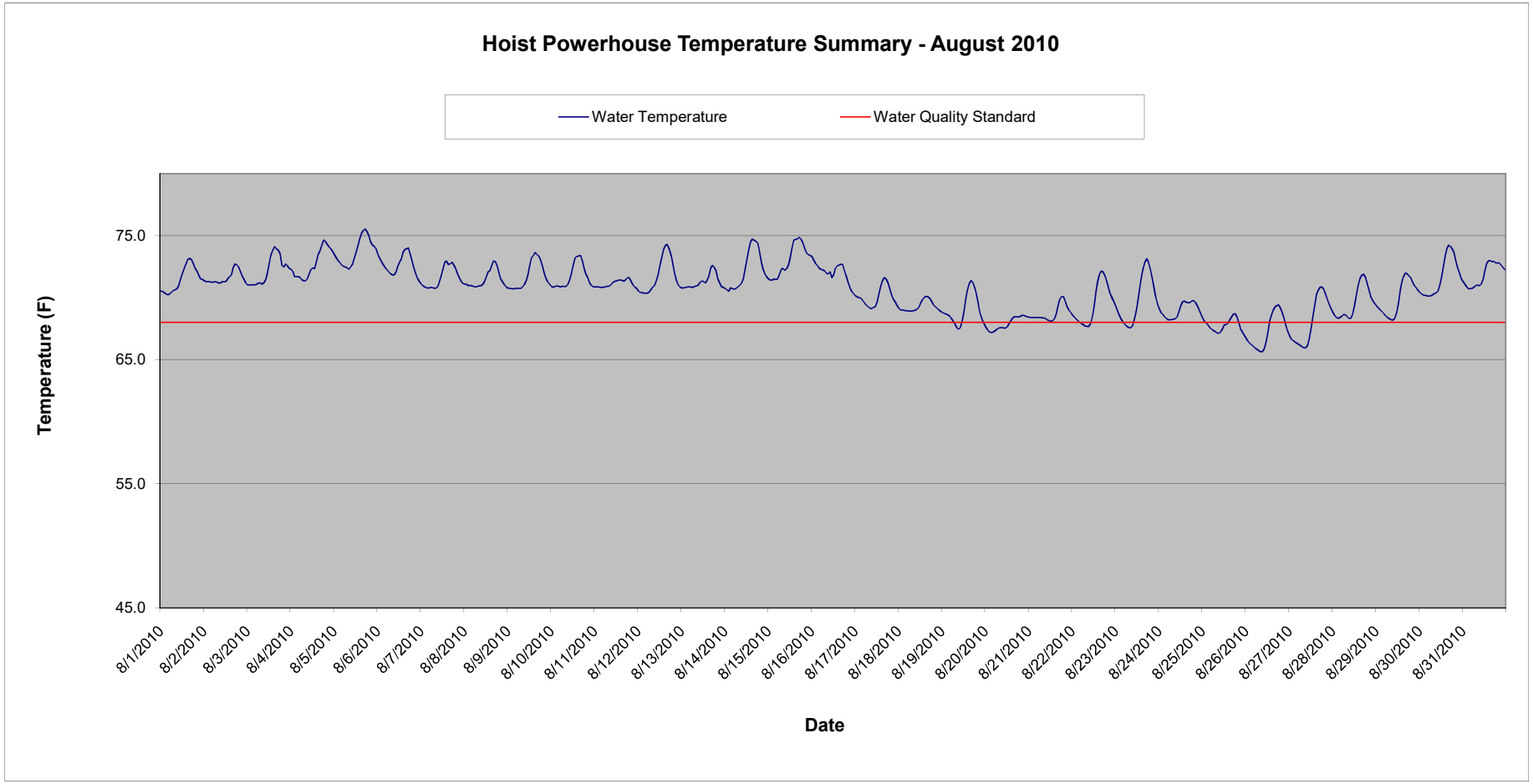
Dead River at County Road AAO Bridge - October 2010 Temperature Monitoring Data

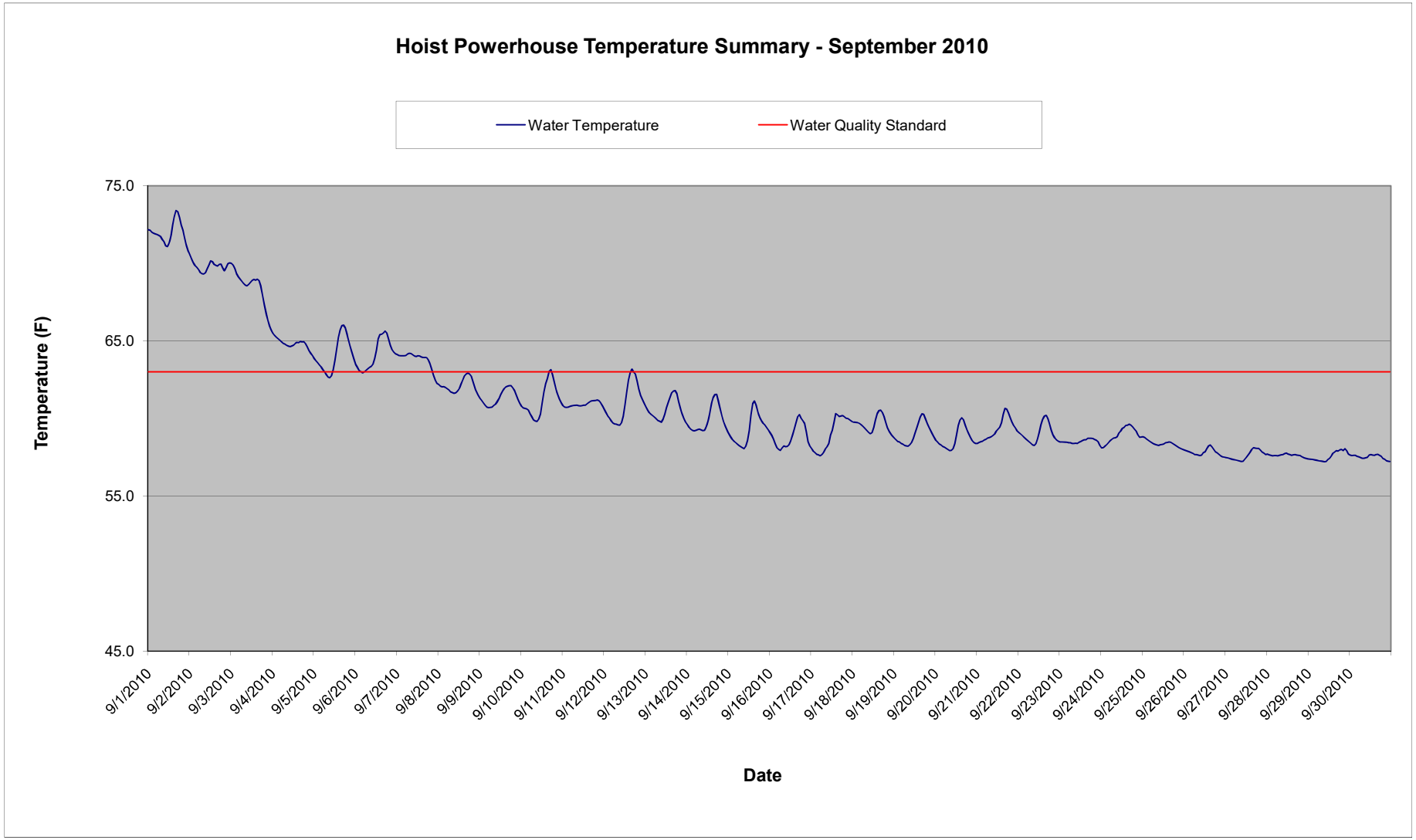
Time HHMMSS	10/18/2010	10/19/2010	10/20/2010	10/21/2010	10/22/2010	10/23/2010	10/24/2010	10/25/2010	10/26/2010	10/27/2010	10/28/2010	10/29/2010	10/30/2010	10/31/2010
0	45.6	44.9	44.6	44.9	42.9	43.8	44.8	45.6	48.0	47.7	44.6	42.5	41.8	40.6
10000	45.1	44.3	44.4	44.6	42.5	43.3	44.7	45.5	48.0	47.5	44.5	42.4	41.7	40.4
20000	44.7	43.8	44.1	44.4	42.1	42.9	44.6	45.4	48.0	47.3	44.4	42.2	41.6	40.2
30000	44.3	43.4	43.9	44.2	41.7	42.5	44.6	45.4	48.0	47.0	44.3	42.2	41.6	40.1
40000	44.0	43.0	43.8	44.0	41.4	42.2	44.6	45.3	48.0	46.8	44.2	42.0	41.5	40.0
50000	43.7	42.7	43.7	43.7	41.3	41.9	44.6	45.3	48.0	46.6	44.0	41.7	41.5	39.9
60000	43.5	42.5	43.7	43.4	41.2	41.6	44.6	45.3	48.2	46.3	43.9	41.5	41.3	39.8
70000	43.3	42.3	43.6	43.3	41.1	41.4	44.6	45.3	48.4	46.0	43.7	41.3	41.3	39.8
80000	43.1	42.1	43.3	42.9	41.0	41.2	44.6	45.3	48.6	45.7	43.6	41.2	41.3	39.8
90000	43.0	42.0	43.2	42.6	41.0	41.1	44.7	45.3	48.8	45.5	43.5	41.0	41.2	39.8
100000	43.1	42.2	43.4	42.5	41.2	41.3	44.8	45.4	49.1	45.3	43.4	40.8	41.3	39.9
110000	43.6	42.8	44.0	42.7	41.6	41.9	44.9	45.6	49.5	45.2	43.5	40.9	41.3	40.3
120000	44.6	43.3	45.0	43.1	42.1	42.4	45.0	46.1	49.8	45.2	43.8	41.3	41.5	40.5
130000	45.6	43.9	46.0	43.7	43.3	42.9	45.2	46.4	50.2	45.2	44.0	41.7	41.8	41.0
140000	46.5	45.0	46.9	44.2	44.7	43.4	45.3	47.1	50.5	45.4	44.3	42.5	42.3	41.4
150000	45.6	46.0	47.4	45.2	45.7	43.9	45.5	47.7	50.9	45.4	44.2	42.9	42.5	41.7
160000	47.4	46.9	47.6	45.4	46.4	44.4	45.8	48.2	51.1	45.2	44.2	43.0	42.9	42.0
170000	48.2	47.1	47.4	45.3	46.7	44.7	45.8	48.5	50.8	45.4	44.1	42.8	42.9	42.1
180000	48.3	46.9	47.3	44.9	46.6	44.8	45.8	48.7	50.4	45.3	43.9	42.6	42.5	41.9
190000	48.0	46.7	46.9	44.6	46.4	44.8	45.8	48.7	49.9	45.1	43.6	42.3	41.9	41.6
200000	47.5	46.4	46.4	44.3	45.9	44.9	45.8	48.6	49.3	44.9	43.3	42.1	41.5	41.4
210000	46.8	46.0	46.0	44.0	45.3	44.9	45.8	48.4	48.7	44.8	43.1	41.9	41.2	41.3
220000	46.1	45.6	45.6	43.7	44.8	44.9	45.8	48.2	48.3	44.7	42.9	41.8	41.0	41.1
230000	45.4	45.1	45.3	43.3	44.3	44.9	45.7	48.1	48.0	44.7	42.7	41.8	40.7	40.9
Daily Max	48.3	47.1	47.6	45.4	46.7	44.9	45.8	48.7	51.1	47.7	44.6	43.0	42.9	42.1
Daily Min	43.0	42.0	43.2	42.5	41.0	41.1	44.6	45.3	48.0	44.7	42.7	40.8	40.7	39.8
Average	45.3	44.4	45.1	44.0	43.4	43.2	45.1	46.6	49.1	45.8	43.8	41.9	41.7	40.7

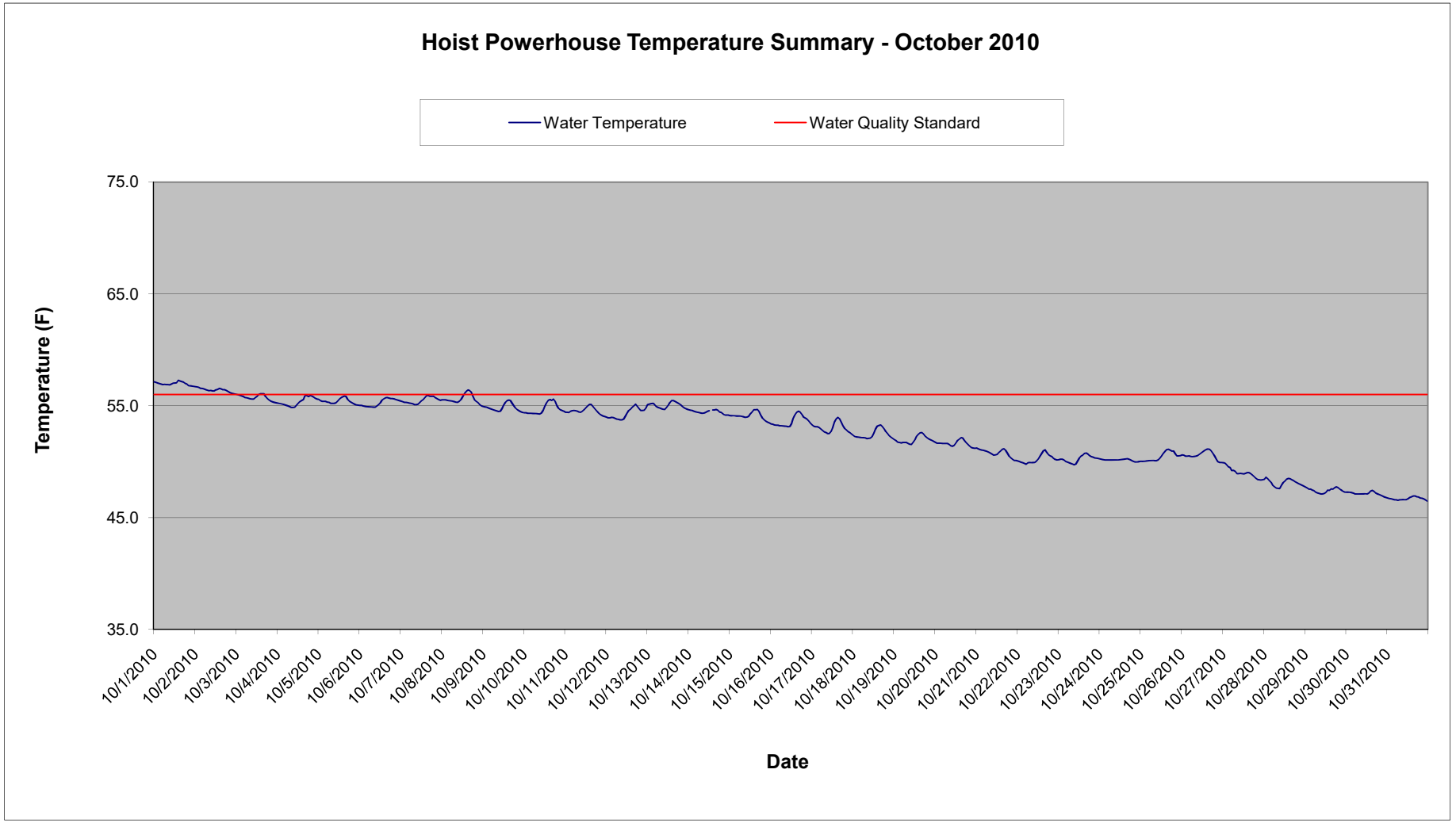












Dead River Below Hoist Powerhouse - May 2010 Temperature Monitoring Data

Time HHMMSS	5/1/2010	5/2/2010	5/3/2010	5/4/2010	5/5/2010	5/6/2010	5/7/2010	5/8/2010	5/9/2010	5/10/2010	5/11/2010	5/12/2010	5/13/2010	5/14/2010	5/15/2010	5/16/2010
0	46.9	50.4	51.2	51.8	50.7	52.2	51.7	50.3	50.0	49.5	49.4	49.4	49.6	49.7	50.2	50.3
10000	47.1	50.1	50.9	51.7	50.8	52.1	51.7	50.3	49.9	49.5	49.4	49.4	49.7	49.7	50.1	50.2
20000	47.2	49.8	50.7	51.6	50.8	52.0	51.5	50.1	49.8	49.4	49.5	49.4	49.7	49.8	50.1	50.1
30000	47.3	49.5	50.6	51.6	50.7	52.0	51.4	49.9	49.8	49.5	49.5	49.4	49.7	49.8	49.9	50.1
40000	47.4	49.4	50.6	51.6	50.7	52.0	51.3	49.7	49.7	49.4	49.6	49.5	49.7	49.7	49.8	50.2
50000	47.4	49.4	50.6	51.5	50.8	51.9	51.3	49.6	49.6	49.4	49.5	49.5	49.7	49.7	49.8	50.3
60000	47.6	49.4	50.5	51.5	50.8	51.8	51.2	49.2	49.6	49.3	49.5	49.5	49.7	49.7	49.7	50.3
70000	47.7	49.4	50.5	51.4	50.7	51.8	51.2	49.1	49.5	49.3	49.5	49.5	49.7	49.7	49.7	50.3
80000	47.7	49.5	50.5	51.4	50.6	51.8	51.3	49.0	49.6	49.4	49.5	49.6	49.7	49.8	49.8	50.5
90000	48.0	49.6	50.6	51.5	50.8	51.8	51.4	49.2	49.8	49.7	49.5	49.7	49.7	50.0	50.0	50.8
100000	48.2	49.9	50.9	51.8	51.3	51.9	51.5	49.5	50.1	50.1	49.7	49.9	49.8	50.1	50.6	51.3
110000	48.7	50.4	51.3	52.3	51.9	52.1	51.6	49.9	50.7	50.7	49.8	50.4	49.8	50.3	51.1	52.0
120000	49.7	51.1	52.2	52.6	52.7	52.5	51.8	50.5	51.4	51.3	49.8	50.9	50.0	50.8	51.6	52.6
130000	50.3	51.4	52.8	52.6	53.2	53.1	51.8	50.8	52.1	51.9	50.1	51.5	50.1	51.3	52.4	53.3
140000	50.7	50.8	53.0	52.6	53.6	53.9	51.9	51.0	52.5	52.3	50.5	52.0	50.1	51.5	53.1	53.9
150000	51.2	50.7	53.0	52.9	54.0	54.4	51.8	51.1	52.6	52.7	50.7	52.2	50.0	51.5	53.4	54.4
160000	51.5	51.2	53.2	53.3	53.5	54.4	51.4	51.4	52.4	52.8	50.6	52.2	49.9	51.4	53.1	54.4
170000	51.9	51.5	53.0	53.3	53.0	54.0	51.2	51.6	52.1	52.5	50.3	52.0	49.8	51.4	52.9	54.0
180000	51.8	51.6	52.6	53.0	53.2	53.5	51.0	51.6	51.7	51.9	50.0	51.6	49.7	51.5	52.6	53.5
190000	51.4	51.5	52.3	52.3	53.2	52.9	50.8	51.3	51.2	51.2	49.7	51.0	49.7	51.5	52.1	53.0
200000	51.3	51.6	52.2	51.6	53.0	52.5	50.6	50.8	50.6	50.5	49.4	50.4	49.7	51.2	51.5	52.2
210000	51.1	51.6	52.1	51.1	52.8	52.1	50.5	50.4	50.2	49.9	49.4	49.9	49.6	50.8	50.9	51.6
220000	50.9	51.6	52.1	50.9	52.5	51.8	50.4	50.2	49.9	49.8	49.4	49.7	49.6	50.5	50.7	51.2
230000	50.7	51.5	51.9	50.7	52.4	51.7	50.3	50.0	49.7	49.6	49.4	49.6	49.7	50.3	50.4	50.9
Daily Max	51.9	51.6	53.2	53.3	54.0	54.4	51.9	51.6	52.6	52.8	50.7	52.2	50.1	51.5	53.4	54.4
Daily Min	46.9	49.4	50.5	50.7	50.6	51.7	50.3	49.0	49.5	49.3	49.4	49.4	49.6	49.7	49.7	50.1
Average	49.3	50.5	51.6	51.9	52.0	52.5	51.3	50.3	50.6	50.5	49.7	50.3	49.8	50.5	51.1	51.7

Monthly average temp (F): 53.4
License Max. Average Temperature: 65ºF

Dead River Below Hoist Powerhouse - May 2010 Temperature Monitoring Data

Time HHMMSS	5/17/2010	5/18/2010	5/19/2010	5/20/2010	5/21/2010	5/22/2010	5/23/2010	5/24/2010	5/25/2010	5/26/2010	5/27/2010	5/28/2010	5/29/2010	5/30/2010	5/31/2010
0	50.7	50.5	51.5	53.0	52.7	51.7	53.1	54.5	54.1	53.8	58.1	59.9	57.0	56.4	61.0
10000	50.6	50.5	51.4	52.9	52.5	51.6	53.0	54.5	54.1	54.0	58.2	59.8	57.0	56.5	62.6
20000	50.5	50.5	51.4	52.8	52.3	51.7	53.1	54.5	54.3	54.4	58.0	60.0	57.0	56.4	62.6
30000	50.6	50.6	51.5	52.6	52.2	51.9	53.4	54.7	54.5	54.9	57.9	60.0	57.1	56.6	61.9
40000	50.6	50.6	51.5	52.5	52.3	52.0	53.6	54.5	54.8	55.5	57.6	59.9	57.1	57.3	61.9
50000	50.7	50.7	51.6	52.6	52.5	52.4	53.5	54.7	55.1	56.1	57.7	59.5	57.0	58.1	61.9
60000	50.8	50.7	51.9	52.6	52.7	52.5	53.7	54.9	55.5	56.4	58.2	59.2	56.9	58.5	61.3
70000	50.7	50.8	52.3	53.0	53.0	52.6	53.9	55.2	55.5	56.8	58.7	59.3	56.9	58.8	61.0
80000	50.9	51.0	52.6	53.3	53.4	52.8	54.0	55.4	55.5	56.9	58.9	59.5	57.1	59.0	61.6
90000	51.2	51.3	52.9	53.7	53.8	53.2	54.3	56.0	55.7	57.2	59.0	59.6	57.6	59.0	62.2
100000	51.7	52.0	53.3	54.2	54.2	53.6	54.6	56.6	55.9	57.7	59.6	59.7	58.0	59.1	62.7
110000	52.3	52.8	54.0	54.9	54.7	54.1	55.3	56.7	56.3	58.0	60.5	60.0	58.3	59.3	63.3
120000	52.7	53.7	54.9	55.6	55.0	54.5	55.9	56.9	57.2	58.3	61.4	60.3	58.6	59.6	64.5
130000	53.3	54.4	56.0	55.8	55.1	54.9	56.3	57.3	57.8	58.4	62.3	60.7	59.4	60.0	66.4
140000	53.7	55.1	56.8	55.9	55.4	55.2	56.7	57.4	58.4	57.5	62.9	61.1	59.8	60.3	66.7
150000	54.2	55.5	57.1	55.7	55.2	55.1	57.4	57.5	58.0	56.6	63.2	61.0	59.9	60.4	66.4
160000	54.2	55.1	56.7	55.4	54.6	54.7	57.2	57.7	57.2	57.2	63.1	60.3	59.6	60.7	66.3
170000	54.1	55.0	55.8	55.3	53.9	54.7	57.2	57.6	56.6	58.4	62.5	59.6	59.0	60.6	65.8
180000	53.6	54.6	55.1	55.0	53.3	54.7	57.1	56.9	55.9	58.5	62.5	59.2	58.5	60.7	64.5
190000	52.7	53.8	54.6	54.5	52.9	54.7	56.5	55.8	55.5	58.1	62.4	58.7	57.8	60.2	63.1
200000	52.0	53.3	53.9	53.9	52.5	54.4	55.6	55.3	55.0	57.8	62.0	58.3	57.2	59.8	62.3
210000	51.4	52.6	53.5	53.6	52.1	53.8	54.9	54.9	54.3	58.2	61.4	58.0	56.7	60.0	61.5
220000	51.0	52.1	53.2	53.2	52.0	53.5	54.7	54.4	53.9	57.9	60.8	57.7	56.3	60.1	61.1
230000	50.8	51.7	53.1	52.9	51.8	53.3	54.5	54.2	53.8	57.7	60.4	57.3	56.2	60.0	61.1
Daily Max	54.2	55.5	57.1	55.9	55.4	55.2	57.4	57.7	58.4	58.5	63.2	61.1	59.9	60.7	66.7
Daily Min	50.5	50.5	51.4	52.5	51.8	51.6	53.0	54.2	53.8	53.8	57.6	57.3	56.2	56.4	61.0
Average	51.9	52.4	53.6	53.9	53.3	53.5	55.0	55.7	55.6	56.9	60.3	59.5	57.8	59.1	63.1

Dead River Below Hoist Powerhouse - June 2010 Temperature Monitoring Data

Time HHMMSS	6/1/2010	6/2/2010	6/3/2010	6/4/2010	6/5/2010	6/6/2010	6/7/2010	6/8/2010	6/9/2010	6/10/2010	6/11/2010	6/12/2010	6/13/2010	6/14/2010	6/15/2010	6/16/2010
0	61.2	60.4	59.4	58.9	58.1	59.0	59.5	58.7	56.7	63.1	59.7	57.4	59.2	59.3	59.0	58.2
10000	61.0	60.1	59.2	58.7	58.4	59.1	59.2	58.5	56.4	62.8	59.6	57.5	59.2	59.2	59.0	58.1
20000	60.8	59.8	59.2	58.8	58.7	59.3	59.1	58.6	56.2	62.6	59.5	57.9	59.2	59.2	59.0	58.2
30000	60.9	60.0	59.3	59.0	58.9	59.5	59.1	58.7	56.2	62.5	59.5	58.1	59.2	59.2	59.1	58.4
40000	61.2	59.9	59.4	59.2	59.1	59.6	59.1	58.8	56.2	62.4	59.5	58.3	59.3	59.3	59.1	58.4
50000	61.3	59.8	59.4	59.4	59.3	59.7	59.1	58.9	56.3	62.4	59.4	58.3	59.3	59.3	59.1	58.4
60000	61.4	59.7	59.6	59.7	59.5	59.7	59.1	58.9	56.6	62.3	59.4	58.4	59.4	59.3	59.0	58.4
70000	61.4	59.9	59.6	59.8	59.7	59.7	59.1	59.1	57.1	62.2	59.5	58.5	59.4	59.4	58.9	58.4
80000	61.2	60.2	59.7	60.1	59.8	59.8	59.0	59.5	57.4	61.9	59.8	58.7	59.5	59.5	58.8	58.4
90000	61.3	60.4	59.8	60.4	60.0	59.8	59.1	60.0	57.7	61.7	60.0	58.8	59.6	59.5	58.8	58.6
100000	61.7	60.6	60.1	60.4	60.3	59.9	59.6	60.3	58.3	61.6	60.3	58.9	59.8	59.7	58.8	58.8
110000	62.1	60.7	60.7	60.1	60.9	59.9	60.3	60.5	59.1	61.6	60.4	59.0	59.9	60.0	58.8	59.0
120000	62.3	60.4	61.2	59.9	61.1	59.8	60.9	60.6	59.9	61.5	60.1	59.1	60.1	60.1	58.8	59.2
130000	62.7	60.9	61.7	59.6	60.8	59.9	61.4	60.5	60.2	61.6	59.8	59.2	60.3	60.1	58.7	59.5
140000	62.9	61.5	62.2	59.4	60.4	60.4	61.8	59.8	59.8	61.6	59.3	59.3	60.4	60.1	58.5	59.9
150000	63.0	61.5	62.3	59.1	60.3	61.3	61.8	58.9	60.4	61.6	59.2	59.5	60.6	60.1	58.4	60.3
160000	62.8	61.0	62.0	58.8	60.4	61.4	61.6	58.4	60.8	61.9	59.0	59.5	60.6	60.2	58.2	60.7
170000	62.5	60.7	61.6	58.3	60.1	61.4	61.2	57.9	61.8	61.7	58.7	59.6	60.4	60.1	58.2	61.1
180000	62.3	60.1	61.1	57.8	59.7	61.1	60.8	57.9	62.4	61.4	58.3	59.5	59.9	60.0	58.3	61.2
190000	62.6	59.8	60.5	57.4	59.3	60.6	60.5	57.9	63.1	61.0	58.2	59.3	59.6	59.7	58.3	61.0
200000	62.6	59.6	60.0	57.1	59.0	60.1	60.1	57.7	63.3	60.6	58.1	59.2	59.6	59.4	58.3	60.7
210000	62.3	59.5	59.6	57.1	59.1	59.9	59.5	57.6	63.0	60.1	58.1	59.3	59.5	59.3	58.3	60.3
220000	61.6	59.5	59.4	57.5	59.1	59.9	59.0	57.5	63.1	59.9	57.9	59.3	59.5	59.2	58.3	60.0
230000	60.7	59.5	59.1	57.8	59.0	59.8	58.8	57.1	63.2	59.8	57.6	59.2	59.3	59.1	58.3	59.8
Daily Max	63.0	61.5	62.3	60.4	61.1	61.4	61.8	60.6	63.3	63.1	60.4	59.6	60.6	60.2	59.1	61.2
Daily Min	60.7	59.5	59.1	57.1	58.1	59.0	58.8	57.1	56.2	59.8	57.6	57.4	59.2	59.1	58.2	58.1
Average	61.8	60.2	60.2	58.9	59.6	60.0	59.9	58.8	59.4	61.7	59.2	58.8	59.7	59.6	58.7	59.4

Monthly average temp (F): 61.7
License Max. Average Temperature: 68 F

Dead River Below Hoist Powerhouse - June 2010 Temperature Monitoring Data

Time HHMMSS	6/17/2010	6/18/2010	6/19/2010	6/20/2010	6/21/2010	6/22/2010	6/23/2010	6/24/2010	6/25/2010	6/26/2010	6/27/2010	6/28/2010	6/29/2010	6/30/2010
0	59.6	60.0	61.8	64.4	62.0	61.6	62.9	63.3	65.2	63.8	63.6	65.5	64.9	66.3
10000	59.5	59.9	61.8	64.2	62.0	61.8	63.0	63.6	65.1	63.9	63.6	65.0	64.7	65.9
20000	59.5	59.8	61.8	63.9	62.0	61.9	63.0	64.0	64.9	63.8	63.6	64.9	64.5	65.5
30000	59.6	59.6	61.7	63.7	61.9	61.8	63.0	64.4	64.7	63.7	63.8	65.0	64.4	65.2
40000	59.7	59.5	61.6	63.4	62.0	61.6	63.1	64.7	64.5	63.6	63.9	64.8	64.2	64.9
50000	59.9	59.5	61.7	63.2	62.0	61.8	63.4	65.1	64.6	63.6	64.0	64.7	64.1	64.7
60000	60.0	59.6	61.8	62.9	62.0	62.1	63.6	65.5	64.6	63.6	64.1	64.6	64.0	64.6
70000	59.9	59.7	61.7	62.8	62.2	62.4	63.5	65.2	64.6	63.6	64.1	64.6	64.0	64.4
80000	59.9	59.8	61.7	62.8	62.3	62.7	63.4	65.0	64.8	63.6	64.2	64.7	64.1	64.4
90000	60.0	60.1	62.0	63.1	62.6	63.2	63.4	65.4	65.1	63.6	64.2	64.9	64.5	64.5
100000	60.5	60.8	62.3	63.4	63.0	63.6	63.4	66.2	65.4	63.7	64.2	65.1	64.8	64.8
110000	61.1	61.4	62.6	63.6	63.5	64.0	63.6	66.8	65.7	63.7	64.3	65.2	65.3	65.4
120000	61.7	62.3	63.0	63.8	64.1	64.1	64.0	67.3	65.8	63.8	64.5	65.2	66.2	65.9
130000	61.7	63.0	63.4	64.0	64.5	64.1	64.5	67.8	65.8	63.7	64.6	65.6	66.7	66.4
140000	61.6	63.6	64.6	64.5	64.7	64.3	64.5	68.4	65.7	63.8	64.9	66.2	67.2	67.1
150000	62.1	64.0	65.5	64.9	64.8	64.6	64.3	68.8	65.4	63.9	65.4	66.6	67.2	67.4
160000	62.5	64.1	65.9	65.0	64.4	64.7	64.3	69.1	64.9	64.1	65.5	66.8	67.5	67.6
170000	62.3	63.8	66.2	64.8	63.8	64.9	64.4	69.1	64.7	64.6	65.0	67.2	67.7	67.6
180000	61.8	63.3	66.5	64.4	63.0	65.2	64.4	68.6	64.6	64.8	64.8	66.8	67.6	67.3
190000	61.6	62.8	66.4	64.0	62.5	64.8	64.1	67.8	64.8	64.7	64.9	66.5	67.4	66.7
200000	61.5	62.7	66.0	63.4	62.1	64.1	63.6	66.8	64.7	64.4	64.9	66.2	67.2	66.1
210000	60.9	62.3	65.4	62.9	61.9	63.5	63.1	66.1	64.4	64.1	64.8	65.7	67.0	65.6
220000	60.3	62.3	65.1	62.6	61.5	63.0	62.9	65.7	63.9	63.9	65.1	65.2	66.8	65.2
230000	60.0	62.0	64.8	62.2	61.4	62.9	62.9	65.4	63.8	63.7	65.5	65.0	66.6	64.8
Daily Max	62.5	64.1	66.5	65.0	64.8	65.2	64.5	69.1	65.8	64.8	65.5	67.2	67.7	67.6
Daily Min	59.5	59.5	61.6	62.2	61.4	61.6	62.9	63.3	63.8	63.6	63.6	64.6	64.0	64.4
Average	60.7	61.5	63.5	63.7	62.7	63.3	63.6	66.3	64.9	63.9	64.5	65.5	65.8	65.8

Dead River Below Hoist Powerhouse - July 2010 Temperature Monitoring Data

Time HHMMSS	7/1/10	7/2/10	7/3/10	7/4/10	7/5/10	7/6/10	7/7/10	7/8/10	7/9/10	7/10/10	7/11/10	7/12/10	7/13/10	7/14/10	7/15/10	7/16/10
0	64.6	64.0	65.0	67.1	68.3	65.5	66.2	66.5	68.0	70.1	68.1	69.0	67.3	67.2	66.6	70.8
10000	64.4	64.0	65.0	67.0	68.4	65.4	66.3	66.6	67.5	69.5	67.9	68.8	67.2	67.2	66.4	70.4
20000	64.2	64.0	64.9	66.8	68.1	65.6	66.4	66.5	67.3	69.1	67.9	68.5	67.3	67.2	66.5	70.1
30000	64.1	63.9	64.9	66.7	67.9	65.7	66.5	66.4	67.1	68.9	68.0	68.4	67.4	67.3	66.8	69.9
40000	64.1	63.9	64.8	66.6	67.7	65.8	66.6	66.3	66.9	68.7	68.1	68.4	67.5	67.4	67.2	69.9
50000	64.0	64.0	64.8	66.4	67.5	66.1	66.8	66.5	66.9	68.6	68.1	68.4	67.5	67.6	67.6	69.9
60000	64.1	64.1	64.9	66.3	67.3	66.3	66.8	66.6	67.0	68.3	68.1	68.4	67.4	67.8	68.1	69.8
70000	64.1	64.1	65.0	66.3	67.2	66.7	66.8	66.6	67.2	68.2	68.2	68.3	67.4	68.0	68.8	69.6
80000	64.1	64.3	65.2	66.4	67.1	66.8	66.9	66.7	67.3	68.2	68.5	68.2	67.5	67.9	69.2	69.6
90000	64.3	64.5	65.4	66.6	67.2	66.9	67.2	67.0	67.5	68.4	68.7	68.2	67.8	68.1	69.0	69.7
100000	64.7	64.8	65.9	67.0	67.3	67.0	67.6	67.3	67.9	68.8	69.0	68.4	68.1	68.4	69.0	70.0
110000	65.2	65.4	66.5	67.6	67.7	67.2	67.9	67.5	68.5	69.4	69.3	68.9	68.7	68.6	69.6	70.4
120000	65.4	66.2	67.0	68.2	68.2	67.1	68.4	68.1	69.3	70.0	69.6	69.5	69.2	69.0	70.4	70.6
130000	65.4	66.9	67.8	68.8	68.3	67.2	68.8	68.7	70.2	70.6	69.8	69.9	69.6	69.3	70.9	71.1
140000	65.2	67.0	68.5	69.1	68.0	67.6	69.1	69.0	71.0	70.9	69.7	70.1	70.0	68.9	71.6	72.0
150000	65.0	67.0	69.0	68.8	67.8	68.1	69.0	69.1	71.7	70.8	69.7	70.3	70.2	68.2	72.3	72.6
160000	64.9	66.9	69.4	68.5	67.4	68.0	68.0	69.2	72.1	70.3	69.8	69.7	69.8	67.7	72.4	73.1
170000	65.0	67.0	69.5	68.4	67.0	68.3	67.2	68.7	72.2	70.1	69.8	69.2	69.1	67.4	72.1	73.5
180000	65.2	66.8	69.0	68.4	67.0	68.2	67.1	68.0	72.5	70.2	70.0	69.1	68.9	67.3	72.2	73.3
190000	64.8	66.4	68.5	68.3	66.9	67.7	67.1	67.4	72.7	69.8	69.9	69.0	68.6	67.3	72.1	73.0
200000	64.7	66.2	68.1	68.1	66.7	67.1	66.8	67.3	72.2	69.4	69.6	68.6	68.1	67.0	71.8	72.9
210000	64.6	65.7	67.8	68.0	66.6	66.7	66.3	67.1	72.0	68.8	69.1	68.0	67.7	66.5	71.6	72.7
220000	64.3	65.3	67.5	68.0	66.1	66.5	66.2	67.3	71.8	68.5	69.0	67.7	67.5	66.6	71.4	72.5
230000	64.1	65.0	67.3	68.1	65.7	66.2	66.4	67.9	71.0	68.3	69.0	67.4	67.2	66.7	71.2	72.3
Daily Max	65.4	67.0	69.5	69.1	68.4	68.3	69.1	69.2	72.7	70.9	70.0	70.3	70.2	69.3	72.4	73.5
Daily Min	64.0	63.9	64.8	66.3	65.7	65.4	66.2	66.3	66.9	68.2	67.9	67.4	67.2	66.5	66.4	69.6
Average	64.6	65.3	66.7	67.6	67.4	66.8	67.2	67.4	69.5	69.3	69.0	68.8	68.2	67.7	69.8	71.2

Monthly average temp (F): 69.3
License Max. Average Temperature: 68 F

Dead River Below Hoist Powerhouse - July 2010 Temperature Monitoring Data

Time HHMMSS	7/17/10	7/18/10	7/19/10	7/20/10	7/21/10	7/22/10	7/23/10	7/24/10	7/25/10	7/26/10	7/27/10	7/28/10	7/29/10	7/30/10	7/31/10
0	72.0	70.0	69.2	69.1	69.1	71.7	69.3	71.7	69.7	70.6	70.3	71.5	73.0	70.5	70.3
10000	71.7	69.8	69.1	69.0	69.0	71.3	69.3	71.5	69.5	70.4	70.3	71.3	72.6	70.4	70.1
20000	71.5	69.7	69.0	69.0	69.0	71.0	69.3	71.2	69.5	70.2	70.2	71.2	72.2	70.3	69.8
30000	71.1	69.7	69.0	69.1	69.1	70.7	69.3	71.0	69.5	70.1	70.2	71.1	72.1	70.3	69.8
40000	70.9	69.6	69.1	69.0	69.1	70.5	69.3	70.8	69.5	70.0	70.2	71.2	71.8	70.3	69.7
50000	70.8	69.5	69.2	69.0	69.2	70.3	69.4	70.7	69.4	69.9	70.2	71.3	71.6	70.3	69.8
60000	70.7	69.4	69.2	69.1	69.1	70.2	69.4	70.5	69.4	69.9	70.2	71.5	71.5	70.3	69.9
70000	70.4	69.4	69.1	69.2	69.0	70.1	69.4	70.4	69.4	69.9	70.3	71.8	71.3	70.3	70.0
80000	70.3	69.4	69.2	69.3	69.1	70.0	69.4	70.4	69.4	69.9	70.6	72.1	71.3	70.4	70.2
90000	70.3	69.5	69.4	69.5	69.3	70.1	69.6	70.4	69.5	70.0	70.8	72.1	71.4	70.5	70.4
100000	70.5	69.7	69.7	69.8	69.7	70.2	69.8	70.3	69.9	70.3	71.1	72.2	71.7	70.7	70.6
110000	70.7	69.9	70.3	70.1	70.5	70.3	70.1	70.3	70.5	70.9	71.7	72.5	72.1	71.2	70.9
120000	71.1	70.0	70.7	70.5	71.2	70.4	70.6	70.4	71.3	71.5	72.2	73.2	72.6	71.6	71.1
130000	72.0	70.0	70.8	70.8	71.9	70.4	71.3	70.6	72.0	72.1	72.6	74.1	73.0	71.8	71.2
140000	72.9	70.2	70.4	70.8	72.4	70.3	71.5	70.6	72.5	72.5	72.7	74.9	73.0	72.2	71.2
150000	73.3	70.5	69.9	70.6	72.9	70.4	71.8	70.3	72.7	72.8	72.7	75.2	73.1	72.4	71.1
160000	73.5	70.7	69.8	70.1	73.1	70.6	71.9	70.4	72.8	72.8	72.6	75.4	73.3	72.3	71.2
170000	73.5	70.9	69.6	69.8	73.2	70.7	71.6	70.5	72.8	72.5	72.2	75.3	73.0	72.3	71.6
180000	73.0	71.0	69.6	69.9	73.3	70.6	71.8	70.8	72.7	72.1	71.8	75.1	72.6	72.1	71.7
190000	72.2	70.7	69.4	70.1	73.3	70.3	71.6	70.9	72.5	71.7	71.8	74.8	72.2	71.8	71.5
200000	71.5	70.3	69.5	70.3	73.1	70.1	71.6	70.5	72.2	71.3	71.7	74.3	71.7	71.4	71.3
210000	71.0	69.9	69.4	70.1	72.8	69.8	72.1	70.2	71.6	71.0	71.6	74.1	71.2	71.0	71.1
220000	70.4	69.6	69.2	69.8	72.5	69.5	72.2	69.9	71.2	70.7	71.7	73.6	71.0	70.8	70.9
230000	70.1	69.4	69.1	69.4	72.2	69.3	72.0	69.7	70.9	70.4	71.6	73.3	70.7	70.5	70.6
Daily Max	73.5	71.0	70.8	70.8	73.3	71.7	72.2	71.7	72.8	72.8	72.7	75.4	73.3	72.4	71.7
Daily Min	70.1	69.4	69.0	69.0	69.0	69.3	69.3	69.7	69.4	69.9	70.2	71.1	70.7	70.3	69.7
Average	71.5	69.9	69.5	69.7	71.0	70.4	70.6	70.6	70.9	71.0	71.3	73.0	72.1	71.1	70.7

Dead River Below Hoist Powerhouse - August 2010 Temperature Monitoring Data

Time HHMMSS	8/1/2010	8/2/2010	8/3/2010	8/4/2010	8/5/2010	8/6/2010	8/7/2010	8/8/2010	8/9/2010	8/10/2010	8/11/2010	8/12/2010	8/13/2010	8/14/2010	8/15/2010	8/16/2010
0	70.5	71.4	71.0	72.3	73.5	73.5	71.1	71.1	70.8	70.9	70.8	70.6	70.8	70.7	71.5	73.3
10000	70.5	71.3	71.0	72.1	73.2	73.2	71.0	71.1	70.8	70.8	70.9	70.4	70.8	70.6	71.4	73.0
20000	70.4	71.3	71.0	71.7	73.0	72.9	70.9	71.0	70.7	70.9	70.9	70.4	70.8	70.5	71.4	72.8
30000	70.3	71.3	71.0	71.7	72.8	72.6	70.8	71.0	70.7	70.9	70.8	70.4	70.8	70.8	71.5	72.6
40000	70.2	71.2	71.0	71.7	72.6	72.4	70.8	71.0	70.7	70.9	70.8	70.4	70.9	70.7	71.5	72.4
50000	70.3	71.2	71.1	71.6	72.5	72.3	70.8	70.9	70.7	70.9	70.9	70.4	70.8	70.7	71.5	72.3
60000	70.4	71.3	71.2	71.5	72.5	72.1	70.8	70.9	70.8	70.9	70.9	70.4	70.8	70.7	71.9	72.2
70000	70.6	71.2	71.2	71.3	72.4	71.9	70.8	70.9	70.8	70.9	70.9	70.7	70.9	70.8	72.3	72.2
80000	70.6	71.2	71.1	71.3	72.3	71.8	70.8	70.9	70.8	70.9	70.9	70.8	70.9	71.0	72.4	72.0
90000	70.7	71.2	71.2	71.5	72.5	71.8	70.9	71.0	71.0	71.1	71.1	71.0	71.0	71.2	72.2	71.9
100000	71.0	71.3	71.4	71.9	72.7	72.1	71.2	71.1	71.3	71.4	71.2	71.4	71.2	71.5	72.3	72.1
110000	71.5	71.3	72.0	72.2	73.1	72.5	71.7	71.3	71.9	71.9	71.3	71.9	71.3	72.2	72.6	71.6
120000	72.0	71.3	72.8	72.4	73.6	72.9	72.3	71.7	72.7	72.6	71.3	72.6	71.3	73.0	73.2	71.9
130000	72.4	71.5	73.5	72.3	74.2	73.1	72.9	72.1	73.2	73.2	71.4	73.2	71.2	73.9	74.0	72.4
140000	72.8	71.7	73.8	72.8	74.8	73.7	73.0	72.2	73.4	73.3	71.4	73.9	71.4	74.5	74.6	72.6
150000	73.1	71.8	74.1	73.5	75.2	73.9	72.7	72.6	73.6	73.3	71.4	74.2	71.7	74.7	74.7	72.6
160000	73.2	72.4	73.9	73.8	75.4	73.9	72.7	73.0	73.5	73.4	71.3	74.3	72.4	74.6	74.7	72.7
170000	73.1	72.7	73.8	74.2	75.5	74.0	72.9	72.9	73.3	73.0	71.4	74.0	72.6	74.5	74.9	72.7
180000	72.7	72.6	73.5	74.6	75.3	73.5	72.6	72.5	73.0	72.4	71.6	73.5	72.4	74.4	74.7	72.1
190000	72.4	72.5	72.6	74.6	75.0	72.9	72.4	71.9	72.5	71.9	71.6	72.8	72.1	73.7	74.4	71.7
200000	72.1	72.2	72.5	74.3	74.5	72.3	71.9	71.5	72.0	71.6	71.3	72.0	71.5	72.9	74.0	71.2
210000	71.8	71.8	72.7	74.1	74.2	71.9	71.6	71.3	71.5	71.2	71.0	71.4	71.2	72.3	73.6	70.8
220000	71.5	71.5	72.6	73.9	74.1	71.5	71.3	71.0	71.3	71.0	70.8	71.0	70.9	71.9	73.5	70.5
230000	71.5	71.2	72.4	73.7	73.9	71.3	71.2	70.8	71.1	70.9	70.7	70.8	70.8	71.7	73.4	70.3
Daily Max	73.2	72.7	74.1	74.6	75.5	74.0	73.0	73.0	73.6	73.4	71.6	74.3	72.6	74.7	74.9	73.3
Daily Min	70.2	71.2	71.0	71.3	72.3	71.3	70.8	70.8	70.7	70.8	70.7	70.4	70.8	70.5	71.4	70.3
Average	71.5	71.6	72.2	72.7	73.7	72.7	71.6	71.5	71.8	71.7	71.1	71.8	71.3	72.2	73.0	72.1

Monthly average temp (F): 70.7
License Max. Average Temperature: 68 F

Dead River Below Hoist Powerhouse - August 2010 Temperature Monitoring Data

Time HHMMSS	8/17/2010	8/18/2010	8/19/2010	8/20/2010	8/21/2010	8/22/2010	8/23/2010	8/24/2010	8/25/2010	8/26/2010	8/27/2010	8/28/2010	8/29/2010	8/30/2010	8/31/2010
0	70.1	69.2	68.8	67.6	68.4	68.6	69.3	69.1	68.3	66.7	66.9	68.8	69.4	70.4	71.3
10000	70.1	69.0	68.7	67.4	68.4	68.4	68.9	68.8	68.1	66.5	66.7	68.5	69.2	70.3	71.1
20000	70.0	69.0	68.7	67.2	68.4	68.3	68.6	68.6	67.9	66.3	66.5	68.4	69.0	70.2	70.8
30000	70.0	69.0	68.6	67.2	68.4	68.1	68.3	68.5	67.8	66.2	66.4	68.3	68.9	70.2	70.7
40000	69.8	68.9	68.5	67.2	68.4	68.0	68.0	68.3	67.6	66.1	66.3	68.4	68.7	70.1	70.7
50000	69.6	68.9	68.3	67.3	68.4	67.9	67.8	68.2	67.4	65.9	66.2	68.5	68.6	70.1	70.7
60000	69.4	68.9	68.1	67.4	68.4	67.8	67.7	68.2	67.3	65.8	66.1	68.6	68.4	70.1	70.8
70000	69.3	68.9	67.9	67.5	68.4	67.7	67.6	68.2	67.2	65.7	66.0	68.6	68.3	70.2	71.0
80000	69.2	68.9	67.6	67.6	68.3	67.7	67.6	68.3	67.2	65.6	66.0	68.5	68.2	70.3	71.0
90000	69.1	69.0	67.4	67.6	68.3	67.7	67.7	68.3	67.1	65.6	65.9	68.3	68.2	70.4	71.0
100000	69.2	69.1	67.6	67.6	68.2	67.9	68.1	68.5	67.3	65.8	66.2	68.4	68.3	70.5	71.1
110000	69.3	69.2	68.1	67.5	68.2	68.5	68.7	68.9	67.5	66.4	66.7	68.7	68.7	70.9	71.5
120000	69.6	69.5	68.9	67.7	68.1	69.4	69.6	69.4	67.8	67.2	67.6	69.4	69.4	71.6	72.1
130000	70.3	69.8	69.8	67.9	68.1	70.4	70.6	69.7	67.8	68.1	68.6	70.2	70.3	72.5	72.8
140000	71.0	70.0	70.6	68.1	68.3	71.3	71.5	69.7	67.9	68.6	69.5	71.0	71.1	73.4	73.0
150000	71.3	70.1	71.2	68.4	68.7	71.9	72.3	69.6	68.2	69.0	70.3	71.6	71.7	73.9	73.0
160000	71.6	70.1	71.4	68.5	69.3	72.1	72.8	69.6	68.5	69.3	70.6	71.8	72.0	74.2	72.9
170000	71.5	70.0	71.2	68.5	69.9	72.1	73.1	69.6	68.7	69.4	70.8	71.9	71.9	74.1	72.9
180000	71.2	69.7	70.8	68.4	70.1	71.8	72.9	69.7	68.7	69.4	70.8	71.6	71.8	73.9	72.8
190000	70.7	69.5	70.2	68.5	70.1	71.3	72.3	69.7	68.4	69.2	70.7	71.1	71.6	73.6	72.8
200000	70.2	69.3	69.4	68.6	69.7	70.7	71.6	69.6	67.9	68.8	70.3	70.5	71.2	72.9	72.8
210000	69.9	69.2	68.7	68.6	69.3	70.3	70.9	69.4	67.5	68.3	69.8	70.1	71.0	72.4	72.6
220000	69.6	69.0	68.3	68.5	69.0	70.0	70.1	69.0	67.2	67.7	69.4	69.8	70.8	71.9	72.4
230000	69.4	68.9	67.9	68.5	68.8	69.6	69.5	68.6	67.0	67.3	69.1	69.5	70.6	71.5	72.3
Daily Max	71.6	70.1	71.4	68.6	70.1	72.1	73.1	69.7	68.7	69.4	70.8	71.9	72.0	74.2	73.0
Daily Min	69.1	68.9	67.4	67.2	68.1	67.7	67.6	68.2	67.0	65.6	65.9	68.3	68.2	70.1	70.7
Average	70.1	69.3	69.0	67.9	68.7	69.5	69.8	69.0	67.8	67.3	68.1	69.6	69.9	71.7	71.8

Dead River Below Hoist Powerhouse - September 2010 Temperature Monitoring Data

Time HHMMSS	9/1/2010	9/2/2010	9/3/2010	9/4/2010	9/5/2010	9/6/2010	9/7/2010	9/8/2010	9/9/2010	9/10/2010	9/11/2010	9/12/2010	9/13/2010	9/14/2010	9/15/2010	9/16/2010
0	72.2	70.6	70.0	65.5	63.9	63.5	64.1	62.2	61.3	60.8	60.8	60.6	60.8	59.6	59.0	59.1
10000	72.1	70.3	69.9	65.3	63.7	63.3	64.1	62.1	61.2	60.7	60.7	60.4	60.5	59.4	58.8	58.9
20000	72.0	70.0	69.7	65.2	63.6	63.1	64.0	62.0	61.0	60.6	60.7	60.2	60.4	59.3	58.7	58.7
30000	71.9	69.9	69.3	65.1	63.4	63.0	64.0	62.0	60.9	60.6	60.7	60.0	60.3	59.2	58.5	58.4
40000	71.9	69.7	69.1	65.0	63.3	62.9	64.0	62.0	60.7	60.5	60.8	59.8	60.2	59.2	58.4	58.1
50000	71.9	69.6	69.0	64.9	63.1	63.0	64.1	61.9	60.7	60.3	60.8	59.7	60.1	59.2	58.3	58.0
60000	71.8	69.4	68.8	64.8	63.0	63.1	64.1	61.8	60.7	60.1	60.8	59.6	60.0	59.3	58.2	57.9
70000	71.7	69.3	68.7	64.8	62.8	63.2	64.2	61.7	60.7	59.9	60.8	59.6	59.9	59.3	58.2	58.1
80000	71.5	69.3	68.6	64.7	62.7	63.3	64.2	61.7	60.8	59.8	60.9	59.6	59.8	59.3	58.1	58.2
90000	71.4	69.4	68.5	64.7	62.6	63.4	64.1	61.6	60.9	59.8	60.8	59.6	59.8	59.2	58.0	58.2
100000	71.1	69.6	68.6	64.6	62.7	63.5	64.0	61.6	61.1	60.0	60.8	59.7	59.9	59.2	58.2	58.2
110000	71.1	69.9	68.8	64.7	63.1	63.9	64.0	61.8	61.3	60.3	60.8	60.1	60.3	59.5	58.6	58.3
120000	71.3	70.2	68.9	64.7	63.7	64.4	64.0	61.9	61.5	61.0	60.9	60.9	60.7	59.8	59.2	58.6
130000	71.7	70.1	69.0	64.8	64.5	65.1	64.0	62.2	61.7	61.7	60.9	61.7	61.0	60.3	60.2	58.9
140000	72.5	69.9	68.9	64.9	65.2	65.4	64.0	62.4	61.9	62.2	60.9	62.5	61.3	60.9	60.9	59.3
150000	73.0	69.9	69.0	64.9	65.7	65.4	63.9	62.7	62.0	62.6	61.0	62.9	61.6	61.3	61.1	59.7
160000	73.4	69.8	68.9	65.0	66.0	65.5	63.9	62.9	62.1	63.0	61.1	63.2	61.8	61.5	60.9	60.1
170000	73.3	69.9	68.5	64.9	66.0	65.6	63.9	62.9	62.1	63.1	61.1	63.0	61.8	61.6	60.4	60.2
180000	73.0	69.9	67.9	64.9	65.8	65.5	63.8	62.9	62.1	62.8	61.1	62.9	61.6	61.1	60.1	60.0
190000	72.5	69.7	67.3	64.8	65.5	65.1	63.5	62.7	62.0	62.3	61.2	62.4	61.1	60.6	59.9	59.8
200000	72.1	69.5	66.8	64.6	65.0	64.7	63.1	62.4	61.8	61.9	61.2	61.9	60.7	60.2	59.7	59.7
210000	71.6	69.7	66.4	64.4	64.5	64.4	62.8	62.0	61.5	61.5	61.1	61.5	60.3	59.8	59.6	59.1
220000	71.1	70.0	66.0	64.2	64.2	64.3	62.5	61.7	61.2	61.2	61.0	61.2	60.0	59.5	59.4	58.5
230000	70.8	70.0	65.7	64.1	63.8	64.2	62.3	61.5	61.0	61.0	60.8	61.0	59.8	59.2	59.3	58.2
Daily Max	73.4	70.6	70.0	65.5	66.0	65.6	64.2	62.9	62.1	63.1	61.2	63.2	61.8	61.6	61.1	60.2
Daily Min	70.8	69.3	65.7	64.1	62.6	62.9	62.3	61.5	60.7	59.8	60.7	59.6	59.8	59.2	58.0	57.9
Average	72.0	69.8	68.4	64.8	64.1	64.1	63.8	62.1	61.3	61.2	60.9	61.0	60.6	59.9	59.2	58.8

Monthly average temp (F): 61.0
License Max. Average Temperature: 63 F

Dead River Below Hoist Powerhouse - September 2010 Temperature Monitoring Data

Time HHMMSS	9/17/2010	9/18/2010	9/19/2010	9/20/2010	9/21/2010	9/22/2010	9/23/2010	9/24/2010	9/25/2010	9/26/2010	9/27/2010	9/28/2010	9/29/2010	9/30/2010
0	58.1	59.8	58.7	58.6	58.4	59.1	58.5	58.1	58.8	58.0	57.5	57.7	57.4	57.6
10000	57.9	59.8	58.6	58.5	58.4	59.0	58.5	58.1	58.8	57.9	57.5	57.7	57.4	57.6
20000	57.8	59.7	58.5	58.4	58.5	58.9	58.5	58.2	58.7	57.9	57.4	57.6	57.4	57.6
30000	57.7	59.7	58.5	58.3	58.5	58.8	58.5	58.3	58.6	57.8	57.4	57.6	57.3	57.6
40000	57.7	59.6	58.4	58.2	58.6	58.7	58.5	58.4	58.5	57.8	57.3	57.6	57.3	57.6
50000	57.6	59.6	58.3	58.1	58.7	58.6	58.4	58.6	58.4	57.7	57.3	57.6	57.3	57.5
60000	57.7	59.5	58.3	58.1	58.7	58.5	58.4	58.7	58.4	57.7	57.3	57.6	57.3	57.5
70000	57.8	59.3	58.2	58.0	58.8	58.4	58.4	58.7	58.3	57.7	57.3	57.6	57.3	57.4
80000	58.0	59.2	58.2	57.9	58.8	58.3	58.4	58.7	58.3	57.6	57.3	57.7	57.2	57.4
90000	58.2	59.1	58.3	57.9	58.9	58.3	58.4	58.8	58.3	57.6	57.2	57.7	57.2	57.5
100000	58.4	59.0	58.4	58.0	59.0	58.4	58.4	59.1	58.3	57.6	57.2	57.7	57.2	57.5
110000	58.9	59.1	58.7	58.4	59.2	58.7	58.5	59.2	58.3	57.8	57.4	57.8	57.3	57.6
120000	59.2	59.4	59.1	58.9	59.3	59.1	58.5	59.4	58.4	57.8	57.5	57.7	57.4	57.7
130000	59.7	59.9	59.4	59.5	59.4	59.6	58.6	59.4	58.4	58.0	57.7	57.7	57.6	57.6
140000	60.3	60.3	59.7	59.9	59.7	60.0	58.6	59.5	58.4	58.2	57.8	57.6	57.7	57.6
150000	60.2	60.5	60.1	60.0	60.3	60.2	58.6	59.6	58.5	58.3	58.0	57.7	57.8	57.7
160000	60.1	60.5	60.3	59.9	60.6	60.2	58.7	59.6	58.5	58.2	58.1	57.7	57.9	57.7
170000	60.2	60.4	60.3	59.6	60.6	60.0	58.7	59.6	58.4	58.0	58.1	57.6	57.9	57.6
180000	60.2	60.1	60.0	59.3	60.4	59.6	58.7	59.5	58.3	57.8	58.1	57.6	58.0	57.6
190000	60.1	59.7	59.7	59.0	60.1	59.2	58.7	59.3	58.2	57.8	58.1	57.6	58.0	57.4
200000	60.0	59.4	59.4	58.8	59.8	58.9	58.6	59.2	58.2	57.7	58.0	57.5	57.9	57.4
210000	60.0	59.2	59.2	58.6	59.5	58.7	58.6	58.9	58.1	57.6	57.8	57.5	58.0	57.3
220000	59.9	59.0	59.0	58.4	59.4	58.6	58.5	58.8	58.0	57.5	57.8	57.4	57.9	57.2
230000	59.8	58.8	58.8	58.4	59.2	58.5	58.3	58.8	58.0	57.5	57.7	57.4	57.7	57.2
Daily Max	60.3	60.5	60.3	60.0	60.6	60.2	58.7	59.6	58.8	58.3	58.1	57.8	58.0	57.7
Daily Min	57.6	58.8	58.2	57.9	58.4	58.3	58.3	58.1	58.0	57.5	57.2	57.4	57.2	57.2
Average	59.0	59.6	59.0	58.7	59.3	59.0	58.5	58.9	58.4	57.8	57.6	57.6	57.6	57.5

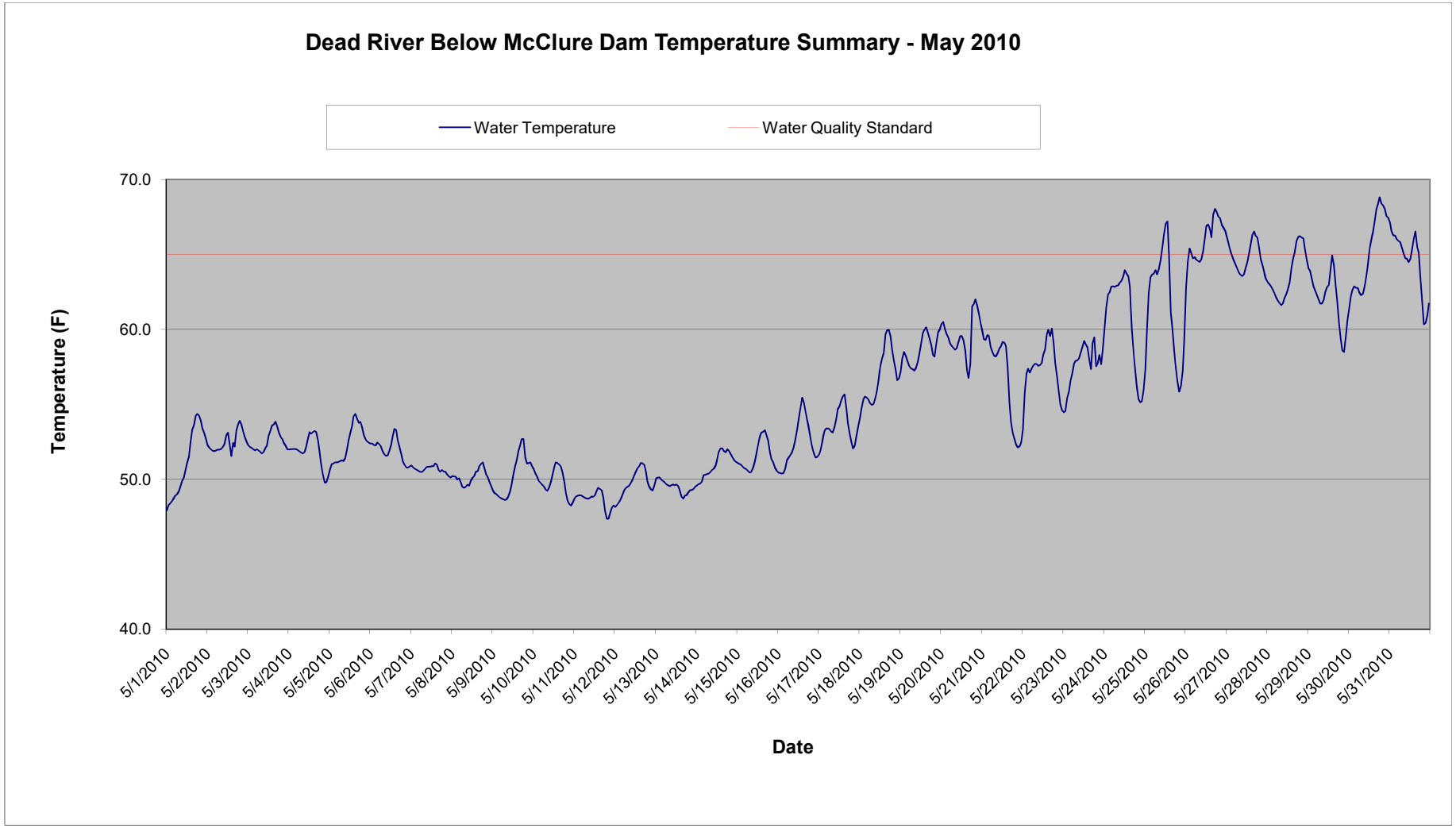
Dead River Below Hoist Powerhouse - October 2010 Temperature Monitoring Data

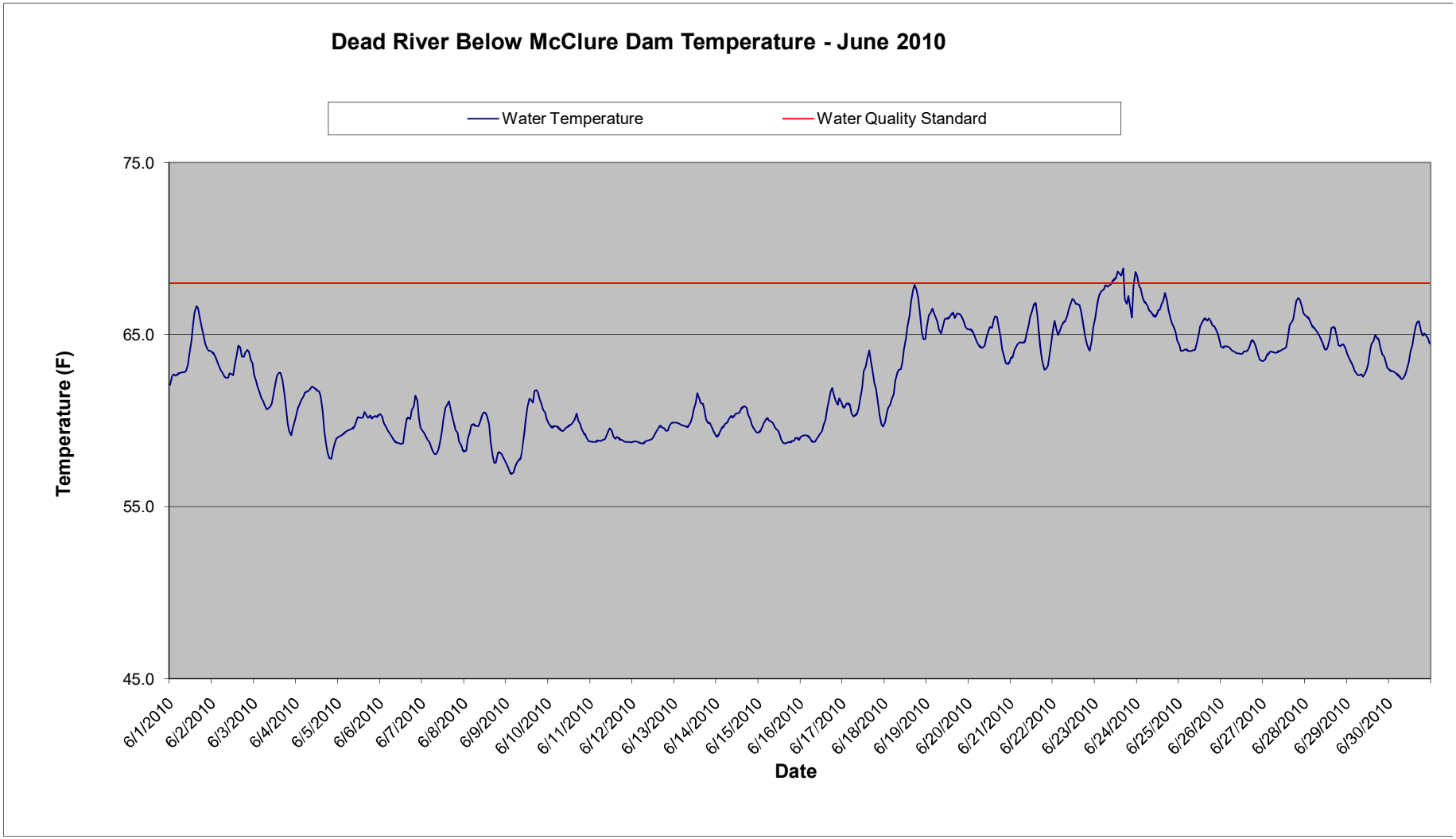
Time HHMMSS	10/1/2010	10/2/2010	10/3/2010	10/4/2010	10/5/2010	10/6/2010	10/7/2010	10/8/2010	10/9/2010	10/10/2010	10/11/2010	10/12/2010	10/13/2010	10/14/2010	10/15/2010	10/16/2010
0	57.1	56.7	56.0	55.2	55.6	55.0	55.4	55.5	55.0	54.4	54.4	54.0	55.1	54.6	54.1	53.4
10000	57.1	56.7	56.0	55.2	55.5	55.0	55.4	55.5	54.9	54.4	54.4	53.9	55.1	54.6	54.1	53.3
20000	57.0	56.6	55.9	55.2	55.4	55.0	55.3	55.5	54.9	54.3	54.4	53.9	55.2	54.6	54.1	53.3
30000	57.0	56.6	55.9	55.1	55.4	55.0	55.3	55.5	54.8	54.3	54.5	54.0	55.2	54.5	54.1	53.3
40000	56.9	56.6	55.8	55.1	55.4	54.9	55.3	55.5	54.7	54.3	54.6	53.9	55.1	54.5	54.1	53.3
50000	56.9	56.5	55.7	55.0	55.3	54.9	55.2	55.4	54.7	54.3	54.6	53.9	55.0	54.4	54.1	53.2
60000	56.9	56.4	55.7	55.0	55.3	54.9	55.2	55.4	54.6	54.3	54.6	53.8	54.9	54.4	54.1	53.2
70000	56.9	56.4	55.7	54.9	55.2	54.9	55.2	55.4	54.6	54.3	54.5	53.8	54.8	54.4	54.1	53.2
80000	56.9	56.4	55.6	54.8	55.2	54.9	55.1	55.3	54.5	54.3	54.4	53.7	54.7	54.3	54.0	53.2
90000	56.9	56.4	55.6	54.8	55.2	54.9	55.1	55.3	54.5	54.3	54.4	53.7	54.7	54.4	54.0	53.2
100000	56.9	56.3	55.6	54.9	55.3	55.0	55.1	55.4	54.5	54.4	54.5	53.8	54.7	54.4	54.0	53.1
110000	57.0	56.3	55.7	55.1	55.4	55.1	55.3	55.6	54.8	54.6	54.7	54.1	54.8	54.5	54.1	53.2
120000	57.0	56.4	55.8	55.2	55.6	55.3	55.4	55.8	55.1	55.0	54.8	54.3	55.0	54.6	54.2	53.4
130000	57.1	56.5	56.0	55.4	55.7	55.5	55.6	56.1	55.3	55.3	55.0	54.6	55.3		54.4	53.9
140000	57.3	56.6	56.1	55.5	55.8	55.6	55.7	56.2	55.5	55.5	55.1	54.7	55.5	54.6	54.6	54.2
150000	57.2	56.5	56.1	55.6	55.9	55.7	55.9	56.4	55.5	55.5	55.1	54.9	55.5	54.6	54.6	54.4
160000	57.2	56.4	56.1	55.9	55.8	55.7	55.9	56.4	55.5	55.5	55.0	55.0	55.4	54.7	54.7	54.5
170000	57.1	56.4	55.8	55.9	55.6	55.7	55.9	56.2	55.2	55.6	54.8	55.1	55.3	54.6	54.5	54.4
180000	57.0	56.4	55.6	55.8	55.4	55.6	55.9	55.9	55.0	55.4	54.6	55.0	55.2	54.4	54.2	54.2
190000	56.9	56.3	55.5	55.9	55.3	55.7	55.9	55.5	54.8	55.0	54.4	54.7	55.1	54.4	53.9	54.0
200000	56.8	56.2	55.4	55.9	55.2	55.6	55.7	55.4	54.6	54.8	54.2	54.6	55.0	54.3	53.7	53.9
210000	56.8	56.1	55.3	55.8	55.1	55.6	55.6	55.3	54.6	54.6	54.2	54.6	54.8	54.2	53.6	53.8
220000	56.8	56.1	55.3	55.7	55.1	55.5	55.5	55.1	54.5	54.6	54.1	54.6	54.8	54.2	53.5	53.6
230000	56.7	56.0	55.3	55.6	55.1	55.5	55.5	55.0	54.4	54.5	54.0	54.8	54.7	54.2	53.5	53.4
Daily Max	57.3	56.7	56.1	55.9	55.9	55.7	55.9	56.4	55.5	55.6	55.1	55.1	55.5	54.7	54.7	54.5
Daily Min	56.7	56.0	55.3	54.8	55.1	54.9	55.1	55.0	54.4	54.3	54.0	53.7	54.7	54.2	53.5	53.1
Average	57.0	56.4	55.7	55.4	55.4	55.3	55.5	55.6	54.8	54.7	54.5	54.3	55.0	54.4	54.1	53.6

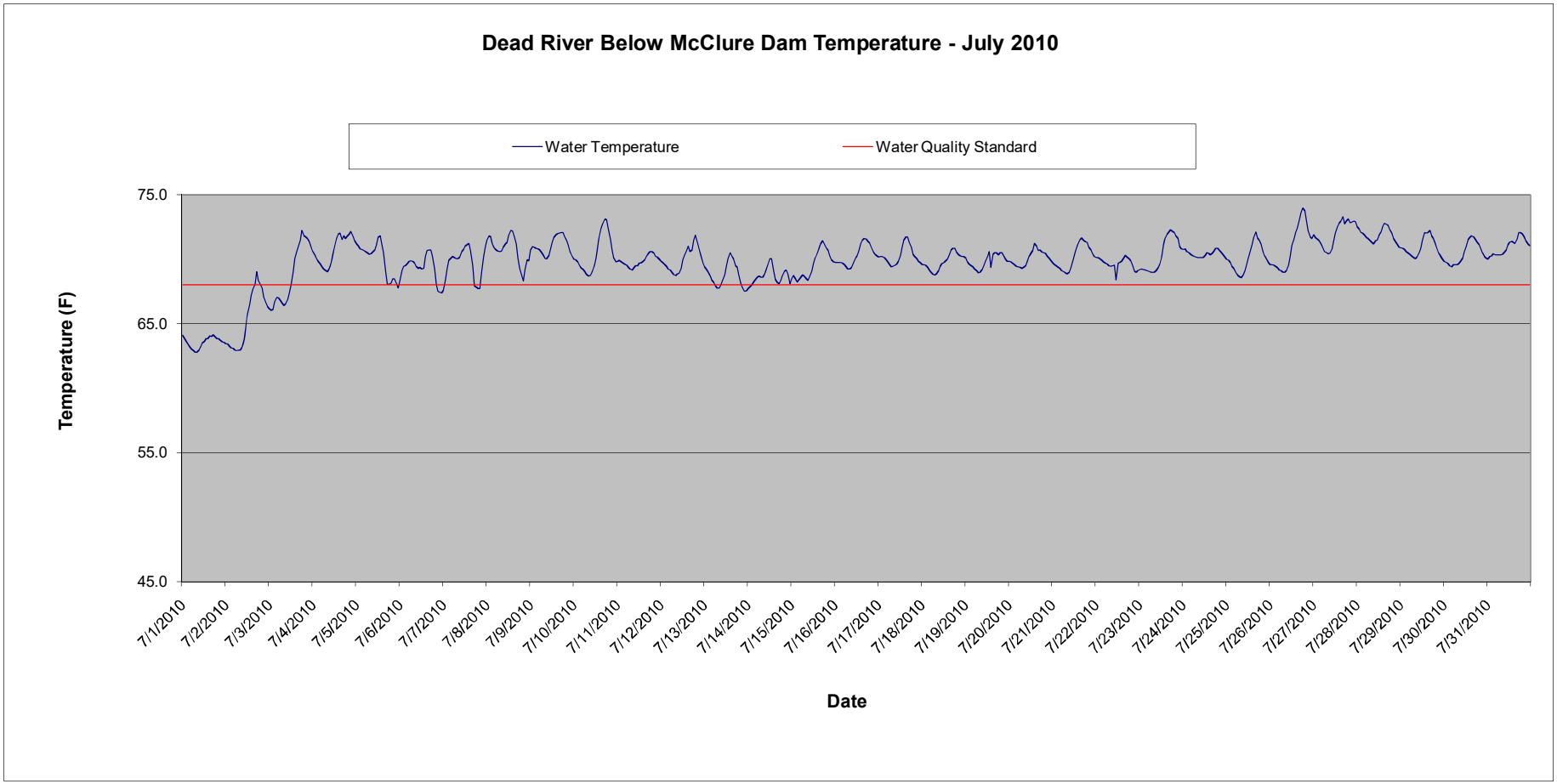
Monthly average temp (F): 52.6
License Max. Average Temperature: 56 F

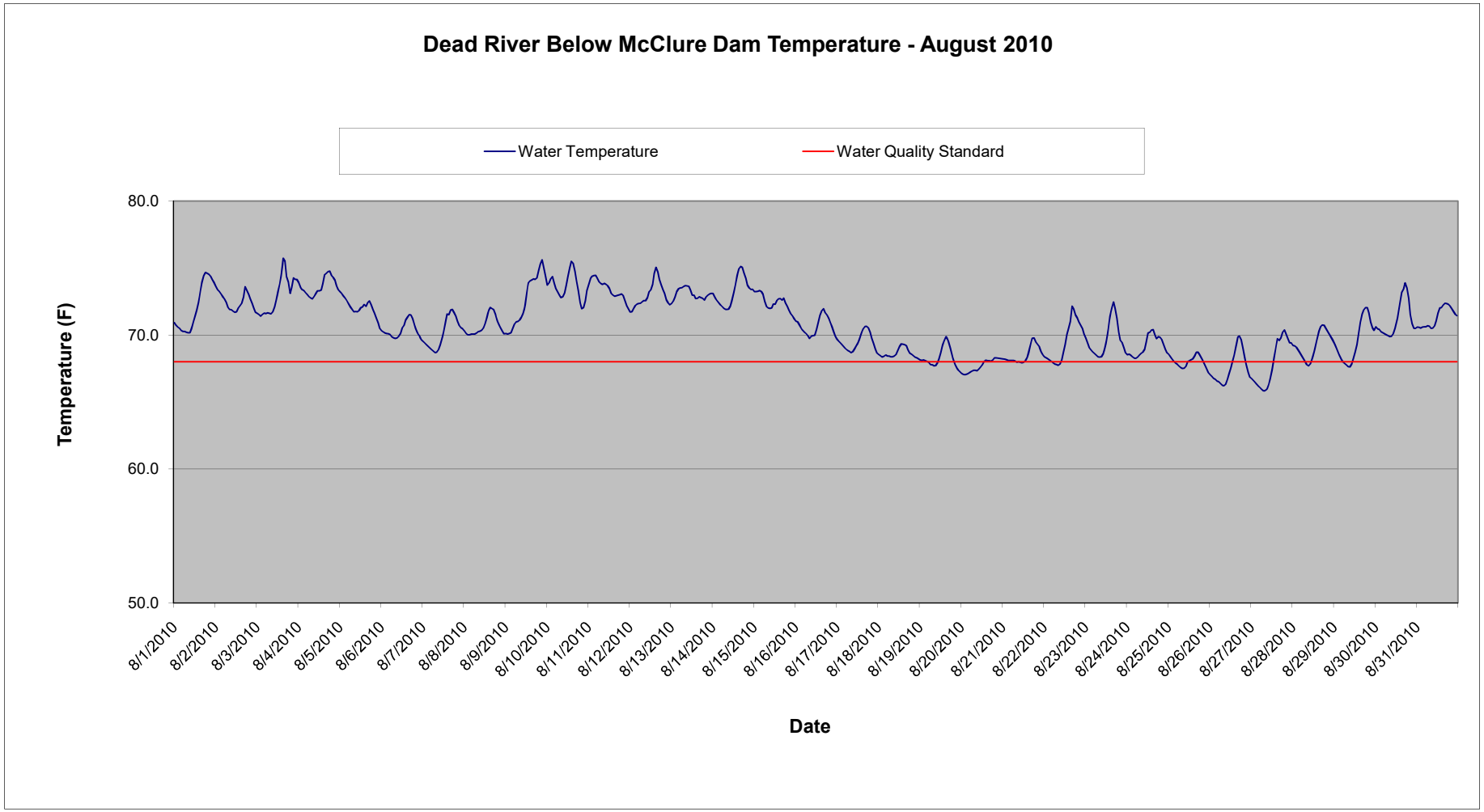
Dead River Below Hoist Powerhouse - October 2010 Temperature Monitoring Data

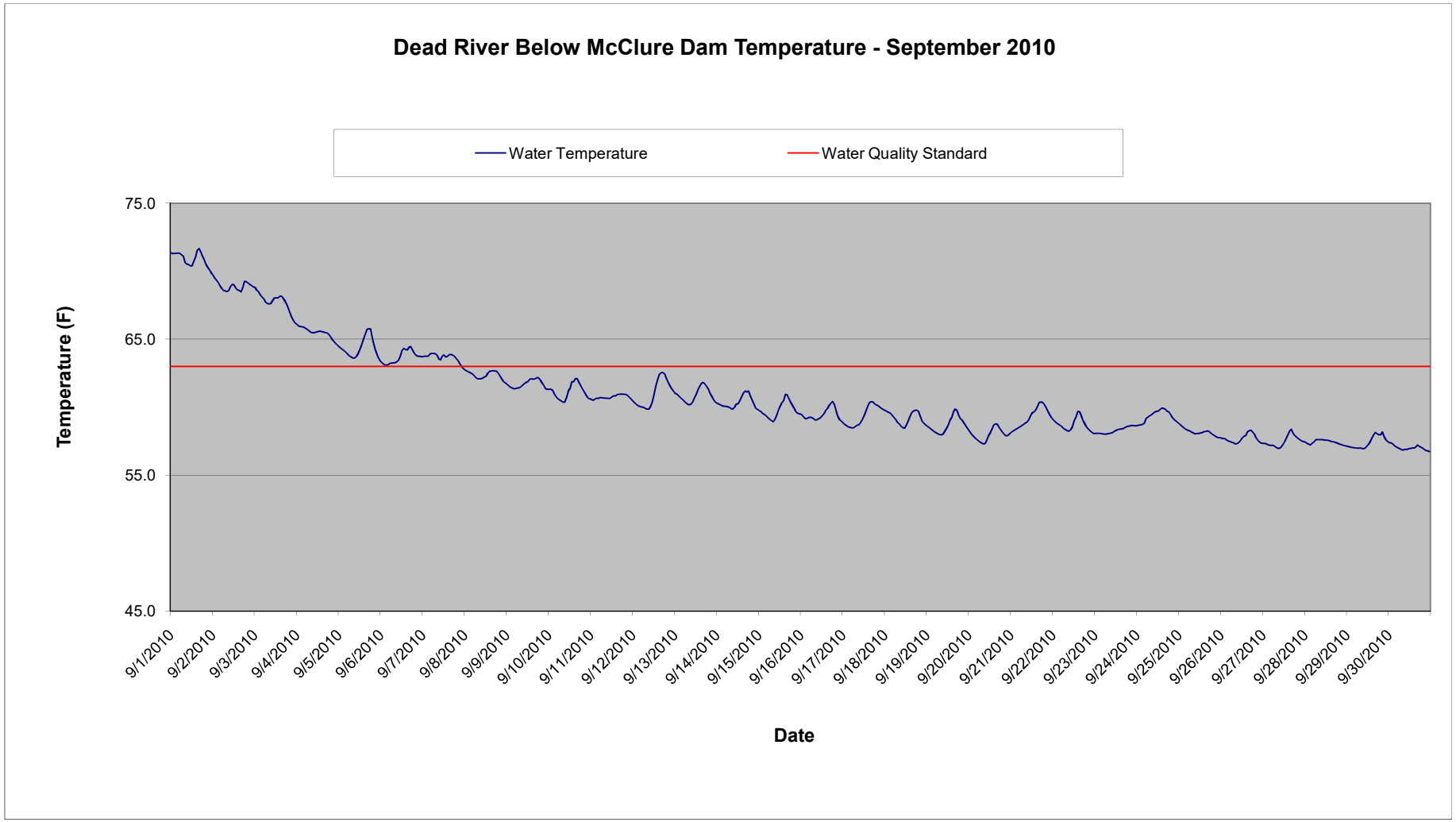
Time HHMMSS	10/17/2010	10/18/2010	10/19/2010	10/20/2010	10/21/2010	10/22/2010	10/23/2010	10/24/2010	10/25/2010	10/26/2010	10/27/2010	10/28/2010	10/29/2010	10/30/2010	10/31/2010
0	53.3	52.4	52.0	51.7	51.2	50.1	50.2	50.2	50.0	50.6	49.9	48.4	47.7	47.3	46.7
10000	53.2	52.3	51.9	51.7	51.2	50.0	50.2	50.2	50.0	50.6	49.9	48.6	47.7	47.3	46.7
20000	53.1	52.2	51.7	51.7	51.1	49.9	50.2	50.2	50.0	50.5	49.7	48.5	47.6	47.3	46.7
30000	53.1	52.2	51.7	51.7	51.0	49.9	50.1	50.1	50.1	50.5	49.5	48.3	47.5	47.2	46.6
40000	53.1	52.2	51.7	51.6	51.0	49.8	50.0	50.1	50.1	50.5	49.5	48.1	47.5	47.2	46.6
50000	53.0	52.1	51.7	51.6	51.0	49.8	50.0	50.1	50.1	50.5	49.2	47.9	47.4	47.1	46.6
60000	52.8	52.2	51.7	51.6	50.9	49.9	49.9	50.1	50.1	50.5	49.2	47.8	47.3	47.1	46.5
70000	52.7	52.1	51.7	51.6	50.9	49.9	49.8	50.1	50.1	50.5	49.1	47.6	47.2	47.1	46.6
80000	52.6	52.1	51.6	51.5	50.8	49.9	49.8	50.2	50.1	50.5	48.9	47.6	47.2	47.1	46.6
90000	52.5	52.1	51.5	51.4	50.7	49.9	49.7	50.1	50.1	50.5	48.9	47.6	47.1	47.1	46.6
100000	52.5	52.1	51.5	51.4	50.6	49.9	49.8	50.1	50.1	50.6	49.0	47.9	47.1	47.1	46.6
110000	52.7	52.2	51.7	51.5	50.6	50.1	50.1	50.2	50.3	50.8	48.9	48.1	47.2	47.1	46.6
120000	53.1	52.6	52.0	51.7	50.6	50.3	50.3	50.2	50.5	50.9	48.9	48.3	47.3	47.1	46.7
130000	53.5	52.9	52.3	51.9	50.8	50.5	50.5	50.2	50.7	51.0	49.0	48.4	47.4	47.2	46.8
140000	53.8	53.2	52.4	52.0	50.9	50.7	50.6	50.2	50.9	51.1	49.0	48.5	47.4	47.4	46.9
150000	54.0	53.2	52.6	52.1	51.1	51.0	50.7	50.3	51.1	51.1	49.0	48.5	47.6	47.4	46.9
160000	53.8	53.3	52.6	52.1	51.2	51.1	50.8	50.3	51.1	51.1	48.9	48.4	47.6	47.3	46.9
170000	53.5	53.2	52.5	51.9	51.0	50.9	50.7	50.2	51.0	51.0	48.8	48.3	47.7	47.2	46.9
180000	53.2	53.0	52.3	51.7	50.8	50.6	50.5	50.1	50.9	50.7	48.7	48.2	47.8	47.1	46.8
190000	53.0	52.7	52.1	51.5	50.5	50.5	50.5	50.1	50.9	50.5	48.5	48.1	47.7	47.1	46.8
200000	52.8	52.5	52.0	51.4	50.3	50.5	50.4	50.0	50.7	50.2	48.4	48.0	47.6	47.0	46.7
210000	52.7	52.3	52.0	51.3	50.2	50.3	50.3	50.0	50.5	50.0	48.4	48.0	47.4	46.9	46.7
220000	52.6	52.2	51.9	51.2	50.1	50.2	50.3	50.0	50.5	49.9	48.4	47.9	47.3	46.9	46.6
230000	52.5	52.1	51.8	51.2	50.1	50.2	50.3	50.0	50.5	49.9	48.4	47.8	47.3	46.8	46.5
Daily Max	54.0	53.3	52.6	52.1	51.2	51.1	50.8	50.3	51.1	51.1	49.9	48.6	47.8	47.4	46.9
Daily Min	52.5	52.1	51.5	51.2	50.1	49.8	49.7	50.0	50.0	49.9	48.4	47.6	47.1	46.8	46.5
Average	53.0	52.5	52.0	51.6	50.8	50.2	50.2	50.1	50.4	50.6	49.0	48.1	47.4	47.1	46.7

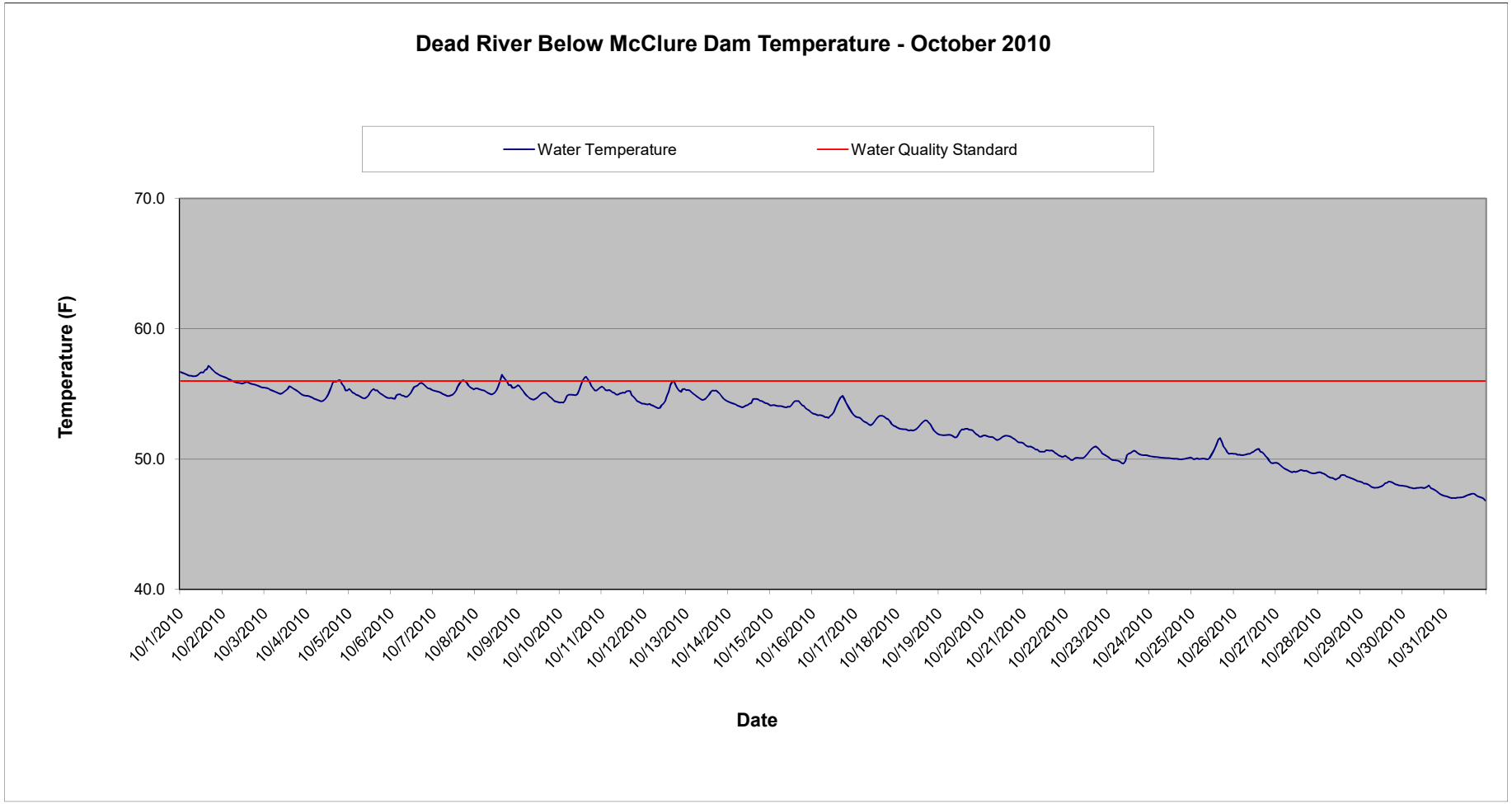












Dead River Below McClure Dam - May 2010 Temperature Monitoring Data

Time HHMMSS	5/1/10	5/2/10	5/3/10	5/4/10	5/5/10	5/6/10	5/7/10	5/8/10	5/9/10	5/10/10	5/11/10	5/12/10	5/13/10	5/14/10	5/15/10	5/16/10
0	47.9	52.3	52.3	52.0	50.6	52.4	50.9	50.2	49.2	50.7	48.7	48.1	50.0	49.6	51.1	50.5
10000	48.3	52.1	52.1	52.0	51.0	52.4	50.8	50.2	49.1	50.4	48.9	48.3	50.1	49.7	51.0	50.4
20000	48.4	52.0	52.1	52.0	51.0	52.3	50.7	50.2	49.0	50.2	48.9	48.5	50.1	49.7	51.0	50.4
30000	48.5	51.9	52.0	52.0	51.1	52.3	50.6	50.0	48.9	49.9	48.9	48.6	50.0	49.8	50.8	50.4
40000	48.7	51.9	51.9	52.0	51.1	52.4	50.6	50.1	48.8	49.8	48.9	48.9	49.9	50.3	50.7	50.7
50000	48.9	51.9	52.0	52.0	51.2	52.3	50.5	49.8	48.7	49.6	48.8	49.2	49.8	50.3	50.7	51.3
60000	49.0	52.0	51.9	51.9	51.2	52.2	50.5	49.5	48.7	49.5	48.8	49.4	49.7	50.3	50.6	51.4
70000	49.2	52.0	51.8	51.8	51.3	51.9	50.6	49.4	48.6	49.3	48.7	49.5	49.6	50.4	50.5	51.6
80000	49.5	52.0	51.7	51.7	51.2	51.7	50.7	49.5	48.7	49.2	48.7	49.6	49.5	50.5	50.5	51.8
90000	49.9	52.2	51.8	51.8	51.4	51.6	50.8	49.6	48.8	49.4	48.8	49.7	49.6	50.6	50.7	52.1
100000	50.1	52.3	52.1	52.1	52.0	51.6	50.8	49.6	49.2	49.8	48.9	49.9	49.7	50.7	51.2	52.6
110000	50.6	52.9	52.2	52.7	52.6	51.9	50.8	49.9	49.6	50.3	48.8	50.2	49.6	50.9	51.6	53.3
120000	51.1	53.1	52.9	53.2	53.1	52.3	50.9	50.1	50.3	50.8	48.9	50.5	49.7	51.3	52.2	54.0
130000	51.5	52.4	53.2	53.0	53.5	52.9	50.9	50.2	50.9	51.1	49.2	50.7	49.6	51.8	52.8	54.7
140000	52.4	51.5	53.6	53.2	54.2	53.4	51.1	50.5	51.2	51.1	49.4	50.9	49.3	52.1	53.1	55.5
150000	53.3	52.4	53.7	53.2	54.4	53.3	51.0	50.5	51.9	51.0	49.4	51.1	48.8	52.1	53.2	55.1
160000	53.6	52.2	53.8	53.2	54.1	52.6	50.6	50.9	52.3	50.9	49.3	51.1	48.7	51.9	53.3	54.5
170000	54.2	53.3	53.5	52.6	53.8	52.1	50.5	51.0	52.7	50.4	48.8	51.0	48.9	51.8	53.0	53.9
180000	54.4	53.7	53.1	51.7	53.8	51.7	50.6	51.1	52.7	49.8	47.9	50.5	48.9	52.0	52.6	53.4
190000	54.2	53.9	52.8	50.9	53.5	51.2	50.5	50.8	51.5	49.1	47.4	49.9	49.1	51.9	51.8	52.7
200000	53.9	53.6	52.7	50.3	52.9	51.0	50.5	50.3	51.0	48.6	47.4	49.5	49.3	51.7	51.4	52.1
210000	53.4	53.2	52.4	49.8	52.7	50.8	50.3	50.1	51.1	48.3	47.7	49.3	49.3	51.5	51.1	51.7
220000	53.1	52.8	52.2	49.8	52.5	50.8	50.2	49.8	51.1	48.3	48.1	49.2	49.4	51.3	50.8	51.5
230000	52.7	52.5	52.0	50.2	52.4	50.9	50.1	49.5	50.9	48.5	48.3	49.6	49.5	51.2	50.6	51.5
Daily Max	54.4	53.9	53.8	53.2	54.4	53.4	51.1	51.1	52.7	51.1	49.4	51.1	50.1	52.1	53.3	55.5
Daily Min	47.9	51.5	51.7	49.8	50.6	50.8	50.1	49.4	48.6	48.3	47.4	48.1	48.7	49.6	50.5	50.4
Average	51.1	52.5	52.5	51.9	52.4	52.0	50.7	50.1	50.2	49.8	48.7	49.7	49.5	51.0	51.5	52.4

Monthly average temp (F): 55.6
License Maximum Monthly Average: 65ºF

Note: The McClure penstock and powerhouse were out of service during the 2010 monitoring season.

Dead River Below McClure Dam - May 2010 Temperature Monitoring Data

Time HHMMSS	5/17/10	5/18/10	5/19/10	5/20/10	5/21/10	5/22/10	5/23/10	5/24/10	5/25/10	5/26/10	5/27/10	5/28/10	5/29/10	5/30/10	5/31/10
0	51.7	54.1	57.2	60.4	59.9	53.3	54.5	60.0	57.4	62.7	66.1	63.2	64.1	61.4	67.1
10000	52.0	54.8	58.1	60.5	59.3	55.8	54.6	61.5	59.9	64.5	65.8	63.0	63.9	62.2	66.5
20000	52.6	55.3	58.5	60.0	59.3	57.0	55.4	62.3	62.4	65.4	65.3	62.9	63.4	62.6	66.3
30000	53.2	55.5	58.2	59.7	59.6	57.4	55.8	62.5	63.5	65.1	64.9	62.7	62.9	62.9	66.3
40000	53.4	55.5	57.9	59.5	59.5	57.1	56.6	62.9	63.6	64.7	64.6	62.4	62.6	62.8	66.0
50000	53.4	55.3	57.6	59.1	58.8	57.4	57.0	62.9	63.7	64.8	64.4	62.1	62.3	62.8	65.9
60000	53.3	55.1	57.4	58.9	58.5	57.6	57.7	62.8	64.0	64.7	64.1	61.9	62.0	62.5	65.8
70000	53.2	55.0	57.3	58.8	58.2	57.7	57.9	62.9	63.7	64.6	63.8	61.8	61.7	62.3	65.5
80000	53.1	55.0	57.2	58.6	58.2	57.7	57.9	62.9	64.0	64.5	63.6	61.6	61.7	62.4	65.1
90000	53.5	55.4	57.4	58.7	58.4	57.6	58.1	63.1	64.6	64.7	63.6	61.7	62.0	62.8	64.7
100000	54.0	55.9	57.8	59.1	58.7	57.6	58.5	63.2	65.5	65.2	63.7	62.1	62.5	63.5	64.7
110000	54.7	56.6	58.4	59.5	58.9	57.8	58.8	63.6	66.3	66.1	64.1	62.4	62.8	64.3	64.5
120000	54.9	57.5	59.0	59.6	59.2	58.3	59.2	64.0	67.0	66.9	64.5	62.7	63.0	65.3	64.7
130000	55.3	58.0	59.8	59.3	59.1	58.7	59.0	63.7	67.2	67.0	65.0	63.1	64.0	65.9	65.4
140000	55.5	58.4	60.0	58.6	58.9	59.7	58.8	63.5	64.9	66.7	65.6	64.1	64.9	66.5	66.0
150000	55.7	59.7	60.1	57.2	57.4	60.0	58.0	62.8	61.1	66.1	66.3	64.7	64.3	67.1	66.5
160000	54.7	59.9	59.8	56.8	55.1	59.5	57.3	60.1	59.9	67.7	66.5	65.2	62.9	68.0	65.5
170000	53.7	60.0	59.4	57.7	53.8	60.1	59.1	58.7	58.6	68.0	66.2	65.9	61.9	68.4	65.1
180000	53.0	59.5	59.0	61.5	53.1	59.1	59.5	57.2	57.4	67.8	66.1	66.2	60.4	68.8	63.3
190000	52.5	58.7	58.3	61.7	52.7	57.8	57.5	56.2	56.4	67.5	65.4	66.2	59.3	68.4	61.8
200000	52.1	57.9	58.2	62.0	52.3	56.9	57.7	55.3	55.8	67.4	64.7	66.1	58.6	68.3	60.3
210000	52.3	57.3	59.1	61.6	52.1	55.9	58.3	55.1	56.2	67.0	64.3	66.1	58.5	68.0	60.4
220000	52.9	56.6	59.8	61.1	52.2	55.0	57.7	55.2	57.2	66.8	63.8	65.3	59.5	67.6	60.9
230000	53.6	56.7	60.0	60.4	52.4	54.6	58.6	56.0	59.3	66.6	63.4	64.7	60.6	67.4	61.7
Daily Max	55.7	60.0	60.1	62.0	59.9	60.1	59.5	64.0	67.2	68.0	66.5	66.2	64.9	68.8	67.1
Daily Min	51.7	54.1	57.2	56.8	52.1	53.3	54.5	55.1	55.8	62.7	63.4	61.6	58.5	61.4	60.3
Average	53.5	56.8	58.6	59.6	56.9	57.5	57.6	60.8	61.7	65.9	64.8	63.7	62.1	65.1	64.6

Dead River Below McClure Dam - June 2010 Temperature Monitoring Data

Time HHMMSS	06/01/10	06/02/10	06/03/10	06/04/10	06/05/10	06/06/10	06/07/10	06/08/10	06/09/10	06/10/10	06/11/10	06/12/10	06/13/10	06/14/10	06/15/10	06/16/10
0	62.6	63.9	62.3	60.7	59.1	60.2	59.3	58.3	57.2	59.7	58.8	58.8	59.9	59.2	59.4	59.1
10000	62.7	63.6	62.0	61.0	59.2	59.9	59.1	58.9	57.0	59.6	58.8	58.8	59.9	59.4	59.7	59.2
20000	62.6	63.4	61.6	61.2	59.3	59.6	58.9	59.3	56.9	59.7	58.8	58.8	59.8	59.6	59.9	59.2
30000	62.7	63.1	61.3	61.4	59.3	59.5	58.7	59.7	57.0	59.7	58.9	58.7	59.7	59.7	60.1	59.1
40000	62.8	62.9	61.1	61.6	59.4	59.3	58.5	59.8	57.3	59.7	58.8	58.7	59.7	59.8	60.2	59.0
50000	62.8	62.8	60.9	61.7	59.5	59.1	58.2	59.7	57.6	59.6	58.8	58.7	59.7	59.9	60.0	58.9
60000	62.8	62.5	60.7	61.7	59.5	59.0	58.1	59.7	57.7	59.5	58.9	58.8	59.6	60.1	60.0	58.8
70000	62.8	62.5	60.7	61.9	59.5	58.8	58.1	59.7	57.8	59.4	58.9	58.8	59.7	60.3	59.9	58.8
80000	62.9	62.5	60.8	62.0	59.6	58.7	58.3	59.9	58.4	59.5	59.1	58.9	59.9	60.2	59.7	58.9
90000	63.2	62.8	61.0	61.9	59.9	58.7	58.7	60.3	59.3	59.6	59.4	58.9	60.2	60.3	59.5	59.1
100000	63.9	62.7	61.5	61.8	60.2	58.7	59.4	60.5	60.1	59.7	59.6	58.9	60.7	60.4	59.4	59.3
110000	64.6	62.6	62.2	61.8	60.2	58.7	60.1	60.5	60.8	59.8	59.4	59.1	61.1	60.4	59.2	59.4
120000	65.5	63.4	62.6	61.7	60.2	58.7	60.7	60.2	61.3	59.8	59.1	59.3	61.6	60.5	58.9	59.7
130000	66.3	63.8	62.8	61.4	60.2	59.4	60.9	59.8	61.2	59.9	58.9	59.5	61.3	60.7	58.7	60.1
140000	66.7	64.4	62.8	60.5	60.5	60.1	61.1	58.7	61.1	60.1	59.1	59.6	61.0	60.8	58.7	60.7
150000	66.5	64.3	62.3	59.4	60.3	60.2	60.7	58.0	61.7	60.4	59.0	59.7	61.0	60.8	58.7	61.1
160000	65.9	63.8	61.7	58.6	60.2	60.1	60.3	57.6	61.8	60.0	58.9	59.6	60.6	60.7	58.8	61.7
170000	65.5	63.7	61.0	58.1	60.3	60.6	59.8	57.6	61.6	59.8	58.9	59.6	60.1	60.3	58.7	61.9
180000	64.9	64.0	59.9	57.8	60.1	60.9	59.5	58.1	61.3	59.5	58.8	59.4	59.9	60.1	58.8	61.4
190000	64.5	64.1	59.4	57.8	60.2	61.5	59.3	58.2	61.0	59.3	58.8	59.4	59.9	59.8	58.8	61.2
200000	64.2	64.0	59.1	58.3	60.3	61.2	58.8	58.1	60.6	59.2	58.8	59.7	59.7	59.6	59.0	60.9
210000	64.1	63.5	59.6	58.7	60.2	60.2	58.6	57.9	60.5	59.0	58.8	59.9	59.5	59.4	59.0	61.3
220000	64.1	63.4	60.0	59.0	60.4	59.6	58.3	57.7	60.1	58.8	58.7	59.9	59.2	59.3	58.9	61.1
230000	64.0	62.7	60.4	59.1	60.4	59.4	58.2	57.5	59.8	58.8	58.8	59.9	59.1	59.3	59.1	60.8
Daily Max	66.7	64.4	62.8	62.0	60.5	61.5	61.1	60.5	61.8	60.4	59.6	59.9	61.6	60.8	60.2	61.9
Daily Min	62.6	62.5	59.1	57.8	59.1	58.7	58.1	57.5	56.9	58.8	58.7	58.7	59.1	59.2	58.7	58.8
Average	64.1	63.3	61.2	60.4	59.9	59.7	59.2	59.0	59.5	59.6	58.9	59.2	60.1	60.0	59.3	60.0

Monthly average temp (F): 62.4
License Maximum Monthly Average: 68ºF

Note: The McClure penstock and powerhouse were out of service during the 2010 monitoring season.

Dead River Below McClure Dam - June 2010 Temperature Monitoring Data

Time HHMMSS	06/17/10	06/18/10	06/19/10	06/20/10	06/21/10	06/22/10	06/23/10	06/24/10	06/25/10	06/26/10	06/27/10	06/28/10	06/29/10	06/30/10
0	60.8	60.4	66.1	65.3	63.8	65.3	66.0	68.4	64.4	64.3	63.5	66.1	63.9	63.0
10000	61.0	60.8	66.3	65.2	64.1	65.8	66.6	67.9	64.1	64.2	63.6	66.0	63.6	62.9
20000	61.0	60.9	66.5	65.0	64.3	65.3	67.2	67.7	64.1	64.3	63.8	65.9	63.4	62.9
30000	60.9	61.3	66.3	64.7	64.5	65.0	67.4	67.2	64.1	64.3	63.9	65.7	63.2	62.8
40000	60.4	61.6	66.1	64.5	64.6	65.3	67.6	66.9	64.2	64.3	64.0	65.5	62.9	62.7
50000	60.3	62.3	65.7	64.4	64.5	65.6	67.7	66.8	64.1	64.2	64.0	65.4	62.8	62.6
60000	60.3	62.8	65.3	64.2	64.5	65.7	67.9	66.7	64.0	64.1	64.0	65.3	62.7	62.5
70000	60.4	63.0	65.1	64.2	64.6	65.8	67.8	66.4	64.1	64.0	64.0	65.1	62.6	62.4
80000	60.7	63.0	65.4	64.4	65.0	66.1	67.8	66.3	64.1	64.0	64.0	65.0	62.7	62.5
90000	61.3	63.4	65.9	64.8	65.5	66.5	67.9	66.2	64.1	63.9	64.1	64.7	62.6	62.7
100000	61.9	64.2	65.9	65.2	66.1	66.8	68.1	66.0	64.4	63.9	64.1	64.5	62.8	63.0
110000	62.9	64.8	65.9	65.4	66.4	67.1	68.2	66.1	65.0	63.9	64.1	64.2	62.9	63.4
120000	63.1	65.5	66.1	65.4	66.7	67.0	68.3	66.4	65.5	63.9	64.2	64.1	63.5	64.0
130000	63.6	66.1	66.2	65.8	66.8	66.8	68.7	66.5	65.7	64.0	64.3	64.3	64.1	64.4
140000	64.1	66.9	66.3	66.1	66.1	66.8	68.5	66.8	65.9	64.0	64.8	64.8	64.5	65.0
150000	63.5	67.6	66.0	66.0	65.2	66.7	68.5	67.0	66.0	64.1	65.6	65.4	64.7	65.5
160000	63.0	67.9	66.2	65.5	64.0	66.4	68.9	67.4	65.8	64.3	65.7	65.4	65.0	65.8
170000	62.2	67.6	66.2	64.9	63.4	65.6	67.0	67.0	65.9	64.6	65.9	65.4	64.8	65.8
180000	61.9	67.2	66.2	64.1	63.0	65.1	66.8	66.4	65.8	64.7	66.5	64.8	64.7	65.2
190000	61.1	66.4	66.0	63.7	63.0	64.6	67.3	65.9	65.6	64.5	67.0	64.4	64.1	65.0
200000	60.3	65.2	65.8	63.4	63.2	64.3	66.7	65.6	65.5	64.2	67.1	64.3	63.9	65.1
210000	59.8	64.7	65.5	63.3	63.8	64.1	66.0	65.4	65.3	63.8	67.0	64.4	63.7	65.0
220000	59.6	64.7	65.3	63.4	64.7	64.7	67.8	65.1	65.0	63.6	66.6	64.4	63.4	64.8
230000	59.9	65.5	65.3	63.6	65.3	65.4	68.6	64.7	64.7	63.5	66.3	64.2	63.1	64.5
Daily Max	64.1	67.9	66.5	66.1	66.8	67.1	68.9	68.4	66.0	64.7	67.1	66.1	65.0	65.8
Daily Min	59.6	60.4	65.1	63.3	63.0	64.1	66.0	64.7	64.0	63.5	63.5	64.1	62.6	62.4
Average	61.4	64.3	65.9	64.7	64.7	65.7	67.6	66.5	64.9	64.1	64.9	65.0	63.6	63.9

Dead River Below McClure Dam - July 2010 Temperature Monitoring Data

Time HHMMSS	07/01/10	07/02/10	07/03/10	07/04/10	07/05/10	07/06/10	07/07/10	07/08/10	07/09/10	07/10/10	07/11/10	07/12/10	07/13/10	07/14/10	07/15/10	07/16/10
0	64.1	63.5	66.1	70.6	71.2	68.3	67.6	71.5	70.7	70.0	69.8	69.8	69.4	67.7	68.5	69.7
10000	63.9	63.4	66.0	70.3	71.0	69.1	68.4	71.8	71.0	69.9	69.9	69.7	69.3	67.9	68.8	69.7
20000	63.7	63.3	66.1	70.1	70.8	69.5	69.3	71.7	71.0	69.8	69.8	69.6	68.9	68.0	68.5	69.7
30000	63.4	63.1	66.7	69.8	70.8	69.5	69.9	71.2	70.8	69.5	69.7	69.4	68.8	68.2	68.2	69.8
40000	63.2	63.1	67.1	69.6	70.7	69.7	70.1	70.8	70.8	69.3	69.6	69.3	68.4	68.4	68.4	69.7
50000	63.0	63.0	67.0	69.4	70.6	69.8	70.2	70.7	70.7	69.2	69.5	69.2	68.2	68.6	68.6	69.6
60000	62.9	62.9	66.8	69.2	70.5	69.9	70.1	70.6	70.6	69.0	69.4	69.0	67.9	68.7	68.8	69.4
70000	62.8	62.9	66.6	69.1	70.4	69.8	70.1	70.6	70.3	68.8	69.2	68.8	67.7	68.6	68.7	69.3
80000	62.8	63.0	66.4	69.0	70.4	69.7	70.1	70.6	70.1	68.7	69.2	68.8	67.8	68.6	68.5	69.2
90000	63.0	63.2	66.5	69.3	70.6	69.4	70.2	70.9	70.0	68.7	69.3	68.8	68.0	68.8	68.4	69.4
100000	63.2	63.8	66.9	69.7	70.7	69.3	70.6	71.2	70.3	69.0	69.5	68.9	68.4	69.2	68.6	69.7
110000	63.5	64.7	67.4	70.4	71.1	69.4	70.8	71.3	70.8	69.4	69.5	69.3	68.8	69.7	69.1	70.1
120000	63.6	65.7	68.0	71.0	71.7	69.2	71.0	71.9	71.3	70.0	69.7	70.0	69.4	70.1	69.7	70.3
130000	63.8	66.5	69.0	71.7	71.8	69.3	71.2	72.2	71.7	70.9	69.7	70.3	70.0	70.1	70.1	70.6
140000	63.8	67.2	70.1	71.9	71.1	70.2	71.2	72.2	71.9	71.9	69.9	70.7	70.5	69.1	70.5	71.2
150000	64.0	67.7	70.5	72.0	70.5	70.7	70.6	71.8	72.0	72.4	69.9	71.0	70.3	68.4	70.8	71.5
160000	64.0	68.1	71.1	71.5	69.0	70.7	69.5	71.2	72.0	72.8	70.2	70.6	70.1	68.2	71.2	71.6
170000	64.1	69.0	71.4	71.8	68.1	70.7	67.9	70.1	72.1	73.1	70.5	70.7	69.5	68.1	71.5	71.6
180000	64.0	68.3	72.2	71.6	68.1	70.2	67.9	69.3	72.1	73.0	70.6	71.5	69.4	68.4	71.2	71.4
190000	63.8	68.0	71.8	71.8	68.1	69.2	67.7	68.7	71.7	72.4	70.6	71.9	68.7	68.7	70.9	71.3
200000	63.9	67.8	71.7	71.9	68.5	68.1	67.7	68.3	71.4	71.6	70.4	71.3	68.1	69.1	70.7	70.8
210000	63.7	67.1	71.6	72.2	68.5	67.5	68.9	69.2	71.0	70.7	70.2	70.8	67.8	69.2	70.3	70.6
220000	63.6	66.6	71.3	71.8	68.1	67.4	70.2	70.0	70.5	70.1	70.2	70.4	67.5	68.9	70.0	70.4
230000	63.5	66.3	71.0	71.4	67.8	67.4	71.0	69.9	70.2	69.8	70.0	69.7	67.6	68.1	69.8	70.3
Daily Max	64.1	69.0	72.2	72.2	71.8	70.7	71.2	72.2	72.1	73.1	70.6	71.9	70.5	70.1	71.5	71.6
Daily Min	62.8	62.9	66.0	69.0	67.8	67.4	67.6	68.3	70.0	68.7	69.2	68.8	67.5	67.7	68.2	69.2
Average	63.6	65.3	68.7	70.7	70.0	69.3	69.7	70.7	71.0	70.4	69.9	70.0	68.8	68.7	69.6	70.3

Monthly average temp (F): 69.8
License Maximum Monthly Average: 68ºF

Note: The McClure penstock and powerhouse were out of service during the 2010 monitoring season.

Dead River Below McClure Dam - July 2010 Temperature Monitoring Data

Time HHMMSS	07/17/10	07/18/10	07/19/10	07/20/10	07/21/10	07/22/10	07/23/10	07/24/10	07/25/10	07/26/10	07/27/10	07/28/10	07/29/10	07/30/10	07/31/10
0	70.2	69.6	70.1	69.8	69.7	70.1	69.2	70.8	70.0	69.6	71.9	72.5	70.9	69.8	70.0
10000	70.2	69.6	69.8	69.8	69.6	70.1	69.2	70.8	69.9	69.6	71.6	72.3	70.9	69.8	70.2
20000	70.2	69.5	69.6	69.7	69.5	70.0	69.2	70.6	69.7	69.5	71.5	72.1	70.8	69.7	70.3
30000	70.1	69.4	69.5	69.5	69.4	69.9	69.2	70.5	69.5	69.5	71.4	72.0	70.6	69.5	70.4
40000	70.0	69.2	69.4	69.5	69.3	69.8	69.1	70.4	69.2	69.3	71.2	71.9	70.4	69.4	70.3
50000	69.8	69.0	69.2	69.4	69.1	69.7	69.1	70.3	69.0	69.2	70.9	71.7	70.4	69.6	70.3
60000	69.6	68.8	69.1	69.4	69.0	69.6	69.0	70.2	68.8	69.1	70.6	71.6	70.3	69.6	70.3
70000	69.4	68.8	69.0	69.3	68.9	69.5	69.0	70.2	68.6	69.0	70.5	71.4	70.1	69.6	70.3
80000	69.4	68.9	69.0	69.4	68.8	69.4	69.0	70.1	68.6	69.0	70.4	71.3	70.1	69.7	70.4
90000	69.5	69.1	69.2	69.5	69.0	69.5	69.1	70.1	68.7	69.1	70.5	71.2	70.2	69.9	70.5
100000	69.6	69.5	69.5	69.9	69.3	69.5	69.3	70.1	69.1	69.5	70.8	71.5	70.5	70.1	70.7
110000	69.8	69.7	69.8	70.2	69.8	68.4	69.6	70.1	69.6	70.2	71.4	71.5	70.9	70.6	71.1
120000	70.3	69.8	70.2	70.5	70.4	69.7	70.2	70.3	70.1	71.1	72.0	71.8	71.5	71.0	71.3
130000	70.9	69.9	70.6	70.7	70.8	69.8	71.0	70.5	70.7	71.6	72.5	72.1	72.1	71.5	71.4
140000	71.5	70.0	69.4	71.2	71.2	69.8	71.6	70.5	71.2	72.1	72.8	72.5	72.0	71.7	71.3
150000	71.7	70.4	70.4	71.0	71.5	70.1	71.9	70.4	71.7	72.4	73.0	72.8	72.1	71.8	71.2
160000	71.7	70.7	70.5	70.7	71.7	70.3	72.1	70.4	72.1	73.1	73.3	72.7	72.2	71.7	71.5
170000	71.3	70.8	70.5	70.7	71.5	70.2	72.3	70.6	71.6	73.6	72.7	72.6	71.8	71.6	72.1
180000	70.9	70.8	70.4	70.5	71.4	70.0	72.2	70.8	71.5	74.0	73.0	72.3	71.6	71.4	72.1
190000	70.4	70.6	70.5	70.5	71.3	69.9	72.1	70.9	71.1	73.8	73.1	72.0	71.2	71.1	71.9
200000	70.2	70.4	70.5	70.5	70.9	69.6	71.8	70.7	70.6	73.0	72.8	71.6	70.8	70.9	71.7
210000	70.0	70.3	70.2	70.2	70.7	69.1	71.6	70.6	70.3	72.2	72.9	71.4	70.5	70.5	71.5
220000	69.8	70.2	70.0	70.1	70.4	69.0	71.0	70.3	70.0	71.7	73.0	71.1	70.2	70.2	71.2
230000	69.8	70.2	69.9	69.9	70.2	69.1	70.8	70.2	69.8	71.6	72.9	70.9	70.0	70.1	71.1
Daily Max	71.7	70.8	70.6	71.2	71.7	70.3	72.3	70.9	72.1	74.0	73.3	72.8	72.2	71.8	72.1
Daily Min	69.4	68.8	69.0	69.3	68.8	68.4	69.0	70.1	68.6	69.0	70.4	70.9	70.0	69.4	70.0
Average	70.3	69.8	69.8	70.1	70.2	69.7	70.4	70.4	70.1	70.9	71.9	71.9	70.9	70.4	71.0

Dead River Below McClure Dam - August 2010 Temperature Monitoring Data

Time HHMMSS	8/1/2010	8/2/2010	8/3/2010	8/4/2010	8/5/2010	8/6/2010	8/7/2010	8/8/2010	8/9/2010	8/10/2010	8/11/2010	8/12/2010	8/13/2010	8/14/2010	8/15/2010	8/16/2010
0	70.9	73.6	71.6	73.9	73.2	70.3	69.5	70.3	70.1	73.7	73.8	71.7	72.4	73.1	73.2	71.0
10000	70.8	73.4	71.5	73.6	73.1	70.2	69.4	70.1	70.1	73.9	74.2	71.7	72.5	72.8	73.2	71.0
20000	70.6	73.3	71.4	73.4	72.9	70.1	69.3	70.0	70.1	74.2	74.4	72.0	72.8	72.6	73.3	70.8
30000	70.5	73.1	71.5	73.3	72.7	70.1	69.1	70.0	70.2	74.4	74.4	72.2	73.2	72.5	73.3	70.5
40000	70.3	72.9	71.6	73.1	72.5	70.1	69.0	70.1	70.5	73.9	74.5	72.3	73.5	72.3	73.2	70.3
50000	70.3	72.7	71.6	73.0	72.3	70.0	68.9	70.1	70.8	73.5	74.2	72.4	73.5	72.2	73.0	70.2
60000	70.3	72.4	71.7	72.9	72.1	69.9	68.8	70.1	71.0	73.2	74.0	72.4	73.5	72.0	72.5	70.1
70000	70.2	72.1	71.6	72.8	71.9	69.8	68.7	70.1	71.0	73.0	73.8	72.5	73.6	71.9	72.1	69.9
80000	70.2	71.9	71.6	72.7	71.7	69.7	68.7	70.3	71.1	72.8	73.8	72.6	73.7	71.9	72.0	69.7
90000	70.2	71.9	71.7	72.9	71.7	69.8	68.9	70.3	71.3	72.9	73.9	72.6	73.7	71.9	72.0	69.9
100000	70.5	71.8	72.1	73.1	71.7	69.9	69.3	70.4	71.6	73.1	73.8	72.8	73.6	72.2	72.0	70.0
110000	71.0	71.7	72.6	73.3	71.8	70.1	69.7	70.5	72.1	73.7	73.7	73.2	73.4	72.6	72.3	70.0
120000	71.4	71.7	73.3	73.3	72.1	70.5	70.3	70.9	73.0	74.4	73.5	73.4	73.0	73.1	72.3	70.4
130000	71.8	72.0	73.8	73.3	72.1	70.7	71.0	71.3	73.9	75.0	73.1	73.8	73.0	73.7	72.6	71.0
140000	72.4	72.2	74.6	73.8	72.3	71.1	71.6	71.8	74.0	75.5	73.0	74.6	72.7	74.4	72.7	71.5
150000	73.3	72.4	75.7	74.5	72.1	71.3	71.5	72.1	74.1	75.3	72.9	75.1	72.7	74.9	72.7	71.8
160000	73.9	72.8	75.5	74.6	72.4	71.5	71.9	72.0	74.2	74.8	72.9	74.7	72.9	75.1	72.6	72.0
170000	74.4	73.6	74.4	74.7	72.5	71.5	71.9	71.9	74.1	74.0	73.0	74.2	72.8	75.1	72.8	71.7
180000	74.7	73.3	74.0	74.8	72.2	71.2	71.7	71.5	74.3	73.3	73.0	73.7	72.7	74.6	72.4	71.5
190000	74.6	73.0	73.1	74.4	71.9	70.8	71.4	71.1	74.8	72.4	73.1	73.4	72.6	74.2	72.1	71.3
200000	74.5	72.7	73.5	74.3	71.6	70.4	71.0	70.8	75.3	72.0	73.0	73.1	72.8	73.7	71.9	70.9
210000	74.4	72.4	74.3	74.1	71.3	70.1	70.7	70.5	75.6	72.0	72.6	72.6	73.0	73.5	71.6	70.6
220000	74.2	72.0	74.2	73.6	70.9	69.9	70.5	70.3	75.0	72.5	72.2	72.4	73.1	73.4	71.4	70.2
230000	73.9	71.7	74.1	73.4	70.5	69.7	70.4	70.1	74.4	73.3	72.0	72.2	73.1	73.4	71.2	69.9
Daily Max	74.7	73.6	75.7	74.8	73.2	71.5	71.9	72.1	75.6	75.5	74.5	75.1	73.7	75.1	73.3	72.0
Daily Min	70.2	71.7	71.4	72.7	70.5	69.7	68.7	70.0	70.1	72.0	72.0	71.7	72.4	71.9	71.2	69.7
Average	72.0	72.5	73.0	73.6	72.1	70.4	70.1	70.7	72.6	73.6	73.4	73.0	73.1	73.2	72.4	70.7

Monthly average temp (F): 70.7
License Maximum Monthly Average: 68ºF

Note: The McClure penstock and powerhouse were out of service during the 2010 monitoring season.

Dead River Below McClure Dam - August 2010 Temperature Monitoring Data

Time HHMMSS	8/17/2010	8/18/2010	8/19/2010	8/20/2010	8/21/2010	8/22/2010	8/23/2010	8/24/2010	8/25/2010	8/26/2010	8/27/2010	8/28/2010	8/29/2010	8/30/2010	8/31/2010
0	69.7	68.5	68.1	67.1	68.2	68.4	69.8	68.5	68.6	67.0	66.7	69.2	69.4	70.6	70.6
10000	69.5	68.5	68.1	67.1	68.2	68.3	69.4	68.6	68.4	66.9	66.6	69.2	69.1	70.5	70.6
20000	69.4	68.4	68.1	67.0	68.2	68.2	69.1	68.5	68.2	66.8	66.5	69.1	68.8	70.4	70.5
30000	69.2	68.4	68.1	67.1	68.1	68.1	68.9	68.4	68.0	66.7	66.3	68.9	68.5	70.3	70.6
40000	69.1	68.5	68.0	67.1	68.1	68.0	68.7	68.3	67.9	66.6	66.2	68.7	68.2	70.2	70.6
50000	69.0	68.4	68.0	67.2	68.1	67.9	68.6	68.3	67.8	66.5	66.1	68.5	68.0	70.1	70.6
60000	68.8	68.4	67.8	67.3	68.1	67.8	68.5	68.3	67.7	66.4	65.9	68.3	67.9	70.0	70.7
70000	68.8	68.4	67.8	67.4	68.1	67.8	68.4	68.5	67.6	66.3	65.8	68.0	67.7	70.0	70.6
80000	68.7	68.4	67.7	67.4	68.0	67.7	68.4	68.6	67.5	66.2	65.9	67.8	67.6	69.9	70.5
90000	68.8	68.4	67.7	67.3	68.0	67.8	68.4	68.7	67.5	66.3	66.0	67.7	67.6	69.9	70.5
100000	69.0	68.5	67.9	67.5	68.0	68.1	68.6	68.9	67.7	66.7	66.3	67.9	67.9	70.1	70.7
110000	69.2	68.8	68.2	67.6	67.9	68.7	69.0	69.5	68.0	67.1	66.8	68.2	68.2	70.4	71.1
120000	69.4	69.1	68.7	67.8	68.0	69.3	69.6	70.1	68.1	67.5	67.5	68.6	68.7	71.0	71.6
130000	69.8	69.3	69.3	68.0	68.1	70.1	70.5	70.2	68.2	68.1	68.4	69.2	69.3	71.6	72.0
140000	70.1	69.3	69.6	68.1	68.3	70.5	71.4	70.4	68.2	68.5	68.9	69.7	70.1	72.4	72.1
150000	70.5	69.3	69.9	68.1	68.8	71.0	72.0	70.4	68.4	69.2	69.7	70.3	70.9	73.2	72.2
160000	70.6	69.2	69.6	68.1	69.3	72.2	72.5	70.0	68.7	69.8	69.6	70.6	71.6	73.4	72.4
170000	70.6	68.9	69.2	68.0	69.8	71.9	72.0	69.7	68.7	69.9	69.8	70.8	71.9	73.9	72.4
180000	70.5	68.6	68.8	68.1	69.8	71.5	71.3	69.9	68.5	69.6	70.2	70.7	72.0	73.5	72.3
190000	70.2	68.6	68.3	68.3	69.5	71.3	70.2	69.8	68.3	69.0	70.4	70.5	72.0	72.7	72.2
200000	69.8	68.5	67.9	68.3	69.3	71.0	69.6	69.7	68.0	68.4	70.1	70.3	71.7	71.5	72.0
210000	69.4	68.4	67.6	68.3	69.1	70.7	69.4	69.3	67.7	67.7	69.7	70.1	71.0	70.8	71.7
220000	69.0	68.3	67.4	68.3	68.8	70.5	69.0	68.9	67.4	67.2	69.4	69.8	70.5	70.5	71.5
230000	68.7	68.2	67.3	68.2	68.5	70.1	68.7	68.7	67.2	66.9	69.4	69.6	70.3	70.5	71.4
Daily Max	70.6	69.3	69.9	68.3	69.8	72.2	72.5	70.4	68.7	69.9	70.4	70.8	72.0	73.9	72.4
Daily Min	68.7	68.2	67.3	67.0	67.9	67.7	68.4	68.3	67.2	66.2	65.8	67.7	67.6	69.9	70.5
Average	69.5	68.6	68.3	67.7	68.5	69.5	69.7	69.2	68.0	67.6	67.8	69.2	69.5	71.1	71.3

Dead River Below McClure Dam - September 2010 Temperature Monitoring Data

Time HHMMSS	9/1/2010	9/2/2010	9/3/2010	9/4/2010	9/5/2010	9/6/2010	9/7/2010	9/8/2010	9/9/2010	9/10/2010	9/11/2010	9/12/2010	9/13/2010	9/14/2010	9/15/2010	9/16/2010
0	71.3	69.7	68.8	66.1	64.4	63.3	63.7	62.7	61.7	61.3	60.6	60.4	61.0	60.3	59.7	59.5
10000	71.3	69.5	68.6	66.0	64.3	63.2	63.8	62.7	61.6	61.3	60.5	60.3	61.0	60.2	59.7	59.3
20000	71.3	69.3	68.5	65.9	64.2	63.1	63.7	62.6	61.5	61.2	60.6	60.2	60.8	60.2	59.5	59.2
30000	71.3	69.2	68.3	65.9	64.1	63.1	63.8	62.5	61.4	61.0	60.7	60.1	60.7	60.1	59.5	59.1
40000	71.3	68.9	68.1	65.9	64.0	63.1	63.9	62.5	61.4	60.8	60.6	60.0	60.6	60.1	59.4	59.2
50000	71.3	68.7	68.0	65.8	63.9	63.2	64.0	62.3	61.4	60.6	60.7	60.0	60.5	60.1	59.2	59.3
60000	71.2	68.6	67.7	65.7	63.8	63.2	64.0	62.2	61.4	60.5	60.7	60.0	60.4	60.0	59.1	59.2
70000	71.1	68.5	67.6	65.6	63.7	63.3	63.9	62.1	61.4	60.5	60.7	59.9	60.2	60.0	59.0	59.2
80000	70.6	68.5	67.6	65.5	63.6	63.3	63.8	62.1	61.5	60.4	60.7	59.8	60.2	59.9	58.9	59.1
90000	70.5	68.6	67.6	65.5	63.6	63.3	63.5	62.1	61.6	60.4	60.7	59.9	60.2	59.9	59.1	59.1
100000	70.5	68.9	67.8	65.5	63.8	63.4	63.5	62.1	61.7	60.7	60.6	60.0	60.4	60.0	59.4	59.1
110000	70.4	69.0	68.0	65.5	64.0	63.8	63.7	62.2	61.8	61.2	60.7	60.4	60.7	60.2	59.8	59.2
120000	70.4	69.0	68.0	65.6	64.3	64.2	63.8	62.3	61.9	61.4	60.8	60.9	60.9	60.2	60.0	59.4
130000	70.7	68.8	68.0	65.6	64.6	64.3	63.7	62.5	62.1	61.9	60.8	61.6	61.3	60.5	60.3	59.5
140000	71.0	68.6	68.1	65.6	65.0	64.2	63.7	62.6	62.1	61.9	60.8	62.0	61.5	60.8	60.5	59.8
150000	71.5	68.6	68.2	65.5	65.3	64.2	63.9	62.7	62.1	62.1	60.9	62.4	61.7	61.1	60.9	59.9
160000	71.7	68.5	68.0	65.5	65.7	64.4	63.9	62.7	62.1	62.1	60.9	62.5	61.8	61.2	60.9	60.1
170000	71.4	68.8	67.8	65.5	65.8	64.5	63.8	62.7	62.2	61.9	61.0	62.5	61.7	61.1	60.6	60.3
180000	71.1	69.3	67.6	65.4	65.8	64.2	63.7	62.6	62.2	61.6	61.0	62.4	61.5	61.2	60.3	60.4
190000	70.8	69.2	67.3	65.2	65.1	64.0	63.6	62.5	62.0	61.3	60.9	62.1	61.3	60.8	60.1	60.2
200000	70.5	69.1	66.9	65.0	64.6	63.8	63.4	62.3	61.8	61.1	60.9	61.9	61.0	60.5	59.9	59.7
210000	70.3	69.0	66.6	64.9	64.1	63.8	63.2	62.1	61.6	60.9	60.8	61.6	60.8	60.2	59.7	59.3
220000	70.1	69.0	66.3	64.7	63.8	63.7	63.0	61.9	61.4	60.7	60.7	61.4	60.5	59.9	59.6	59.1
230000	69.9	68.8	66.2	64.6	63.5	63.7	62.8	61.8	61.3	60.6	60.6	61.2	60.4	59.8	59.5	59.0
Daily Max	71.7	69.7	68.8	66.1	65.8	64.5	64.0	62.7	62.2	62.1	61.0	62.5	61.8	61.2	60.9	60.4
Daily Min	69.9	68.5	66.2	64.6	63.5	63.1	62.8	61.8	61.3	60.4	60.5	59.8	60.2	59.8	58.9	59.0
Average	70.9	68.9	67.7	65.5	64.4	63.7	63.7	62.4	61.7	61.1	60.7	61.0	60.9	60.3	59.8	59.5

Monthly average temp (F): 60.9
License Maximum Monthly Average: 63ºF

Note: The McClure penstock and powerhouse were out of service during the 2010 monitoring season.

Dead River Below McClure Dam - September 2010 Temperature Monitoring Data

Time HHMMSS	9/17/2010	9/18/2010	9/19/2010	9/20/2010	9/21/2010	9/22/2010	9/23/2010	9/24/2010	9/25/2010	9/26/2010	9/27/2010	9/28/2010	9/29/2010	9/30/2010
0	58.8	59.7	58.6	58.2	58.2	59.1	58.1	58.6	58.8	57.7	57.3	57.4	57.1	57.4
10000	58.7	59.7	58.5	58.1	58.2	58.9	58.1	58.7	58.7	57.7	57.3	57.3	57.1	57.4
20000	58.6	59.6	58.4	57.9	58.3	58.8	58.1	58.7	58.6	57.7	57.3	57.3	57.1	57.3
30000	58.6	59.6	58.3	57.8	58.4	58.7	58.1	58.7	58.4	57.6	57.2	57.2	57.0	57.1
40000	58.5	59.4	58.2	57.7	58.5	58.7	58.0	58.8	58.4	57.5	57.2	57.3	57.0	57.1
50000	58.5	59.3	58.1	57.6	58.6	58.6	58.0	59.2	58.3	57.5	57.2	57.5	57.0	57.0
60000	58.5	59.1	58.0	57.5	58.6	58.4	58.0	59.3	58.2	57.4	57.2	57.6	57.0	56.9
70000	58.6	58.9	58.0	57.4	58.7	58.3	58.0	59.3	58.2	57.4	57.1	57.6	57.0	56.9
80000	58.7	58.8	58.0	57.3	58.8	58.3	58.1	59.4	58.1	57.3	57.0	57.6	57.0	56.8
90000	58.7	58.6	58.0	57.3	58.9	58.2	58.1	59.5	58.0	57.3	57.0	57.6	56.9	56.9
100000	58.9	58.5	58.2	57.5	59.1	58.3	58.1	59.6	58.1	57.4	57.0	57.6	57.0	56.9
110000	59.1	58.5	58.4	57.9	59.4	58.6	58.2	59.7	58.1	57.6	57.2	57.6	57.1	56.9
120000	59.4	58.7	58.7	58.1	59.6	59.0	58.3	59.7	58.1	57.7	57.4	57.6	57.3	57.0
130000	59.7	58.9	59.0	58.4	59.6	59.3	58.4	59.8	58.1	57.8	57.7	57.6	57.5	57.0
140000	60.1	59.2	59.3	58.7	59.8	59.7	58.4	59.9	58.2	57.9	58.0	57.5	57.7	57.0
150000	60.4	59.6	59.7	58.8	60.0	59.7	58.4	59.9	58.2	58.2	58.2	57.5	58.0	57.1
160000	60.4	59.7	59.8	58.7	60.3	59.4	58.4	59.9	58.2	58.3	58.4	57.5	58.1	57.2
170000	60.4	59.8	59.8	58.5	60.4	59.0	58.5	59.7	58.2	58.3	58.1	57.4	58.0	57.1
180000	60.2	59.8	59.4	58.3	60.4	58.8	58.6	59.6	58.1	58.2	57.9	57.3	58.0	57.1
190000	60.2	59.7	59.1	58.2	60.2	58.6	58.6	59.5	58.0	58.0	57.8	57.3	58.0	57.0
200000	60.1	59.3	59.0	58.0	59.9	58.4	58.6	59.2	57.9	57.7	57.7	57.3	58.2	56.9
210000	60.0	59.0	58.8	57.9	59.6	58.3	58.7	59.1	57.8	57.5	57.6	57.2	57.8	56.8
220000	59.9	58.8	58.6	57.9	59.4	58.2	58.6	59.0	57.8	57.4	57.5	57.2	57.6	56.8
230000	59.8	58.7	58.4	58.0	59.2	58.1	58.6	58.9	57.8	57.3	57.5	57.1	57.5	56.7
Daily Max	60.4	59.8	59.8	58.8	60.4	59.7	58.7	59.9	58.8	58.3	58.4	57.6	58.2	57.4
Daily Min	58.5	58.5	58.0	57.3	58.2	58.1	58.0	58.6	57.8	57.3	57.0	57.1	56.9	56.7
Average	59.4	59.2	58.7	58.0	59.3	58.7	58.3	59.3	58.2	57.7	57.5	57.4	57.4	57.0

Dead River Below McClure Dam - October 2010 Temperature Monitoring Data

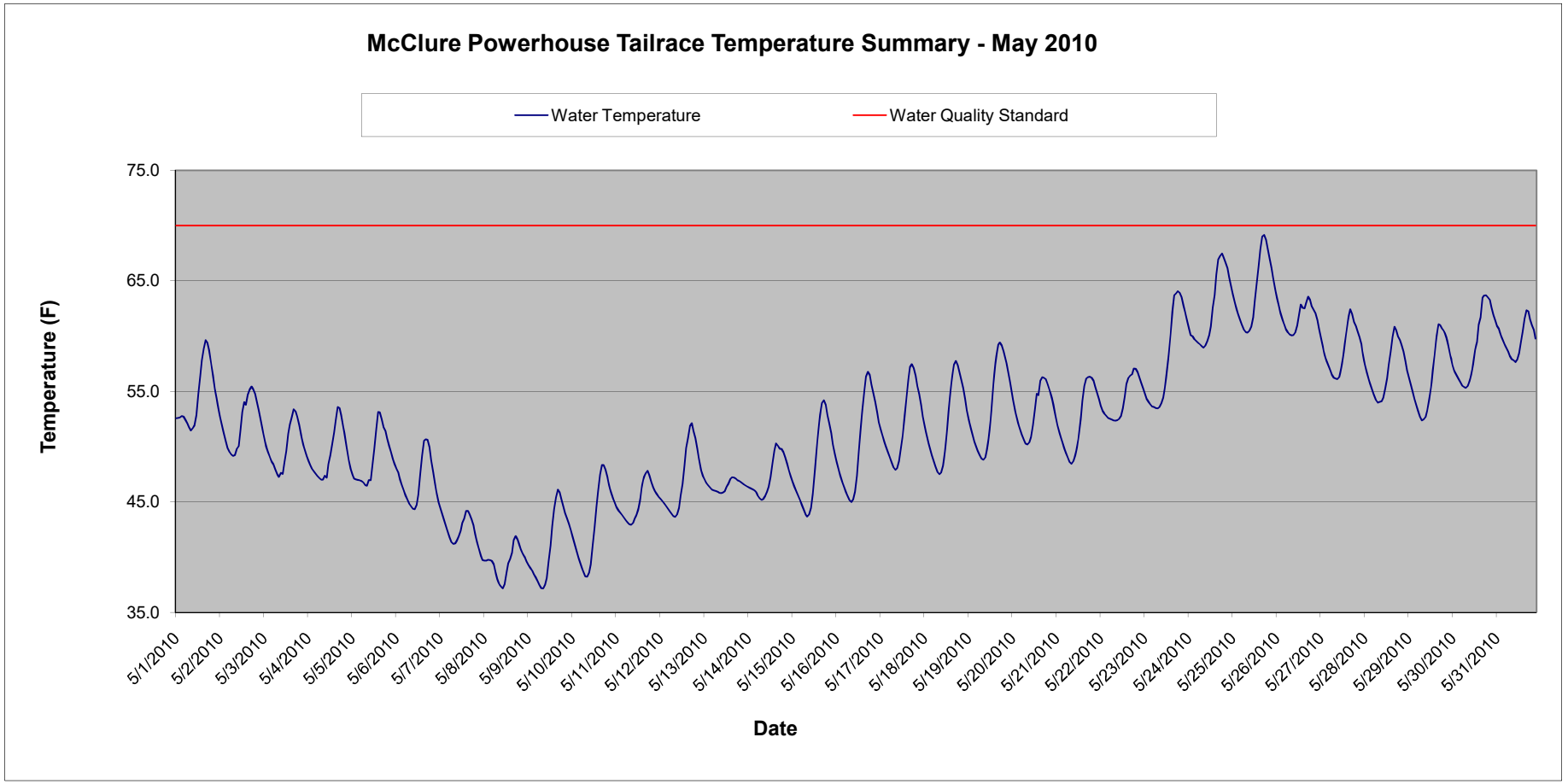
Time HHMMSS	10/1/2010	10/2/2010	10/3/2010	10/4/2010	10/5/2010	10/6/2010	10/7/2010	10/8/2010	10/9/2010	10/10/2010	10/11/2010	10/12/2010	10/13/2010	10/14/2010	10/15/2010	10/16/2010
0	56.7	56.3	55.5	54.9	55.4	54.7	55.3	55.4	55.7	54.3	55.6	54.2	55.3	54.4	54.1	53.5
10000	56.6	56.3	55.5	54.8	55.3	54.7	55.2	55.4	55.6	54.4	55.5	54.2	55.3	54.3	54.1	53.5
20000	56.6	56.2	55.4	54.8	55.1	54.6	55.2	55.4	55.4	54.3	55.3	54.2	55.3	54.3	54.2	53.4
30000	56.5	56.2	55.3	54.7	55.0	54.9	55.2	55.3	55.2	54.5	55.3	54.2	55.1	54.2	54.1	53.4
40000	56.5	56.1	55.3	54.6	55.0	55.0	55.1	55.3	55.1	54.8	55.3	54.2	55.0	54.2	54.1	53.4
50000	56.4	56.0	55.2	54.6	54.9	55.0	55.0	55.3	54.9	54.9	55.2	54.1	54.9	54.1	54.1	53.4
60000	56.4	56.0	55.2	54.5	54.8	54.9	55.0	55.2	54.8	55.0	55.1	54.0	54.8	54.1	54.1	53.3
70000	56.4	55.9	55.1	54.5	54.7	54.9	54.9	55.1	54.7	54.9	55.1	54.0	54.7	54.0	54.0	53.2
80000	56.4	55.9	55.0	54.4	54.7	54.8	54.8	55.0	54.6	54.9	55.0	53.9	54.6	54.0	54.0	53.2
90000	56.4	55.9	55.0	54.4	54.7	54.8	54.8	55.0	54.6	54.9	55.0	53.9	54.5	54.0	54.0	53.2
100000	56.5	55.8	55.1	54.5	54.7	54.9	54.9	55.0	54.6	55.0	55.0	54.1	54.6	54.1	54.0	53.3
110000	56.6	55.8	55.2	54.7	54.9	55.1	55.0	55.1	54.7	55.3	55.1	54.2	54.6	54.2	54.0	53.4
120000	56.7	55.8	55.3	54.9	55.1	55.3	55.1	55.3	54.8	55.7	55.1	54.5	54.8	54.2	54.2	53.6
130000	56.6	55.9	55.4	55.3	55.3	55.5	55.3	55.6	55.0	56.0	55.1	54.8	55.0	54.3	54.4	53.9
140000	56.8	55.9	55.6	55.6	55.4	55.6	55.6	56.0	55.1	56.2	55.2	55.2	55.2	54.6	54.4	54.2
150000	56.9	55.9	55.5	56.0	55.3	55.7	55.8	56.5	55.1	56.3	55.2	55.7	55.3	54.6	54.5	54.5
160000	57.2	55.8	55.4	55.9	55.3	55.8	56.0	56.3	55.1	56.1	55.2	55.9	55.2	54.6	54.5	54.7
170000	57.0	55.7	55.3	56.0	55.1	55.9	56.0	56.1	55.0	55.9	54.9	56.0	55.3	54.6	54.3	54.9
180000	56.9	55.7	55.3	56.0	55.0	55.8	56.0	55.9	54.8	55.6	54.8	55.7	55.1	54.5	54.1	54.6
190000	56.8	55.7	55.2	56.0	54.9	55.7	55.9	55.7	54.7	55.4	54.6	55.4	55.0	54.4	54.1	54.3
200000	56.6	55.6	55.1	55.8	54.8	55.5	55.7	55.7	54.6	55.3	54.4	55.2	54.8	54.4	53.9	54.1
210000	56.6	55.6	55.0	55.6	54.8	55.4	55.5	55.5	54.5	55.3	54.4	55.2	54.7	54.3	53.8	53.9
220000	56.5	55.5	54.9	55.3	54.7	55.4	55.4	55.5	54.4	55.4	54.3	55.4	54.6	54.3	53.7	53.7
230000	56.4	55.5	54.9	55.3	54.7	55.3	55.3	55.5	54.4	55.5	54.2	55.4	54.5	54.2	53.6	53.4
Daily Max	57.2	56.3	55.6	56.0	55.4	55.9	56.0	56.5	55.7	56.3	55.6	56.0	55.3	54.6	54.5	54.9
Daily Min	56.4	55.5	54.9	54.4	54.7	54.6	54.8	55.0	54.4	54.3	54.2	53.9	54.5	54.0	53.6	53.2
Average	56.6	55.9	55.2	55.1	55.0	55.2	55.3	55.5	54.9	55.3	55.0	54.7	54.9	54.3	54.1	53.7

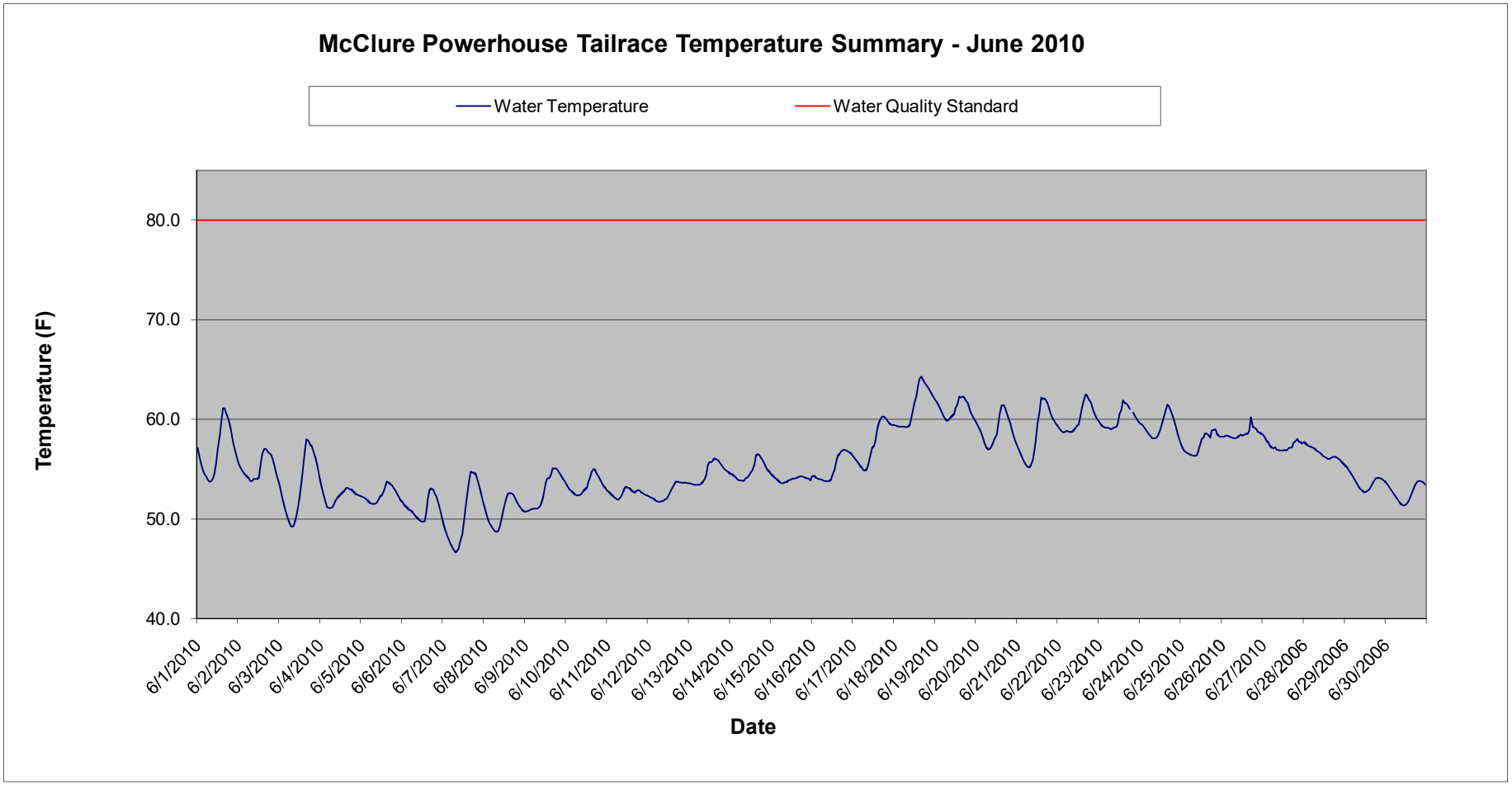
Monthly average temp (F): 52.8
License Maximum Monthly Average: 56ºF

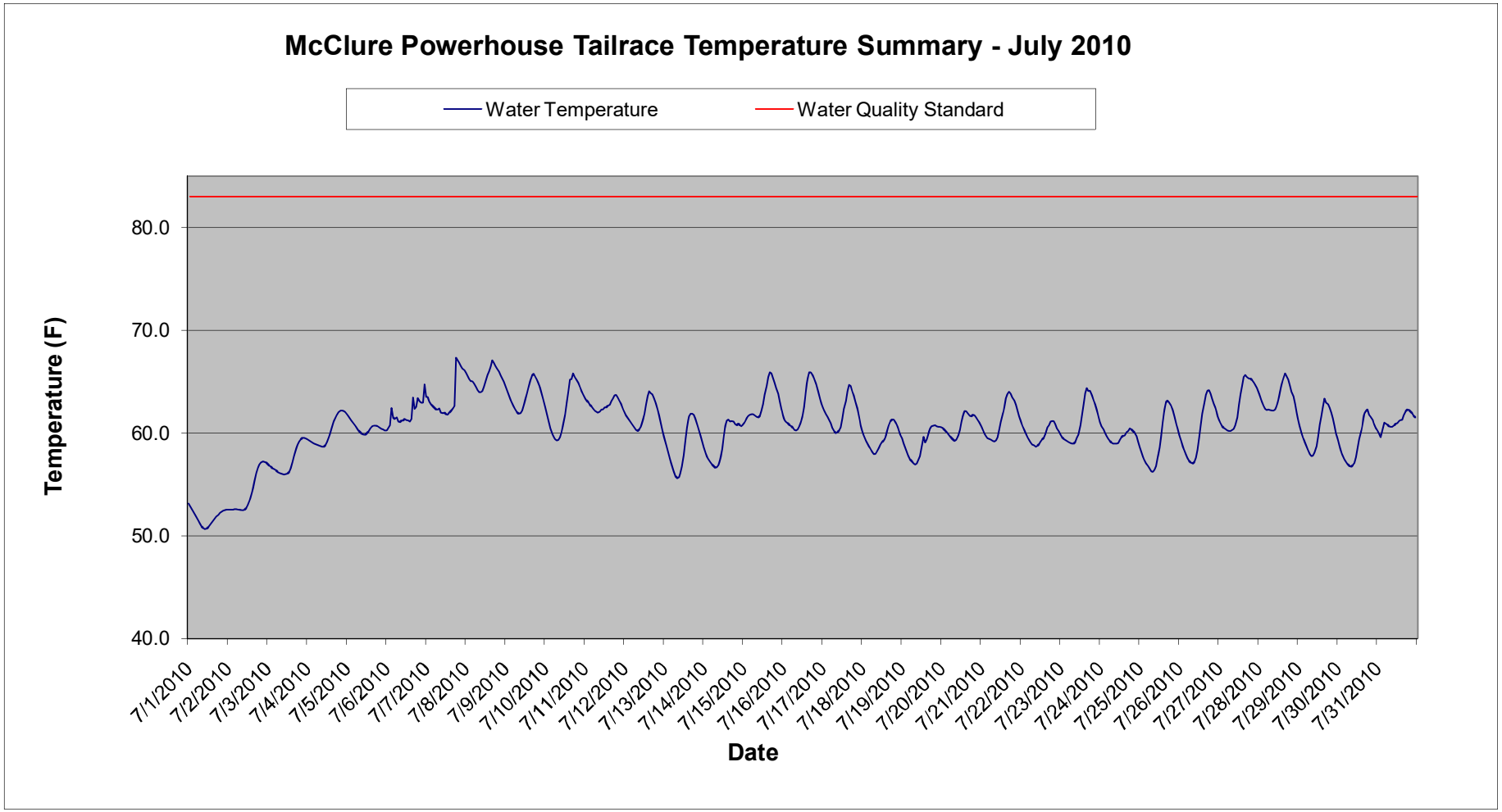
Note: The McClure penstock and powerhouse were out of service during the 2010 monitoring season.

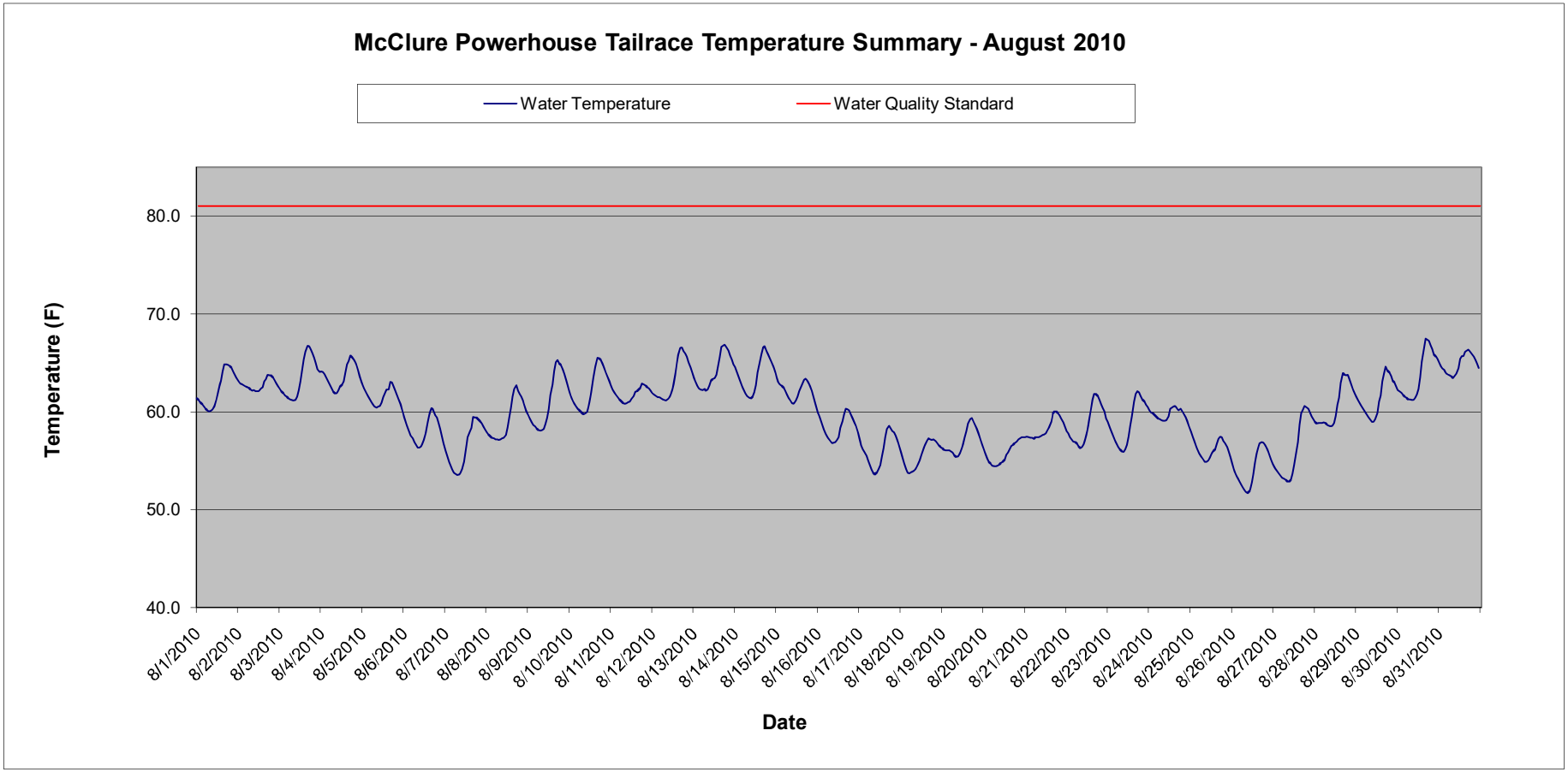
Dead River Below McClure Dam - October 2010 Temperature Monitoring Data

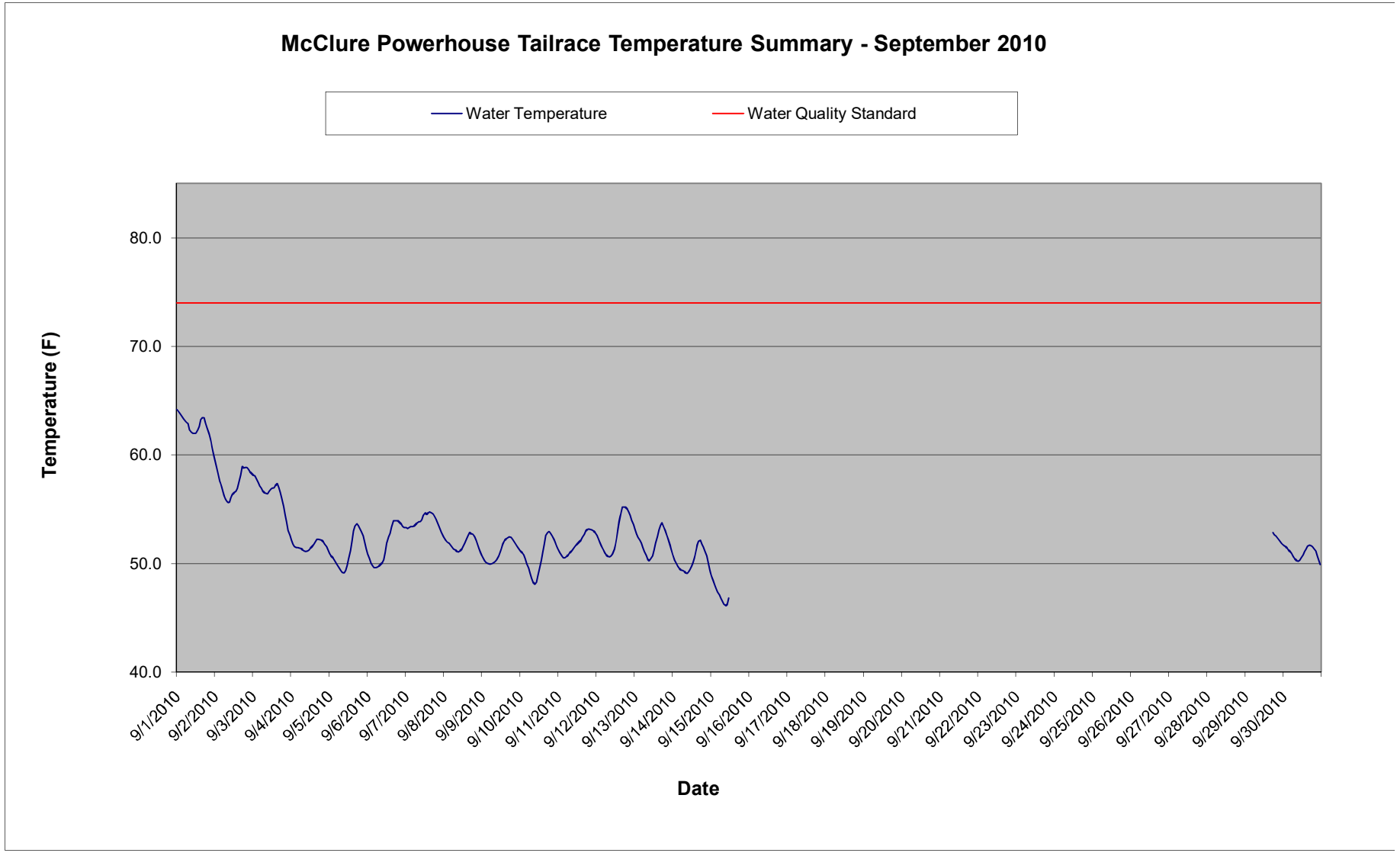
Time HHMMSS	10/17/2010	10/18/2010	10/19/2010	10/20/2010	10/21/2010	10/22/2010	10/23/2010	10/24/2010	10/25/2010	10/26/2010	10/27/2010	10/28/2010	10/29/2010	10/30/2010	10/31/2010
0	53.3	52.4	51.9	51.7	51.2	50.3	50.2	50.2	50.1	50.4	49.7	49.0	48.3	47.9	47.2
10000	53.2	52.4	51.9	51.8	51.1	50.1	50.1	50.2	50.0	50.4	49.7	49.0	48.2	47.9	47.1
20000	53.2	52.3	51.8	51.8	51.0	50.1	50.0	50.2	50.0	50.3	49.6	48.9	48.1	47.9	47.1
30000	53.2	52.3	51.8	51.8	51.0	49.9	49.9	50.2	50.1	50.3	49.5	48.9	48.1	47.9	47.0
40000	53.0	52.3	51.8	51.7	51.0	49.9	49.9	50.2	50.0	50.3	49.3	48.8	48.1	47.8	47.0
50000	52.9	52.3	51.9	51.7	50.9	50.0	49.9	50.1	50.0	50.3	49.2	48.7	48.0	47.8	47.0
60000	52.8	52.2	51.9	51.7	50.8	50.1	49.9	50.1	50.0	50.3	49.2	48.6	47.9	47.8	47.0
70000	52.8	52.2	51.8	51.7	50.7	50.1	49.8	50.1	50.0	50.4	49.1	48.6	47.8	47.8	47.0
80000	52.6	52.2	51.7	51.5	50.7	50.1	49.7	50.1	50.0	50.4	49.0	48.6	47.8	47.8	47.0
90000	52.6	52.2	51.7	51.5	50.6	50.1	49.7	50.1	50.0	50.4	49.0	48.5	47.8	47.8	47.1
100000	52.7	52.2	51.7	51.5	50.6	50.1	49.8	50.1	50.1	50.5	49.0	48.4	47.8	47.8	47.1
110000	52.9	52.3	51.9	51.6	50.6	50.2	50.3	50.1	50.3	50.6	49.0	48.5	47.9	47.8	47.1
120000	53.1	52.4	52.1	51.7	50.6	50.3	50.4	50.1	50.6	50.7	49.0	48.6	47.9	47.8	47.2
130000	53.2	52.6	52.3	51.8	50.7	50.5	50.5	50.0	50.8	50.8	49.1	48.8	48.0	47.8	47.2
140000	53.3	52.8	52.3	51.8	50.7	50.7	50.6	50.0	51.2	50.8	49.2	48.8	48.2	47.9	47.3
150000	53.3	52.9	52.3	51.8	50.6	50.8	50.6	50.0	51.5	50.6	49.1	48.8	48.2	48.0	47.3
160000	53.3	53.0	52.3	51.8	50.7	50.9	50.6	50.0	51.6	50.5	49.1	48.7	48.3	47.8	47.4
170000	53.2	53.0	52.3	51.7	50.6	51.0	50.5	50.0	51.3	50.4	49.1	48.6	48.3	47.7	47.3
180000	53.1	52.8	52.3	51.6	50.5	50.9	50.4	50.0	51.0	50.2	49.0	48.6	48.2	47.6	47.2
190000	53.1	52.7	52.2	51.5	50.4	50.8	50.3	50.0	50.8	50.1	49.0	48.5	48.1	47.6	47.1
200000	52.9	52.4	52.1	51.4	50.3	50.6	50.3	50.0	50.5	49.9	48.9	48.5	48.1	47.4	47.1
210000	52.7	52.2	51.9	51.3	50.2	50.4	50.3	50.1	50.4	49.7	48.9	48.4	48.0	47.4	47.0
220000	52.6	52.1	51.8	51.3	50.2	50.3	50.3	50.1	50.4	49.7	48.9	48.3	48.0	47.3	47.0
230000	52.5	52.0	51.7	51.3	50.2	50.3	50.3	50.1	50.4	49.7	49.0	48.3	48.0	47.2	46.8
Daily Max	53.3	53.0	52.3	51.8	51.2	51.0	50.6	50.2	51.6	50.8	49.7	49.0	48.3	48.0	47.4
Daily Min	52.5	52.0	51.7	51.3	50.2	49.9	49.7	50.0	50.0	49.7	48.9	48.3	47.8	47.2	46.8
Average	53.0	52.4	52.0	51.6	50.7	50.4	50.2	50.1	50.5	50.3	49.2	48.6	48.0	47.7	47.1

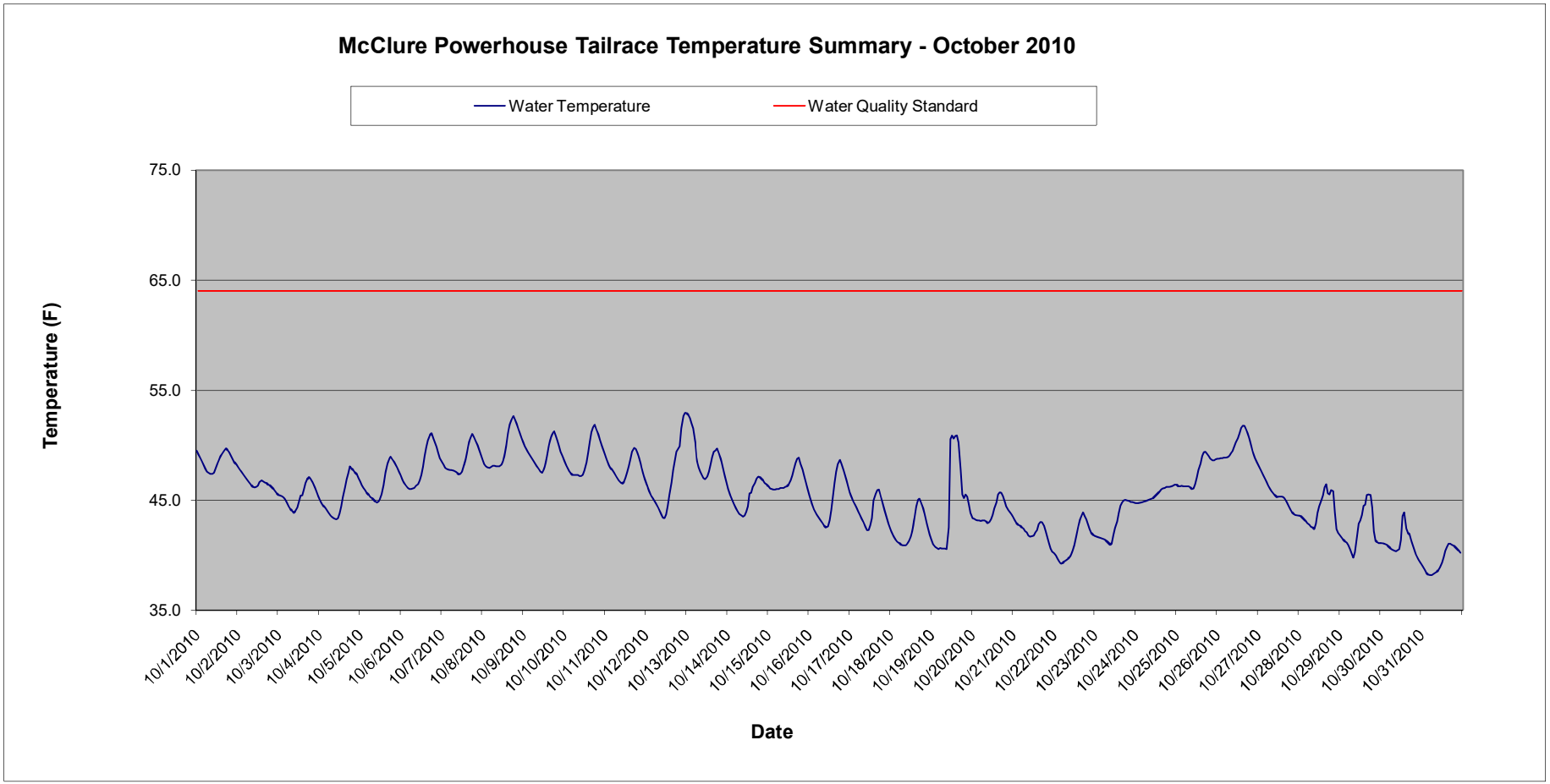












McClure Powerhouse Tailrace - May 2010 Temperature Monitoring Data

Time HHMMSS	5/1/2010	5/2/2010	5/3/2010	5/4/2010	5/5/2010	5/6/2010	5/7/2010	5/8/2010	5/9/2010	5/10/2010	5/11/2010	5/12/2010	5/13/2010	5/14/2010	5/15/2010	5/16/2010
0	52.6	52.6	50.7	48.7	47.5	48.0	44.4	39.7	39.3	41.9	44.5	45.3	47.0	46.3	46.8	48.6
10000	52.6	51.9	50.0	48.3	47.1	47.6	43.9	39.7	39.3	41.3	44.2	45.1	46.7	46.2	46.4	47.9
20000	52.6	51.1	49.5	48.0	47.0	47.0	43.3	39.7	39.0	40.7	44.0	44.9	46.5	46.2	46.0	47.4
30000	52.8	50.4	49.1	47.8	47.0	46.5	42.8	39.7	38.8	40.1	43.8	44.6	46.3	46.1	45.6	46.8
40000	52.7	49.9	48.7	47.5	46.9	46.0	42.3	39.7	38.4	39.6	43.6	44.4	46.1	45.9	45.2	46.3
50000	52.4	49.5	48.4	47.3	46.9	45.6	41.8	39.3	38.1	39.1	43.3	44.2	46.0	45.6	44.7	45.9
60000	52.1	49.3	47.9	47.2	46.8	45.2	41.4	38.7	37.8	38.6	43.1	43.9	46.0	45.3	44.3	45.5
70000	51.7	49.2	47.5	47.0	46.5	44.8	41.2	38.0	37.5	38.2	43.0	43.7	45.9	45.2	43.9	45.1
80000	51.5	49.2	47.2	47.0	46.5	44.6	41.2	37.5	37.2	38.2	42.9	43.6	45.8	45.2	43.6	45.0
90000	51.7	49.8	47.6	47.4	47.0	44.4	41.5	37.4	37.2	38.6	43.1	43.8	45.8	45.5	43.8	45.2
100000	51.9	50.0	47.5	47.2	47.0	44.3	41.9	37.1	37.5	39.3	43.5	44.5	45.8	45.9	44.5	45.9
110000	52.8	51.4	48.5	48.4	48.5	44.7	42.4	37.5	38.1	41.0	43.8	45.6	45.9	46.4	45.8	47.3
120000	54.7	53.1	49.6	49.2	49.8	45.6	43.1	38.6	39.7	42.7	44.4	46.6	46.4	47.2	47.6	49.3
130000	56.3	54.0	51.2	50.2	51.5	47.5	43.5	39.4	41.0	44.6	45.4	48.3	46.7	48.5	49.6	51.5
140000	57.8	53.8	52.0	51.3	53.1	49.2	44.2	39.8	42.8	46.0	46.5	49.9	47.1	49.6	51.4	53.4
150000	58.9	54.7	52.7	52.4	53.1	50.5	44.2	40.4	44.3	47.4	47.3	50.8	47.2	50.3	52.9	55.0
160000	59.6	55.2	53.4	53.6	52.5	50.6	43.8	41.5	45.4	48.3	47.6	51.8	47.2	50.1	53.9	56.3
170000	59.4	55.4	53.2	53.5	51.7	50.6	43.4	41.9	46.1	48.3	47.8	52.1	47.1	49.8	54.2	56.8
180000	58.7	55.2	52.7	52.8	51.4	49.9	42.9	41.6	45.9	47.9	47.4	51.4	46.9	49.8	53.8	56.5
190000	57.5	54.8	52.0	51.8	50.7	48.8	42.1	41.1	45.2	47.2	46.8	50.8	46.9	49.5	52.9	55.6
200000	56.4	54.0	51.1	50.8	50.1	47.7	41.3	40.6	44.5	46.5	46.3	49.8	46.8	49.0	52.1	54.8
210000	55.3	53.3	50.3	49.8	49.5	46.7	40.7	40.3	44.0	45.9	46.0	48.9	46.6	48.4	51.2	54.0
220000	54.4	52.4	49.8	48.8	48.9	45.7	40.1	40.0	43.5	45.3	45.7	47.9	46.5	47.8	50.2	53.1
230000	53.4	51.5	49.2	48.0	48.4	45.0	39.7	39.6	43.0	44.9	45.4	47.3	46.4	47.3	49.3	52.2
Daily Max	59.6	55.4	53.4	53.6	53.1	50.6	44.4	41.9	46.1	48.3	47.8	52.1	47.2	50.3	54.2	56.8
Daily Min	51.5	49.2	47.2	47.0	46.5	44.3	39.7	37.1	37.2	38.2	42.9	43.6	45.8	45.2	43.6	45.0
Average	54.6	52.2	50.0	49.3	49.0	46.9	42.4	39.5	41.0	43.0	45.0	47.0	46.5	47.4	48.3	50.2

Monthly average temp (F): 51.9
License Maximum Monthly Average: 70°F

Note: The McClure penstock and powerhouse were out of service during the 2010 monitoring season.

McClure Powerhouse Tailrace - May 2010 Temperature Monitoring Data

Time HHMMSS	5/17/2010	5/18/2010	5/19/2010	5/20/2010	5/21/2010	5/22/2010	5/23/2010	5/24/2010	5/25/2010	5/26/2010	5/27/2010	5/28/2010	5/29/2010	5/30/2010	5/31/2010
0	51.5	51.8	52.4	54.3	52.2	53.7	54.8	60.7	63.7	63.4	59.8	57.3	56.2	57.2	60.9
10000	51.0	51.1	51.7	53.5	51.5	53.2	54.3	60.1	63.0	62.7	59.0	56.7	55.6	56.7	60.7
20000	50.4	50.4	51.1	52.8	50.9	53.0	54.0	60.0	62.4	62.0	58.3	56.1	54.9	56.4	60.1
30000	49.9	49.7	50.5	52.1	50.4	52.8	53.8	59.7	61.9	61.5	57.8	55.6	54.3	56.1	59.6
40000	49.4	49.2	50.0	51.5	49.9	52.6	53.6	59.5	61.4	61.1	57.3	55.0	53.7	55.8	59.3
50000	49.0	48.6	49.6	51.0	49.4	52.5	53.6	59.4	61.0	60.6	56.9	54.6	53.2	55.5	58.9
60000	48.5	48.1	49.2	50.6	49.0	52.4	53.5	59.3	60.6	60.3	56.5	54.2	52.7	55.4	58.6
70000	48.1	47.7	48.9	50.3	48.6	52.4	53.4	59.1	60.4	60.1	56.2	54.0	52.4	55.3	58.2
80000	47.9	47.5	48.8	50.2	48.4	52.3	53.6	58.9	60.3	60.0	56.1	54.1	52.5	55.5	57.9
90000	48.0	47.6	49.0	50.4	48.7	52.4	53.9	59.1	60.5	60.1	56.1	54.1	52.7	56.0	57.8
100000	48.7	48.3	49.7	50.8	49.2	52.5	54.4	59.5	60.9	60.3	56.3	54.4	53.3	56.5	57.6
110000	49.9	49.5	51.0	51.9	49.9	52.7	55.3	60.1	61.7	60.9	57.1	55.2	54.3	57.5	57.8
120000	51.0	51.2	52.7	53.3	51.1	53.5	56.9	60.9	63.2	61.8	58.1	56.2	55.3	58.7	58.4
130000	52.7	53.1	54.7	54.8	52.4	54.5	58.4	62.6	64.8	62.9	59.3	57.4	56.9	59.5	59.5
140000	54.3	54.9	56.5	54.6	54.1	55.7	60.1	63.7	66.4	62.5	60.5	58.6	58.3	61.0	60.4
150000	56.0	56.4	58.2	55.9	55.5	56.2	62.2	65.6	67.8	62.5	61.8	59.9	60.0	61.7	61.6
160000	57.2	57.4	59.2	56.3	56.1	56.4	63.7	66.9	69.0	63.0	62.4	60.9	61.1	63.4	62.3
170000	57.5	57.8	59.4	56.2	56.3	56.5	63.9	67.2	69.2	63.6	62.0	60.5	61.0	63.7	62.2
180000	57.1	57.4	59.1	56.1	56.3	57.1	64.1	67.5	68.7	63.3	61.3	60.0	60.7	63.7	61.5
190000	56.4	56.6	58.6	55.6	56.2	57.0	63.9	67.1	67.9	62.7	60.9	59.6	60.5	63.5	61.0
200000	55.5	56.0	58.0	55.1	55.9	56.8	63.5	66.6	67.0	62.4	60.4	59.2	60.1	63.3	60.5
210000	54.7	55.3	57.2	54.6	55.4	56.3	62.7	66.1	66.2	62.1	59.9	58.6	59.4	62.6	59.8
220000	53.7	54.3	56.3	53.9	54.8	55.8	62.2	65.3	65.2	61.4	59.3	57.7	58.7	61.9	58.9
230000	52.7	53.3	55.3	53.0	54.3	55.3	61.4	64.5	64.3	60.7	58.2	56.9	57.9	61.4	58.0
Daily Max	57.5	57.8	59.4	56.3	56.3	57.1	64.1	67.5	69.2	63.6	62.4	60.9	61.1	63.7	62.3
Daily Min	47.9	47.5	48.8	50.2	48.4	52.3	53.4	58.9	60.3	60.0	56.1	54.0	52.4	55.3	57.6
Average	52.1	52.2	53.6	53.3	52.4	54.3	58.0	62.5	64.1	61.7	58.8	56.9	56.5	59.1	59.6

McClure Powerhouse Tailrace - June 2010 Temperature Monitoring Data

Time HHMMSS	06/01/10	06/02/10	06/03/10	06/04/10	06/05/10	06/06/10	06/07/10	06/08/10	06/09/10	06/10/10	06/11/10	06/12/10	06/13/10	06/14/10	06/15/10	06/16/10
0	57.1	55.7	53.5	53.8	52.3	51.7	49.6	51.3	50.7	53.5	52.9	52.3	53.6	54.6	54.5	54.3
10000	56.4	55.2	52.7	53.0	52.2	51.4	49.0	50.6	50.8	53.2	52.7	52.2	53.5	54.5	54.3	54.4
20000	55.7	54.9	51.9	52.3	52.1	51.2	48.4	50.1	50.9	53.0	52.5	52.1	53.5	54.3	54.2	54.2
30000	55.1	54.7	51.2	51.7	52.0	51.1	48.0	49.6	51.0	52.8	52.4	52.0	53.5	54.2	54.0	54.1
40000	54.6	54.5	50.6	51.2	51.8	51.0	47.6	49.3	51.0	52.6	52.2	51.9	53.4	54.0	53.9	54.0
50000	54.3	54.3	50.0	51.1	51.6	50.8	47.3	49.0	51.0	52.5	52.1	51.8	53.4	53.9	53.7	54.0
60000	54.0	54.1	49.6	51.1	51.5	50.7	46.9	48.8	51.1	52.4	52.0	51.8	53.4	53.9	53.6	53.9
70000	53.8	53.8	49.2	51.2	51.5	50.5	46.7	48.7	51.0	52.4	52.0	51.8	53.5	53.9	53.6	53.8
80000	53.8	53.8	49.3	51.5	51.5	50.3	46.8	48.8	51.2	52.4	52.2	51.8	53.7	53.8	53.7	53.8
90000	54.1	54.0	49.7	51.9	51.6	50.1	47.0	49.2	51.4	52.5	52.7	51.8	54.0	54.1	53.7	53.8
100000	54.6	54.0	50.3	52.1	51.9	49.9	47.7	49.9	52.0	52.8	53.0	52.0	54.5	54.2	53.9	53.8
110000	55.6	54.0	51.2	52.3	52.2	49.8	48.5	50.7	52.7	53.0	53.2	52.1	55.5	54.4	53.9	54.0
120000	57.0	54.2	52.5	52.5	52.4	49.7	49.7	51.6	53.7	53.2	53.2	52.4	55.7	54.6	54.0	54.4
130000	58.4	55.4	54.0	52.6	52.7	49.8	51.0	52.2	54.1	53.8	53.1	52.7	55.7	54.9	54.1	55.0
140000	59.9	56.4	55.3	52.9	53.2	50.7	52.3	52.6	54.1	54.2	52.9	53.1	56.0	55.5	54.1	55.8
150000	61.1	57.1	56.9	53.1	53.8	52.1	53.9	52.6	54.4	54.8	52.7	53.5	56.1	56.4	54.1	56.4
160000	61.1	57.0	58.0	53.1	53.7	52.9	54.8	52.6	55.1	55.0	52.6	53.7	56.0	56.5	54.2	56.5
170000	60.6	56.9	57.8	53.0	53.5	53.1	54.7	52.4	55.1	54.9	52.8	53.8	55.9	56.5	54.3	56.8
180000	60.1	56.6	57.5	53.0	53.4	53.0	54.7	52.1	55.1	54.5	52.9	53.7	55.6	56.2	54.3	56.9
190000	59.5	56.4	57.3	52.8	53.1	52.5	54.5	51.8	54.9	54.3	52.8	53.7	55.4	55.9	54.2	56.9
200000	58.7	56.0	56.8	52.6	52.8	52.3	53.9	51.5	54.6	53.9	52.7	53.7	55.2	55.6	54.1	56.9
210000	57.8	55.5	56.2	52.5	52.5	51.7	53.3	51.2	54.4	53.5	52.6	53.6	55.0	55.2	54.1	56.8
220000	56.9	54.8	55.5	52.4	52.2	51.0	52.7	51.0	54.1	53.3	52.4	53.6	54.8	55.0	54.1	56.7
230000	56.2	54.1	54.7	52.3	51.9	50.3	52.0	50.8	53.8	53.1	52.4	53.6	54.7	54.7	53.9	56.5
Daily Max	61.1	57.1	58.0	53.8	53.8	53.1	54.8	52.6	55.1	55.0	53.2	53.8	56.1	56.5	54.5	56.9
Daily Min	53.8	53.8	49.2	51.1	51.5	49.7	46.7	48.7	50.7	52.4	52.0	51.8	53.4	53.8	53.6	53.8
Average	56.9	55.1	53.4	52.3	52.4	51.1	50.5	50.8	52.8	53.4	52.6	52.7	54.6	54.9	54.0	55.2

Monthly average temp (F): 55.5
License Maximum Monthly Average: 80 F

Note: The McClure penstock and powerhouse were out of service during the 2010 monitoring season.

Monitor found buried in sand upon retreival. Data may be influenced due to insulating properties of sediment around probe.

McClure Powerhouse Tailrace - June 2010 Temperature Monitoring Data

Time HHMMSS	06/17/10	06/18/10	06/19/10	06/20/10	06/21/10	06/22/10	06/23/10	06/24/10	06/25/10	06/26/10	06/27/10	06/28/10	06/29/10	06/30/10
0	56.3	59.5	62.0	59.7	57.4	59.3	59.8	59.6	57.5	58.2	58.5	57.7	55.4	53.6
10000	56.1	59.4	61.7	59.4	57.0	59.1	59.5	59.5	57.1	58.3	58.2	57.6	55.2	53.4
20000	55.9	59.3	61.4	59.0	56.6	58.8	59.3	59.3	56.9	58.4	57.9	57.4	55.0	53.2
30000	55.6	59.3	61.1	58.6	56.2	58.7	59.2	59.1	56.7	58.4	57.7	57.3	54.7	52.9
40000	55.4	59.3	60.7	58.1	55.8	58.7	59.2	58.8	56.6	58.3	57.4	57.2	54.4	52.6
50000	55.2	59.3	60.4	57.6	55.5	58.9	59.1	58.6	56.5	58.2	57.2	57.1	54.2	52.4
60000	55.0	59.3	60.0	57.2	55.2	58.8	59.1	58.3	56.4	58.1	57.1	57.1	53.8	52.1
70000	54.9	59.2	59.9	57.0	55.2	58.7	59.0	58.1	56.4	58.1	57.2	56.9	53.5	51.9
80000	55.0	59.3	60.0	57.0	55.4	58.7	59.1	58.1	56.4	58.1	56.9	56.8	53.2	51.7
90000	55.5	59.5	60.2	57.3	55.9	58.9	59.2	58.1	56.4	58.2	56.9	56.7	53.0	51.5
100000	56.2	60.1	60.4	57.7	56.8	59.1	59.2	58.3	56.7	58.4	56.9	56.6	52.8	51.4
110000	57.1	60.9	60.5	58.1	58.0	59.4	59.6	58.6	57.3	58.5	56.9	56.4	52.7	51.4
120000	57.3	61.7	61.2	58.5	59.6	59.5	60.5	59.1	58.0	58.4	56.9	56.2	52.7	51.5
130000	57.8	62.4	61.4	59.7	60.8	60.3	61.0	59.6	58.1	58.5	56.9	56.1	52.8	51.8
140000	58.9	63.5	62.3	60.7	62.2	61.1	61.9	60.4	58.6	58.6	56.9	56.0	53.0	52.1
150000	59.7	64.1	62.2	61.4	62.0	62.0	61.7	61.0	58.6	58.5	57.1	56.0	53.2	52.5
160000	60.1	64.3	62.3	61.4	62.1	62.5	61.6	61.5	58.4	58.9	57.1	56.1	53.5	53.0
170000	60.3	63.9	62.3	61.1	61.9	62.3	61.3	61.3	58.1	60.2	57.2	56.2	53.8	53.4
180000	60.3	63.6	62.0	60.6	61.5	62.0	61.0	60.9	58.9	59.2	57.7	56.3	54.1	53.7
190000	60.1	63.4	61.7	60.1	60.9	61.7		60.4	59.0	59.1	57.8	56.2	54.1	53.8
200000	59.9	63.2	61.1	59.5	60.4	61.2	60.7	59.9	59.0	59.0	58.0	56.1	54.1	53.8
210000	59.6	62.9	60.6	58.9	60.0	60.7	60.3	59.3	58.6	58.8	57.7	55.9	54.1	53.8
220000	59.5	62.6	60.4	58.3	59.7	60.4	60.0	58.6	58.4	58.7	57.7	55.7	54.0	53.6
230000	59.4	62.3	60.0	57.8	59.5	60.0	59.8	58.0	58.3	58.6	57.6	55.6	53.8	53.4
Daily Max	60.3	64.3	62.3	61.4	62.2	62.5	61.9	61.5	59.0	60.2	58.5	57.7	55.4	53.8
Daily Min	54.9	59.2	59.9	57.0	55.2	58.7	59.0	58.0	56.4	58.1	56.9	55.6	52.7	51.4
Average	57.5	61.3	61.1	58.9	58.6	60.0	60.1	59.3	57.6	58.6	57.4	56.6	53.8	52.7

Missing data due to equipment retreival/replacement

McClure Powerhouse Tailrace - July 2010 Temperature Monitoring Data

Time HHMMSS	07/01/10	07/02/10	07/03/10	07/04/10	07/05/10	07/06/10	07/07/10	07/08/10	07/09/10	07/10/10	07/11/10	07/12/10	07/13/10	07/14/10	07/15/10	07/16/10
0	53.2	52.6	57.0	59.4	61.8	60.2	63.5	65.9	64.6	62.5	63.5	62.0	59.6	58.6	60.9	61.7
10000	52.9	52.6	56.9	59.3	61.6	60.5	63.5	65.6	64.1	61.8	63.2	61.7	59.0	58.2	61.1	61.3
20000	52.6	52.6	56.7	59.2	61.4	60.8	63.0	65.2	63.6	61.2	63.0	61.5	58.4	57.7	61.5	61.1
30000	52.3	52.6	56.6	59.1	61.1	62.4	62.8	65.0	63.2	60.6	62.8	61.3	57.8	57.4	61.7	60.9
40000	52.0	52.6	56.5	59.0	60.9	61.5	62.6	65.0	62.9	60.1	62.6	61.0	57.2	57.2	61.8	60.8
50000	51.7	52.6	56.4	58.9	60.7	61.4	62.4	64.9	62.5	59.6	62.4	60.7	56.7	56.9	61.8	60.6
60000	51.5	52.6	56.2	58.9	60.5	61.5	62.3	64.5	62.3	59.4	62.2	60.5	56.2	56.8	61.8	60.5
70000	51.2	52.5	56.1	58.8	60.3	61.1	62.3	64.2	62.0	59.3	62.1	60.3	55.8	56.6	61.7	60.3
80000	50.9	52.5	56.1	58.7	60.1	61.1	62.4	64.0	61.9	59.3	62.0	60.2	55.6	56.7	61.6	60.2
90000	50.8	52.5	56.0	58.7	60.0	61.2	62.0	64.0	61.9	59.6	62.1	60.4	55.7	56.9	61.5	60.4
100000	50.7	52.6	56.0	58.7	59.9	61.2	61.9	64.1	62.2	60.1	62.3	60.6	56.2	57.4	61.7	60.6
110000	50.7	52.7	56.0	58.8	59.8	61.4	62.0	64.5	62.7	60.9	62.3	61.1	56.9	58.4	62.2	61.2
120000	50.9	53.0	56.0	59.1	60.0	61.3	61.8	65.0	63.3	61.8	62.5	61.8	58.0	59.5	62.8	61.9
130000	51.1	53.4	56.2	59.5	60.2	61.2	61.8	65.7	63.8	63.0	62.5	62.7	59.2	60.7	63.7	62.9
140000	51.3	54.0	56.6	60.1	60.4	61.1	62.0	66.0	64.4	64.0	62.6	63.6	60.4	61.2	64.6	64.2
150000	51.5	54.6	57.1	60.7	60.6	61.4	62.1	66.5	65.1	65.2	62.8	64.1	61.6	61.3	65.4	65.3
160000	51.7	55.4	57.8	61.2	60.7	63.5	62.4	67.1	65.6	65.2	63.1	63.9	61.9	61.1	65.9	65.9
170000	51.9	56.1	58.4	61.5	60.7	62.4	62.7	66.8	65.8	65.8	63.4	63.8	61.9	61.2	65.8	65.9
180000	52.1	56.6	58.9	61.8	60.7	62.5	67.3	66.5	65.5	65.4	63.7	63.4	61.8	61.1	65.4	65.6
190000	52.2	56.9	59.2	62.0	60.6	63.4	67.1	66.3	65.2	65.1	63.7	62.8	61.4	60.9	64.9	65.2
200000	52.3	57.1	59.4	62.2	60.5	63.0	66.8	66.0	64.9	64.9	63.4	62.3	60.9	60.8	64.4	64.8
210000	52.4	57.2	59.5	62.2	60.4	63.0	66.5	65.6	64.4	64.5	63.2	61.7	60.4	60.9	63.8	64.3
220000	52.5	57.2	59.6	62.1	60.4	63.0	66.3	65.3	63.8	64.1	62.8	61.0	59.8	60.7	63.1	63.7
230000	52.5	57.1	59.5	62.0	60.3	64.7	66.1	65.0	63.1	63.8	62.4	60.3	59.2	60.7	62.3	63.1
Daily Max	53.2	57.2	59.6	62.2	61.8	64.7	67.3	67.1	65.8	65.8	63.7	64.1	61.9	61.3	65.9	65.9
Daily Min	50.7	52.5	56.0	58.7	59.8	60.2	61.8	64.0	61.9	59.3	62.0	60.2	55.6	56.6	60.9	60.2
Average	51.8	54.1	57.3	60.1	60.6	61.9	63.5	65.4	63.7	62.4	62.8	61.8	58.8	59.1	63.0	62.6

Monthly average temp (F): 60.6
License Maximum Monthly Average: 83°F

Note: The McClure penstock and powerhouse were out of service during the 2010 monitoring season.

McClure Powerhouse Tailrace - July 2010 Temperature Monitoring Data

Time HHMMSS	07/17/10	07/18/10	07/19/10	07/20/10	07/21/10	07/22/10	07/23/10	07/24/10	07/25/10	07/26/10	07/27/10	07/28/10	07/29/10	07/30/10	07/31/10
0	62.5	60.2	59.5	60.6	60.7	61.2	59.8	61.1	58.6	59.8	61.3	64.1	61.2	59.3	60.3
10000	62.1	59.7	59.0	60.4	60.3	60.7	59.6	60.7	58.2	59.2	60.9	63.4	60.6	58.7	59.9
20000	61.8	59.4	58.6	60.3	60.0	60.3	59.5	60.4	57.7	58.7	60.7	63.0	60.0	58.2	59.6
30000	61.6	59.0	58.1	60.1	59.7	60.0	59.3	60.0	57.4	58.3	60.5	62.7	59.5	57.8	60.2
40000	61.3	58.7	57.7	59.9	59.5	59.6	59.2	59.7	57.1	57.9	60.4	62.4	59.1	57.5	61.0
50000	60.9	58.4	57.5	59.7	59.4	59.3	59.1	59.4	56.8	57.6	60.3	62.3	58.7	57.2	60.9
60000	60.5	58.2	57.3	59.5	59.3	59.1	59.0	59.2	56.5	57.3	60.2	62.3	58.3	57.0	60.8
70000	60.1	58.0	57.0	59.4	59.2	58.9	59.0	59.1	56.3	57.1	60.2	62.2	58.0	56.8	60.7
80000	60.0	58.0	56.9	59.3	59.2	58.8	59.0	59.0	56.2	57.0	60.3	62.2	57.8	56.7	60.6
90000	60.1	58.2	57.1	59.3	59.3	58.7	59.1	59.0	56.4	57.2	60.4	62.2	57.8	56.9	60.6
100000	60.3	58.6	57.4	59.7	59.6	58.8	59.5	59.0	56.8	57.6	60.8	62.3	58.1	57.1	60.7
110000	60.5	58.9	57.7	60.3	60.3	58.9	59.8	59.0	57.6	58.4	61.5	62.7	58.7	57.7	60.9
120000	61.4	59.1	58.6	61.1	61.1	59.2	60.8	59.3	58.6	59.5	62.8	63.2	59.7	58.5	61.0
130000	62.3	59.3	59.6	61.7	61.9	59.4	61.8	59.6	59.9	60.7	63.8	64.0	60.8	59.4	61.2
140000	63.1	59.5	59.1	62.2	62.6	59.5	62.8	59.7	61.1	61.9	64.6	64.7	61.6	60.2	61.3
150000	64.1	60.1	59.4	62.1	63.4	59.9	63.9	59.8	62.3	62.9	65.5	65.4	62.5	61.0	61.3
160000	64.7	60.6	59.9	61.9	63.8	60.5	64.4	60.1	63.0	63.7	65.7	65.8	63.3	61.9	61.7
170000	64.6	61.2	60.4	61.7	64.0	60.8	64.1	60.2	63.2	64.1	65.4	65.5	63.0	62.1	62.1
180000	64.0	61.3	60.6	61.6	63.8	61.1	64.1	60.5	63.0	64.2	65.3	65.2	62.8	62.3	62.3
190000	63.6	61.3	60.7	61.8	63.5	61.2	63.7	60.4	62.6	63.8	65.3	64.6	62.4	61.8	62.2
200000	63.1	61.1	60.8	61.7	63.2	61.2	63.1	60.2	62.2	63.3	65.2	64.0	62.0	61.6	62.1
210000	62.4	60.8	60.7	61.5	62.7	60.9	62.8	60.1	61.6	62.8	65.0	63.6	61.4	61.3	61.9
220000	61.6	60.4	60.6	61.3	62.2	60.5	62.3	59.7	61.0	62.3	64.7	62.8	60.7	60.8	61.7
230000	60.8	59.9	60.6	61.0	61.6	60.1	61.6	59.1	60.4	61.7	64.4	62.0	60.0	60.4	61.5
Daily Max	64.7	61.3	60.8	62.2	64.0	61.2	64.4	61.1	63.2	64.2	65.7	65.8	63.3	62.3	62.3
Daily Min	60.0	58.0	56.9	59.3	59.2	58.7	59.0	59.0	56.2	57.0	60.2	62.0	57.8	56.7	59.6
Average	62.0	59.6	58.9	60.8	61.3	59.9	61.1	59.8	59.4	60.3	62.7	63.4	60.3	59.2	61.1

McClure Powerhouse Tailrace - August 2010 Temperature Monitoring Data

Time HHMMSS	8/1/2010	8/2/2010	8/3/2010	8/4/2010	8/5/2010	8/6/2010	8/7/2010	8/8/2010	8/9/2010	8/10/2010	8/11/2010	8/12/2010	8/13/2010	8/14/2010	8/15/2010	8/16/2010	8/17/2010
0	61.4	63.1	62.4	64.1	62.8	59.5	56.1	57.9	59.7	62.0	62.6	61.9	63.5	64.5	63.5	59.9	57.2
10000	61.2	62.9	62.1	64.1	62.4	58.9	55.5	57.7	59.3	61.5	62.2	61.8	63.0	64.0	63.0	59.3	56.6
20000	61.0	62.8	61.9	63.9	62.0	58.5	55.0	57.5	58.9	61.1	62.0	61.6	62.7	63.5	62.8	58.9	56.2
30000	60.7	62.7	61.7	63.5	61.6	58.0	54.5	57.4	58.7	60.7	61.7	61.5	62.4	63.1	62.7	58.4	55.9
40000	60.5	62.6	61.5	63.1	61.4	57.6	54.1	57.3	58.5	60.5	61.5	61.5	62.3	62.6	62.4	57.9	55.5
50000	60.3	62.5	61.4	62.7	61.1	57.3	53.8	57.2	58.3	60.2	61.3	61.4	62.2	62.2	62.1	57.6	55.0
60000	60.2	62.4	61.3	62.4	60.8	56.9	53.6	57.2	58.2	60.1	61.1	61.3	62.3	61.9	61.7	57.3	54.6
70000	60.1	62.3	61.2	62.1	60.5	56.6	53.5	57.1	58.1	59.9	60.9	61.2	62.2	61.6	61.4	57.0	54.1
80000	60.1	62.2	61.1	61.9	60.4	56.4	53.6	57.2	58.1	59.8	60.8	61.2	62.3	61.4	61.2	56.8	53.8
90000	60.2	62.2	61.2	61.9	60.5	56.4	53.9	57.3	58.3	59.8	60.9	61.3	62.7	61.4	60.9	56.8	53.6
100000	60.5	62.1	61.6	62.2	60.6	56.5	54.3	57.3	58.7	60.0	61.0	61.5	63.2	61.5	60.8	56.9	53.9
110000	61.2	62.1	62.2	62.5	60.9	57.0	55.1	57.6	59.4	60.6	61.1	62.0	63.4	62.0	61.2	57.1	54.1
120000	61.8	62.1	63.1	62.8	61.5	57.4	56.1	58.4	60.3	61.5	61.3	62.6	63.4	62.7	61.6	57.4	54.6
130000	62.5	62.4	64.2	63.1	61.9	58.3	57.4	59.4	61.7	62.7	61.6	63.5	63.8	64.0	62.1	58.4	55.5
140000	63.2	62.5	65.3	64.0	62.3	59.1	58.0	60.4	62.8	63.6	62.0	64.6	64.7	64.8	62.5	59.0	56.3
150000	64.1	63.1	66.1	64.8	62.3	59.9	58.4	61.5	64.2	64.6	62.1	65.8	65.6	65.8	62.9	59.7	57.4
160000	64.9	63.3	66.7	65.2	63.1	60.4	59.5	62.3	65.1	65.5	62.3	66.5	66.7	66.5	63.3	60.3	58.2
170000	64.9	63.8	66.7	65.8	63.0	60.2	59.4	62.7	65.3	65.4	62.4	66.6	66.7	66.7	63.4	60.2	58.6
180000	64.8	63.8	66.4	65.6	62.6	59.6	59.4	62.2	65.0	65.3	62.9	66.2	66.8	66.3	63.1	60.1	58.3
190000	64.7	63.7	66.0	65.3	62.1	59.4	59.3	61.8	64.8	65.0	62.8	66.0	66.5	65.9	62.8	59.7	58.0
200000	64.5	63.5	65.5	64.9	61.8	58.9	59.1	61.6	64.3	64.5	62.7	65.6	66.2	65.5	62.3	59.4	57.9
210000	64.2	63.2	64.9	64.4	61.3	58.2	58.8	61.2	63.8	64.0	62.5	65.0	65.8	65.1	61.7	58.9	57.6
220000	63.8	62.9	64.3	63.8	60.8	57.5	58.5	60.6	63.2	63.6	62.4	64.5	65.4	64.6	61.2	58.5	57.1
230000	63.5	62.6	64.1	63.3	60.1	56.8	58.2	60.0	62.6	63.1	62.2	64.0	64.9	64.1	60.5	58.0	56.6
Daily Max	64.9	63.8	66.7	65.8	63.1	60.4	59.5	62.7	65.3	65.5	62.9	66.6	66.8	66.7	63.5	60.3	58.6
Daily Min	60.1	62.1	61.1	61.9	60.1	56.4	53.5	57.1	58.1	59.8	60.8	61.2	62.2	61.4	60.5	56.8	53.6
Average	62.3	62.8	63.5	63.6	61.6	58.1	56.5	59.2	61.1	62.3	61.8	63.3	64.1	63.8	62.1	58.5	56.1

Monthly average temp (F): 60.1
License Monthly Maximum Average 81

Note: The McClure penstock and powerhouse were out of service during the 2010 monitoring season.

McClure Powerhouse Tailrace - August 2010 Temperature Monitoring Data

Time HHMMSS	8/18/2010	8/19/2010	8/20/2010	8/21/2010	8/22/2010	8/23/2010	8/24/2010	8/25/2010	8/26/2010	8/27/2010	8/28/2010	8/29/2010	8/30/2010	8/31/2010
0	55.9	56.3	56.2	57.4	58.0	59.0	60.1	58.0	54.7	54.5	58.9	61.5	62.2	65.0
10000	55.2	56.1	55.7	57.5	57.8	58.4	59.9	57.5	54.1	54.2	58.8	61.2	62.1	64.6
20000	54.6	56.1	55.2	57.4	57.4	57.9	59.8	57.0	53.7	54.0	58.9	60.9	61.9	64.4
30000	54.1	56.0	54.9	57.4	57.2	57.5	59.7	56.5	53.3	53.7	58.8	60.5	61.7	64.3
40000	53.8	56.0	54.7	57.4	56.9	57.1	59.5	56.1	52.9	53.5	58.9	60.3	61.5	64.0
50000	53.7	56.0	54.5	57.2	56.9	56.8	59.3	55.7	52.6	53.3	58.9	59.9	61.4	63.8
60000	53.9	55.8	54.4	57.4	56.7	56.4	59.3	55.4	52.3	53.1	58.9	59.7	61.3	63.8
70000	53.9	55.6	54.5	57.4	56.4	56.2	59.1	55.2	52.1	53.0	58.7	59.4	61.3	63.6
80000	54.1	55.4	54.5	57.4	56.3	55.9	59.1	54.9	51.8	52.9	58.6	59.2	61.2	63.4
90000	54.4	55.5	54.6	57.5	56.4	55.9	59.1	54.9	51.7	52.9	58.6	59.0	61.2	63.7
100000	54.7	55.7	54.8	57.7	56.7	56.2	59.1	55.0	51.9	53.0	58.6	59.0	61.4	63.9
110000	55.1	56.2	54.9	57.7	57.2	56.6	59.6	55.3	52.5	53.6	58.9	59.3	61.8	64.5
120000	55.6	56.7	55.1	57.8	58.1	57.5	60.3	55.7	53.4	54.5	59.6	59.8	62.3	65.4
130000	56.2	57.4	55.6	58.1	59.2	58.6	60.4	55.9	54.7	55.9	60.7	61.0	63.5	65.7
140000	56.7	58.0	55.8	58.4	60.1	59.5	60.5	56.2	55.5	56.9	61.4	61.7	65.1	65.7
150000	57.0	58.8	56.2	59.0	61.2	61.0	60.6	56.8	56.2	58.7	62.9	63.1	66.5	66.1
160000	57.3	59.3	56.5	59.8	61.8	61.8	60.4	57.2	56.8	59.9	64.0	63.9	67.5	66.2
170000	57.2	59.3	56.6	60.0	61.8	62.1	60.2	57.5	56.9	60.2	63.8	64.6	67.4	66.4
180000	57.1	59.0	56.8	60.0	61.6	62.0	60.3	57.4	56.9	60.6	63.7	64.3	67.3	66.1
190000	57.2	58.6	57.0	59.8	61.2	61.6	60.0	57.0	56.6	60.5	63.8	64.0	66.8	65.9
200000	57.0	58.3	57.2	59.6	60.8	61.3	59.8	56.8	56.3	60.3	63.4	63.7	66.4	65.6
210000	56.8	57.8	57.3	59.3	60.4	61.1	59.5	56.4	55.9	59.9	62.8	63.2	65.9	65.3
220000	56.6	57.3	57.4	58.9	60.0	60.7	59.1	55.9	55.4	59.6	62.3	63.0	65.6	64.9
230000	56.4	56.6	57.4	58.4	59.3	60.5	58.5	55.3	55.0	59.3	61.8	62.6	65.3	64.5
Daily Max	57.3	59.3	57.4	60.0	61.8	62.1	60.6	58.0	56.9	60.6	64.0	64.6	67.5	66.4
Daily Min	53.7	55.4	54.4	57.2	56.3	55.9	58.5	54.9	51.7	52.9	58.6	59.0	61.2	63.4
Average	55.6	57.0	55.7	58.3	58.7	58.8	59.7	56.2	54.3	56.2	60.7	61.4	63.7	64.9

Monitor found out of water upon retreival. Data not representative of in-stream conditions.

McClure Powerhouse Tailrace - September 2010 Temperature Monitoring Data

Time HHMMSS	9/1/2010	9/2/2010	9/3/2010	9/4/2010	9/5/2010	9/6/2010	9/7/2010	9/8/2010	9/9/2010	9/10/2010	9/11/2010	9/12/2010	9/13/2010	9/14/2010	9/15/2010	9/16/2010
0	64.2	59.4	58.1	52.1	50.9	50.9	53.3	52.4	50.6	51.1	51.2	52.6	53.1	50.6	48.9	
10000	64.0	58.7	58.1	51.8	50.7	50.4	53.2	52.2	50.4	51.0	50.9	52.3	52.7	50.3	48.5	
20000	63.8	58.2	57.8	51.5	50.5	50.0	53.3	52.0	50.1	50.8	50.7	51.9	52.4	50.0	48.0	
30000	63.6	57.6	57.5	51.5	50.3	49.8	53.4	51.9	50.0	50.4	50.5	51.6	52.1	49.7	47.7	
40000	63.4	57.1	57.1	51.5	50.1	49.6	53.4	51.7	50.0	50.0	50.5	51.3	51.9	49.5	47.4	
50000	63.2	56.6	57.0	51.4	49.8	49.6	53.5	51.5	49.9	49.6	50.7	51.0	51.5	49.4	47.1	
60000	63.0	56.1	56.7	51.4	49.6	49.7	53.6	51.4	50.0	49.1	50.8	50.8	51.1	49.4	46.8	
70000	62.9	55.8	56.5	51.2	49.3	49.8	53.7	51.2	50.1	48.7	51.0	50.6	50.7	49.3	46.5	
80000	62.3	55.6	56.4	51.1	49.2	49.9	53.9	51.1	50.1	48.3	51.2	50.6	50.4	49.1	46.2	
90000	62.1	55.6	56.4	51.1	49.1	50.1	53.9	51.1	50.3	48.1	51.4	50.7	50.2	49.1	46.1	
100000	62.0	56.1	56.7	51.1	49.3	50.3	54.1	51.1	50.6	48.3	51.5	50.9	50.4	49.3	46.2	
110000	62.0	56.4	56.9	51.2	49.8	51.0	54.4	51.4	51.0	48.9	51.7	51.4	50.7	49.6	46.8	
120000	62.0	56.5	57.0	51.4	50.5	51.9	54.6	51.6	51.3	49.5	51.9	52.1	51.3	49.9		
130000	62.3	56.6	56.9	51.6	51.2	52.4	54.5	51.9	51.8	50.3	52.0	52.9	51.9	50.2		
140000	62.6	56.9	57.2	51.8	52.1	52.8	54.7	52.2	52.1	51.1	52.2	53.8	52.5	50.9		
150000	63.2	57.5	57.3	52.0	53.0	53.3	54.8	52.6	52.3	51.8	52.4	54.6	53.1	51.7		
160000	63.4	58.2	57.0	52.3	53.5	53.9	54.6	52.9	52.4	52.6	52.7	55.2	53.5	52.1		
170000	63.4	58.9	56.5	52.2	53.7	53.9	54.6	52.7	52.5	52.9	53.0	55.2	53.7	52.1		
180000	62.9	58.8	56.0	52.2	53.5	53.9	54.3	52.7	52.4	53.0	53.1	55.2	53.3	51.8		
190000	62.5	58.8	55.3	52.2	53.2	53.9	54.1	52.5	52.3	52.8	53.2	55.0	53.0	51.5		
200000	62.0	58.9	54.5	52.0	53.0	53.8	53.7	52.2	52.0	52.5	53.2	54.7	52.6	51.2		
210000	61.4	58.7	53.8	51.8	52.5	53.6	53.3	51.8	51.8	52.2	53.1	54.4	52.2	50.7		
220000	60.8	58.4	53.1	51.5	52.0	53.4	53.0	51.3	51.5	51.9	53.0	54.0	51.7	50.1		
230000	60.0	58.3	52.6	51.2	51.4	53.3	52.6	50.9	51.3	51.5	52.8	53.6	51.2	49.5		
Daily Max	64.2	59.4	58.1	52.3	53.7	53.9	54.8	52.9	52.5	53.0	53.2	55.2	53.7	52.1	48.9	0.0
Daily Min	60.0	55.6	52.6	51.1	49.1	49.6	52.6	50.9	49.9	48.1	50.5	50.6	50.2	49.1	46.1	0.0
Average	62.6	57.5	56.3	51.6	51.2	51.7	53.8	51.8	51.1	50.7	51.9	52.8	52.0	50.3	47.2	#DIV/0!

Monthly average temp (F): 51.9
License Monthly Maximum Average 74

Note: The McClure penstock and powerhouse were out of service during the 2010 monitoring season.

McClure Powerhouse Tailrace - September 2010 Temperature Monitoring Data

Time HHMMSS	9/17/2010	9/18/2010	9/19/2010	9/20/2010	9/21/2010	9/22/2010	9/23/2010	9/24/2010	9/25/2010	9/26/2010	9/27/2010	9/28/2010	9/29/2010	9/30/2010
0														51.7
10000														51.5
20000														51.4
30000														51.2
40000														51.0
50000														50.9
60000														50.6
70000														50.4
80000														50.2
90000														50.2
100000														50.3
110000														50.5
120000														50.8
130000														51.1
140000														51.3
150000														51.6
160000														51.7
170000													52.8	51.7
180000													52.6	51.5
190000													52.6	51.4
200000													52.4	51.1
210000													52.1	50.7
220000													52.0	50.3
230000													51.8	49.9
Daily Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.8	51.7
Daily Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.8	49.9
Average	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	52.3	51.0

No data collected. Monitoring equipment not programmed correctly.

McClure Powerhouse Tailrace - October 2010 Temperature Monitoring Data

Time HHMMSS	10/1/2010	10/2/2010	10/3/2010	10/4/2010	10/5/2010	10/6/2010	10/7/2010	10/8/2010	10/9/2010	10/10/2010	10/11/2010	10/12/2010	10/13/2010	10/14/2010	10/15/2010	10/16/2010
0	49.5	48.0	45.5	45.2	46.7	47.2	48.5	48.7	50.3	48.6	49.2	46.6	52.9	46.3	46.3	45.6
10000	49.2	47.8	45.4	44.8	46.4	46.9	48.2	48.3	49.9	48.3	48.7	46.2	52.8	45.8	46.1	45.1
20000	48.8	47.7	45.4	44.5	46.1	46.6	47.9	48.1	49.6	47.9	48.3	45.8	52.4	45.3	46.0	44.6
30000	48.5	47.4	45.3	44.4	45.9	46.3	47.8	48.0	49.3	47.7	47.9	45.4	52.0	44.9	46.0	44.2
40000	48.2	47.2	45.0	44.2	45.7	46.1	47.8	48.0	49.0	47.4	47.8	45.2	51.5	44.6	46.0	43.8
50000	47.9	47.0	44.7	44.0	45.5	46.0	47.8	48.0	48.8	47.3	47.6	45.0	50.2	44.3	46.0	43.6
60000	47.6	46.8	44.4	43.8	45.3	46.0	47.7	48.1	48.6	47.3	47.3	44.7	48.6	44.0	46.0	43.3
70000	47.5	46.6	44.2	43.6	45.2	46.1	47.7	48.2	48.4	47.3	47.0	44.4	48.0	43.8	46.1	43.1
80000	47.4	46.4	44.0	43.4	45.0	46.1	47.6	48.1	48.1	47.3	46.9	44.1	47.6	43.6	46.1	42.9
90000	47.4	46.2	43.9	43.3	44.9	46.3	47.5	48.1	47.9	47.2	46.7	43.7	47.3	43.5	46.1	42.7
100000	47.5	46.2	44.0	43.3	44.8	46.5	47.4	48.1	47.6	47.2	46.5	43.4	47.0	43.6	46.2	42.5
110000	47.9	46.2	44.4	43.4	44.9	46.8	47.4	48.2	47.5	47.3	46.7	43.4	46.9	44.0	46.3	42.6
120000	48.3	46.3	44.9	43.8	45.3	47.3	47.6	48.6	47.8	47.7	47.1	43.7	47.1	44.5	46.4	43.2
130000	48.6	46.7	45.4	44.5	45.9	48.1	48.1	49.2	48.3	48.4	47.6	44.5	47.6	45.6	46.8	44.1
140000	49.0	46.8	45.4	45.3	46.7	49.0	48.8	50.1	49.0	49.3	48.1	45.5	48.2	45.7	47.2	45.4
150000	49.2	46.7	46.0	46.2	47.5	49.8	49.5	51.1	49.9	50.3	48.7	46.6	48.9	46.2	47.8	46.5
160000	49.5	46.6	46.5	46.9	48.2	50.5	50.3	51.9	50.6	51.2	49.4	47.8	49.4	46.6	48.4	47.6
170000	49.7	46.5	46.9	47.5	48.7	50.9	50.7	52.3	51.0	51.6	49.8	48.6	49.5	47.0	48.8	48.3
180000	49.6	46.4	47.1	48.1	49.0	51.1	51.1	52.6	51.3	51.9	49.7	49.4	49.7	47.1	48.9	48.7
190000	49.4	46.4	46.9	47.9	48.7	50.7	50.8	52.3	50.9	51.4	49.3	49.7	49.2	47.1	48.3	48.3
200000	49.1	46.2	46.7	47.8	48.5	50.3	50.4	52.0	50.5	51.0	48.9	49.9	48.8	47.0	47.8	47.8
210000	48.8	46.0	46.4	47.6	48.2	49.8	50.0	51.5	49.9	50.5	48.3	51.5	48.2	46.8	47.2	47.4
220000	48.5	45.8	46.0	47.3	47.9	49.3	49.6	51.1	49.4	50.0	47.7	52.7	47.5	46.6	46.7	46.9
230000	48.3	45.6	45.6	47.0	47.6	48.8	49.1	50.7	49.0	49.6	47.2	53.0	46.9	46.4	46.1	46.3
Daily Max	49.7	48.0	47.1	48.1	49.0	51.1	51.1	52.6	51.3	51.9	49.8	53.0	52.9	47.1	48.9	48.7
Daily Min	47.4	45.6	43.9	43.3	44.8	46.0	47.4	48.0	47.5	47.2	46.5	43.4	46.9	43.5	46.0	42.5
Average	48.6	46.7	45.4	45.3	46.6	48.0	48.7	49.6	49.3	48.9	48.0	46.7	49.1	45.4	46.8	45.2

Monthly average temp (F): 45.7
License Maximum Monthly Average: 64

Note: The McClure penstock and powerhouse were out of service during the 2010 monitoring season.

McClure Powerhouse Tailrace - October 2010 Temperature Monitoring Data

Time HHMMSS	10/17/2010	10/18/2010	10/19/2010	10/20/2010	10/21/2010	10/22/2010	10/23/2010	10/24/2010	10/25/2010	10/26/2010	10/27/2010	10/28/2010	10/29/2010	10/30/2010	10/31/2010
0	45.7	42.3	41.4	43.4	43.5	40.2	41.8	44.8	46.4	48.8	48.3	43.6	41.8	41.1	39.2
10000	45.2	41.9	41.0	43.3	43.2	40.0	41.7	44.8	46.3	48.8	47.9	43.6	41.7	41.1	39.0
20000	44.8	41.6	40.8	43.2	42.9	39.7	41.6	44.8	46.3	48.8	47.6	43.4	41.4	41.1	38.7
30000	44.6	41.4	40.7	43.2	42.8	39.4	41.6	44.8	46.3	48.8	47.3	43.3	41.3	41.0	38.4
40000	44.3	41.2	40.6	43.2	42.7	39.2	41.6	44.8	46.3	48.9	46.9	43.1	41.1	40.9	38.3
50000	44.0	41.1	40.7	43.1	42.5	39.3	41.5	44.9	46.3	48.9	46.7	42.9	40.9	40.8	38.2
60000	43.6	41.0	40.6	43.2	42.4	39.4	41.4	44.9	46.3	48.9	46.3	42.8	40.6	40.6	38.2
70000	43.3	40.9	40.6	43.2	42.2	39.5	41.3	45.0	46.3	49.0	46.1	42.6	40.2	40.5	38.3
80000	43.0	40.9	40.6	43.1	42.1	39.7	41.1	45.1	46.2	49.3	45.8	42.5	39.8	40.4	38.4
90000	42.6	40.9	40.6	42.9	41.8	39.8	40.9	45.1	46.0	49.5	45.6	42.4	40.3	40.4	38.5
100000	42.3	41.1	42.5	43.0	41.7	40.1	41.1	45.2	46.1	49.9	45.4	42.9	41.8	40.5	38.7
110000	42.3	41.4	50.6	43.3	41.7	40.5	41.8	45.3	46.5	50.3	45.3	43.9	42.9	40.6	38.9
120000	42.7	41.9	50.9	43.6	41.8	41.0	42.5	45.5	47.1	50.7	45.4	44.5	43.2	41.4	39.3
130000	43.4	42.6	50.6	44.3	42.1	41.6	43.1	45.6	47.7	51.1	45.4	45.0	43.7	43.6	39.8
140000	45.0	43.5	50.9	44.8	42.3	42.3	43.8	45.8	48.3	51.6	45.3	45.4	44.5	43.9	40.4
150000	45.6	44.5	50.9	45.6	42.8	43.2	44.5	46.0	49.0	51.8	45.3	46.2	44.6	42.4	40.8
160000	45.9	45.0	50.3	45.7	43.0	43.6	44.8	46.1	49.4	51.8	45.1	46.5	45.5	42.0	41.1
170000	46.0	45.2	47.8	45.7	43.1	43.9	45.0	46.1	49.4	51.5	44.7	45.6	45.6	41.9	41.1
180000	45.4	44.8	45.5	45.4	42.7	43.6	45.0	46.2	49.2	51.1	44.5	45.6	45.5	41.4	41.0
190000	44.9	44.3	45.2	44.9	42.2	43.3	45.0	46.2	49.0	50.5	44.2	45.9	44.3	40.9	40.9
200000	44.3	43.6	45.5	44.5	41.6	42.8	44.9	46.2	48.8	49.9	43.9	45.8	42.2	40.5	40.7
210000	43.8	43.0	45.3	44.1	41.1	42.4	44.9	46.3	48.7	49.3	43.8	43.9	41.4	40.0	40.6
220000	43.2	42.4	44.7	43.9	40.6	42.0	44.8	46.3	48.7	48.9	43.7	42.4	41.2	39.7	40.4
230000	42.7	41.9	43.9	43.7	40.3	41.8	44.8	46.4	48.7	48.6	43.6	42.0	41.1	39.4	40.2
Daily Max	46.0	45.2	50.9	45.7	43.5	43.9	45.0	46.4	49.4	51.8	48.3	46.5	45.6	43.9	41.1
Daily Min	42.3	40.9	40.6	42.9	40.3	39.2	40.9	44.8	46.0	48.6	43.6	42.0	39.8	39.4	38.2
Average	44.1	42.4	44.7	43.9	42.2	41.2	42.9	45.5	47.5	49.8	45.6	44.0	42.3	41.1	39.5

Dead River Hydroelectric Project

FERC Project No. 10855

2010 Water Quality Monitoring Report

Appendix C

Dissolved Oxygen Profile Monitoring Data

Dead River Storage Basin
2010 Dissolved Oxygen and Temperature Profile Data

6/9/2010
Time: 18:50 EDT
Weather: Cloudy with a few sprinkles, 60°F, 5-10 mph winds
Secchi Disk - 7' 9"

Depth (meters)	DO mg/l	Temp °C	Temp °F
0.5	8.69	17.2	63.0
1	8.66	17.2	63.0
1.5	8.64	17.3	63.1
2	8.62	17.3	63.1
2.5	8.61	17.3	63.1
3	8.59	17.4	63.3
3.5	8.52	17.3	63.1
4	8.5	17.2	63.0
4.5	8.49	17.2	63.0
5	8.48	17.2	63.0
5.5	8.46	17.2	63.0
6	7.97	14.5	58.1
6.5	7.94	14.1	57.4
7	7.65	12.7	54.9
7.5	6.21	10.7	51.3
8	6.16	10.3	50.5
8.5	6.16	10	50.0
9	6.23	9.8	49.6
9.5	6.72	9.4	48.9
10	6.98	8.9	48.0

6/23/2010
Time: 16:40 EDT
Weather:Cloudy, 65°F, 8-10 mph winds (north)
Secchi Disk - 6'

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	9.11	22.4	72.3
2	9.1	22.6	72.7
3	9.12	22.5	72.5
4	9.13	22.4	72.3
5	9.12	22.4	72.3
6	9.12	22.4	72.3
7	9.1	22.4	72.3
8	9.04	21.7	71.1
9	9.01	21.6	70.9
10	8.75	20.6	69.1
11	8.65	20.2	68.4
12	8.65	20.1	68.2
13	8.6	20	68.0
14	8.51	19.9	67.8
15	8.17	19.1	66.4
16	8.03	18.7	65.7
17	7.98	18.6	65.5
18	7.77	18.3	64.9
19	7.6	18	64.4
20	7.21	17.3	63.1
21	6.87	16.4	61.5
22	6.91	16.4	61.5
23	6.94	16.2	61.2
24	6.91	16.2	61.2
25	6.56	15.8	60.4
26	6.07	14.9	58.8
27	5.62	13.9	57.0
28	5.54	13.6	56.5
29	5.49	13.2	55.8
30	5.49	12.9	55.2
31	5.54	12.7	54.9
32	5.61	12.5	54.5
33	6.01	11.9	53.4
34	6.14	11.6	52.9
35	6.23	11.4	52.5
36	6.33	11.1	52.0

7/7/2010
Time: 14:35 EDT
Weather: Mostly Cloudy, 75°F, east wind @ 10-15 mph
Secchi Disk - Not taken

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.29	25.2	77.4
2	8.28	24.7	76.5
3	8.29	24.6	76.3
4	8.28	24.1	75.4
5	8.29	23.9	75.0
6	8.27	23.7	74.7
7	8.26	23.5	74.3
8	8.27	23.4	74.1
9	8.26	23.3	73.9
10	8.26	23.3	73.9
11	8.21	23.2	73.8
12	7.85	22.7	72.9
13	7.75	21.1	70.0
14	7.73	20.7	69.3
15	7.72	20.6	69.1
16	7.63	20.2	68.4
17	7.34	19.7	67.5
18	7.2	19.4	66.9
19	7.12	19.3	66.7
20	7.1	19.1	66.4
21	6.51	18.5	65.3
22	6.54	18.5	65.3
23	6.43	18.3	64.9
24	5.57	17.7	63.9
25	5.35	17.3	63.1
26	4.84	16.6	61.9
27	4.65	16	60.8
28	4.44	15.5	59.9
29	4.35	15	59.0
30	4.18	14.4	57.9
31	4.06	13.6	56.5
32	4.32	13.1	55.6
33	4.42	12.9	55.2
34	4.71	12.5	54.5
35	4.85	12	53.6
36	4.89	11.9	53.4
37	4.98	11.5	52.7
38	4.95	11.4	52.5

Dead River Storage Basin
2010 Dissolved Oxygen and Temperature Profile Data

7/22/2010
Weather: Overcast, 70°F
Secchi Disk - 6'

Depth (m)	DO mg/l	Temp °C	Temp °F
0.5	8.1	22.7	72.9
1.0	8.1	22.8	73.0
1.5	8.1	22.9	73.2
2.0	8.0	22.9	73.2
2.5	8.0	23.0	73.4
3.0	8.0	23.0	73.4
3.5	7.9	23.0	73.4
4.0	7.9	23.0	73.4
4.5	7.9	23.1	73.6
5.0	7.9	23.1	73.6
5.5	7.9	23.1	73.6
6.0	7.8	23.1	73.6
6.5	7.8	23.1	73.6
7.0	7.7	23.0	73.4
7.5	7.6	22.9	73.2
8.0	4.8	21.3	70.3
8.5	4.1	20.2	68.4
9.0	4.0	19.9	67.8
9.5	3.3	18.6	65.5
10.0	3.0	17.7	63.9
10.5	2.7	16.7	62.1
11.0	2.4	15.8	60.4

8/5/2010
Time: 07:30 EDT
Weather: Overcast, 65°F, 10 mph winds from west
Secchi Disk - 5.5 ft

Depth (m)	DO mg/l	Temp °C	Temp °F
0.5	8.1	24.2	75.6
1.0	8.1	24.3	75.7
1.5	8.0	24.4	75.9
2.0	8.0	24.5	76.1
2.5	7.9	24.5	76.1
3.0	7.9	24.6	76.3
3.5	7.9	24.6	76.3
4.0	7.9	24.6	76.3
4.5	7.9	24.6	76.3
5.0	7.8	24.6	76.3
5.5	7.8	24.6	76.3
6.0	7.8	24.6	76.3
6.5	7.7	24.6	76.3
7.0	7.6	24.5	76.1
7.5	7.0	23.9	75.0
8.0	4.9	22.0	71.6
8.5	3.9	21.6	70.9
9.0	3.1	20.6	69.1

8/18/2010
Time: 14:15 EST
Weather: Cloudy, 65°F, west winds 10 mph+
Secchi Disk - 5.5 ft

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	7.78	21.7	71.1
2	7.76	21.7	71.1
3	7.73	21.8	71.2
4	7.71	21.8	71.2
5	7.7	21.8	71.2
6	7.69	21.8	71.2
7	7.68	21.9	71.4
8	7.69	21.9	71.4
9	7.68	21.9	71.4
10	7.67	21.9	71.4
11	7.67	21.9	71.4
12	7.67	21.9	71.4
13	7.69	21.9	71.4
14	7.74	21.8	71.2
15	7.75	21.8	71.2
16	7.74	21.8	71.2
17	7.74	21.8	71.2
18	7.74	21.8	71.2
19	7.73	21.8	71.2
20	7.7	21.8	71.2
21	7.71	21.9	71.4
22	7.7	21.8	71.2
23	7.71	21.8	71.2
24	7.7	21.9	71.4
25	7.7	21.8	71.2
26	7.69	21.9	71.4
27	7.69	21.9	71.4
28	7.68	21.8	71.2
29	7.68	21.8	71.2
30	7.67	21.8	71.2
31	7.69	21.8	71.2
32	7.68	21.8	71.2
33	7.68	21.8	71.2
34	6.34	21.1	70.0
35	1.21	15.6	60.1
36	1.2	15.1	59.2

Dead River Storage Basin
2010 Dissolved Oxygen and Temperature Profile Data

9/1/2010
Time: 16:10 EDT
Weather: Cloudy, 74°F, light winds
Secchi Disk - not taken

Depth (m)	DO mg/l	Temp °C	Temp °F
0.5	8.15	23.8	74.8
1.0	8.11	23.8	74.8
1.5	8.08	23.8	74.8
2.0	8.07	23.8	74.8
2.5	7.98	23.6	74.5
3.0	7.85	23.1	73.6
3.5	7.8	23.1	73.6
4.0	7.79	23	73.4
4.5	7.79	22.9	73.2
5.0	7.8	22.9	73.2
5.5	7.8	22.9	73.2
6.0	7.79	22.9	73.2
6.5	7.76	22.9	73.2
7.0	7.75	22.8	73.0
7.5	7.6	22.8	73.0
8.0	6.77	21.8	71.2
8.5	6.6	21.4	70.5
9.0	6.21	21	69.8
9.5	5.75	20.8	69.4
10	5.72	20.7	69.3
10.5	5.71	20.7	69.3
11	5.71	20.7	69.3

9/14/2010
Time: 15:23 EDT
Weather:
Secchi Disk - 6.0 ft

Depth (m)	DO mg/l	Temp °C	Temp °F
0.5	8.32	16.7	62.1
1.0	8.31	16.7	62.1
1.5	8.30	16.7	62.1
2.0	8.29	16.7	62.1
2.5	8.29	16.7	62.1
3.0	8.28	16.7	62.1
3.5	8.27	16.7	62.1
4.0	8.26	16.7	62.1
4.5	8.26	16.7	62.1
5.0	8.25	16.7	62.1
5.5	8.24	16.7	62.1
6.0	8.24	16.7	62.1
6.5	8.23	16.7	62.1
7.0	8.22	16.7	62.1
7.5	8.21	16.7	62.1
8.0	8.21	16.7	62.1
8.5	8.20	16.7	62.1
9.0	8.20	16.7	62.1
9.5	8.18	16.7	62.1
10	8.17	16.7	62.1
10.5	8.17	16.8	62.2
11	8.17	16.8	62.2

9/29/2010
Time: 14:20 EDT
Weather: sunny, 60°F, 10 mph winds
Secchi Disk - Not Taken

Depth (m)	DO mg/l	Temp °C	Temp °F
0.5	9.04	15	59.0
1.0	9.03	14.7	58.5
1.5	9.03	14.7	58.5
2.0	9.03	14.7	58.5
2.5	9.01	14.6	58.3
3.0	9.01	14.6	58.3
3.5	8.99	14.6	58.3
4.0	8.99	14.6	58.3
4.5	8.98	14.5	58.1
5.0	8.98	14.5	58.1
5.5	8.96	14.5	58.1
6.0	8.95	14.5	58.1
6.5	8.95	14.5	58.1
7.0	8.95	14.5	58.1
7.5	8.94	14.5	58.1
8.0	8.93	14.5	58.1
8.5	8.96	14.4	57.9
9.0	9	14.4	57.9
9.5	8.99	14.4	57.9
10	8.92	14.5	58.1
10.5	8.89	14.5	58.1

McClure Storage Basin
2010 Dissolved Oxygen and Temperature Profile Data

6/9/2010
Time: 17:55 EDT
Weather: Overcast, 62°F, moderate winds
Secchi Disk - Not taken

Depth (meters)	DO mg/l	Temp °C	Temp °F
0.5	8.62	18.4	65.1
1	8.58	18.4	65.1
1.5	8.56	18.4	65.1
2	8.53	18.4	65.1
2.5	8.52	18.4	65.1
3	8.49	18.4	65.1
3.5	8.48	18.4	65.1
4	8.47	18.4	65.1
4.5	8.47	18.4	65.1
5	8.44	18.4	65.1
5.5	8.42	18.4	65.1
6	8.41	18.4	65.1
6.5	8.4	18.4	65.1
7	8.39	18.4	65.1
7.5	8.38	18.4	65.1
8	8.38	18.4	65.1
8.5	8.36	18.4	65.1
9	8.41	18	64.4
9.5	6.9	14.2	57.6
10	6.4	13	55.4

6/23/2010
Time: 17:30 EDT
Weather: Cloudy, 65°F, light wind
Secchi Disk - 7.0 ft

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.48	21.9	71.4
2	8.27	21.5	70.7
3	8.12	20.6	69.1
4	7.97	19.7	67.5
5	7.93	19.3	66.7
6	7.92	19.1	66.4
7	7.81	18.7	65.7
8	7.67	18.3	64.9
9	7.61	17.7	63.9
10	7.56	17.4	63.3
11	7.58	17.2	63.0
12	7.55	16.8	62.2
13	7.38	16.6	61.9
14	7.2	16.3	61.3
15	6.93	15.9	60.6
16	6.88	15.5	59.9
17	6.84	15.4	59.7
18	6.65	15.1	59.2
19	6.44	14.8	58.6
20	6.37	14.6	58.3
21	6.3	14.2	57.6
22	6.11	13.6	56.5
23	6.08	12.9	55.2
24	5.61	12.2	54.0
25	5.42	11.4	52.5
26	5.2	10.8	51.4
27	5.25	10	50.0
28	5.8	9.4	48.9
29	6.16	8.8	47.8

7/7/2010
Time: 15:25 EDT
Weather: Mostly Cloudy, 75°F, east wind @ 10-15 mph
Secchi Disk - not taken

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	7.89	21.7	71.1
2	7.58	21.1	70.0
3	7.71	20.9	69.6
4	7.5	20.4	68.7
5	7.85	20.1	68.2
6	7.89	19.9	67.8
7	7.91	19.8	67.6
8	7.89	19.6	67.3
9	7.79	19.5	67.1
10	7.79	19.3	66.7
11	7.73	19	66.2
12	7.66	18.9	66.0
13	7.61	18.7	65.7
14	7.19	18.4	65.1
15	6.76	18.1	64.6
16	6.47	17.8	64.0
17	6.28	17.6	63.7
18	5.92	17.2	63.0
19	5.58	16.4	61.5
20	5.59	15.8	60.4
21	5.26	15.2	59.4
22	4.63	14.3	57.7
23	4.21	13.6	56.5
24	3.8	12.8	55.0
25	3.7	11.6	52.9
26	4.31	10.6	51.1
27	5.24	9.9	49.8
28	5.48	9.3	48.7

McClure Storage Basin
2010 Dissolved Oxygen and Temperature Profile Data

7/22/2010
Time: 12:16 EDT
Weather: Cloudy, 70°F
Secchi Disk - 6.0 ft

Depth (m)	DO mg/l	Temp °C	Temp °F
0.5	7.8	22.2	72.0
1.0	7.7	22.3	72.1
1.5	7.6	22.4	72.3
2.0	7.6	22.4	72.3
2.5	7.6	22.4	72.3
3.0	7.6	22.4	72.3
3.5	7.3	22.3	72.1
4.0	6.6	21.8	71.2
4.5	6.1	21.4	70.5
5.0	5.8	20.9	69.6
5.5	5.6	20.6	69.1
6.0	5.5	20.4	68.7
6.5	5.3	19.8	67.6
7.0	5.1	19.2	66.6
7.5	4.6	18.3	64.9
8.0	3.5	17.1	62.8
8.5	2.6	15.5	59.9
9.0	1.5	14.5	58.1
9.5	1.5	14.2	57.6

8/5/2010
Time: 07:30 EDT
Weather: Overcast, 65°F, 10 mph winds from west
Secchi Disk - 5.5 ft

Depth (m)	DO mg/l	Temp °C	Temp °F
0.5	7.9	22.9	73.2
1.0	7.8	23.0	73.4
1.5	7.8	23.1	73.6
2.0	7.8	23.2	73.8
2.5	7.7	23.2	73.9
3.0	7.7	23.3	73.9
3.5	7.7	23.3	73.9
4.0	7.7	23.3	73.9
4.5	7.7	23.3	73.9
5.0	7.6	23.3	73.9
5.5	7.6	23.3	70.9
6.0	5.0	21.6	70.2
6.5	4.5	21.2	68.7
7.0	3.5	20.4	66.4
7.5	2.6	19.1	64.2
8.0	1.9	17.9	62.1
8.5	1.2	16.7	62.1

8/18/2010
Time: 15:00 EDT
Weather: overcast, 65°F , light westerly winds
Secchi Disk - 6.5 ft

Depth (feet)	DO mg/l	Temp °C	Temp °F
1	6.92	21.3	70.3
2	6.83	21.4	70.5
3	6.83	21.4	70.5
4	6.81	21.5	70.7
5	6.77	21.5	70.7
6	6.73	21.5	70.7
7	6.71	21.5	70.7
8	6.7	21.5	70.7
9	6.69	21.5	70.7
10	6.69	21.5	70.7
11	6.68	21.6	70.9
12	6.68	21.5	70.7
13	6.67	21.6	70.9
14	6.66	21.6	70.9
15	6.65	21.6	70.9
16	6.65	21.6	70.9
17	6.65	21.6	70.9
18	6.65	21.6	70.9
19	6.65	21.5	70.7
20	6.64	21.6	70.9
21	6.64	21.5	70.7
22	3.06	20.8	69.4
23	0.64	19.1	66.4
24	0.18	17.5	63.5
25	0.44	15.2	59.4
26	0.94	14.6	58.3
27	2.11	13.3	55.9
28	2.71	12.2	54.0

McClure Storage Basin
2010 Dissolved Oxygen and Temperature Profile Data

9/1/2010
Time: 14:20 EDT
Weather: Clear, 72°F, light winds
Secchi Disk - 6.5 ft

Depth (m)	DO mg/l	Temp °C	Temp °F
0.5	8.33	24.3	75.7
1.0	8.34	24.2	75.6
1.5	8.32	24.2	75.6
2.0	8.31	24.1	75.4
2.5	8.3	24.1	75.4
3.0	8.25	24	75.2
3.5	8.21	23.7	74.7
4.0	6.97	22.2	72.0
4.5	6.87	21.5	70.7
5.0	6.71	21.1	70.0
5.5	6.42	20.7	69.3
6.0	5.68	20.3	68.5
6.5	5.91	20	68.0
7.0	6.12	19.8	67.6
7.5	5.6	19.1	66.4
8.0	0.89	17.8	64.0
8.5	0.18	16.3	61.3
9	1.93	13.9	57.0
9.5	2.31	12	53.6
10	2.36	11	51.8

9/15/2010
Time: 07:10 EDT
Weather:
Secchi Disk - 6.0 ft

Depth (m)	DO mg/l	Temp °C	Temp °F
0.5	8.2	16.1	61.0
1.0	8.1	16.2	61.2
1.5	8.1	16.3	61.3
2.0	8.0	16.3	61.3
2.5	8.1	16.4	61.5
3.0	8.1	16.4	61.5
3.5	8.1	16.4	61.5
4.0	8.1	16.4	61.5
4.5	8.0	16.4	61.5
5.0	8.0	16.4	61.5
5.5	8.0	16.4	61.5
6.0	8.0	16.4	61.5
6.5	8.0	16.4	61.5
7.0	7.7	16.4	61.5
7.5	7.4	16.3	61.3
8.0	7.0	16.2	61.2
8.5	6.3	16.0	60.8
9	4.4	15.6	60.1
9.5	1.5	14.0	57.2

9/29/2010
Time: 15:15 EDT
Weather: Clear, 60°F, 5-10 mph winds
Secchi Disk - 6' 6"

Depth (m)	DO mg/l	Temp °C	Temp °F
0.5	8.9	15.9	60.6
1.0	8.96	15.7	60.3
1.5	8.98	15.5	59.9
2.0	8.98	15.3	59.5
2.5	8.9	15.1	59.2
3.0	8.81	14.7	58.5
3.5	8.74	14.5	58.1
4.0	8.73	14.5	58.1
4.5	8.74	14.3	57.7
5.0	8.73	14.3	57.7
5.5	8.73	14.3	57.7
6.0	8.72	14.3	57.7
6.5	8.72	14.3	57.7
7.0	8.72	14.3	57.7
7.5	8.72	14.3	57.7
8.0	8.71	14.2	57.6
8.5	8.64	14.2	57.6
9	8.61	14.2	57.6
9.5	8.52	14.2	57.6

Dead River Hydroelectric Project

FERC Project No. 10855

2010 Water Quality Monitoring Report

Appendix D

Quality Assurance Data

Field Notes for Datasonde Deployment

Date/Time: 4/29/10 11:20 EST Analyst: MWH

Location: AAO Bridge Datasonde Serial #: 43730

Calibration Information Datasonde Battery [volts]: 12.5

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
_____ Std			Before_____ After_____

Barometric Pressure (mm Hg)_____

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation			
mg/L D.O.			
Temp – °C			

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Set up through 5/13/10 @ 23:59

Temp. only.

* Water level @ Normal Summertime level

Field Notes for Datasonde Deployment

Date/Time: 5/12/10 11:40 Analyst: SAS

Location: AAO Bridge Datasonde Serial #: 43729

Calibration Information Datasonde Battery [volts]: 12.1

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
_____ Std			Before _____ After _____

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation			
mg/L D.O.			
Temp – °C			

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Set up through 5/27 @ 12:00 - will start @ 10:00 5/12

Temperature only

Field Notes for Datasonde Deployment

Date/Time: 5/24/10 12:00 EST Analyst: MWH

Location: AAO Bridge Datasonde Serial #: 42494

Calibration Information Datasonde Battery [volts]: 11.0

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.301 Std	6.306		Before — After —

Barometric Pressure (mm Hg) 723.7

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	101.3	100.1
mg/L D.O.	8.09	8.04
Temp – °C	23.80	23.79

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	100.8	102.3	
mg/L D.O.	8.69	8.80	
Temp – °C	20.2	20.4	Deploy

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Set up through 6/10 @ 23:00

Moved upstream of bridge ~ 30 meters on East bank

GPS Coordinates: 46° 37.970 N, 87° 46.979 W

Field Notes for Datasonde Post Calibration

Date/Time: 5/26/10 Analyst: MWM

Location: S. Ivey Lake Datasonde Serial #: _____

Ending Datasonde Battery [volts]: _____

Calibration Information

pH (s.u.)	Reads
7.00 Std	_____
10.00 Std	_____

Conductivity (mS/cm) _____ Std _____ Reads _____ Zero Reads

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	before cal	after cal
% Saturation	_____	_____
mg/L D.O.	_____	_____
Temp – °C	_____	_____

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	_____
mg/L D.O.	_____
Temp – °C	_____

Notes:

AAO bridge - 5/12 → 5/26 OK

Field Notes for Datasonde Deployment

Date/Time: June 9, 2010 12:30 EDT Analyst: HP

Location: AAO Bridge Datasonde Serial #: 43728

Calibration Information Datasonde Battery [volts]: 12.6 V

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.82	7.00
10.00 Std	9.95	10.00

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.322	Std	0.320	0.322	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 716.0 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	92.9%	100.0%
mg/L D.O.	7.94 mg/L	8.35 mg/L
Temp – °C	21.41°C	21.40°C

DO Handheld Meter Calibration - DO Meter Model HQ30D #1

	Before Calibration	After Calibration
% Saturation	98.4%	100.0%
mg/L D.O.	7.85 mg/L	7.98 mg/L
Temp – °C	23.4°C	23.4°C

Post Calibration Slope = 97.6%

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	96.7%	97.2%	5:12:58 E:13:10
mg/L D.O.	9.15 mg/L	9.16 mg/L	
Temp – °C	15.12°C	15.1°C	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status - Called 10 @ 17:00

Battery Life @ Start: 100%

Battery Life @ End: 29%

Notes:

Field Notes for Datasonde Post Calibration

Date/Time: June 9, 2010 14:35 Analyst: TR

Location: AAO Bridge Datasonde Serial #: 42484

Ending Datasonde Battery [volts]: 9.1v

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7.33
10.00 Std.	10.26

Conductivity (mS/cm) : 0.322 Std. Conc. 0.316 Observed

0.0000 Zero Observed, In Air

Barometric Pressure (mm Hg) 716.5 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	97.9%	100.0%
mg/L D.O.	8.63 mg/L	9.28 mg/L
Temp – °C	16.07°C	16.08°C

Notes:

No data missing, DO in beaker's and eights

Field Notes for Datasonde Deployment

Date/Time: 6/23/10 1300 EST Analyst: HWH

Location: AAO Bridge Datasonde Serial #: 42484

Calibration Information Datasonde Battery [volts]: 12.6

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	—	—
10.00 Std	—	—

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.309	Std	0.308	0.309	Before _____ After _____

Barometric Pressure (mm Hg) 718

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	102.9	100.0
mg/L D.O.	8.06	7.82
Temp – °C	24.73	24.86

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	96.1	99.3	
mg/L D.O.	8.25	8.55	ok - Deploy
Temp – °C	19.97	20.0	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: AAO Test 062316 - 1310 - 1320

Field Notes for Datasonde Post Calibration

Date/Time: 6/23/10 13:30 Analyst: MWH

Location: AAO Bridge Datasonde Serial #: 43728

Ending Datasonde Battery [volts]: 10.8

Calibration Information

pH (s.u.):	Observed
7.00 Std.	—
10.00 Std.	~

Conductivity (mS/cm) : 0.309 Std. Conc. 0.305 Observed

— Zero Observed, In Air

Barometric Pressure (mm Hg) 716.5

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	106.7	100.0
mg/L D.O.	8.60	8.06
Temp – °C	23.04	23.13

Notes:

AAO Bridge 6/9/10 - OK

All D.O. ↑ 7.6 mg/L

Sensors covered with brown slime.

Field Notes for Datasonde Deployment

Date/Time: 7/7/10 12:15 EST Analyst: MWM

Location: AAO Bridge Datasonde Serial #: 4248

Calibration Information Datasonde Battery [volts]: 11.6

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.208 Std	0.210	0.208	Before — After —

Barometric Pressure (mm Hg) 722.5

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	105.7	99.8
mg/L D.O.	8.33	7.64
Temp – °C	26.27	26.37

S 1225
F 1235

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	93.1	95.5	
mg/L D.O.	7.82	8.10	ok - Deploy
Temp – °C	21.37	21.4	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: AAO Test ok

Field Notes for Datasonde Post Calibration

Date/Time: 7/7/10 12:47 EST Analyst: MWH

Location: AAO Bridge Datasonde Serial #: 42484

Ending Datasonde Battery [volts]: 10.8

Calibration Information

pH (s.u.):	Observed
7.00 Std.	–
10.00 Std.	–

Conductivity (mS/cm) : 0.208 Std. Conc. 0.201 Observed

– Zero Observed, In Air

Barometric Pressure (mm Hg) 722

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	102.9	108.1
mg/L D.O.	8.04	7.86
Temp – °C	24.76	24.90

Notes:

Monitor was moved during deployment. Found monitor along edge of stream in ~ 1 ft water

- Some readings ↓ 7.0 on 7/3 + 7/4 lowest 6.79

Field Notes for Datasonde Deployment

Date/Time: 7-21-10 3:21 Analyst: Ross & Shawn

Location: AAO Bridge Datasonde Serial #: 43703

Calibration Information Datasonde Battery [volts]: 12.6

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std			Before ____ After ____

Barometric Pressure (mm Hg) 740

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	100.9	99.9
mg/L D.O.	8.20	8.37
Temp – °C	22.72	22.77

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	86.9	84.8	
mg/L D.O.	6.89	6.73	
Temp – °C	25.63	25.9	ok - Deploy

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: _____

Field Notes for Datasonde Post Calibration

Date/Time: 7-21-10 4:11 pm Analyst: Russ & Shay

Location: AAO Bridge Datasonde Serial #: 42486

Ending Datasonde Battery [volts]: 7.7 volts

Calibration Information

pH (s.u.)	Reads
7.00 Std	
10.00 Std	

YSI Reading 8.19 mg/L

Conductivity (mS/cm)_____Std _____Reads _____Zero Reads

Barometric Pressure (mm Hg) 720

Dissolved Oxygen	before cal	after cal
% Saturation	100.3	100.3
mg/L D.O.	8.17	8.00
Temp – °C	22.99	23.79

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	
mg/L D.O.	
Temp – °C	

Notes:

Was sitting Right on Bottom Cage does Not lift it up from the Bottom. Cage Feet are broken

Field Notes for Datasonde Deployment

Date/Time: 8-4-10 2:18 Pm Analyst: MWM

Location: AAO Bridge Datasonde Serial #: 43731

Calibration Information Datasonde Battery [volts]: 12.6

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	-	-
10.00 Std	-	-

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std			Before - After -

Barometric Pressure (mm Hg) 739

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	99.0	100.1
mg/L D.O.	8.21	8.42
Temp – °C	22.48	22.50

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	114.9	106.2	
mg/L D.O.	8.62	8.12	OK - Deploy
Temp – °C	28.71	28.8	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Calibrated in lab on 8/3/10

Test program Run in East River.

Field Notes for Datasonde Post Calibration

Date/Time: 8-4-10 2:32 Analyst: JDN / SCF

Location: AAD Br. dg Datasonde Serial #: 43703

Ending Datasonde Battery [volts]: 10.8

Calibration Information

pH (s.u.)	Reads
7.00 Std	
10.00 Std	

Conductivity (mS/cm)_____ Std _____ Reads _____ Zero Reads

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	before cal	after cal
% Saturation	103.5	107.5
mg/L D.O.	8.99	8.54
Temp – °C	23.97	24.08

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	
mg/L D.O.	
Temp – °C	

Notes:

low D.O. on 8/3 @ 21:00 → 8/4 @ 05:00

↳ min CI of 6.7 mg/L

Field Notes for Datasonde Deployment

Date/Time: 8/18/10 11:30 EST Analyst: MWM

Location: AAO Bridge Datasonde Serial #: 43727

Calibration Information Datasonde Battery [volts]: 12.3

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	—	—
10.00 Std	—	—

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std	0.217	0.211	Before — After —

Barometric Pressure (mm Hg) 719

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	99.3	100.2
mg/L D.O.	8.43	8.48
Temp – °C	20.72	20.79

DO Handheld Meter Calibration - DO Meter Model _____

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Post Calibration Slope = _____

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	86.7	87.5	S 11:35
mg/L D.O.	8.14	8.23	E 11:45
Temp – °C	15.69	15.9	

OK-Deploy

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Set up 8/18@ 12:00 → 9/2/10

Field Notes for Datasonde Post Calibration

Date/Time: 8/18/10 11:55 EST Analyst: MWH

Location: AAO Bridge Datasonde Serial #: 43731

Ending Datasonde Battery [volts]: 10.8

Calibration Information

pH (s.u.):	Observed
7.00 Std.	
10.00 Std.	

Conductivity (mS/cm) : 0.211 Std. Conc. 0.211 Observed

— Zero Observed, In Air

Barometric Pressure (mm Hg) 718.5

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	101.5	100.0
mg/L D.O.	9.25	8.85
Temp – °C	18.49	18.53

Notes:

080410 AAO Bridge - OK

periods of D.O. ↓ 7.0 mg/L - water temps ↑ 23°C

Field Notes for Datasonde Deployment

Date/Time: Sept. 1, 2010 11:00 EDT Analyst: TP

Location: AAO Bridge Datasonde Serial #: 43703

Calibration Information Datasonde Battery [volts]: 12.3v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	X	X
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.211 Std	0.215	0.211	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 719.2 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	100.9%	100.0%
mg/L D.O.	8.30 mg/L	8.29 mg/L
Temp – °C	21.90°C	21.89°C

DO Handheld Meter Calibration - DO Meter Model Hach HQ30d

	Before Calibration	After Calibration
% Saturation 100.5	101.8%	100.0%
mg/L D.O. 8.43	~~8.27~~ mg/L	8.43 mg/L
Temp – °C 21.3	~~23.0~~°C	21.0°C

Post Calibration Slope = 97.9%

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	90.2%	90.4%	S: 11:20 E: 11:32
mg/L D.O.	7.76 mg/L	~~7.78~~	
Temp – °C	19.92	20.1°C	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation	Deploy			
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	X
mg/L D.O.	
Temp – °C	

Check Status 9/16/10 - 17:00

Battery Life @ Start: 98%

Battery Life @ End: 26%

Notes:

Field Notes for Datasonde Post Calibration

Date/Time: Sept. 1, 2010 12:20 Analyst: TP

Location: AAO Bridge Datasonde Serial #: 43727

Ending Datasonde Battery [volts]: 8.9v

Calibration Information

pH (s.u.):	Observed
7.00 Std.	X
10.00 Std.	

Conductivity (mS/cm) : 0.211 Std. Conc. 0.216 Observed
0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 720.1 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	100.1%	100.0%
mg/L D.O.	8.71 mg/L	8.70 mg/L
Temp – °C	19.42°C	19.46°C

Notes:

File is ok, some DO's in the bixes.

Field Notes for Datasonde Deployment

Date/Time: 9/13/10 10:45 Analyst: RGS

Location: AAO Bridge Datasonde Serial #: 42484

Calibration Information Datasonde Battery [volts]: _____

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	_____	_____
10.00 Std	_____	_____

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.208 Std	0.196	0.208	Before 0 After 0

Barometric Pressure (mm Hg) 741.6

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	101.3	100.4
mg/L D.O.	8.09	8.23
Temp – °C	23.95	24.10

YSI calibration (See field notes for YSI Model _____ calibration information)

File start @ AAO 9/13/10 @ 13:00

	Before Calibration	After Calibration
% Saturation	_____	_____
mg/L D.O.	_____	_____
Temp – °C	_____	_____

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	118.1%	118.3	– Time 1:45
mg/L D.O.	10.69 mg/L	10.7	–
Temp – °C	18.91 °C	19.0	–

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation	Deploy		_____	_____
mg/L D.O.			_____	_____
Temp – °C			_____	_____

YSI Reading at Tube

Time	_____
% Saturation	_____
mg/L D.O.	_____
Temp – °C	_____

Check Status - 9/30/10 @ 17:05

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: _____

Sunny Windy 55°F

Deployed New 1:10± PM EST

Field Notes for Datasonde Post Calibration

Date/Time: 9/14/10 Analyst: RGS

Location: AAO Datasonde Serial #: 43703

Ending Datasonde Battery [volts]: 10.?

Calibration Information

pH (s.u.):	Observed
7.00 Std.	~~X~~
10.00 Std.	~~X~~

Conductivity (mS/cm) : ~~—~~ Std. Conc. ~~X~~ Observed

~~X~~ Zero Observed, In Air

Barometric Pressure (mm Hg) 724.2 ← (1) 9.21 mg/L 94.5% 14.5°

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	104.0	101.1
mg/L D.O.	8.69	8.37
Temp – °C	21.75	22.35

(2) ↑↑ ↑↑ (3) After Cal.

Notes:

Field Notes for Datasonde Deployment

Date/Time: 9/29/10 11:30 EST Analyst: MWM

Location: A40 Bridge Datasonde Serial #: 43732

Calibration Information Datasonde Battery [volts]: 12.6

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	~	~
10.00 Std	~	~

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std	0.219	0.211	Before ____ After ____

Barometric Pressure (mm Hg) ~~693.5~~ 720 - Barometer Not Stable

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	93.9	100.1
mg/L D.O.	8.12	8.62
Temp – °C	20.03	20.00

YSI calibration (See field notes for YSI Model ____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	94.8	96.0	
mg/L D.O.	9.69	9.73	OK- Deploy
Temp – °C	12.1	12.1	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: ____

Battery Life @ End: ____

Notes: Set up through 10/14/10

Field Notes for Datasonde Post Calibration

Date/Time: 9/29/10 12:05 EST Analyst: MWM

Location: AAO Datasonde Serial #: 42484

Ending Datasonde Battery [volts]: 10.4

Calibration Information

pH (s.u.)	Reads
7.00 Std	—
10.00 Std	

Conductivity (mS/cm) — Std — Reads — Zero Reads

Barometric Pressure (mm Hg) 720

Dissolved Oxygen	before cal	after cal
% Saturation	102.0	100.0
mg/L D.O.	10.31	9.80
Temp – °C	13.73	13.80

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	
mg/L D.O.	
Temp – °C	

Notes:

All D.O. ↑ 7.0

Field Notes for Datasonde Deployment

Date/Time: Oct. 14, 2010 12:15 EDT Analyst: TR

Location: ~~LSFT Trestle~~ AFO Bridge Datasonde Serial #: 42483

Calibration Information Datasonde Battery [volts]: 11.7 V

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
_____ Std			Before_____ After_____

Barometric Pressure (mm Hg)_____

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

DO Handheld Meter Calibration - DO Meter Model _____

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Post Calibration Slope = _____

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation			
mg/L D.O.			
Temp – °C			

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status - 11/1/10 @ 01:00

Battery Life @ Start: 93%

Battery Life @ End: 51%

1 min. warm up

Notes: Temperature Only

Field Notes for Datasonde Post Calibration

Date/Time: Oct. 14, 2010 (5:00 EDT Analyst: TA

Location: AAO Bridge Datasonde Serial #: 43732

Ending Datasonde Battery [volts]: 9.4v

Calibration Information

pH (s.u.):	Observed
7.00 Std.	
10.00 Std.	

Conductivity (mS/cm): _____ Std. Conc. _____ Observed

_____ Zero Observed, In Air

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation		
mg/L D.O.		
Temp – °C		

Notes:

Temperature Only

Field Notes for Datasonde Deployment

Date/Time: 4/29/10 12:20 EST Analyst: MWM

Location: Hoist Downstream Datasonde Serial #: 42484

Calibration Information Datasonde Battery [volts]: _____

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
_____ Std			Before _____ After _____

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation			
mg/L D.O.			
Temp – °C			

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Set up through 5/13/10 @ 23:59

Temperature only

Field Notes for Datasonde Deployment

Date/Time: 5/12/10 12:40 Analyst: SAS

Location: Hoist - Downstream Datasonde Serial #: 42483

Calibration Information Datasonde Battery [volts]: 12.1

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
_____ Std			Before _____ After _____

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation			
mg/L D.O.			
Temp – °C			

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Temperature only. Set up from 5/12 @ 10:00 → 5/27 @ 12:00

Field Notes for Datasonde Deployment

Date/Time: 5/26/10 12:15 EST Analyst: MWH

Location: Hoist Datasonde Serial #: 43705

Calibration Information Datasonde Battery [volts]: 11.0

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
6.301 Std	6.303	6.301	Before ____ After ____

Barometric Pressure (mm Hg) 723.5

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	106.8	100.1
mg/L D.O.	8.68	8.00
Temp – °C	24.01	24.03

YSI calibration information) (See field notes for YSI Model _____ calibration

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	100.9	102.7	
mg/L D.O.	8.66	8.81	OK - Deploy
Temp – °C	20.3	20.5	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Calibrated @ AAO Bridge

Set up through 6/10 @ 23:00

GPS Coordinates: 46° 33.555 N, 87° 33.411 W

Field Notes for Datasonde Post Calibration

Date/Time: 5/26/10 15:10 EST Analyst: MWM

Location: Hoist Datasonde Serial #: 42483

Ending Datasonde Battery [volts]: _____

Calibration Information

pH (s.u.)	Reads
7.00 Std	_____
10.00 Std	_____

Conductivity (mS/cm) _____ Std _____ Reads _____ Zero Reads

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	before cal	after cal
% Saturation	_____	_____
mg/L D.O.	_____	_____
Temp – °C	_____	_____

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	_____
mg/L D.O.	_____
Temp – °C	_____

Notes:

Temp. only

Field Notes for Datasonde Deployment

Date/Time: June 9, 2010 13:00 EDT Analyst: HR

Location: Haist Tailrace Datasonde Serial #: 43731

Calibration Information Datasonde Battery [volts]: 12.1v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.95	7.00
10.00 Std	9.91	

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.322	Std	0.313	0.322	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 716.0 mm Hg

Hach HQ30D

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	92.9%	100.0%
mg/L D.O.	7.94 mg/L	7.98 mg/L
Temp – °C	23.4°C	23.4°C

Slope = 97.6%

DO Handheld Meter Calibration - DO Meter Model Datasonde 43731

	Before Calibration	After Calibration
% Saturation	98.6%	106.0%
mg/L D.O.	8.24 mg/L	8.38 mg/L
Temp – °C	21.00	20.99°C

Post Calibration Slope = —

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	95.9%	97.6%	
mg/L D.O.	9.11 mg/L	9.15 mg/L	S: 13:14 E: 13:26
Temp – °C	14.93°C	15.1°C	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.	Deployed			17:00
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status – 6/24/10 @ 17:00

Battery Life @ Start: 93%

Battery Life @ End: 22%

Notes:

Field Notes for Datasonde Post Calibration

Date/Time: June 9, 2010 17:40 Analyst: HR

Location: Hoist Tailwater Datasonde Serial #: 43705

Ending Datasonde Battery [volts]: 9.74

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7.17
10.00 Std.	10.05

Conductivity (mS/cm) : 0.322 Std. Conc. 0.2328 Observed

0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 717.7 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	96.7%	100.0%
mg/L D.O.	8.39 mg/L	8.62 mg/L
Temp – °C	19.83°C	19.79°C

Notes:

no data missing, some DO values in the 5's towards the end of the file.

Field Notes for Datasonde Deployment

Date/Time: 6/23/10 13:10 EST Analyst: MWH

Location: Hoist Datasonde Serial #: 43705

Calibration Information Datasonde Battery [volts]: 12.5

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	—	—
10.00 Std	—	—

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.309	Std	0.311	0.309	Before — After —

Barometric Pressure (mm Hg) 717

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	103.5	100.2
mg/L D.O.	8.02	7.75
Temp – °C	25.28	25.31

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	96.6	99.6	
mg/L D.O.	8.28	8.57	-ok Deploy
Temp – °C	19.98	20.1	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	13:40
% Saturation	99.6
mg/L D.O.	8.57
Temp – °C	20.1

Check Status

Battery Life @ Start: 100%

Battery Life @ End: 28%

Notes: Calibrated @ AAO Bridge

Test pgm 1316 - 13:26

Deployed 6/23 @ 17:00 → 7/8 @ 23:00

Field Notes for Datasonde Post Calibration

Date/Time: 6/23/10 16:15 Analyst: MWM

Location: Hoist Datasonde Serial #: 43731

Ending Datasonde Battery [volts]: 10.8

Calibration Information

pH (s.u.):	Observed
7.00 Std.	—
10.00 Std.	—

Conductivity (mS/cm) : 0.309 Std. Conc. 0.320 Observed

— Zero Observed, In Air

Barometric Pressure (mm Hg) 718

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	104.4	100.0
mg/L D.O.	8.73	8.41
Temp – °C	21.04	21.03

Notes:

Hoist Tail 6/9/10 - OK

lowest D.O. Reading = 7.24 mg/L

Field Notes for Datasonde Deployment

Date/Time: 7/7/10 12:25 EST Analyst: MWM

Location: Hoist Tail Datasonde Serial #: 43732

Calibration Information Datasonde Battery [volts]: 12.7

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.208 Std	0.208	0.208	Before — After —

Barometric Pressure (mm Hg) 721.0

Dissolved Oxygen	Before Calibration	After Calibration	Test
% Saturation	96.0	99.9	S 12:35
mg/L D.O.	7.32	7.54	
Temp – °C	26.88	26.92	F 12:45

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	92.0	95.2	
mg/L D.O.	7.73	8.09	OK - Deploy!
Temp – °C	21.24	21.4	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Calibrated @ AAO Bridge

Field Notes for Datasonde Post Calibration

Date/Time: 7/7/10 17:20 Analyst: MWM

Location: Hoist Datasonde Serial #: 43705

Ending Datasonde Battery [volts]: 10.8

Calibration Information

pH (s.u.):	Observed
7.00 Std.	–
10.00 Std.	–

Conductivity (mS/cm) : 0.208 Std. Conc. 0.210 Observed

– Zero Observed, In Air

Barometric Pressure (mm Hg) 723

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation		
mg/L D.O.		
Temp – °C		

Notes:

All D.O. ↑ 7.0

Could not post cal Monitor. D.O. would Not Stablize - Jumping from 7.1 to 8.4 - Replace D.O. sensor cap.

Field Notes for Datasonde Deployment

Date/Time: 07-21-10 (4:00 PM EST) Analyst: MWM

Location: H015T Datasonde Serial #: 47167

Calibration Information Datasonde Battery [volts]: 12.8

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std	0.212	0.211	Before ____ After ____

Barometric Pressure (mm Hg) 740

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	106.8	100.0
mg/L D.O.	8.70	8.40
Temp – °C	22.64	22.05

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	86.0	84.8	
mg/L D.O.	6.83	6.73	OK – Deploy
Temp – °C	25.6	25.9	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Calibrated in lab on 7/20/10

Field Notes for Datasonde Post Calibration

Date/Time: 7/21/10 6:17 PM EST Analyst: SCP & RGS

Location: Hoist Datasonde Serial #: 43230

Ending Datasonde Battery [volts]: 11.0

Calibration Information

pH (s.u.)	Reads
7.00 Std	
10.00 Std	

Hard Held
7.78 mg/L
& 7.68 mg/L

Conductivity (mS/cm)_____ Std _____ Reads _____ Zero Reads

Barometric Pressure (mm Hg) 722

Dissolved Oxygen	before cal	after cal
% Saturation	101.0 ?	100.2
mg/L D.O.	8.00 ?	7.87
Temp – °C	?	24.85

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	
mg/L D.O.	
Temp – °C	

Notes:

unsure of befor cal. #'s forgot to write down after stabilized.

Field Notes for Datasonde Deployment

Date/Time: 8-3-10 8:35 am Analyst: MWH

Location: Hoist Downstream Datasonde Serial #: 42482

Calibration Information Datasonde Battery [volts]: 12.4

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	—	—
10.00 Std	—	—

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std	0.206	0.211	Before — After —

Barometric Pressure (mm Hg) 740

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	98.9	99.9
mg/L D.O.	8.10	8.42
Temp – °C	22.48	22.48

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	113.3	106.2	
mg/L D.O.	8.51	8.12	
Temp – °C	28.76	28.8	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Calibrated in lab on 8/3/10. Test program in East River.
1 Battery Left after data collection read 98%?

Field Notes for Datasonde Post Calibration

Date/Time: 8-5-10 8:54am Analyst: SCP

Location: Hoist DS. Datasonde Serial #: 47167

Ending Datasonde Battery [volts]: 10.9

Calibration Information

pH (s.u.)	Reads
7.00 Std	
10.00 Std	

Conductivity (mS/cm)_____Std _____Reads _____Zero Reads

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	before cal	after cal
% Saturation	98.2	101.9
mg/L D.O.	8.68	8.69
Temp – °C	20.05	20.15

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	
mg/L D.O.	
Temp – °C	

Notes:

Field Notes for Datasonde Deployment

Date/Time: 8/18/10 11:40 EST Analyst: MWM

Location: Hoist Datasonde Serial #: 42484

Calibration Information Datasonde Battery [volts]: 12.6

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	—	—
10.00 Std	—	—

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std	0.220	0.211	Before — After —

Barometric Pressure (mm Hg) 718

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	96.7	100.0
mg/L D.O.	8.32	8.35
Temp – °C	21.31	21.36

DO Handheld Meter Calibration - DO Meter Model _____

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Post Calibration Slope = _____

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	88.6	87.9	S 11:45
mg/L D.O.	8.29	8.25	OK - Deploy
Temp – °C	15.75	16.0	E 11:55

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time _____
% Saturation _____
mg/L D.O. _____
Temp – °C _____

Check Status

Battery Life @ Start: _____
Battery Life @ End: _____

Notes: Calibrated @ ATO Bridge.

Set up 8/18 @ 14:00 → 9/2/10

Field Notes for Datasonde Post Calibration

Date/Time: 8/18/10 13:50 EST Analyst: MWA

Location: Hoist Datasonde Serial #: 42482

Ending Datasonde Battery [volts]: 10.8

Calibration Information

pH (s.u.):	Observed
7.00 Std.	—
10.00 Std.	—

Conductivity (mS/cm) : 0.211 Std. Conc. 0.220 Observed

— Zero Observed, In Air

Barometric Pressure (mm Hg) 721.5

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	97.3	100.0
mg/L D.O.	8.50	8.51
Temp – °C	20.64	20.65

- No calibration drift.

Notes:

Many readings ↓ 6.0 mg/L

Field Notes for Datasonde Deployment

Date/Time: Sept. 1, 2010 11:40 Analyst: TA

Location: Hoist Datasonde Serial #: 43732

Calibration Information Datasonde Battery [volts]: 12.5

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	X	X
10.00 Std		

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std	0.212	0.211	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 719.2 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	95.5%	99.9%
mg/L D.O.	8.08 mg/L	8.28 mg/L
Temp – °C	21.87 °C	21.86 °C

DO Handheld Meter Calibration - DO Meter Model HQ30d

	Before Calibration	After Calibration
% Saturation	100.5%	100.0%
mg/L D.O.	8.43 mg/L	8.43 mg/L
Temp – °C	21.0 °C 3	21.0 °C

Post Calibration Slope = 97.9%

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	91.5%	92.2%	5: 11:51 E: 12:03
mg/L D.O.	7.81 mg/L	7.88 mg/L	
Temp – °C	20.28 °C	20.4 °C	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation	Deploy			
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status - 9/16/10 @ 17:00

Battery Life @ Start: 100%

Battery Life @ End: 28%

Notes:

Field Notes for Datasonde Post Calibration

Date/Time: Sept. 1, 2010 15:45 Analyst: [illegible]

Location: Hoist Datasonde Serial #: 42484

Ending Datasonde Battery [volts]: 10.8 v

Calibration Information

pH (s.u.):	Observed
7.00 Std.	X
10.00 Std.	

Conductivity (mS/cm) : 0.211 Std. Conc. 0.215 Observed

0.0000 Zero Observed, In Air

Barometric Pressure (mm Hg) 719.8 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	101.4%	100.0%
mg/L D.O.	7.76 mg/L	7.68 mg/L
Temp – °C	25.96°C	25.94°C

Notes:

File ok, DO in high 7's and 8's

Field Notes for Datasonde Deployment

Date/Time: Sept. 13, 2010 Analyst: RG&S

Location: Hoist Tail Datasonde Serial #: 42483

Calibration Information Datasonde Battery [volts]: 13.3 v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	X	X
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.208 Std	0.206	0.208	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 741.6 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	102.1%	100.0%
mg/L D.O.	8.17 mg/L	8.10 mg/L
Temp – °C	23.95°C	24.21°C

YSI calibration (See field notes for YSI Model Ha 30d calibration information)

File Start @ Hoist 9/14/10 @ 14:00

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.	No Calibration	
Temp – °C		

Test Program Readings (Must be within 0.5 mg/L D.O.)

	Datasonde	YSI Meter	
% Saturation	115.8%	117.1%	S: 12:50 E: 13:05
mg/L D.O.	10.49 mg/L	10.61 mg/L	
Temp – °C	18.86°C	19.0°C	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.	Deployed			
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status – 9/30/10 @ 17:00

Battery Life @ Start: 100%

Battery Life @ End: 24%

Notes:

4:25 PM EST Deployed new sonde

Field Notes for Datasonde Post Calibration

Date/Time: 9/14/10 Analyst: RGS

Location: Hoist Datasonde Serial #: 43732

Ending Datasonde Battery [volts]: 10.?

Calibration Information

pH (s.u.):	Observed
7.00 Std.	X
10.00 Std.	X

Conductivity (mS/cm) : — Std. Conc. — Observed

— Zero Observed, In Air

Barometric Pressure (mm Hg) ① 724.5

9.66 mg/L
16.2°
102.0%

Dissolved Oxygen	② Before Calibrate	③ After Calibrate
% Saturation	103.9	100.0
mg/L D.O.	9.55	9.25
Temp – °C	16.74	16.77

③ - After Cal.

Notes:

Field Notes for Datasonde Deployment

Date/Time: 9/29/10 11:45 EST Analyst: MWM

Location: Hoist Datasonde Serial #: 43703

Calibration Information Datasonde Battery [volts]: _____

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	_____	_____
10.00 Std	_____	_____

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std	0.207	0.211	Before _____ After _____

Barometric Pressure (mm Hg) 720

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	93.3	100.0
mg/L D.O.	8.58	9.13
Temp – °C	17.06	17.11

YSI calibration information) (See field notes for YSI Model _____ calibration

	Before Calibration	After Calibration
% Saturation	_____	_____
mg/L D.O.	_____	_____
Temp – °C	_____	_____

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	93.1	96.0	
mg/L D.O.	9.47	9.73	OK - Deploy
Temp – °C	12.1	12.1	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation	_____	_____	_____	_____
mg/L D.O.	_____	_____	_____	_____
Temp – °C	_____	_____	_____	_____

YSI Reading at Tube

Time	_____
% Saturation	_____
mg/L D.O.	_____
Temp – °C	_____

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Calibraked @ AAO Bridge

Deployed 9/29 @ 14:00 → 10/14

Field Notes for Datasonde Post Calibration

Date/Time: 9/29/10 14:00 EST Analyst: MWM

Location: Hoist tail Datasonde Serial #: 42483

Ending Datasonde Battery [volts]: 10.4

Calibration Information

pH (s.u.)	Reads
7.00 Std	
10.00 Std	

Conductivity (mS/cm)_____ Std _____ Reads _____ Zero Reads

Barometric Pressure (mm Hg) 720

Dissolved Oxygen	before cal	after cal
% Saturation	161.4	100.0
mg/L D.O.	9.59	9.17
Temp – °C	16.84	16.88

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	
mg/L D.O.	
Temp – °C	

Notes:

All D.O. ↑ 8.0 mg/L

Field Notes for Datasonde Deployment

Date/Time: Oct. 14, 2010 12:00 EDT Analyst: LA

Location: Hoist Datasonde Serial #: _____

Calibration Information Datasonde Battery [volts]: _____

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	_____	_____
10.00 Std	_____	_____

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
_____ Std	_____	_____	Before _____ After _____

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	_____	_____
mg/L D.O.	_____	_____
Temp – °C	_____	_____

DO Handheld Meter Calibration - DO Meter Model _____

	Before Calibration	After Calibration
% Saturation	_____	_____
mg/L D.O.	_____	_____
Temp – °C	_____	_____

Post Calibration Slope = _____

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	_____	_____	
mg/L D.O.	_____	_____	
Temp – °C	_____	_____	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation	_____	_____	_____	_____
mg/L D.O.	_____	_____	_____	_____
Temp – °C	_____	_____	_____	_____

YSI Reading at Tube

Time	_____
% Saturation	_____
mg/L D.O.	_____
Temp – °C	_____

Check Status – 11/1/10 @ 01:00

Battery Life @ Start: 100% 1 min. warm up

Battery Life @ End: 48%

Notes: Temperature Only.

Field Notes for Datasonde Post Calibration

Date/Time: Oct. 14, 2010 15:05 EDT Analyst: HR

Location: Hoist Datasonde Serial #: 43703

Ending Datasonde Battery [volts]: 10.14

Calibration Information

pH (s.u.):	Observed
7.00 Std.	
10.00 Std.	

Conductivity (mS/cm): _____ Std. Conc. _____ Observed

_____ Zero Observed, In Air

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation		
mg/L D.O.		
Temp – °C		

Notes:

Temperature Only

Field Notes for Datasonde Deployment

Date/Time: 4/29/10 12:22 Analyst: MWH

Location: LSTI Trestle Datasonde Serial #: 43732

Calibration Information Datasonde Battery [volts]: 12.3

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
Std			Before ____ After ____

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation			
mg/L D.O.			
Temp – °C			

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Set up through 5/13/10 @ 23:59

Temp. only

Field Notes for Datasonde Deployment

Date/Time: 5/12/10 1:18 (13:18) Analyst: SAS

Location: L5+I Trestle Datasonde Serial #: 43730

Calibration Information Datasonde Battery [volts]: 12.7

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
Std			Before ____ After ____

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation			
mg/L D.O.			
Temp – °C			

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Set up 5/12 @ 10:00 → 5/27 @ 12:00

Temperature only

Field Notes for Datasonde Deployment

Date/Time: 5/26/10 12:53 EST Analyst: MWM

Location: LSI I Datasonde Serial #: 43727

Calibration Information Datasonde Battery [volts]: 12.3

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.301	Std	0.298	0.301	Before ____ After ____

Barometric Pressure (mm Hg) 723.5

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	101.1	99.9
mg/L D.O.	8.12	7.92
Temp – °C	24.42	24.46

YSI calibration information) (See field notes for YSI Model _____ calibration

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		~~8.55~~
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	100.1	103.3	
mg/L D.O.	8.55	8.83	Ok - Deploy
Temp – °C	20.6	20.7	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Calibrated @ AAO Bridge

Set up through 6/10

GPS Coordinates 46° 33.329 N 87° 30.371 W

Field Notes for Datasonde Post Calibration

Date/Time: 5/26/10 16:00 Analyst: MWM

Location: LS+I Datasonde Serial #: _____

Ending Datasonde Battery [volts]: _____

Calibration Information

pH (s.u.)	Reads
7.00 Std	_____
10.00 Std	_____

Conductivity (mS/cm) _____ Std _____ Reads _____ Zero Reads

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	before cal	after cal
% Saturation	_____	_____
mg/L D.O.	_____	_____
Temp – °C	_____	_____

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	_____
mg/L D.O.	_____
Temp – °C	_____

Notes:

Temp only

Data OK

Field Notes for Datasonde Deployment

Date/Time: June 9, 2010 13:25 Analyst: TP

Location: LS+I Trestle Datasonde Serial #: 47169

Calibration Information Datasonde Battery [volts]: 12.6 v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.07	7.00
10.00 Std	10.03	10.00

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.322	Std	0.333	0.322	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 716 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	93.9%	100.0%
mg/L D.O.	8.12 mg/L	8.34 mg/L
Temp – °C	21.26°C	21.24°C

DO Handheld Meter Calibration - DO Meter Model HQ30D #1

	Before Calibration	After Calibration
% Saturation	92.9%	100%
mg/L D.O. 7.85	7.94 mg/L	7.98 mg/L
Temp – °C	23.4°C	23.4°C

Post Calibration Slope = 97.6%

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	97.6%	97.5%	S: 13:32 E: 13:45
mg/L D.O.	9.22 mg/L	9.18 mg/L	
Temp – °C	15.17°C	15.2°C	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.	DEP	lost	@	17:00
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status – 6/24/10 @ 17:00

Battery Life @ Start: 100%

Battery Life @ End: 29%

Notes:

Field Notes for Datasonde Post Calibration

Date/Time: June 9, 2010 17:50 Analyst: TR

Location: LS+I Trestle Datasonde Serial #: 43727

Ending Datasonde Battery [volts]: 10.3 v

Calibration Information

pH (s.u.):	Observed	
7.00 Std.	8.98	> replace pH frit and reference solution
10.00 Std.	1201	

Conductivity (mS/cm) : 0.322 Std. Conc. 0.326 Observed

0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 717.7 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	92.8%	100.0%
mg/L D.O.	8.12 mg/L	8.69 mg/L
Temp – °C	19.36°C	19.32°C

Notes:

No missing data, DO readings are all in the eight's to nine range.

Field Notes for Datasonde Deployment

Date/Time: 6/23/10 Analyst: MWM

Location: LSI Datasonde Serial #: 43727

Calibration Information Datasonde Battery [volts]: 12.5

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	—	—
10.00 Std	—	—

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.309	Std	0.310	0.309	Before — After —

Barometric Pressure (mm Hg) 717

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	104.3	100.1
mg/L D.O.	8.21	7.86
Temp – °C	24.45	24.55

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	98.2	99.6	
mg/L D.O.	8.41	8.57	OK - Deploy
Temp – °C	19.99	20.1	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	13:40
% Saturation	99.6
mg/L D.O.	8.57
Temp – °C	20.1

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: 1324 - 1334 LSI Test 062310 - 06

Deployed 6/23 @ 19:00 → 7/8 @ 23:00

Field Notes for Datasonde Post Calibration

Date/Time: 6/23/10 18:30 Analyst: MWM

Location: LSTI Datasonde Serial #: 47169

Ending Datasonde Battery [volts]: 10.5

Calibration Information

pH (s.u.):	Observed
7.00 Std.	–
10.00 Std.	–

Conductivity (mS/cm) : 0.309 Std. Conc. _____ Observed

– Zero Observed, In Air

Barometric Pressure (mm Hg) 723

Dissolved Oxygen	Before Calibrate – No Post Cal.	After Calibrate
% Saturation		
mg/L D.O.		
Temp – °C		

Notes:

LSTI 6/9/10 - OK D.O. Sensor failure

~~lowest D.O. =~~ on 6/13/10 @ 00:00

Field Notes for Datasonde Deployment

Date/Time: 7/7/10 Analyst: MWM

Location: LSH Datasonde Serial #: 43731

Calibration Information Datasonde Battery [volts]: 12.6

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.208 Std	0.222		Before ____ After ____

Barometric Pressure (mm Hg) 721.5

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	101.3	99.0
mg/L D.O.	7.37	7.30
Temp – °C	28.81	28.82

YSI calibration information) (See field notes for YSI Model HQ 30d calibration

Calibraked in lab on 7/6/10

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	91.9	95.3	
mg/L D.O.	7.71	8.09	OK-Deploy S 1242 F 1252
Temp – °C	21.33	21.5	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: ____

Battery Life @ End: ____

Notes: ____

Field Notes for Datasonde Post Calibration

Date/Time: 7/7/10 Analyst: MGM

Location: LSI Datasonde Serial #: 43727

Ending Datasonde Battery [volts]: 10.4

Calibration Information

pH (s.u.):	Observed
7.00 Std.	-
10.00 Std.	~

Conductivity (mS/cm) : 0.208 Std. Conc. 0.202 Observed

\- Zero Observed, In Air

Barometric Pressure (mm Hg) 728.5

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	104.1	100.0
mg/L D.O.	7.92	7.74
Temp – °C	26.17	26.19

Notes:

LSI 062310 - OK All D.O. ↑ 8.0

Field Notes for Datasonde Deployment

Date/Time: 7-22-10 Analyst: MWH

Location: McClure By Pass Datasonde Serial #: 437287

Calibration Information Datasonde Battery [volts]: 11.8

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std	0.208	0.211	Before ____ After ____

Barometric Pressure (mm Hg) 740.5

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	99.0	100.1
mg/L D.O.	8.16	8.41
Temp – °C	22.69	22.69

YSI calibration information) (See field notes for YSI Model – calibration

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	83.0	84.8	
mg/L D.O.	6.6	6.73	
Temp – °C	25.60	25.9	ok - Deploy

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: ____

Battery Life @ End: ____

Notes: Calibrated in lab on 7/20/10

Field Notes for Datasonde Post Calibration

Date/Time: 7/22/10 11:16 AM EST Analyst: ~~DGS~~ SCP

Location: McClure By pass Datasonde Serial #: 43731

Ending Datasonde Battery [volts]:_____

Calibration Information

Hand Held
8.8 ?

pH (s.u.)	Reads
7.00 Std	_____
10.00 Std	_____

Conductivity (mS/cm)_____Std _____Reads _____Zero Reads

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	before cal	after cal
% Saturation	98.7	100.1
mg/L D.O.	8.36	8.54
Temp – °C	20.96	21.02

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	_____
mg/L D.O.	_____
Temp – °C	_____

Notes:

Field Notes for Datasonde Deployment

Date/Time: 8-5-10 9:57 am Analyst: MWH

Location: McClure Bypass Datasonde Serial #: 43730

Calibration Information Datasonde Battery [volts]: 12.7

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	—	—
10.00 Std	—	—

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std	0.242	0.211	Before — After —

Barometric Pressure (mm Hg) 739.5

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	97.5	100.2
mg/L D.O.	8.09	8.46
Temp – °C	22.31	22.32

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	112.5	106.2	
mg/L D.O.	8.45	8.12	ok - Depby
Temp – °C	28.65	28.8	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Calibrated in lab on 8/3/10. Test pgm ran in East River.

Field Notes for Datasonde Post Calibration

Date/Time: 8-5-10 10:18am Analyst: SCP

Location: McClure Bypass Datasonde Serial #: 43727

Ending Datasonde Battery [volts]: 10.1

Calibration Information

pH (s.u.)	Reads
7.00 Std	
10.00 Std	

Conductivity (mS/cm)_____Std _____Reads _____Zero Reads

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	before cal	after cal
% Saturation	98.5	97.2
mg/L D.O.	8.52	8.17
Temp – °C	21.16	21.21

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	
mg/L D.O.	
Temp – °C	

Notes:

Post Cal reading raised to 8.60 mg/L after a minute ?

* instrument Not stablized during postcal. NO D.O. correction given that the monitor stabilized to 8.60.

Field Notes for Datasonde Deployment

Date/Time: 8/18/10 12:10 EST Analyst: MWM

Location: LS+I Datasonde Serial #: 47167

Calibration Information Datasonde Battery [volts]: 12.6

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	—	—
10.00 Std	—	—

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std	0.213	0.211	Before — After —

Barometric Pressure (mm Hg) 718.0

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	99.5	100.0
mg/L D.O.	8.07	8.11
Temp – °C	22.81	22.89

DO Handheld Meter Calibration - DO Meter Model _____

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Post Calibration Slope = _____

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	89.6	~~16~~ 89.3	S 12:30
mg/L D.O.	8.32	8.33	
Temp – °C	16.17	16.3	E 12:40

OK - Deploy

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Calibrated @ AAO Boat dock

Deployed 8/18 @ 1600 → 9/2/10

Field Notes for Datasonde Post Calibration

Date/Time: 8/18/10 15:45 Analyst: KWM

Location: LS+I Trestle Datasonde Serial #: 43730

Ending Datasonde Battery [volts]: 11.0

Calibration Information

pH (s.u.):	Observed
7.00 Std.	–
10.00 Std.	–

Conductivity (mS/cm) : – Std. Conc. – Observed

– Zero Observed, In Air

Barometric Pressure (mm Hg) 725

Dissolved Oxygen	Before Calibrate	After Calibrate	
% Saturation	97.7	100.4	- No calibration
mg/L D.O.	8.66	8.73	Drift
Temp – °C	19.86	19.82	Correction.

Notes:

All D.O. ↑ 8.0 mg/L.

Field Notes for Datasonde Deployment

Date/Time: Sept. 1, 2010 12:00 Analyst: HA

Location: L5+I Trestle Datasonde Serial #: 43731

Calibration Information Datasonde Battery [volts]: 12.5+

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	X	X
10.00 Std		

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std	0.207	0.211	Before 0.000 After 0.000

Barometric Pressure (mm Hg) ~~X~~ 719.2 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	98.1%	100.0%
mg/L D.O.	8.21 mg/L	8.38 mg/L
Temp – °C	21.23°C	21.21°C

DO Handheld Meter Calibration - DO Meter Model Hach HQ30D

	Before Calibration	After Calibration
% Saturation	100.5%	100.0%
mg/L D.O.	8.43 mg/L	8.43 mg/L
Temp – °C	21.3°C	21.0°C

Post Calibration Slope = 97.29%

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	92.0%	93.6%	
mg/L D.O.	7.83 mg/L	7.95 mg/L	S: ~~X~~ 12:04 E: 12:16
Temp – °C	20.48°C	20.7°C	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.	Deployed			
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status - 9/16/10 @ 17:00

Battery Life @ Start: 100%

Battery Life @ End: 29%

Notes:

*Do Not use reading at 15:00 on 9/1/10

Field Notes for Datasonde Post Calibration

Date/Time: Sept. 1, 2010 Analyst: TR

Location: LS+I Trestle Datasonde Serial #: 47167

Ending Datasonde Battery [volts]: 10.9v

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7
10.00 Std.	

Conductivity (mS/cm) : 0.211 Std. Conc. 0.206 Observed

0.0000 Zero Observed, In Air

Barometric Pressure (mm Hg) 719.8 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	93.2%	100.0%
mg/L D.O.	7.18 mg/L	7.75 mg/L
Temp – °C	25.45	25.40°C

Notes:

File looks good. All DO's above 8

Field Notes for Datasonde Deployment

Date/Time: Sept. 13, 2010 Analyst: RGS

Location: L5+I Trestle Datasonde Serial #: 47167

Calibration Information Datasonde Battery [volts]: 13.2v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	X	X
10.00 Std		

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.208	Std	0.209	0.208	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 741.0 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	112.0%	100.0%
mg/L D.O.	8.96 mg/L	8.20 mg/L
Temp – °C	23.88°C	23.79°C

DO Handheld Meter Calibration - DO Meter Model _____

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

L5+I file start 9/15/10 @08:00 EDT

Post Calibration Slope = _____

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	115.1%	116.8%	
mg/L D.O.	10.42 mg/L	~~10.6~~ mg/L	5:13:05 E: 13:20
Temp – °C	18.88°C	19.0°C	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status – 9/30/10 @ 17:00

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: _____

Sunny Calm 45°F

Field Notes for Datasonde Post Calibration

Date/Time: 9/15/10 Deployed new 8:30AM EST Analyst: RGS

Location: L5+I Trestle Datasonde Serial #: 43731

Ending Datasonde Battery [volts]: 10.6

Calibration Information

pH (s.u.):	Observed
7.00 Std.	—
10.00 Std.	—

10.15 Mg/L

14.1 °C

101.4 %

Conductivity (mS/cm) : — Std. Conc. — Observed

— Zero Observed, In Air

Barometric Pressure (mm Hg) ① 732.6

Dissolved Oxygen	② Before Calibrate	③ After Calibrate
% Saturation	100.4	100.7
mg/L D.O.	10.76	10.99
Temp – °C	9.77	9.89

Notes:

Field Notes for Datasonde Deployment

Date/Time: 9/29/10 12:15 EST Analyst: MWM

Location: LSII Datasonde Serial #: 93730

Calibration Information Datasonde Battery [volts]: 12.6

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std	0.219		Before — After —

Barometric Pressure (mm Hg) 720

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	93.9	99.8
mg/L D.O.	9.04	9.32
Temp – °C	16.12	16.14

YSI calibration information) (See field notes for YSI Model _____ calibration

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	92.0	96.6	
mg/L D.O.	9.31	9.70	OK - Deploy
Temp – °C	12.33	12.5	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Calibrated @ AAO Bridge

Set up 9/29 @ 1600 → 10/14

Field Notes for Datasonde Post Calibration

Date/Time: 9/29/10 16:05 Analyst: MWM

Location: LSH Datasonde Serial #: 47167

Ending Datasonde Battery [volts]: 10.6

Calibration Information

pH (s.u.)	Reads
7.00 Std	
10.00 Std	

Conductivity (mS/cm)_____Std _____Reads _____Zero Reads

Barometric Pressure (mm Hg) 720

Dissolved Oxygen	before cal	after cal
% Saturation	99.3	100.0
mg/L D.O.	8.66	8.59
Temp – °C	20.26	20.10

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	
mg/L D.O.	
Temp – °C	

Notes:

All D.O. ≥ 7.0 mg/L

Field Notes for Datasonde Deployment

Date/Time: Oct. 14, 2010 12:20 EDT Analyst: CA

Location: ~~ATC Bridge~~ L5+I Trestle Datasonde Serial #: 47167

Calibration Information Datasonde Battery [volts]: 12.6V

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
_____ Std			Before_____ After_____

Barometric Pressure (mm Hg)_____

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

DO Handheld Meter Calibration - DO Meter Model _____

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Post Calibration Slope = _____

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation			
mg/L D.O.			
Temp – °C			

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status - 11/1/10 @ 01:00

Battery Life @ Start: 100%

Battery Life @ End: 59%

1 min warm up

Notes: Temperature Only

Field Notes for Datasonde Post Calibration

Date/Time: Oct. 14, 2010 15:15 EDT Analyst: [illegible]

Location: LS & I Threstle Datasonde Serial #: 43730

Ending Datasonde Battery [volts]: _____

Calibration Information

pH (s.u.):	Observed
7.00 Std.	_____
10.00 Std.	_____

Conductivity (mS/cm): _____ Std. Conc. _____ Observed

_____ Zero Observed, In Air

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	_____	_____
mg/L D.O.	_____	_____
Temp – °C	_____	_____

Notes:

_____

_____

_____

_____

_____

_____

Field Notes for Datasonde Deployment

Date/Time: 4/28/10 13:30 EST Analyst: MWH

Location: McClure Tail Datasonde Serial #: 43705

Calibration Information Datasonde Battery [volts]: 12.3

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
Std			Before After

Barometric Pressure (mm Hg)

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

YSI calibration (See field notes for YSI Model calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation			
mg/L D.O.			
Temp – °C			

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start:

Battery Life @ End:

Notes: Set up through 5/13/10 @ 23:59

Temp. only

Field Notes for Datasonde Deployment

Date/Time: 5/12/10 2:23 (14:23) Analyst: SAS

Location: McClure Tailrace Datasonde Serial #: 43731

Calibration Information Datasonde Battery [volts]: 12.6

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
_____ Std			Before_____ After_____

Barometric Pressure (mm Hg)_____

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation			
mg/L D.O.			
Temp – °C			

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Setup 5/12 @ 10:00 → 5/27 @ 12:00

Temperature only.

Field Notes for Datasonde Deployment

Date/Time: 5/26/10 Analyst: MWH

Location: McClure Datasonde Serial #: 43703

Calibration Information Datasonde Battery [volts]: 11.1

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.301	Std	0.301	0.301	Before ____ After ____

Barometric Pressure (mm Hg) 723.5

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	101.2	100.1
mg/L D.O.	8.17	7.96
Temp – °C	24.30	24.31

YSI calibration information) (See field notes for YSI Model _____ calibration

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	103.2	103.4	
mg/L D.O.	8.56	8.84	OK - deploy
Temp – °C	20.6	20.8	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time _____
% Saturation _____
mg/L D.O. _____
Temp – °C _____

Check Status

Battery Life @ Start: _____
Battery Life @ End: _____

Notes: Calibrated @ AAO Bridge

Set up through 6/10 @ 23:59

46° 34.432 N 87° 28.505 W

Field Notes for Datasonde Post Calibration

Date/Time: 5/26/10 16:35 Analyst: MWM

Location: McClure Datasonde Serial #: 43731

Ending Datasonde Battery [volts]: _____

Calibration Information

pH (s.u.)	Reads
7.00 Std	_____
10.00 Std	_____

Conductivity (mS/cm) _____ Std _____ Reads _____ Zero Reads

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	before cal	after cal
% Saturation	_____	_____
mg/L D.O.	_____	_____
Temp – °C	_____	_____

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	_____
mg/L D.O.	_____
Temp – °C	_____

Notes:

Temp only.

Max temps ↑ 20° C

Field Notes for Datasonde Deployment

Date/Time: June 9, 2010 13:50 Analyst: HP

Location: McClure Tailwater Datasonde Serial #: 42485

Calibration Information Datasonde Battery [volts]: 12.4 V

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.64	7.00
10.00 Std	9.88	

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.3242	Std	0.324	0.322	Before .0000 After .0000

Barometric Pressure (mm Hg) 716.5 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	99.8%	99.7%
mg/L D.O.	8.57 mg/L	8.47 mg/L
Temp – °C	20.45°C	20.41°C

DO Handheld Meter Calibration - DO Meter Model HQ30D #1

	Before Calibration	After Calibration
% Saturation	98.4%	100.0%
mg/L D.O.	7.85 mg/L	7.98 mg/L
Temp – °C	23.4°C	23.4°C

Post Calibration Slope = 97.6%

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	95.8%	97.5%	5:13:51 F: 14:03
mg/L D.O.	9.06 mg/L	9.18 mg/L	
Temp – °C	15.18°C	15.2°C	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.	Deployed			17:00
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status - 6/24/10 @ 17:00

Battery Life @ Start: 98%

Battery Life @ End: 27%

Notes:

Field Notes for Datasonde Post Calibration

Date/Time: June 9, 2010 17:30 EDT Analyst: HR

Location: McClure Tailwater Datasonde Serial #: 43703

Ending Datasonde Battery [volts]: 9.7v

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7.12
10.00 Std.	10.08

Conductivity (mS/cm) : 0.322 Std. Conc. 0.328 Observed

0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 717.7 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	97.3%	99.9%
mg/L D.O.	8.49 mg/L	8.64 mg/L
Temp – °C	19.56 °C	19.54 °C

Notes:

No data missing, DO's all in the eight, nine and ten's.

Field Notes for Datasonde Deployment

Date/Time: 6/23/10 Analyst: HWM

Location: McClure Tail Datasonde Serial #: 43703

Calibration Information Datasonde Battery [volts]: 12.6

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	—	—
10.00 Std	—	—

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.309 Std			Before — After —

Barometric Pressure (mm Hg) 716.5

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	102.0	100.0
mg/L D.O.	7.85	7.67
Temp – °C	25.66	25.77

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	97.1	100.2	
mg/L D.O.	8.25	8.56	ok - Deploy
Temp – °C	20.38	20.4	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	14:21
% Saturation	100.2
mg/L D.O.	8.56
Temp – °C	20.4

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Calibrated @ AAO Bridge

Set up 6/23 @ 2000 → 7/8 @ 2300

Field Notes for Datasonde Post Calibration

Date/Time: 6/23/10 Analyst: MWM

Location: McCloud Tailrace Datasonde Serial #: 12485

Ending Datasonde Battery [volts]: 10.8

Calibration Information

pH (s.u.):	Observed
7.00 Std.	—
10.00 Std.	—

Conductivity (mS/cm) : 0.309 Std. Conc. 0.309 Observed

— Zero Observed, In Air

Barometric Pressure (mm Hg) 731.5

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	105.8	99.8
mg/L D.O.	9.32	8.98
Temp – °C	18.57	18.57

Notes:

Low D.O. from 6/18@ 10:00 → 6/19@ 05:00

Field Notes for Datasonde Deployment

Date/Time: 7/7/10 13:05 EST Analyst: MWM

Location: McClure Tarl Datasonde Serial #: 42485

Calibration Information Datasonde Battery [volts]: 12.6

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.208 Std	0.204	0.208	Before — After —

Barometric Pressure (mm Hg) 723

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	98.7	100.0
mg/L D.O.	7.42	7.42
Temp – °C	28.08	28.16

YSI calibration (See field notes for YSI Model _____ calibration information)

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	92.9	95.5	
mg/L D.O.	7.74	8.00	O.K. Deploy
Temp – °C	21.81	21.9	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Calibrated @ AAO Bridge

Field Notes for Datasonde Post Calibration

Date/Time: 7/7/10 17:50 EST Analyst: MWM

Location: McClure Datasonde Serial #: _____

Ending Datasonde Battery [volts]: _____

Calibration Information

pH (s.u.)	Reads
7.00 Std	_____
10.00 Std	_____

Conductivity (mS/cm) _____ Std _____ Reads _____ Zero Reads

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	before cal	after cal
% Saturation	_____	_____
mg/L D.O.	_____	_____
Temp – °C	_____	_____

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	_____
mg/L D.O.	_____
Temp – °C	_____

Notes:

Datasonde found buried in sand, lock on sonde is damaged - likely monitor was disturbed by someone. No Post calibration.

No data after 6/26 @ 9:00

Field Notes for Datasonde Deployment

Date/Time: 7/22/10 / ~~9:00~~ Analyst: SCP & RGS

Location: McClure Dam Datasonde Serial #: 43705

Calibration Information Datasonde Battery [volts]: 12.5

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std			Before ____ After ____

Barometric Pressure (mm Hg) 740

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	102.1	100.1
mg/L D.O.	8.21	8.30
Temp – °C	23.24	23.25

YSI calibration information) (See field notes for YSI Model _____ calibration

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	85.4	84.8	ok - Deploy
mg/L D.O.	6.77	6.73	
Temp – °C	25.62	25.9	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: _____

Field Notes for Datasonde Post Calibration

Date/Time: 7/22/10 (8:50AM EST Analyst: RGS SCD

Location: McClure Downstream Tailrace red hood Datasonde Serial #: 42485

Ending Datasonde Battery [volts]: 10.0

Calibration Information

Hand Held 9.40 mg/l

pH (s.u.)	Reads
7.00 Std	
10.00 Std	

Conductivity (mS/cm)_____ Std _____ Reads _____ Zero Reads

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	before cal	after cal
% Saturation	100.1	100.1
mg/L D.O.	9.19	9.38
Temp – °C	17.00	17.10

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	
mg/L D.O.	
Temp – °C	

Notes:

Field Notes for Datasonde Post Calibration

Date/Time: 8-5-10 Analyst: SCP

Location: 11:12am McClure DS or TR Datasonde Serial #: 43705

Ending Datasonde Battery [volts]: 10.7

Calibration Information

pH (s.u.)	Reads
7.00 Std	
10.00 Std	

Conductivity (mS/cm)_____Std _____Reads _____Zero Reads

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	before cal	after cal
% Saturation	103.9	105.4
mg/L D.O.	9.15	~~9.1~~ 9.15
Temp – °C	20.20	20.24

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	
mg/L D.O.	
Temp – °C	

Notes:

Field Notes for Datasonde Deployment

Date/Time: 8/18/10 12:18 EST Analyst: MWH

Location: McClure Tail Datasonde Serial #: 42483

Calibration Information Datasonde Battery [volts]: 12.5

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	~	~
10.00 Std	~	~

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.211	Std	0.215	0.211	Before ~ After ~

Barometric Pressure (mm Hg) 718.5

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

DO Handheld Meter Calibration - DO Meter Model _____

	Before Calibration	After Calibration
% Saturation	93.7	100.3
mg/L D.O.	7.93	8.28
Temp – °C	21.92	21.94

Post Calibration Slope = _____

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	89.7	89.3	5: 12:30
mg/L D.O.	8.33	8.33	
Temp – °C	16.18	16.3	E: 12:40

OK - Deploy

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Calibrated @ AAO Bridge.

Deployed 8/18 @ 17:00 → 9/2

Field Notes for Datasonde Post Calibration

Date/Time: 8/18/10 Analyst: MWH

Location: McClure Tail Datasonde Serial #: 43732

Ending Datasonde Battery [volts]: 10.8

Calibration Information

pH (s.u.):	Observed
7.00 Std.	—
10.00 Std.	—

Conductivity (mS/cm) : — Std. Conc. — Observed

— Zero Observed, In Air

Barometric Pressure (mm Hg) 734

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	102.6	100.0
mg/L D.O.	9.73	9.43
Temp – °C	16.43	16.45

Notes:

- water level @ monitoring location is up. ∴ Forestville basin elevation is up

All D.O. ↑ 8.0 mg/L

Field Notes for Datasonde Deployment

Date/Time: Sept. 1, 2010 11:25 Analyst: JA

Location: McClure Datasonde Serial #: 43730

Calibration Information Datasonde Battery [volts]: 12.6 V

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	X	X
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.211 Std	0.207	0.211	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 219.2 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	99.2%	100.0%
mg/L D.O.	8.12 mg/L	8.22 mg/L
Temp – °C	22.63 °C	22.61 °C

DO Handheld Meter Calibration - DO Meter Model Hach HQ30d

	Before Calibration	After Calibration
% Saturation	100.5%	100.0%
mg/L D.O.	8.43 mg/L	8.43 mg/L
Temp – °C	21.3 °C	21.0 °C

Post Calibration Slope = 97.9%

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	89.5%	91.3%	
mg/L D.O.	7.69 mg/L	7.83 mg/L	S: 11:30 E: 11:42
Temp – °C	20.00 °C	20.3	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation	Deployed			
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status - 9/16/10 @ 17:00

Battery Life @ Start: 100%

Battery Life @ End: 28%

Notes:

Field Notes for Datasonde Post Calibration

Date/Time: Sept. 1, 2010 15:35 Analyst: TR

Location: McClure Datasonde Serial #: 42483

Ending Datasonde Battery [volts]: 10.8 v

Calibration Information

pH (s.u.):	Observed
7.00 Std.	~~10~~
10.00 Std.	

Conductivity (mS/cm) : 0.211 Std. Conc. 0.201 Observed

0.0000 Zero Observed, In Air

Barometric Pressure (mm Hg) 719.8 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	~~105~~ 100.5%	100.2%
mg/L D.O.	7.72 mg/L	7.72 mg/L
Temp – °C	25.72 °C	25.75 °C

Notes:

File looks good, DO above 8

Field Notes for Datasonde Deployment

Date/Time: Sept. 13, 2010 12:30 Analyst: RGS

Location: McClure Tail Datasonde Serial #: 43727

Calibration Information Datasonde Battery [volts]: 13.0 v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	X	X
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.208 Std	0.207	0.208	Before 0.0000 After 0.0000

Barometric Pressure (mm Hg) 741.0 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	103.9%	99.9%
mg/L D.O.	8.35 mg/L	8.17 mg/L
Temp – °C	24.16°C	24.17°C

YSI calibration (See field notes for YSI Model _____ calibration information)

McClure_File Start 9/13/10 @ 10:00

	Before Calibration	After Calibration
% Saturation	X	X
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	117.7%	117.1%	S: 13:25 E: 13:40
mg/L D.O.	10.03 mg/L	10.01 mg/L	
Temp – °C	18.97°C	19.0°C	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

Deploy

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status – 9/30/10 @ 17:00

Battery Life @ Start: 100.0%

Battery Life @ End: 58%

Notes: _____

11:10 deploy new

Field Notes for Datasonde Post Calibration

Date/Time: 9/15/10 Analyst: RGS

Location: McClure Tail Datasonde Serial #: 43230

Ending Datasonde Battery [volts]: 10.8

Calibration Information

pH (s.u.):	Observed
7.00 Std.	X
10.00 Std.	

9.88 Mg/L
91.1 %
10.5 °C

Conductivity (mS/cm) : — Std. Conc. — Observed
— Zero Observed, In Air

Barometric Pressure (mm Hg) ① 742.2

Dissolved Oxygen	② Before Calibrate	③ After Calibrate
% Saturation	106.5	100.0
mg/L D.O.	10.34	9.96
Temp – °C	14.33	14.38

Notes:

Field Notes for Datasonde Deployment

Date/Time: 9/29/10 12:30 EST Analyst: MWM

Location: McClure Tail Datasonde Serial #: 43731

Calibration Information Datasonde Battery [volts]: 12.5

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	–	–
10.00 Std	–	–

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.211 Std	0.216		Before – After –

Barometric Pressure (mm Hg) 720

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	97.6	100.0
mg/L D.O.	9.27	9.33
Temp – °C	16.07	16.08

YSI calibration information) (See field notes for YSI Model _____ calibration

	Before Calibration	After Calibration
% Saturation	8	
mg/L D.O.		
Temp – °C		

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	91.0	96.8	
mg/L D.O.	9.19	9.69	OK - Deploy
Temp – °C	12.45	12.6	

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time _____
% Saturation _____
mg/L D.O. _____
Temp – °C _____

Check Status

Battery Life @ Start: _____
Battery Life @ End: _____

Notes: Calibrated @ AAO Bridge

Field Notes for Datasonde Post Calibration

Date/Time: 9/29/10 Analyst: _____

Location: McClure Datasonde Serial #: _____

Ending Datasonde Battery [volts]: _____

Calibration Information

pH (s.u.)	Reads
7.00 Std	_____
10.00 Std	_____

Conductivity (mS/cm) _____ Std _____ Reads _____ Zero Reads

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	before cal	after cal
% Saturation	_____	_____
mg/L D.O.	_____	_____
Temp – °C	_____	_____

YSI calibration (See field notes for _____ for calibration info.)

% Saturation	_____
mg/L D.O.	_____
Temp – °C	_____

Notes:

No log file! Did not Run

Field Notes for Datasonde Deployment

Date/Time: October 14, 2010 11:45 EDT Analyst: HA

Location: McClure Datasonde Serial #: 43727

Calibration Information Datasonde Battery [volts]: 12.8v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std		
10.00 Std		

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
_____ Std			Before_____ After_____

Barometric Pressure (mm Hg)_____

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

DO Handheld Meter Calibration - DO Meter Model _____

	Before Calibration	After Calibration
% Saturation		
mg/L D.O.		
Temp – °C		

Post Calibration Slope = _____

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation			
mg/L D.O.			
Temp – °C			

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation				
mg/L D.O.				
Temp – °C				

YSI Reading at Tube

Time	
% Saturation	
mg/L D.O.	
Temp – °C	

Check Status – 11/1/10 01:00

Battery Life @ Start: 100% 1 min warm up

Battery Life @ End: 58%

Notes: Temperature only

Field Notes for Datasonde Post Calibration

Date/Time: Oct. 14, 2010 12:00 EDT Analyst: AP

Location: McClure Datasonde Serial #: 43731

Ending Datasonde Battery [volts]: 9.2 V

Calibration Information

pH (s.u.):	Observed
7.00 Std.	
10.00 Std.	

Conductivity (mS/cm): _____ Std. Conc. _____ Observed

_____ Zero Observed, In Air

Barometric Pressure (mm Hg) _____

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation		
mg/L D.O.		
Temp – °C		

Notes:

Temp. Only

Dead River Hydroelectric Project

FERC Project No. 10855

2010 Water Quality Monitoring Report

Appendix E

Documentation of Agency Consultation

Metcalf, Mark W

From: Metcalf, Mark W
Sent: Monday, June 14, 2010 12:21 PM
To: 'Jessica Mistak'; 'Christie_Deloria@fws.gov'; 'Saalfeld, Jerry (DEQ)'
Cc: Puzen, Shawn C; Meyers, Robert J
Subject: Dead River Water Quality Monitoring Data - 6/1 - 6/9/10
Attachments: Hoist DO data 0601_0609.pdf

Good afternoon everyone,

Per the water quality monitoring plan for the Dead River Hydroelectric Project (FERC Project No. 10855), UPPCO is monitoring dissolved oxygen (DO) in the Dead River downstream of the Hoist Powerhouse from June 1st through September 30, 2010 (SE ¼, of the NE ¼ of Section 16, T48N, R26W Township of Negaunee). Water quality monitoring data collected between June 1st and June 9th at this monitoring location shows deviations from the dissolved oxygen water quality standard of 7.0 mg/l at various times between June 5th and 9th.

At the time the deviations were observed, the facility was in run-of-river mode with discharge flows ranging from 101.9 to 102.2 cubic feet per second. As the periods of low DO readings are generally followed by significant oxygen concentration increases, the likely cause of the deviations is due to a malfunction of the DO sensor or a buildup of sediment and debris around the DO sensor. A dissolved oxygen profile conducted at the Hoist Powerhouse intake on 6/9/10 shows that the reservoir is beginning to stratify, but dissolved oxygen concentrations were still at 6.2 mg/l or higher at all depths. This information suggests that reservoir stratification may have contributed to lower DO readings in the Dead River, but did not cause the low readings. The water quality monitoring data for this monitoring period and a copy of the reservoir profile data is attached for your review.

Please feel free to contact me if you have any questions.

Thanks,
Mark

Mark Metcalf
Environmental Consultant - Air & Water
Integrys Business Support, LLC.
(920) 433-1833

Providing support for Integrys Energy Group, Integrys Energy Services, Michigan Gas Utilities, Minnesota Energy Resources, North Shore Gas, Peoples Gas, Upper Peninsula Power, Wisconsin Public Service, and Wisconsin River Power Company

Metcalf, Mark W

From: Metcalf, Mark W
Sent: Friday, June 25, 2010 11:56 AM
To: 'Jessica Mistak'; 'Christie_Deloria@fws.gov'; 'Saalfeld, Jerry (DEQ)'
Cc: Puzen, Shawn C; Meyers, Robert J; Schlorke, Virgil E
Subject: Water Quality Deviations - Dead River
Attachments: McClure DO deviation data 06092010.pdf

Good afternoon,

Per the water quality monitoring plan for the Dead River Hydroelectric Project, Upper Peninsula Power Company is conducting water quality monitoring in the tailrace of the McClure Powerhouse. Water quality monitoring data collected between 6/9/10 and 6/23/10 shows deviations from the water quality standard of 5.0 mg/l dissolved oxygen from 6/18/10 at 09:00 through 6/19/10 at 10:00. The likely cause of the deviations is sediment buildup around the water quality monitor, which resulted in dissolved oxygen readings that are not representative of actual conditions. Attached for your review is the monitoring data collected below the McClure Powerhouse from 6/9/10 through 6/23/10. Please note that the McClure Powerhouse will not be in operation during the 2010 monitoring season as the penstock is being replaced.

Also, UPPCO experienced a failure of the dissolved oxygen monitor deployed downstream of the McClure dam in the natural river channel of the Dead River on 6/12/2010 at 22:00. Consequently, no valid dissolved oxygen data was collected from 6/12 at 22:00 through 6/23/10 at 18:00 when a replacement monitor was deployed. As all water is currently being released into the natural river channel, it is unlikely that any deviations from the dissolved oxygen standard of 7.0 mg/l occurred during the period when the dissolved oxygen monitor failed.

If you have any questions, please feel free to contact me.

Thanks,
Mark

Mark Metcalf
Environmental Consultant - Air & Water
Integrys Business Support, LLC.
(920) 433-1833

Providing support for Integrys Energy Group, Integrys Energy Services, Michigan Gas Utilities, Minnesota Energy Resources, North Shore Gas, Peoples Gas, Upper Peninsula Power, Wisconsin Public Service, and Wisconsin River Power Company

Metcalf, Mark W

From: Metcalf, Mark W
Sent: Friday, July 09, 2010 2:18 PM
To: 'Mistak, Jessica'; 'Christie_Deloria@fws.gov'; 'Saalfeld, Jerry (DEQ)'
Cc: Puzen, Shawn C; Meyers, Robert J; Schlorke, Virgil E
Subject: Water Quality Monitoring - Dead River Hydroelectric Project
Attachments: AAO Bridge Summary July 2010.pdf; Location #2 profile comparison.pdf

Good Afternoon:

Pursuant to the water quality monitoring plan for the Dead River Hydroelectric Project, Upper Peninsula Power Company (UPPCO) is monitoring dissolved oxygen and temperature at 4 locations in the Dead River. At the County Road AAO Bridge monitoring location (downstream of Silver Lake, SE ¼ of NE ¼, Sec 22, T49N, R28W), deviations from the dissolved oxygen water quality standard were observed on July 3rd, 4th, and 5th, with a low DO reading of 6.6 mg/l. The likely cause of the low dissolved oxygen content is low water flow and high water temperatures observed. Monitoring data from the AAO Bridge monitoring location is attached for your review.

Due to low water levels, UPPCO has been releasing minimum flow (currently, 10 cfs) in an attempt to maintain the reservoir elevation. Between July 3rd and July 5th, water levels in the Silver Lake Storage Basin decreased from 1469.2 ft to 1468.9 ft. DO profiles conducted on 6/24/10 and 7/8/10 at a monitoring location near the Silver Lake Basin outlet show that the discharge water temperature from the basin was, at a minimum, between 62 and 68°F (16.9 and 19.9°C – please see the attached profile data). During the same time period of the deviations, water temperatures over 75° F were recorded at the AAO Bridge monitoring location. Consequently, high water temperatures contributed to the dissolved oxygen deviations as increased temperature decreases the solubility of oxygen in water.

At the monitoring location downstream of the McClure Powerhouse, the water quality monitor was found completely buried in sand when retrieved on 7/7/10. A lock attached to the monitor was damaged, indicating that the sonde was disturbed during the deployment period. As a result, representative dissolved oxygen and temperature data was not collected between 6/26 at 10:00 through 7/7 at 17:00. Prior to this time, all dissolved oxygen levels were above the License minimum of 5.0 mg/l.

If you have any questions about this notification or the monitoring data, please feel free to contact me.

Thanks,
Mark

Mark Metcalf
Environmental Consultant - Air & Water
Integrys Business Support, LLC.
(920) 433-1833

Providing support for Integrys Energy Group, Integrys Energy Services, Michigan Gas Utilities, Minnesota Energy Resources, North Shore Gas, Peoples Gas, Upper Peninsula Power, Wisconsin Public Service, and Wisconsin River Power Company

Metcalf, Mark W

From: Metcalf, Mark W
Sent: Thursday, July 29, 2010 3:14 PM
To: 'Mistak, Jessica'; 'Christie_Deloria@fws.gov'; 'Saalfeld, Jerry (DEQ)'
Cc: Puzen, Shawn C; Schlorke, Virgil E; Meyers, Robert J
Subject: Dead River Water Quality Monitoring
Attachments: AAO Bridge DO Summary 2010.pdf; AAO Bridge Temp Summary 2010.pdf; Hoist downstream DO Summary 2010.pdf; Hoist 2010 profile summary.pdf

Good afternoon everyone,

Per the water quality monitoring plan for the Dead River Hydroelectric Project, UPPCO is monitoring dissolved oxygen and temperature at 4 locations on the Dead River. I reviewed the water quality monitoring data for the period of July 7th through July 22nd today and there are deviations from the water quality standards to report.

At the County Road AAO Bridge monitoring location (downstream of Silver Lake, SE ¼ of NE ¼, Sec 22, T49N, R28W) on July 17th between 17:00 and 18:00, the water quality monitor experienced an electrical malfunction. Consequently, no dissolved oxygen or temperature data was recorded from July 17th at 18:00 through July 21st at 16:00 when the monitor was retrieved. Between July 7th and July 17th, 2010 deviations from the dissolved oxygen water quality standard were observed of 7.0 mg/l, with a low reading of 6.8 mg/l. The likely cause of the deviations is low water flow and warm water temperatures in the Dead River. Due to low water levels, UPPCO has been releasing minimum flow (currently, ~ 10 cfs) in an attempt to maintain the Silver Lake Reservoir elevation. During this time period, water levels in the Silver Lake decreased from 1469.4 ft on July 7th to 1469.0 ft on July 12th, and back up to 1469.4 by July 17th. With regards to water temperature in the month of July, the average daily water temperature has been above the license maximum monthly average of 68°F on 13 of the 17 days monitoring data is available. The combination of low water flow and warm water temperatures likely resulted in the deviations observed. Dissolved oxygen and temperature monitoring data is attached for your review.

At the monitoring location downstream of the Hoist Powerhouse (SE ¼, of the NE ¼ of Section 16, T48N, R26W Township of Negaunee), deviations from the dissolved oxygen standard of 7.0 mg/l were observed between July 7th and July 21st, with a low reading of 6.1 mg/l. The likely cause of the deviations observed is the stratification of the Dead River Storage Basin and the presence of low dissolved oxygen water in the hypolimnion of the reservoir. A dissolved oxygen profile conducted at the Hoist Powerhouse intake on 7/22/10 shows that the reservoir is stratified at approximately 7.5 to 8 meters below the surface of the water, where water is being withdrawn from the reservoir. DO levels of less than 5 mg/l were present at this depth. This information suggests that reservoir stratification may have contributed to lower DO readings in the Dead River. The water quality monitoring data for this monitoring period and a copy of the reservoir profile data is attached for your review.

If you have any questions, please feel free to contact me.

Thanks,
Mark

Mark Metcalf
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Metcalf, Mark W

From: Metcalf, Mark W
Sent: Monday, August 09, 2010 3:25 PM
To: 'Mistak, Jessica'; 'Christie_Deloria@fws.gov'; 'Saalfeld, Jerry (DEQ)'
Cc: Puzen, Shawn C; Meyers, Robert J; Schlorke, Virgil E
Subject: Dead River Water Quality Monitoring
Attachments: July 2010 temp summary.pdf; 0722_0805 monitoring data.pdf

Good afternoon everyone,

Pursuant to the water quality monitoring plan for the Dead River Hydroelectric Project, Upper Peninsula Power Company (UPPCO) is monitoring water temperature and dissolved oxygen (D.O.) in the Dead River at 4 monitoring locations. UPPCO is providing notice of D.O. deviations observed between July 22 and August 5th and deviations from the License monthly maximum average water temperature observed at three locations during the month of July.

At the County Road AAO Bridge monitoring location, deviations from the D.O. water quality standard of 7.0 mg/l were observed from August 3rd at 21:00 through August 4th at 05:00, with a low D.O. reading of 6.7 mg/l. The likely cause of the deviations is due to low water flows and warm water temperatures observed. Due to a lack of precipitation, UPPCO is releasing minimum flow from the Silver Lake Storage Basin (10 cfs). On August 3rd, water temperatures reached a summer high temperature of 79°F. The combination of low water flow and high temperatures likely caused the D.O. deviations observed on 8/3 and 8/4. Please note that a deviation from the License monthly maximum average temperature of 68°F (20°C) was observed during the month of July at the AAO Bridge monitoring location. The average water temperature recorded was 68.7°F.

At the monitoring location downstream of the Hoist Powerhouse, D.O. deviations and a deviation from the monthly maximum average temperature have been observed. D.O. levels ranged between 6.2 mg/l and 7.8 mg/l during the monitoring period. The average water temperature recorded at this monitoring location during the month of July was 69.3°F. The likely cause of the deviations is due to warm water present in the Dead River Storage Basin. A D.O. profile conducted near the Hoist Powerhouse intake on August 4th showed that water temperatures were above the License monthly maximum average water temperature 68°F (20°C) at all water depths. In addition, D.O. levels near the bottom of the reservoir where water is being withdrawn and released through the Hoist Powerhouse have been low due to a natural stratification of the impoundment. The combination of low D.O. concentrations and warm water temperatures likely resulted in the deviations observed. As previously communicated, UPPCO believes that by refilling Silver Lake, more cold water will be available to be released into the Dead River which will in turn mitigate the dissolved oxygen and temperature deviations observed at the AAO Bridge and downstream of the Hoist Powerhouse.

Downstream of the McClure Storage Basin in the bypassed river channel, a deviation from the License monthly maximum average temperature was observed during the month of July. The License monthly maximum average temperature at this monitoring location is 68°F, and the monthly average water temperature recorded was 69.8°F. The likely cause of the high water temperature observed is due to the McClure Penstock being out of service and warm surface water temperatures. As the penstock is out of service, all water from the McClure Storage Basin is being released to the Dead River either by flowing over the spillway or through a 20 CFS deep water siphon. Under normal operation, the only water being released to the Dead River at the McClure dam comes from the deep water siphon. Per the License, UPPCO releases at least 100 CFS of water from the Dead River Storage Basin into the McClure Storage Basin unless given approval from the resource agencies to deviate from that permit condition. With the McClure penstock out of service, at least 80 CFS of surface water was being released in addition to the 20 CFS from the deep water siphon. Bi-weekly dissolved oxygen and temperature profiles conducted at the McClure Dam in July have shown that the water temperature on the top 3 feet of the reservoir was above 68°F. The combination of warm surface water temperatures and volume of warm water being released compared to the amount of cold water released resulted in a deviation from the temperature standard. Once the McClure Penstock is repaired and placed back in service, it is unlikely that temperature deviations will be observed in the future as the deep water siphon will be the primary mechanism for releasing water into the Dead River.

Attached for your review is the D.O. monitoring data for the period of June 22nd through August 4th at the County Road AAO monitoring location and June 22nd through August 5th monitoring data for the Hoist monitoring location. Also attached is the July temperature monitoring data from the three monitoring locations where a deviation from the temperature standard was observed. If you have any questions, please feel free to contact me.

Thanks,

Mark

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Metcalf, Mark W

From: Metcalf, Mark W
Sent: Thursday, August 19, 2010 2:57 PM
To: 'Mistak, Jessica'; 'Saalfeld, Jerry (DEQ)'; 'Christie_Deloria@fws.gov'
Cc: Meyers, Robert J; Schlorke, Virgil E; Puzen, Shawn C
Subject: Dead River Water Quality Monitoring
Attachments: 08192010 dev notice data.pdf

Expires: Tuesday, February 15, 2011 12:00 AM

Good afternoon,

Pursuant to the water quality monitoring plan for the Dead River Hydroelectric Project, UPPCO is monitoring dissolved oxygen and temperature in the Dead River downstream of the Silver Lake Storage Basin and the Dead River Storage Basin. For the monitoring period of August 4th through August 18th, deviations from the dissolved oxygen (DO) water quality standard of 7.0 mg/L have been observed at these two monitoring locations.

Downstream of the Silver Lake Storage Basin at the County Road AAO Bridge, deviations from the DO water quality standard were observed between August 9th and August 17th. The lowest DO reading observed was 6.2 mg/l. The likely cause of the deviations is warm water temperatures and low water flow. During this 9-day period when deviations were observed, the average water temperature was 69.6°F, with a maximum temperature of 79.5°F (the license monthly maximum average temperature is 68°F).

In accordance with the Order Granting Temporary Variance From License Conditions dated August 11, 2010, UPPCO began operating the Silver Lake Storage Basin in run-of-river mode on August 12th in order to release all inflow downstream to the Hoist Reservoir in order to preserve reservoir elevations for recreation while still releasing flows downstream for aquatic resources. As a result, UPPCO is releasing approximately 4 cfs of water from Silver Lake rather than the license minimum of 10 cfs. The lack of cold water available to be released from Silver Lake and the warm water temperatures observed likely influenced DO levels as measured at the AAO Bridge monitoring location.

Downstream of the Hoist Powerhouse, deviations from the DO water quality standard were observed daily from August 4th through August 16th. The likely cause of the deviations is due to warm water and low DO levels near the bottom of the reservoir due to a natural stratification of the impoundment and a lack of water available to be released from the reservoir. Due to low water levels, UPPCO had been releasing minimum flows of ~ 100 cfs from the Dead River Storage Basin. Per the Order Granting Temporary Variance From License Conditions dated August 11, 2010, UPPCO decreased the amount of flow being released from the reservoir to ~ 75 cfs in order to maintain reservoir elevation.

A DO profile conducted near the Hoist Powerhouse intake on August 4th showed that water temperatures were above the License monthly maximum average water temperature 68°F (20°C) at all water depths and that the reservoir was stratified at approximately 7 to 8 meters (21 – 24 ft) below the water surface. A profile conducted on August 18th showed water temperatures were above 68°F at all depths except for the bottom 2 feet of the reservoir and that the stratification elevation of reservoir had moved from to 34 – 35 feet below the surface. Consequently, all water being released from the reservoir was above 68°F. The combination of low water flow, warm water temperatures, and low D.O. concentrations in the reservoir likely resulted in the deviations observed.

A particular point of interest is the DO monitoring data from August 15th. Early in the day, DO levels were as low as 5.7 mg/l, but by mid-afternoon levels had increased to over 7.0 mg/l. A review of weather data available on weather.com indicates that there were strong west/southwest winds during the day. This information suggests that winds may have broken the stratification in the impoundment allowing vertical mixing and resulted in an increase in DO downstream of the powerhouse.

Please note that UPPCO is currently performing maintenance on the Hoist Powerhouse intake structure that is expected to last 3 weeks. As part of this maintenance, water is being released through the low head outlet as of August 16th. As all temperature readings collected to date in August have been above the monthly maximum average water temperature and the facility is releasing water from the low head outlet (near the surface of the reservoir where water temperatures are higher), it is very possible that the License monthly maximum average water temperature will be exceeded during the month of August. As previously communicated, UPPCO believes that by refilling Silver Lake, more cold water will be available to be released into the Dead River, which will in turn mitigate the dissolved oxygen and temperature deviations observed at the AAO Bridge and downstream of the Hoist Powerhouse.

Attached for your review is DO and temperature monitoring data for the County Road AAO Bridge and Hoist Powerhouse monitoring locations, along with DO profile data for the Dead River Storage Basin. If you have any questions about this submittal, please feel free to call or e-mail me.

Thanks,
Mark

Mark Metcalf
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Providing support for Integrys Energy Group, Integrys Energy Services, Michigan Gas Utilities, Minnesota Energy Resources, North Shore Gas, Peoples Gas, Upper Peninsula Power, Wisconsin Public Service, and Wisconsin River Power Company

Metcalf, Mark W

From: Metcalf, Mark W
Sent: Thursday, September 09, 2010 10:13 AM
To: 'Mistak, Jessica'; 'Christie_Deloria@fws.gov'; 'Saalfeld, Jerry (DEQ)'
Cc: Puzen, Shawn C; Meyers, Robert J; Schlorke, Virgil E
Subject: Water quality monitoring - Dead River - 08/18 to 09/01/10
Attachments: 0909 dev rpt data.pdf

Expires: Tuesday, March 08, 2011 12:00 AM

Good morning,

Pursuant to the water quality monitoring plan for the Dead River Hydroelectric Project, UPPCO is monitoring dissolved oxygen and temperature at 4 locations on the Dead River. For the monitoring period of August 18th through September 1st, deviations from the dissolved oxygen (DO) water quality standard of 7.0 mg/L have been observed downstream of the Silver Lake Storage Basin and the County Road AAO Bridge. Also, deviations from the monthly maximum average temperature as found in the Project License were observed downstream of the Dead River Storage Basin and the McClure Storage basin for the month of August, 2010.

Downstream of the Silver Lake Storage Basin at the County Road AAO Bridge, deviations from the DO water quality standard were observed between August 27th and September 1st. The lowest DO reading observed was 6.4 mg/l. The likely cause of the deviations is low water flow from the Silver Lake Storage Basin. In accordance with the Order Granting Temporary Variance From License Conditions dated August 11, 2010, UPPCO began operating the Silver Lake Storage Basin in run-of-river mode on August 12th in order to release all inflow downstream to the Hoist Reservoir in order to preserve reservoir elevations for recreation while still releasing flows downstream for aquatic resources. As a result, UPPCO was releasing approximately 4 cfs of water from Silver Lake at the time the deviations were observed rather than the license minimum of 10 cfs. The lack of cold water available to be released from Silver Lake likely influenced DO levels as measured at the AAO Bridge monitoring location.

Downstream of the Dead River Storage Basin and McClure Storage Basin, a deviation from the License monthly maximum average temperature of 68°F occurred in August 2010. The likely cause of the deviation downstream of the Dead River Storage Basin is due to warm water present in the reservoir. Dissolved oxygen and temperature profiles conducted near the Powerhouse intake structure in August showed water temperatures were at or above the downstream water quality standard at nearly all depths in August. The warm water temperature in the reservoir was likely influenced by the dry conditions observed in 2010 and a lack of cold water available to be released from the Silver Lake Storage Basin. UPPCO believes that by refilling Silver Lake, more cold water will be available to be released into the Dead River, which will in turn mitigate the dissolved oxygen and temperature deviations observed at the AAO Bridge and downstream of the Hoist Powerhouse.

Downstream of the McClure Storage Basin, the temperature deviation observed is likely due to the McClure Penstock being out of service and the amount of warm surface water being released into the Dead River. As the penstock is out of service, all water from the McClure Storage Basin is being released to the Dead River either by flowing over the spillway or through a 20 CFS deep water siphon. With the McClure penstock out of service, 55 to 80 CFS of surface water (dependent on the amount released from the Dead River Storage Basin) was being released in to the Dead River in addition to the 20 CFS from the deep water siphon. Bi-weekly dissolved oxygen and temperature profiles conducted at the McClure Dam since June 23rd have shown that the water temperature in the top meter of the reservoir was above the downstream water quality standard through September 16th. The combination of warm surface water temperatures and volume of warm water being released compared to the amount of cold water released resulted in a deviation from the temperature standard. Once the McClure Penstock is repaired and placed back in service, it is unlikely that temperature deviations will be observed in the future as the deep water siphon will be the primary mechanism for releasing water into the Dead River.

Attached for your review is DO and temperature monitoring data for the County Road AAO Bridge, the Dead River downstream of the Hoist Powerhouse, and the Dead River below the McClure Dam monitoring locations, along with DO profile data for the Dead River and McClure Storage Basin. If you have any questions about this submittal, please feel free to call or e-mail me.

Thanks,
Mark

Mark Metcalf
Environmental Consultant - Air & Water
Integrys Business Support, LLC.
(920) 433-1833

Providing support for Integrys Energy Group, Integrys Energy Services, Michigan Gas Utilities, Minnesota Energy Resources, North Shore Gas, Peoples Gas, Upper Peninsula Power, Wisconsin Public Service, and Wisconsin River Power Company

Metcalf, Mark W

From: Metcalf, Mark W
Sent: Friday, September 17, 2010 10:17 AM
To: 'Mistak, Jessica'; 'Christie_Deloria@fws.gov'; 'Saalfeld, Jerry (DEQ)'
Cc: Puzen, Shawn C; Meyers, Robert J; Schlorke, Virgil E
Subject: Water quality monitoring - Dead River - 09/01 to 09/15/10
Attachments: McClure Tail Water DO Sept 2010.pdf

Expires: Wednesday, March 16, 2011 12:00 AM

Good morning everyone,

Pursuant to the water quality monitoring plan for the Dead River Hydroelectric Project, UPPCO is monitoring dissolved oxygen and temperature at 4 locations on the Dead River. For the monitoring period of September 1st through September 15th, two hourly deviations from the dissolved oxygen (DO) water quality standard of 5.0 mg/L have been observed downstream of the McClure Powerhouse.

On September 13th, there were two hourly readings below the water quality standard. As the hourly readings prior to and after the low readings were observed are above 9.5 mg/l, it is likely that these readings are anomalies, possibly due to an electrical problem with the monitoring equipment, and are not representative of actual water conditions. Please note that the McClure Powerhouse is currently out of service due to the penstock replacement project and that water is not being released from the powerhouse. Attached for your review is the DO monitoring data collected through September 15th at the McClure Powerhouse monitoring location. If you have any questions about this submittal, please feel free to contact me.

Thanks,
Mark

Mark Metcalf
Environmental Consultant - Air & Water
Integrys Business Support, LLC.
(920) 433-1833

Providing support for Integrys Energy Group, Integrys Energy Services, Michigan Gas Utilities, Minnesota Energy Resources, North Shore Gas, Peoples Gas, Upper Peninsula Power, Wisconsin Public Service, and Wisconsin River Power Company

Metcalf, Mark W

From: Metcalf, Mark W
Sent: Thursday, September 30, 2010 3:45 PM
To: 'Mistak, Jessica'; 'Christie_Deloria@fws.gov'; 'Saalfeld, Jerry (DEQ)'
Cc: Puzen, Shawn C; Meyers, Robert J; Schlorke, Virgil E
Subject: Dead River water quality monitoring 9/14 - 9/29
Attachments: AAO Bridge DO Summary 2010.pdf

Expires: Tuesday, March 29, 2011 12:00 AM

Good afternoon,

Pursuant to the water quality monitoring plan for the Dead River Hydroelectric Project, UPPCO is monitoring dissolved oxygen and temperature downstream of the Silver Lake Storage Basin at the County Road AAO bridge. For the monitoring period of September 14 through September 29, there was one hourly reading below the water quality standard of 7.0 mg/l.

On 9/24/10 at 22:00, the dissolved oxygen content recorded in the Dead River at this monitoring location was 6.8 mg/l. The likely cause of the low reading was an increase in river flow on the 24th. At approximately 12:00 that day, UPPCO increased the volume of water released from the Silver Lake Storage Basin from 25 cfs to 150 cfs to maintain run-of-river flows. Between 21:00 and 22:00, there was a decrease in oxygen content, likely due to the increased release of water coming downstream. As dissolved oxygen levels were above the water quality standard prior to the increase in water released and quickly returned to levels above the water quality standard, the low DO levels were a results of the flush of debris, sediment, and stagnant water along the Dead River. The DO monitoring data is attached for your review.

Also, at the McClure Powerhouse monitoring location, no data was collected between 9/15 at 11:00 through 9/29 at 17:00. The monitor deployed at this location on 9/15 was not programmed correctly and did not operate during the deployment period. As water temperatures have decreased and water levels have increased over the past few weeks, it is unlikely that there were any deviations from the dissolved oxygen water quality standard at this location.

Feel free to contact me if you have any questions.

Mark Metcalf
Environmental Consultant - Air & Water
Integrys Business Support, LLC.
(920) 433-1833

Providing support for Integrys Energy Group, Integrys Energy Services, Michigan Gas Utilities, Minnesota Energy Resources, North Shore Gas, Peoples Gas, Upper Peninsula Power, Wisconsin Public Service, and Wisconsin River Power Company

Upper Peninsula Power Company
500 North Washington Street
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Ishpeming, MI 49849-0357
www.uppco.com

November 16, 2010

FERC Project No. 10855

Mr. Gerald Saalfeld
Michigan Dept. of Environmental Quality and Environment - Surface Water Quality Division
P. O. Box 30273
Lansing, MI 48909

Mr. Kyle Kruger
Michigan Dept. of Environmental Quality and Environment – Fisheries Division
191 S. Mt Tom Rd.
Mio, MI 48647

Ms. Christie Deloria-Sheffield
US Fish and Wildlife Service
3090 Wright St.
Marquette, MI 49855

Dear Mr. Saalfeld, Mr. Kruger, and Ms. Deloria:

Per the Order Modifying and Approving Water Quality Monitoring Plan Under Article 408, dated April 17, 2003, and the Order Approving Modification to Approved Water Quality Monitoring Plan Under Article 408, dated March 3, 2005, Upper Peninsula Power Company (UPPCO) is pleased to submit water quality monitoring data collected at the Dead River Hydroelectric Project in 2010 for your review and comment.

During the 2010 water quality monitoring period, water quality monitoring was conducted at the following locations:

- In the Dead River where County Road AAO crosses the Dead River (SE ¼ of NE ¼, section 22, T49N, R28W, Township of Champion).
- Downstream of the Hoist Powerhouse in the natural river channel (SE ¼, of the NE ¼ of Section 16, T48N, R26W, Township of Negaunee).
- Downstream of the McClure Dam in the Dead River, east of where the LS&I railroad crosses the Dead River (SW ¼ of NE ¼, section 16, T48N, R26W, Township of Negaunee).
- In the tailrace of the McClure Powerhouse upstream of the confluence of the tailrace and the Forestville Basin (SW ¼ of NE ¼, section 7, T48N, R25W, Township of Marquette).

Per the water quality monitoring plan, water temperature was monitored on an hourly basis from May 1st through October 31st, and dissolved oxygen was monitored from June 1st through September 30th at the above monitoring location. Dissolved oxygen (D.O.) monitoring data can be found in

Appendix A, and temperature monitoring data can be found in Appendix B. In addition, D.O. and temperature profiles were taken near the intake structures of the Dead River Storage Basin and the McClure Storage Basin every two weeks during the months of June through September. Profile data can be found in Appendix C. Please note that all D.O. monitoring data has been corrected for any calibration drift of more than 0.2 mg/l as defined in the water quality monitoring plan. All quality assurance data can be found in Appendix D.

At the County Road AAO monitoring location, deviations from the D.O. water quality standard were observed intermittently through out the monitoring season. The likely cause of the low dissolved oxygen content is low water flow and high water temperatures observed. Due to low water levels in the Silver Lake Storage Basin, UPPCO released minimum flow (10 cfs) for most of the monitoring season in an attempt to maintain the reservoir elevation. In accordance with the Order Granting Temporary Variance From License Conditions dated August 11, 2010, UPPCO began operating the Silver Lake Storage Basin in run-of-river mode on August 12th in order to release all inflow downstream to the Hoist Reservoir in order to preserve reservoir elevations for recreation while still releasing flows downstream for aquatic resources. As a result, UPPCO is released approximately 4 cfs of water rather than the license minimum from August 12th until September 5th, 2010.

Temperature monitoring data collected at the County Road AAO monitoring location showed a deviation from the License maximum monthly average water temperature limitation of 68°F in July of 2010. The daily maximum average water temperature observed during the monitoring season was 73°F on August 12th, when the monitoring season hourly maximum temperature of 80°F was observed. The combination of low water flows and warm water temperatures likely caused the dissolved oxygen deviations observed. It is UPPCO's belief that refilling the Silver Lake Storage Basin will result in additional cold water being released downstream and will mitigate future dissolved oxygen and temperature deviations.

Please note that on September 24th, the dissolved oxygen content recorded in the Dead River suddenly dropped. The likely cause of the low reading was an increase in the release from Silver Lake earlier in the day from 25 cfs to 150 cfs to maintain run-of-river flows. The decrease in oxygen content was likely due to the increased release of water coming downstream and the low D.O. levels were a result of the flush of debris, sediment, and stagnant water along the Dead River.

At the Hoist Powerhouse monitoring location, deviations from the dissolved oxygen water quality standard were observed in June, July, and August. The deviations from the D.O. standard observed in early June were likely due to a malfunction of the D.O. sensor or a buildup of sediment and debris around the D.O. sensor. A dissolved oxygen profile conducted at the Hoist Powerhouse intake on 6/9/10 shows that the reservoir is beginning to stratify, but dissolved oxygen concentrations were still at 6.2 mg/l or higher at all depths. This information suggests that reservoir stratification may have contributed to lower D.O. readings in the Dead River, but did not cause the low readings.

Deviations observed in July and August are likely due to warm, low D.O. water present in the Dead River Storage Basin due to stratification of the reservoir. The D.O. profile data (please refer to Appendix C) shows that the reservoir was stratified during the periods in July and August when

D.O. deviations were observed and that low DO water was present in the hypolimnion of the reservoir where water is withdrawn from and released through the Hoist Powerhouse. Another factor that likely contributed to the low dissolved oxygen reading is the temperature of the water in the reservoir and in the Dead River. Temperature monitoring data from reservoir profiles shows water temperatures at or above the License monthly maximum average temperature of 68°F in July and August. The monthly average water temperature measured at the monitoring location was above the License monthly maximum average temperature of 68°F in July and August. The warm temperatures in the reservoir likely influenced D.O. concentrations, and also caused the deviations from the License monthly maximum average temperature. As previously communicated, UPPCO believes that by refilling the Silver Lake Storage Basin and having more cold water available to be released downstream into the Dead River Storage Basin will result in the release of colder water from the Hoist powerhouse and mitigate water quality deviations.

At the monitoring location downstream of the McClure Storage Basin in the natural river channel where the LS&I railroad crosses the Dead River, deviations from License monthly maximum average temperature in July and August was observed. The monthly average water temperature recorded during these months was 70°F and 71°F, respectively. The License monthly maximum average temperature is 68°F. The cause of the high temperature is due to the McClure Penstock and Powerhouse being out of service during the 2010 monitoring season and the volume of warm water which was released into the Dead River via the McClure Dam spillway. As the penstock is out of service, all water from the McClure Storage Basin is being released to the Dead River either by flowing over the spillway or through a 20 CFS deep water siphon. Under normal operation, the only water being released to the Dead River at the McClure dam comes from the deep water siphon.

Bi-weekly dissolved oxygen and temperature profiles conducted at the McClure Dam in July and August shows that the water temperature on the top of the reservoir was above the downstream water quality standard. The combination of warm surface water temperatures and volume of warm water being released over the spillway compared to the amount of cold water released resulted through t he siphon resulted in a deviation from the temperature standard. Historical monitoring data when the penstock was in service does not show temperature deviations at this monitoring location, even during periods of low flow and when UPPCO was in dry year consultation with the resource agencies. Once the McClure Penstock is repaired and placed back in service, it is unlikely that temperature deviations will be observed in the future as the deep water siphon will be the primary mechanism for releasing water into the Dead River.

During the 2010 monitoring season, the McClure penstock and powerhouse were not in service due to the replacement of the McClure penstock. Consequently, all monitoring data collected at this monitoring location is not representative of the water quality during normal hydroelectric facility operations. Deviations from D.O. standards were observed during the 2010 monitoring season, but were not due to facility operations. With limited water flow at the monitoring location, UPPCO observed a significant amount of siltation around the monitor, which resulted in the D.O. sensor being covered periodically, which resulted in readings that are not representative of actual water conditions.

Please review the enclosed monitoring data and provide any comments that you may have within 30 days of this letter. Should you have any questions about the monitoring data, please do not hesitate to call me at (920) 433-1833. Thank you for your time and consideration.

Sincerely,

Mark Metcalf

Mark W. Metcalf
Environmental Consultant – Air & Water
Telephone: (920) 433-1833

Attach.

cc: Mr. Robert Meyers - UPPCO – UISC
Mr. Virgil Schlorke – UPPCO - UISC
Mr. Shawn Puzen – Integrys – GB

Response to Comments from the U.S. Fish and Wildlife Service

The U. S. Fish and Wildlife Service did not respond with comments.

Response to Comments from the Michigan Department of Natural Resources and Environment (MDNRe) – Surface Water Quality Division

The MDNRe Surface Water Quality Division did not respond with comments.

Response to Comments from the Michigan Department of Natural Resources and Environment (MDNRe) – Fisheries Division

The MDNRe Fisheries Division did not respond with comments.

Document Content(s)

20110104 FERC Dead River WQM Report.PDF.....1-250