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December 22, 2009

FERC Project No. 10855

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

Dear Secretary Bose:

Re: Dead River Hydroelectric Project 2009 Water Quality Monitoring Report

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 2009.

During the 2009 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. On June 4th and 6th, 2009, dissolved oxygen levels briefly dropped below the water quality standard, with a minimum dissolved oxygen reading of 6.5 mg/l observed at 22:00 on June 4th. It is not clear what caused the low DO values. UPPCO was not conducting operational changes during this time period and water temperatures were relatively cool. Possible causes include vegetative or sediment build-up around the probe.

Dissolved oxygen monitoring data collected between June 24th and July 8th also showed deviations from the water quality standard of 7.0 mg/l. The low dissolved oxygen readings observed during this period were likely influenced by warm water temperatures observed. On June 24th, 25th and 26th, water temperatures were as high as 78°F, the highest temperatures recorded during the monitoring season. Please note that during the 2009 monitoring period, the Silver Lake Storage Basin was being re-filled and was not at the long-term normal elevation, which reduced the amount of cold water available to be released into the Dead River. This may have contributed to the high temperatures and low dissolved oxygen concentrations observed during the monitoring season. There were no deviations from the License monthly maximum average temperature to note.

At the Hoist Powerhouse monitoring location, deviations from the D.O. standard were observed in August and September. The likely cause of the deviations was the presence of low D.O. water 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 August and September when D.O. deviations were observed and that low DO water was present in the hypolimnion of the reservoir at the same time.

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 the reservoir profiles shows water temperatures at or above the License monthly maximum average temperature of 68°F in August and above the License monthly maximum average temperature of 63°F in September. The warm temperatures in the reservoir likely influenced D.O. concentrations, and also caused a deviation from the License monthly maximum average temperature in September. Temperature monitoring data for the month of September shows that daily minimum and average water temperatures of the Dead River were above 63°F every day except for September 28th, 29th and 30th.

At the two monitoring locations downstream of the McClure Storage Basin, the only deviation from water quality standards to report was a deviation from the License monthly maximum average temperature in September in the natural river channel where the LS&I railroad crosses the Dead River. The monthly average water temperature recorded in September was 64.5°F. The License monthly maximum average temperature is 63°F. The cause of the temperature deviation is due to the McClure Penstock and Powerhouse being out of service during the 2009 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. Per the License, UPPCO released at least 100 CFS of water from the Dead River Storage Basin into the McClure Storage Basin in 2009 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 into the Dead River below the McClure Dam in addition to the 20 CFS from the deep water siphon.

Bi-weekly dissolved oxygen and temperature profiles conducted at the McClure Dam in September have shown that the water temperature on the top 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. Historical monitoring data when the McClure 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.

UPPCO has consulted with the Michigan Department of Natural Resources (MDNR), Michigan Department of Environmental Quality (MDEQ) and U.S. Fish and Wildlife Service (FWS) regarding the water quality monitoring data. MDNR responded with a request for additional information regarding the operation of the Silver Lake Reservoir, but did not provide further comments on the 2009 report. Documentation of agency consultation is attached in Appendix E.

If you have any questions about this submittal, please feel free to contact Mr. Mark Metcalf at (920) 433-1833.

Sincerely,

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

cc: Mr. Howard Giesler, WPSC - PUL
Ms. Joan Johanek, WPSC - D2
Mr. Bruce Crocker, WPSC - D2
Mr. Robert Juidici, WPSC - REG
Mr. Keith Moyle, UPPCO - UISC
Mr. Gil Snyder, WPSC - D2
Mr. Robert Meyers, UPPCO - UISC
Mr. Shawn Puzen, IBS - D2
Ms. Patricia Grant, FERC - Chicago

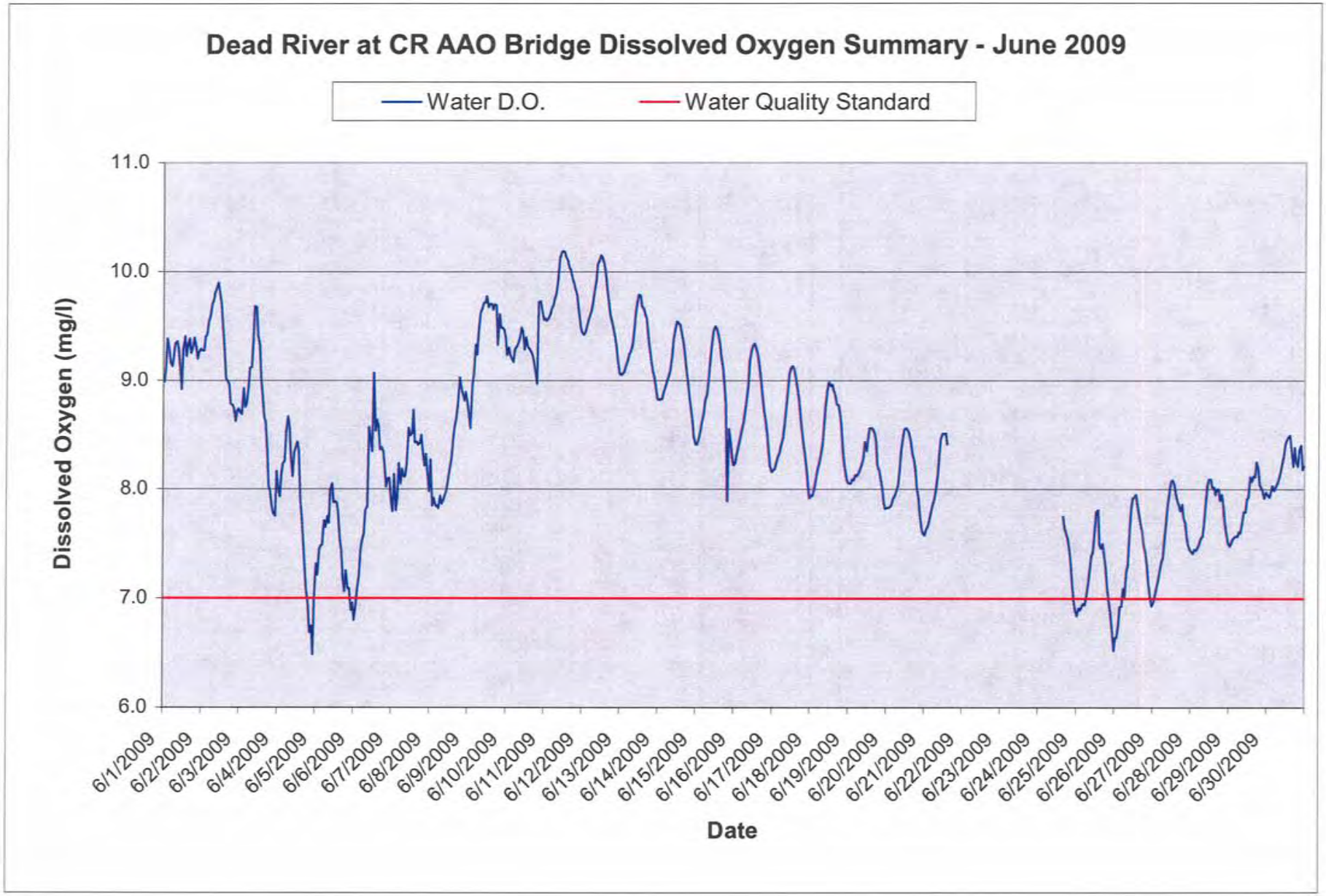
Dead River Hydroelectric Project

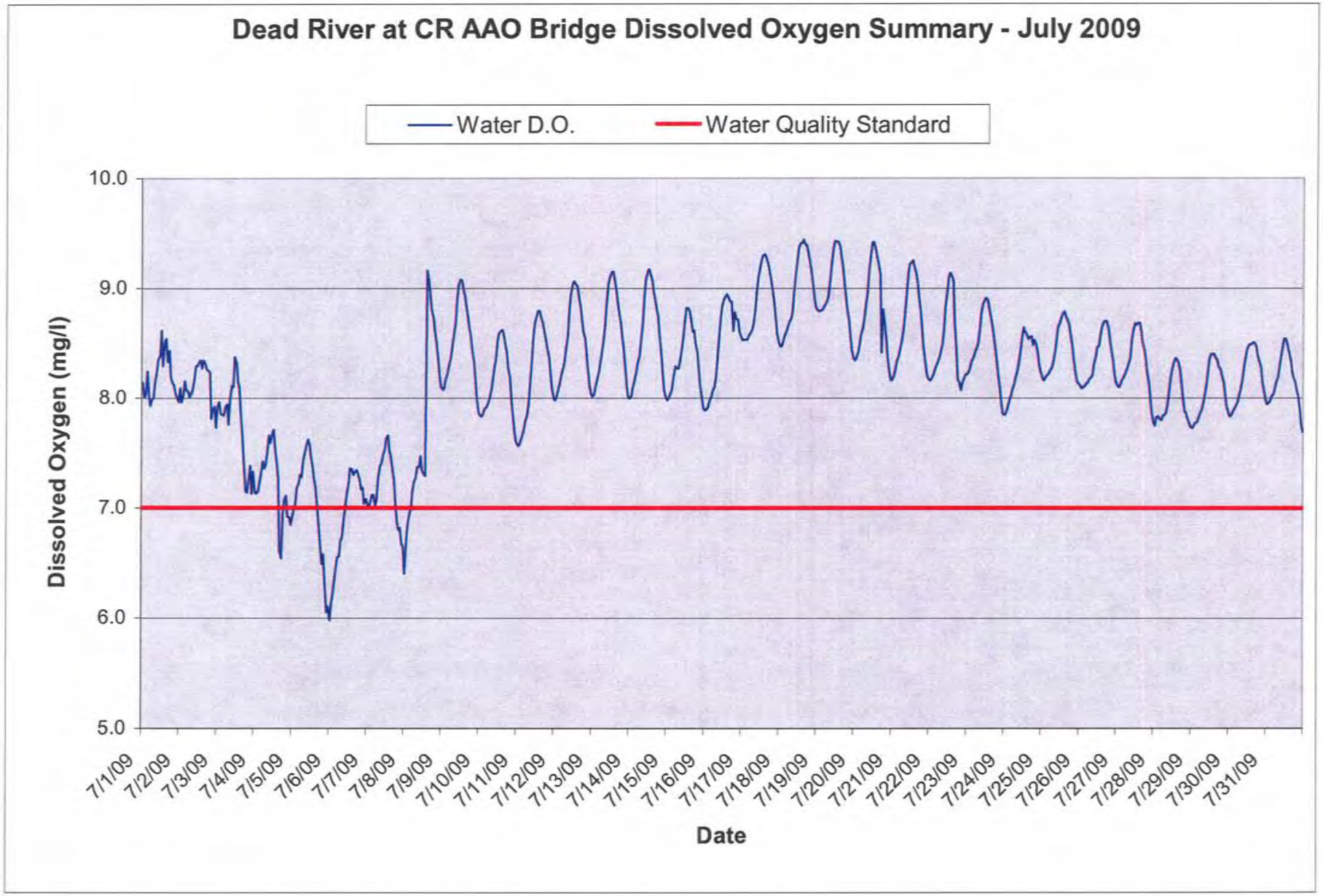
FERC No. 10855

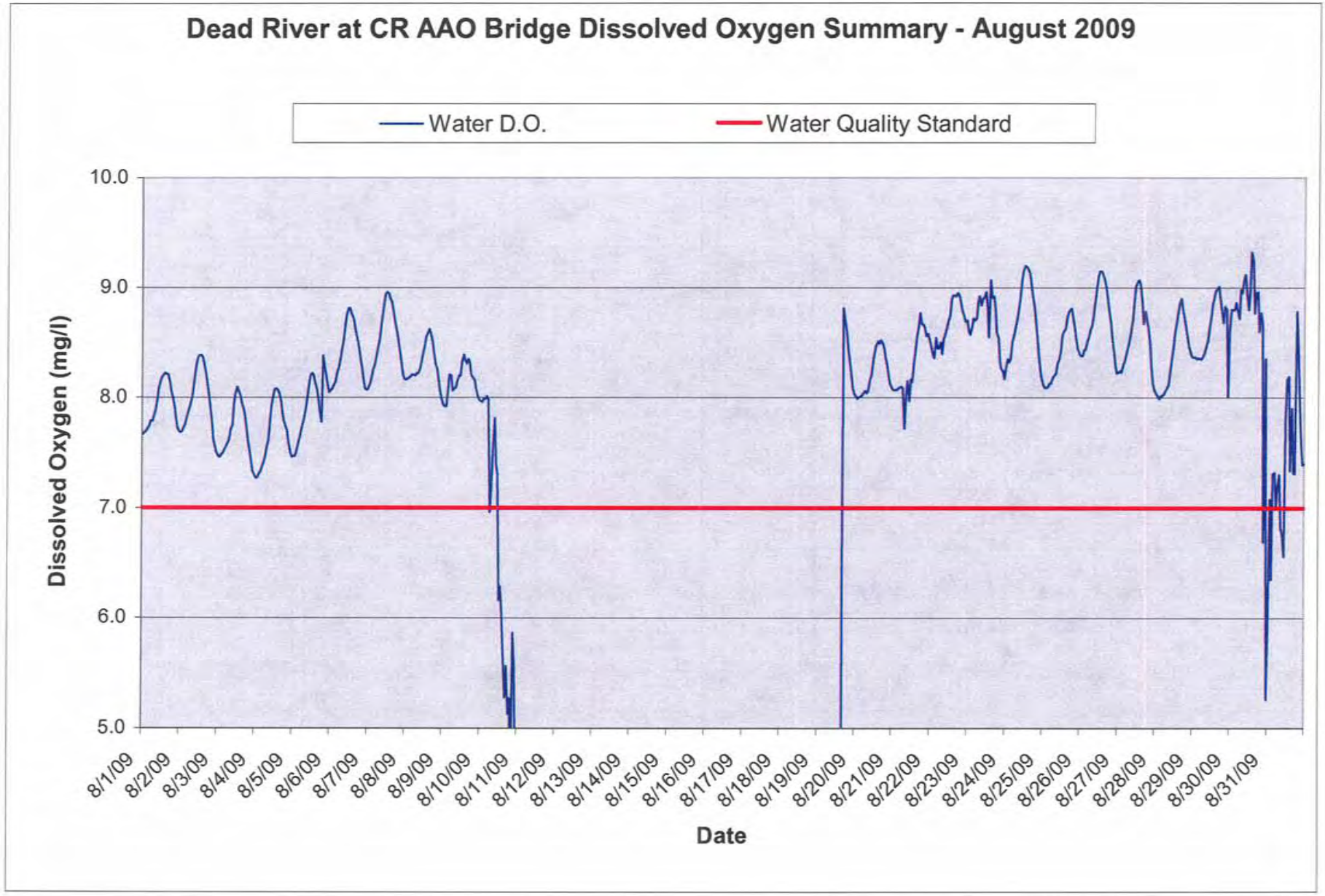
2009 Water Quality Monitoring Data

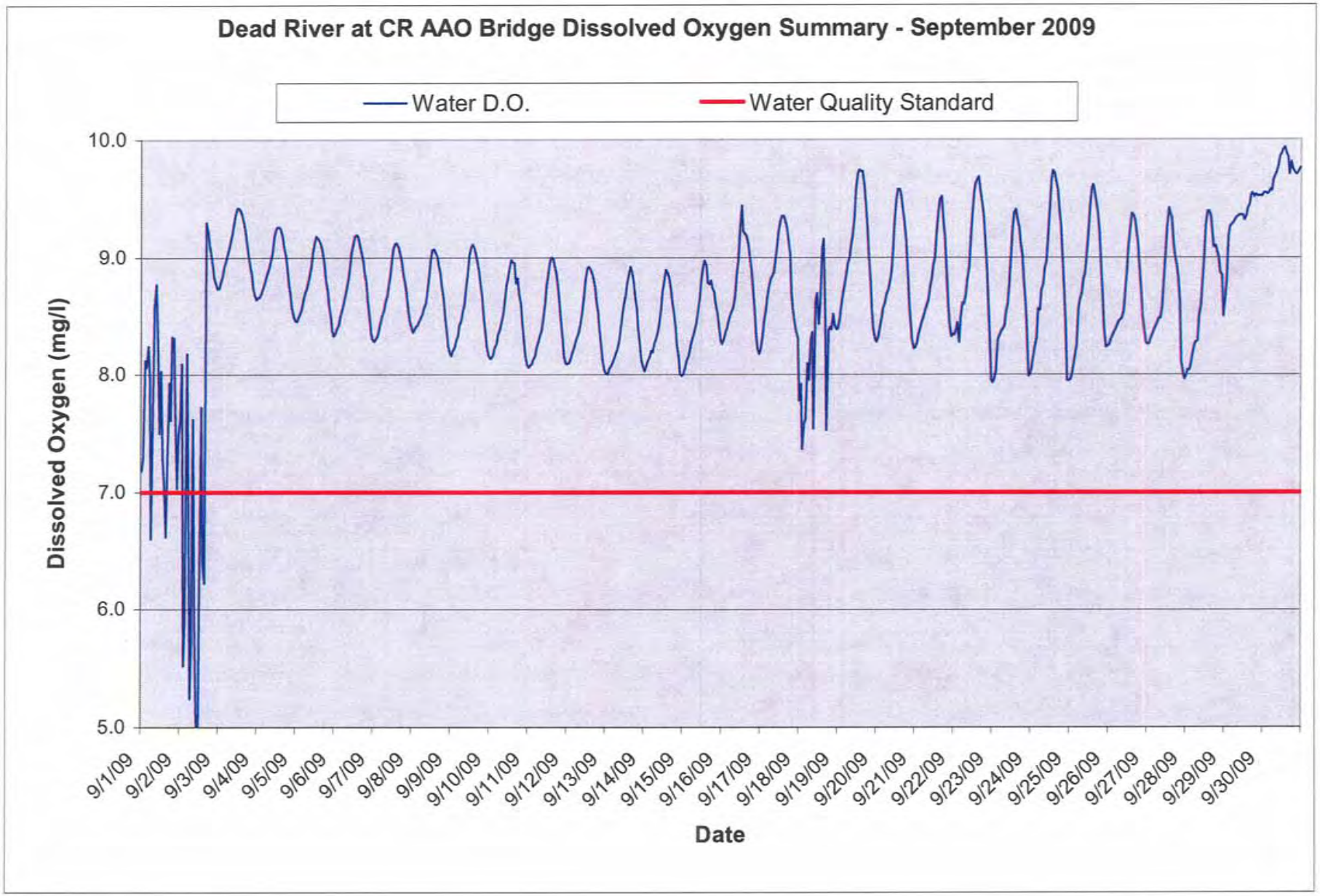
Appendix A

Dissolved Oxygen Monitoring Data









Dead River at County Road AAO Bridge - June 2009 Dissolved Oxygen Summary

Time HHMMSS	06/01/09	06/02/09	06/03/09	06/04/09	06/05/09	06/06/09	06/07/09	06/08/09	06/09/09	06/10/09	06/11/09	06/12/09	06/13/09	06/14/09	06/15/09	06/16/09
0	9.0	9.3	8.7	8.0	7.3	6.8	7.8	8.3	8.7	9.2	9.6	9.4	9.1	8.8	8.4	8.2
10000	9.1	9.3	8.7	7.9	7.2	6.9	8.1	7.8	8.6	9.3	9.6	9.4	9.1	8.8	8.5	8.3
20000	9.4	9.4	8.9	8.1	7.5	7.1	7.8	7.9	9.0	9.2	9.6	9.5	9.1	8.8	8.5	8.4
30000	9.3	9.4	8.8	8.2	7.5	7.2	7.9	7.8	9.1	9.2	9.6	9.5	9.1	8.9	8.6	8.5
40000	9.2	9.5	8.8	8.3	7.5	7.4	8.2	7.8	9.3	9.2	9.7	9.6	9.2	8.9	8.7	8.5
50000	9.1	9.6	8.9	8.5	7.7	7.5	8.1	7.8	9.2	9.3	9.7	9.6	9.2	9.0	8.8	8.6
60000	9.2	9.7	9.1	8.7	7.6	7.6	8.2	7.9	9.5	9.3	9.8	9.7	9.3	9.0	8.9	8.7
70000	9.3	9.7	9.1	8.6	7.7	7.8	8.1	7.9	9.6	9.3	9.8	9.8	9.3	9.1	9.0	8.8
80000	9.4	9.8	9.4	8.3	7.7	7.8	8.1	7.9	9.7	9.4	9.9	9.9	9.4	9.2	9.2	9.0
90000	9.3	9.9	9.7	8.1	8.0	8.6	8.2	7.9	9.7	9.5	10.1	10.1	9.6	9.4	9.3	9.2
100000	9.1	9.9	9.7	8.3	8.0	8.5	8.6	8.0	9.7	9.5	10.2	10.1	9.7	9.5	9.5	9.3
110000	8.9	9.8	9.4	8.4	7.9	8.3	8.5	8.1	9.8	9.3	10.2	10.2	9.8	9.5	9.5	9.3
120000	9.3	9.7	9.3	8.4	7.9	9.1	8.5	8.2	9.7	9.4	10.2	10.1	9.8	9.5	9.5	9.3
130000	9.4	9.5	9.0	8.4	7.9	8.5	8.7	8.3	9.7	9.3	10.1	10.1	9.7	9.5	9.4	9.3
140000	9.2	9.2	8.9	7.9	7.8	8.6	8.4	8.4	9.7	9.3	10.1	10.0	9.7	9.4	9.3	9.2
150000	9.3	9.0	8.7	7.8	7.5	8.6	8.4	8.6	9.7	9.3	10.0	9.8	9.6	9.4	9.2	9.1
160000	9.4	9.0	8.6	7.5	7.4	8.4	8.4	8.7	9.7	9.2	10.0	9.7	9.6	9.3	9.1	9.0
170000	9.3	9.0	8.3	7.3	7.2	8.4	8.4	8.8	9.7	9.2	9.9	9.6	9.4	9.1	9.0	8.9
180000	9.3	8.8	8.0	7.1	7.1	8.3	8.5	9.0	9.3	9.1	9.9	9.5	9.3	9.0	8.8	8.7
190000	9.4	8.8	8.0	6.9	7.2	8.2	8.4	8.9	9.6	9.0	9.8	9.5	9.2	8.9	7.9	8.6
200000	9.3	8.7	7.8	6.7	7.1	8.0	8.2	8.9	9.5	9.7	9.8	9.4	9.1	8.7	8.6	8.5
210000	9.2	8.6	7.8	6.7	7.1	8.1	8.3	8.8	9.5	9.7	9.7	9.3	9.0	8.6	8.4	8.4
220000	9.3	8.7	7.8	6.5	6.9	8.1	8.1	8.9	9.5	9.7	9.5	9.2	8.9	8.5	8.3	8.2
230000	9.3	8.7	8.2	7.0	7.0	7.9	8.0	8.8	9.4	9.6	9.5	9.1	8.8	8.4	8.2	8.2
Daily Max	9.4	9.9	9.7	8.7	8.0	9.1	8.7	9.0	9.8	9.7	10.2	10.2	9.8	9.5	9.5	9.3
Daily Min	8.9	8.6	7.8	6.5	6.9	6.8	7.8	7.8	8.6	9.0	9.5	9.1	8.8	8.4	7.9	8.2
Average	9.2	9.3	8.7	7.8	7.5	8.0	8.3	8.3	9.4	9.3	9.8	9.7	9.3	9.1	8.9	8.8

License Minimum Dissolved Oxygen: 7.0 mg/l
Readings below the water quality standard

Dead River at County Road AAO Bridge - June 2009 Dissolved Oxygen Summary

Time HHMMSS	06/17/09	06/18/09	06/19/09	06/20/09	06/21/09	06/22/09	06/23/09	06/24/09	06/25/09	06/26/09	06/27/09	06/28/09	06/29/09	06/30/09
0	8.2	7.9	8.1	7.8	7.6				6.8	6.6	7.0	7.4	7.5	8.0
10000	8.2	7.9	8.1	7.8	7.6				6.9	6.6	7.0	7.4	7.5	7.9
20000	8.3	8.0	8.1	7.8	7.7				6.9	6.8	7.1	7.5	7.5	8.0
30000	8.3	8.1	8.1	7.9	7.7				6.9	6.9	7.2	7.4	7.6	8.0
40000	8.3	8.2	8.1	7.9	7.8				7.0	6.9	7.2	7.5	7.6	8.0
50000	8.4	8.2	8.1	7.9	7.9				6.9	7.1	7.3	7.5	7.6	8.0
60000	8.5	8.3	8.2	8.0	7.9				7.0	7.0	7.4	7.6	7.6	8.1
70000	8.6	8.4	8.2	8.0	8.0				7.1	7.3	7.5	7.6	7.6	8.1
80000	8.7	8.6	8.2	8.2	8.1				7.3	7.3	7.7	7.7	7.7	8.1
90000	8.9	8.8	8.3	8.3	8.3				7.4	7.6	7.9	7.9	7.8	8.2
100000	9.1	8.9	8.4	8.5	8.5				7.4	7.8	8.0	8.0	7.8	8.3
110000	9.1	9.0	8.4	8.6	8.5				7.6	7.9	8.1	8.1	7.9	8.4
120000	9.1	9.0	8.5	8.6	8.5				7.8	7.9	8.1	8.1	7.9	8.5
130000	9.1	9.0	8.6	8.5	8.5				7.8	8.0	8.0	8.0	8.1	8.5
140000	9.0	8.9	8.6	8.5	8.4				7.5	7.8	8.0	8.0	8.1	8.5
150000	8.9	8.9	8.6	8.4				7.8	7.5	7.8	7.9	8.0	8.1	8.4
160000	8.8	8.8	8.5	8.3				7.7	7.5	7.7	7.9	8.0	8.1	8.2
170000	8.7	8.8	8.4	8.3				7.6	7.4	7.6	7.8	8.0	8.3	8.4
180000	8.6	8.7	8.2	8.2				7.6	7.3	7.5	7.9	7.9	8.2	8.3
190000	8.4	8.6	8.2	8.0				7.4	7.1	7.4	7.7	8.0	8.0	8.2
200000	8.3	8.3	8.1	7.9				7.3	7.0	7.3	7.7	7.9	8.0	8.4
210000	8.2	8.2	8.0	7.8				7.1	6.9	7.2	7.6	7.7	8.0	8.4
220000	8.0	8.1	7.9	7.6				7.0	6.7	7.0	7.5	7.6	7.9	8.2
230000	7.9	8.1	7.8	7.6				6.9	6.5	6.9	7.4	7.5	8.0	8.2
Daily Max	9.1	9.0	8.6	8.6	8.5	0.0	0.0	7.8	7.8	8.0	8.1	8.1	8.3	8.5
Daily Min	7.9	7.9	7.8	7.6	7.6	0.0	0.0	6.9	6.5	6.6	7.0	7.4	7.5	7.9
Average	8.6	8.5	8.2	8.1	8.1			7.4	7.2	7.3	7.6	7.8	7.8	8.2

No Data - Equipment Power Failure

Readings below the water quality standard

Dead River at County Road AAO Bridge - July 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	07/01/09	07/02/09	07/03/09	07/04/09	07/05/09	07/06/09	07/07/09	07/08/09	07/09/09	07/10/09	07/11/09	07/12/09	07/13/09	07/14/09	07/15/09	07/16/09
0	8.1	8.1	7.9	7.1	6.9	6.0	7.0	6.4	8.1	7.8	7.6	8.0	8.0	8.0	8.0	7.9
10000	8.0	8.0	8.0	7.1	7.0	6.1	7.0	6.7	8.1	7.8	7.6	8.0	8.0	8.0	8.0	7.9
20000	8.0	8.0	7.9	7.2	7.0	6.2	7.1	6.9	8.2	7.9	7.6	8.1	8.1	8.1	8.0	7.9
30000	8.2	8.2	7.9	7.2	7.2	6.3	7.1	6.9	8.2	7.9	7.7	8.1	8.2	8.2	8.1	8.0
40000	8.0	8.1	7.8	7.3	7.2	6.5	7.1	7.0	8.3	7.9	7.7	8.2	8.2	8.2	8.2	8.0
50000	7.9	8.1	7.9	7.4	7.3	6.6	7.0	7.2	8.4	7.9	7.8	8.3	8.3	8.3	8.3	8.1
60000	8.0	8.0	7.9	7.4	7.3	6.6	7.1	7.2	8.5	8.0	7.8	8.3	8.4	8.4	8.3	8.1
70000	8.0	8.0	7.8	7.4	7.4	6.7	7.3	7.3	8.6	8.1	7.9	8.4	8.5	8.5	8.3	8.2
80000	8.1	8.1	8.0	7.5	7.5	6.7	7.4	7.4	8.7	8.2	8.1	8.6	8.7	8.7	8.3	8.3
90000	8.2	8.2	8.1	7.7	7.6	6.9	7.4	7.4	8.9	8.3	8.3	8.8	8.9	8.9	8.4	8.6
100000	8.4	8.3	8.1	7.6	7.6	7.0	7.5	7.5	9.0	8.4	8.6	8.9	9.0	9.1	8.6	8.7
110000	8.4	8.3	8.4	7.7	7.6	7.1	7.5	7.3	9.1	8.5	8.7	9.0	9.1	9.2	8.7	8.8
120000	8.6	8.3	8.3	7.7	7.5	7.2	7.6	7.3	9.1	8.6	8.8	9.1	9.1	9.2	8.8	8.9
130000	8.3	8.3	8.2	7.6	7.4	7.4	7.7	7.3	9.0	8.6	8.8	9.0	9.2	9.1	8.8	8.9
140000	8.5	8.3	8.1	7.4	7.3	7.4	7.5	9.2	8.9	8.6	8.8	9.0	9.1	9.1	8.8	8.9
150000	8.5	8.3	7.8	7.3	7.2	7.3	7.5	9.1	8.8	8.6	8.7	8.9	9.0	9.0	8.7	8.9
160000	8.3	8.3	7.6	6.6	7.0	7.3	7.3	8.9	8.7	8.5	8.7	8.8	8.9	8.9	8.6	8.9
170000	8.4	8.3	7.4	6.5	6.9	7.3	7.3	8.8	8.6	8.4	8.6	8.7	8.8	8.8	8.6	8.9
180000	8.2	8.3	7.2	7.0	6.6	7.3	7.1	8.7	8.6	8.3	8.5	8.6	8.7	8.7	8.5	8.6
190000	8.1	8.2	7.1	7.1	6.5	7.3	6.9	8.6	8.4	8.2	8.5	8.5	8.5	8.6	8.4	8.8
200000	8.1	7.8	7.3	7.1	6.6	7.2	6.8	8.5	8.3	8.0	8.4	8.4	8.5	8.4	8.3	8.7
210000	8.0	7.9	7.4	6.9	6.3	7.2	6.8	8.4	8.2	7.9	8.2	8.3	8.3	8.2	8.1	8.7
220000	8.0	7.9	7.1	6.9	6.1	7.0	6.7	8.2	8.0	7.7	8.1	8.1	8.1	8.1	8.0	8.6
230000	8.0	7.7	7.3	6.9	6.1	7.1	6.7	8.1	7.9	7.6	8.0	8.0	8.0	8.0	7.9	8.6
Daily Max	8.6	8.3	8.4	7.7	7.6	7.4	7.7	9.2	9.1	8.6	8.8	9.1	9.2	9.2	8.8	8.9
Daily Min	7.9	7.7	7.1	6.5	6.1	6.0	6.7	6.4	7.9	7.6	7.6	8.0	8.0	8.0	7.9	7.9
Average	8.2	8.1	7.8	7.2	7.0	6.9	7.2	7.8	8.5	8.1	8.2	8.5	8.6	8.6	8.4	8.5

License Minimum Dissolved Oxygen: 7.0 mg/l

Readings below the water quality standard

Dead River at County Road AAO Bridge - July 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	07/17/09	07/18/09	07/19/09	07/20/09	07/21/09	07/22/09	07/23/09	07/24/09	07/25/09	07/26/09	07/27/09	07/28/09	07/29/09	07/30/09	07/31/09
0	8.5	8.5	8.8	8.3	8.2	8.2	8.2	7.8	8.2	8.1	8.1	7.7	7.7	7.8	7.9
10000	8.5	8.5	8.8	8.4	8.2	8.2	8.2	7.9	8.2	8.1	8.1	7.8	7.8	7.8	8.0
20000	8.5	8.5	8.8	8.4	8.3	8.2	8.3	7.9	8.2	8.1	8.1	7.8	7.8	7.9	8.0
30000	8.5	8.6	8.8	8.5	8.3	8.2	8.3	8.0	8.2	8.1	8.2	7.8	7.8	7.9	8.0
40000	8.6	8.6	8.8	8.6	8.4	8.3	8.4	8.0	8.2	8.1	8.2	7.8	7.8	7.9	8.0
50000	8.6	8.6	8.9	8.6	8.4	8.3	8.4	8.1	8.3	8.1	8.2	7.8	7.9	8.0	8.1
60000	8.6	8.7	8.9	8.7	8.5	8.4	8.4	8.1	8.3	8.2	8.3	7.8	7.9	8.0	8.1
70000	8.7	8.7	8.9	8.8	8.6	8.4	8.5	8.2	8.3	8.2	8.3	7.9	8.0	8.1	8.2
80000	8.8	8.8	9.1	9.0	8.8	8.5	8.6	8.2	8.4	8.2	8.4	7.9	8.0	8.2	8.3
90000	9.0	9.0	9.2	9.2	9.0	8.6	8.8	8.3	8.5	8.3	8.5	8.0	8.1	8.3	8.4
100000	9.1	9.1	9.4	9.3	9.1	8.8	8.9	8.4	8.6	8.4	8.6	8.2	8.2	8.3	8.5
110000	9.2	9.3	9.4	9.4	9.2	9.0	8.9	8.5	8.7	8.5	8.7	8.3	8.4	8.4	8.5
120000	9.3	9.4	9.4	9.4	9.2	9.1	8.9	8.6	8.7	8.5	8.7	8.3	8.4	8.5	8.5
130000	9.3	9.4	9.4	9.3	9.3	9.1	8.9	8.6	8.8	8.6	8.7	8.4	8.4	8.5	8.5
140000	9.3	9.4	9.4	9.3	9.2	9.1	8.8	8.6	8.8	8.6	8.7	8.4	8.4	8.5	8.4
150000	9.3	9.4	9.3	9.2	9.1	9.1	8.7	8.5	8.7	8.7	8.6	8.3	8.4	8.5	8.3
160000	9.2	9.4	9.2	9.1	9.1	8.7	8.7	8.6	8.7	8.7	8.5	8.3	8.3	8.5	8.2
170000	9.2	9.4	9.1	8.4	8.9	8.4	8.6	8.6	8.7	8.7	8.4	8.1	8.3	8.5	8.2
180000	9.1	9.3	8.9	8.8	8.8	8.2	8.5	8.5	8.6	8.6	8.4	8.0	8.3	8.4	8.1
190000	9.0	9.2	8.8	8.7	8.6	8.1	8.3	8.5	8.5	8.5	8.2	7.9	8.2	8.3	8.1
200000	8.9	9.2	8.7	8.5	8.5	8.1	8.2	8.5	8.3	8.4	8.1	7.9	8.1	8.3	8.0
210000	8.8	9.0	8.6	8.4	8.3	8.1	8.1	8.4	8.3	8.3	8.0	7.8	8.0	8.1	7.9
220000	8.6	8.9	8.4	8.2	8.2	8.2	7.9	8.3	8.2	8.2	7.9	7.8	7.9	8.1	7.8
230000	8.5	8.8	8.4	8.2	8.2	8.2	7.9	8.2	8.1	8.1	7.8	7.7	7.9	8.0	7.7
Daily Max	9.3	9.4	9.4	9.4	9.3	9.1	8.9	8.6	8.8	8.7	8.7	8.4	8.4	8.5	8.5
Daily Min	8.5	8.5	8.4	8.2	8.2	8.1	7.9	7.8	8.1	8.1	7.8	7.7	7.7	7.8	7.7
Average	8.9	9.0	9.0	8.8	8.7	8.5	8.5	8.3	8.4	8.4	8.3	8.0	8.1	8.2	8.2

Dead River at County Road AAO Bridge - August 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	8/1/2009	8/2/2009	8/3/2009	8/4/2009	8/5/2009	8/6/2009	8/7/2009	8/8/2009	8/9/2009	8/10/2009	8/11/2009	8/12/2009	8/13/2009	8/14/2009	8/15/2009	8/16/2009	8/17/2009
0	7.7	7.7	7.5	7.3	7.5	8.1	8.1	8.2	7.9	8.0	4.8	0.2	0.1	0.1	0.2	0.6	0.1
10000	7.7	7.7	7.5	7.3	7.5	8.1	8.1	8.2	7.9	8.0	4.1	0.2	0.1	0.1	0.2	0.7	0.1
20000	7.7	7.7	7.5	7.3	7.5	8.1	8.2	8.2	7.9	8.0	3.4	0.2	0.2	0.1	0.2	0.6	0.2
30000	7.7	7.8	7.5	7.3	7.6	8.2	8.3	8.2	8.1	8.0	4.5	0.2	0.2	0.2	0.2	0.2	0.2
40000	7.7	7.8	7.5	7.4	7.6	8.2	8.3	8.2	8.2	8.0	4.6	0.2	0.2	0.2	0.2	0.2	0.2
50000	7.8	7.9	7.6	7.4	7.7	8.3	8.4	8.2	8.2	8.0	3.4	0.2	0.2	0.2	0.2	0.2	0.2
60000	7.8	7.9	7.6	7.5	7.8	8.4	8.4	8.2	8.1	7.0	3.6	0.2	0.2	0.2	0.2	0.2	0.2
70000	7.8	8.0	7.6	7.5	7.8	8.4	8.5	8.2	8.1	7.2	3.5	0.2	0.2	0.2	0.2	0.2	0.2
80000	7.9	8.1	7.7	7.6	7.9	8.5	8.6	8.2	8.1	7.5	3.1	0.2	0.2	0.2	0.2	0.2	0.2
90000	8.0	8.2	7.7	7.8	8.0	8.7	8.7	8.3	8.2	7.8	3.1	0.2	0.2	0.2	0.2	0.2	0.2
100000	8.1	8.3	7.9	7.9	8.1	8.8	8.9	8.3	8.2	7.4	2.6	0.2	0.2	0.2	0.2	0.2	0.2
110000	8.1	8.4	8.0	8.0	8.2	8.8	8.9	8.4	8.2	7.3	2.2	0.2	0.2	0.2	0.2	0.2	0.2
120000	8.2	8.4	8.1	8.1	8.2	8.8	9.0	8.5	8.3	6.2	3.3	0.2	0.1	0.2	0.1	0.1	0.2
130000	8.2	8.4	8.1	8.1	8.2	8.8	8.9	8.6	8.4	6.3	2.6	0.2	0.1	0.2	0.1	0.1	0.1
140000	8.2	8.4	8.0	8.1	8.1	8.7	8.9	8.6	8.3	6.1	3.1	0.1	0.1	0.2	0.1	0.1	0.1
150000	8.2	8.3	7.9	8.0	8.1	8.7	8.9	8.6	8.3	5.6	3.5	0.1	0.1	0.2	0.1	0.1	0.1
160000	8.2	8.2	7.9	8.0	8.0	8.6	8.8	8.6	8.4	5.3	4.0	0.1	0.1	0.2	0.1	0.1	0.1
170000	8.1	8.1	7.9	7.9	7.9	8.5	8.7	8.5	8.3	5.6	1.3	0.1	0.1	0.2	0.1	0.1	0.1
180000	8.1	8.0	7.7	7.8	7.8	8.5	8.6	8.4	8.2	5.1	1.9	0.1	0.1	0.1	0.1	0.1	0.1
190000	8.0	7.9	7.6	7.7	8.4	8.4	8.5	8.3	8.2	5.3	0.3	0.1	0.1	0.1	0.2	0.1	0.1
200000	7.9	7.8	7.5	7.7	8.3	8.3	8.4	8.3	8.2	4.5	0.2	0.1	0.1	0.1	0.2	0.1	0.1
210000	7.8	7.6	7.4	7.6	8.2	8.2	8.3	8.2	8.1	5.9	0.2	0.1	0.1	0.2	0.9	0.1	0.1
220000	7.7	7.5	7.3	7.5	8.1	8.1	8.2	8.1	8.0	5.6	0.2	0.1	0.1	0.2	0.5	0.1	0.1
230000	7.7	7.5	7.3	7.5	8.1	8.1	8.2	8.0	8.0	4.3	0.2	0.1	0.1	0.2	0.5	0.1	0.1
Daily Max	8.2	8.4	8.1	8.1	8.4	8.8	9.0	8.6	8.4	8.0	4.8	0.2	0.2	0.2	0.9	0.7	0.2
Daily Min	7.7	7.5	7.3	7.3	7.5	8.1	8.1	8.0	7.9	4.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Average	7.9	8.0	7.7	7.7	7.9	8.4	8.5	8.3	8.2	6.6	2.7	0.2	0.1	0.2	0.2	0.2	0.1

License Minimum Dissolved Oxygen: 7.0 mg/l

Dissolved oxygen data from 8/10 @ 06:00 through 8/19 @ 15:00 is not representative of river conditions.
Monitor was discovered buried in sediment when retreived on 8/19.

Dead River at County Road AAO Bridge - August 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	8/18/2009	8/19/2009	8/20/2009	8/21/2009	8/22/2009	8/23/2009	8/24/2009	8/25/2009	8/26/2009	8/27/2009	8/28/2009	8/29/2009	8/30/2009	8/31/2009
0	0.1	0.2	8.0	8.1	8.5	8.6	8.3	8.1	8.4	8.2	8.0	8.4	8.8	5.9
10000	0.2	0.2	8.0	8.1	8.4	8.6	8.4	8.1	8.4	8.2	8.0	8.4	8.8	7.1
20000	0.2	0.2	8.0	8.1	8.4	8.6	8.3	8.1	8.4	8.2	8.0	8.4	8.8	6.4
30000	0.2	0.2	8.0	8.1	8.5	8.7	8.4	8.1	8.4	8.3	8.0	8.4	8.9	7.3
40000	0.2	0.2	8.0	8.1	8.5	8.7	8.5	8.1	8.5	8.3	8.0	8.4	8.8	7.3
50000	0.2	0.2	8.0	8.1	8.5	8.7	8.6	8.1	8.6	8.4	8.0	8.4	8.7	7.0
60000	0.2	0.2	8.1	8.1	8.5	8.9	8.6	8.2	8.6	8.5	8.1	8.4	9.0	7.2
70000	0.2	0.4	8.0	7.7	8.4	8.9	8.7	8.2	8.7	8.5	8.1	8.4	9.0	7.3
80000	0.2	0.5	8.1	8.0	8.5	8.8	8.8	8.2	8.8	8.6	8.1	8.5	9.1	6.8
90000	0.2	0.3	8.2	8.2	8.6	8.9	8.9	8.3	8.9	8.7	8.2	8.5	9.1	6.8
100000	0.2	0.3	8.2	8.0	8.6	8.9	9.1	8.3	9.0	8.9	8.4	8.6	9.0	6.6
110000	0.2	0.3	8.3	8.2	8.7	9.0	9.2	8.4	9.1	9.0	8.5	8.7	8.8	7.8
120000	0.2	0.2	8.4	8.1	8.8	8.8	9.2	8.6	9.2	9.1	8.6	8.9	9.0	8.2
130000	0.2	0.2	8.5	8.3	8.9	8.6	9.2	8.6	9.2	9.1	8.7	8.9	9.3	8.2
140000	0.2	0.2	8.5	8.4	8.9	9.1	9.2	8.6	9.1	9.0	8.8	9.0	9.2	7.3
150000	0.2	0.2	8.5	8.6	8.9	8.9	9.1	8.7	9.1	8.9	8.9	9.0	8.8	7.9
160000	0.2	8.8	8.5	8.7	8.9	8.9	9.0	8.8	9.0	8.7	8.9	9.0	9.0	7.3
170000	0.2	8.7	8.5	8.8	9.0	8.8	8.9	8.8	8.9	8.8	8.8	8.9	9.0	7.3
180000	0.2	8.6	8.5	8.7	8.9	8.6	8.8	8.8	8.8	8.7	8.7	8.8	8.6	8.8
190000	0.2	8.5	8.4	8.7	8.9	8.5	8.7	8.7	8.7	8.6	8.6	8.7	8.8	8.5
200000	0.2	8.4	8.3	8.6	8.8	8.3	8.6	8.6	8.5	8.5	8.6	8.8	8.7	8.0
210000	0.2	8.2	8.2	8.6	8.7	8.3	8.4	8.5	8.4	8.3	8.5	8.8	6.7	7.6
220000	0.2	8.1	8.1	8.6	8.7	8.2	8.3	8.5	8.3	8.1	8.4	8.0	8.4	7.4
230000	0.2	8.0	8.1	8.5	8.7	8.2	8.2	8.4	8.2	8.1	8.4	8.6	5.3	7.4
Daily Max	0.2	8.8	8.5	8.8	9.0	9.1	9.2	8.8	9.2	9.1	8.9	9.0	9.3	8.8
Daily Min	0.1	0.2	8.0	7.7	8.4	8.2	8.2	8.1	8.2	8.1	8.0	8.0	5.3	5.9
Average	0.2	3.0	8.2	8.3	8.7	8.7	8.7	8.4	8.7	8.6	8.4	8.6	8.6	7.4

Dissolved oxygen data from 8/10 @ 12:00 through 8/19 @ 15:00 is not representative of river conditions.
Monitor was discovered buried in sediment when retreived on 8/19.

Readings not representative of river conditions. Water found in battery compartment of monitor upon retreival on 9/02/09, which cause erratic readings.

Dead River at County Road AAO Bridge - September 2009 Dissolved Oxygen Data

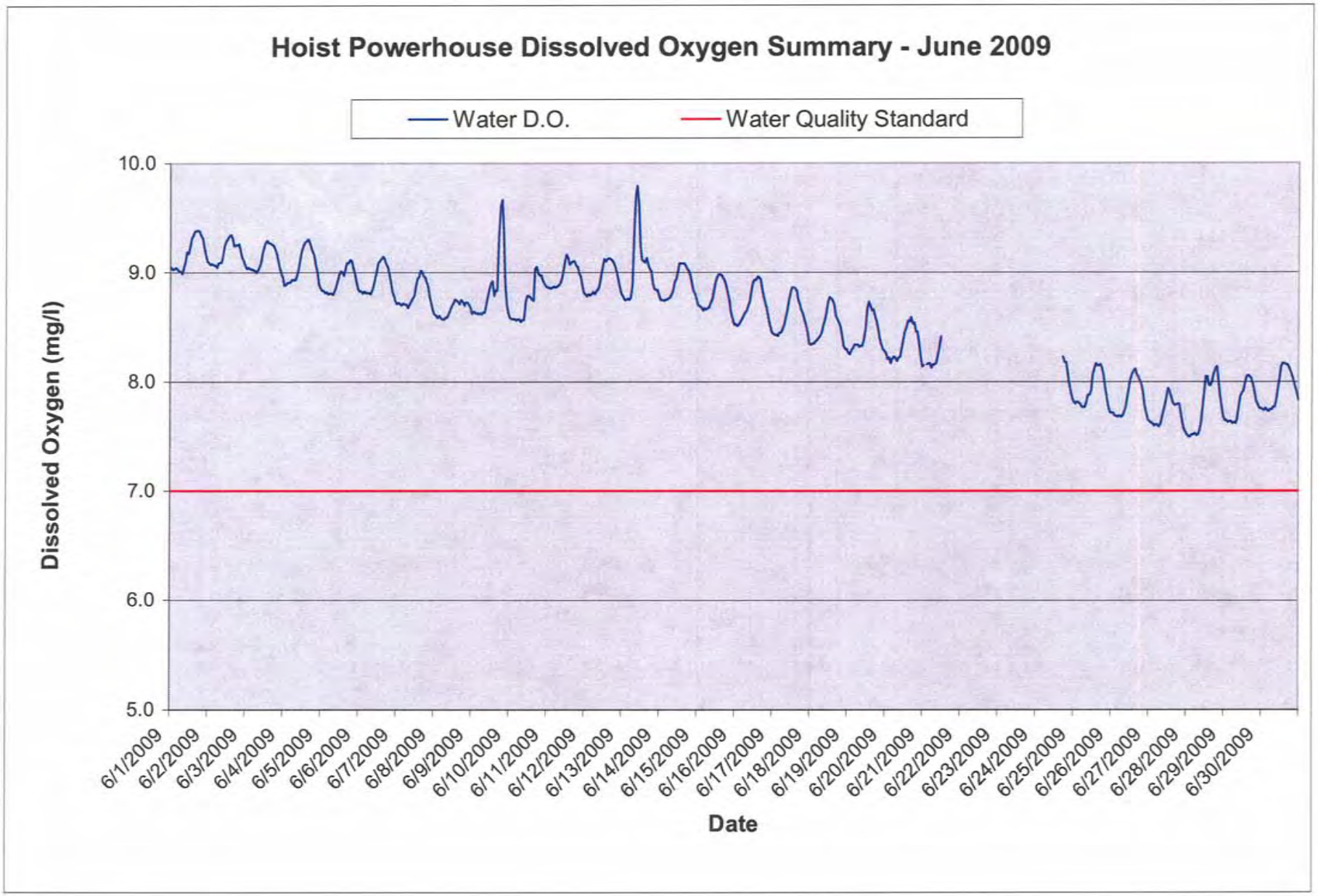
Time HHMMSS	9/1/2009	9/2/2009	9/3/2009	9/4/2009	9/5/2009	9/6/2009	9/7/2009	9/8/2009	9/9/2009	9/10/2009	9/11/2009	9/12/2009	9/13/2009	9/14/2009	9/15/2009	9/16/2009
0	7.2	7.6	8.7	8.7	8.5	8.4	8.3	8.4	8.2	8.1	8.1	8.1	8.0	8.0	8.0	8.3
10000	7.3	8.1	8.8	8.7	8.5	8.4	8.3	8.4	8.2	8.1	8.1	8.1	8.0	8.1	8.1	8.3
20000	8.1	5.5	8.8	8.7	8.5	8.4	8.3	8.4	8.2	8.2	8.1	8.1	8.1	8.1	8.1	8.4
30000	8.1	5.9	8.9	8.7	8.6	8.5	8.4	8.4	8.3	8.2	8.1	8.2	8.1	8.2	8.2	8.4
40000	8.2	8.2	9.0	8.8	8.6	8.6	8.5	8.5	8.3	8.3	8.2	8.2	8.1	8.2	8.2	8.5
50000	8.8	7.2	9.0	8.8	8.7	8.6	8.5	8.5	8.4	8.3	8.2	8.3	8.1	8.2	8.3	8.5
60000	6.6	5.2	9.1	8.9	8.7	8.7	8.6	8.5	8.5	8.4	8.3	8.3	8.2	8.3	8.3	8.5
70000	7.8	5.7	9.1	8.9	8.8	8.7	8.6	8.6	8.5	8.4	8.3	8.4	8.2	8.3	8.4	8.6
80000	8.6	7.6	9.2	9.0	8.9	8.8	8.7	8.6	8.6	8.5	8.4	8.4	8.3	8.4	8.4	8.7
90000	8.8	5.8	9.3	9.1	8.9	8.9	8.8	8.7	8.7	8.6	8.5	8.5	8.4	8.4	8.5	8.8
100000	8.3	5.1	9.4	9.2	9.0	9.0	8.9	8.9	8.9	8.8	8.6	8.7	8.5	8.6	8.7	9.0
110000	7.5	4.6	9.4	9.2	9.1	9.1	9.0	9.0	9.0	8.8	8.8	8.8	8.6	8.7	8.8	9.2
120000	8.0	6.1	9.4	9.3	9.2	9.2	9.1	9.1	9.1	8.9	8.9	8.9	8.7	8.8	8.9	9.4
130000	7.3	7.7	9.4	9.3	9.2	9.2	9.1	9.1	9.1	9.0	9.0	8.9	8.8	8.9	9.0	9.2
140000	7.1	6.4	9.4	9.2	9.1	9.2	9.1	9.0	9.1	9.0	9.0	8.9	8.9	8.9	8.9	9.2
150000	6.6	6.2	9.3	9.2	9.1	9.1	9.1	9.0	9.0	9.0	9.0	8.9	8.9	8.8	8.8	9.2
160000	7.2	9.3	9.2	9.1	9.0	9.0	9.0	8.9	9.0	8.8	8.9	8.8	8.9	8.7	8.8	9.1
170000	7.9	9.2	9.1	9.0	8.9	9.0	9.0	8.9	8.9	8.8	8.9	8.8	8.8	8.6	8.8	9.0
180000	7.6	9.1	9.0	8.9	8.8	8.9	8.9	8.8	8.8	8.7	8.8	8.6	8.7	8.5	8.7	8.9
190000	8.3	9.0	8.9	8.8	8.7	8.8	8.8	8.7	8.7	8.6	8.6	8.5	8.6	8.4	8.7	8.7
200000	8.3	8.9	8.9	8.7	8.6	8.6	8.7	8.5	8.5	8.5	8.5	8.4	8.4	8.3	8.6	8.6
210000	7.6	8.8	8.7	8.6	8.5	8.5	8.6	8.4	8.4	8.3	8.3	8.2	8.2	8.2	8.5	8.3
220000	7.0	8.8	8.7	8.5	8.4	8.4	8.5	8.2	8.2	8.2	8.2	8.1	8.1	8.0	8.4	8.2
230000	7.5	8.7	8.6	8.5	8.3	8.3	8.4	8.2	8.2	8.1	8.1	8.0	8.1	8.0	8.3	8.2
Daily Max	8.8	9.3	9.4	9.3	9.2	9.2	9.1	9.1	9.1	9.0	9.0	8.9	8.9	8.9	9.0	9.4
Daily Min	6.6	4.6	8.6	8.5	8.3	8.3	8.3	8.2	8.2	8.1	8.1	8.0	8.0	8.0	8.0	8.2
Average	7.7	7.3	9.1	8.9	8.8	8.8	8.7	8.6	8.6	8.5	8.5	8.5	8.4	8.4	8.5	8.7

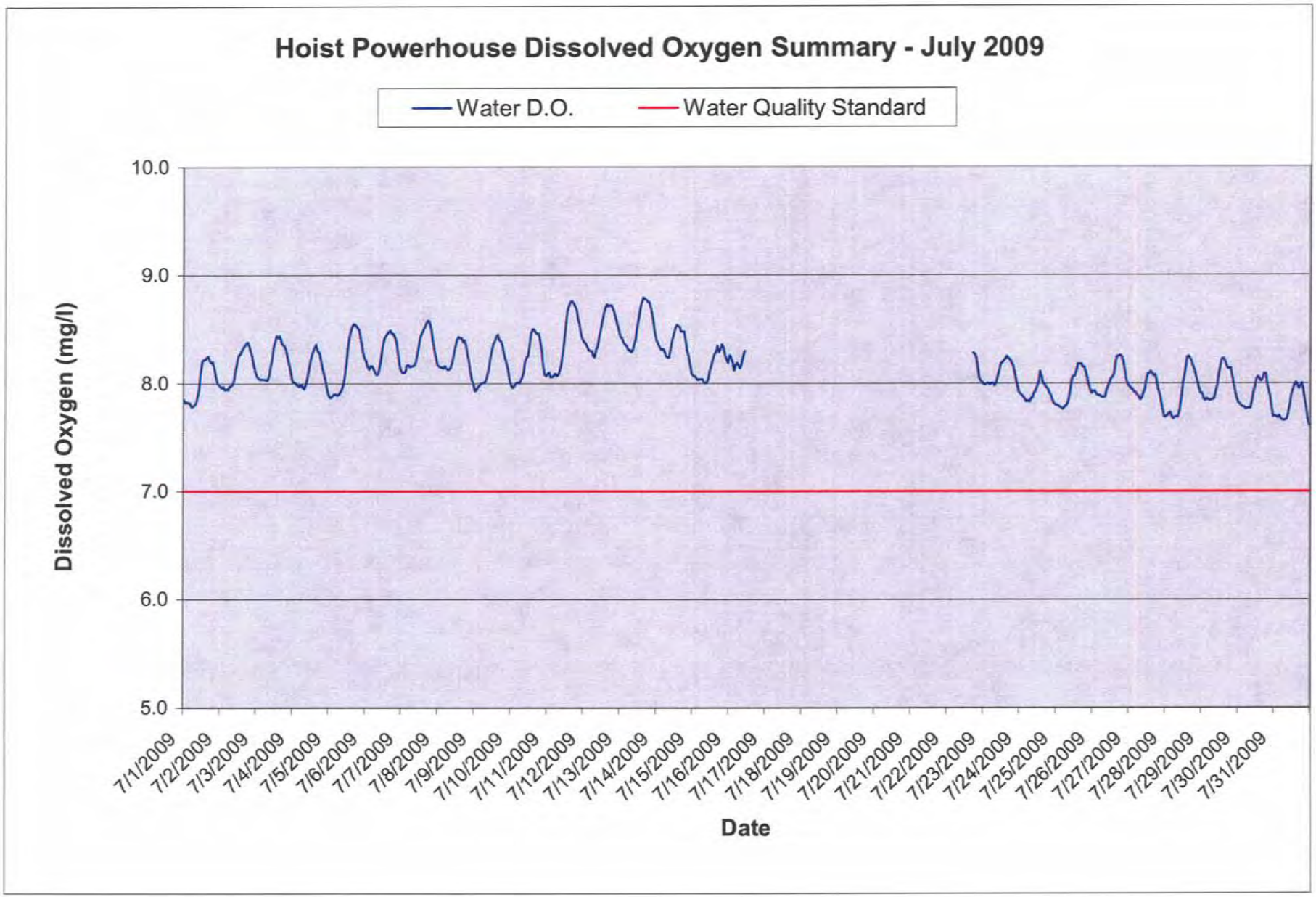
License Minimum Dissolved Oxygen: 7.0 mg/l

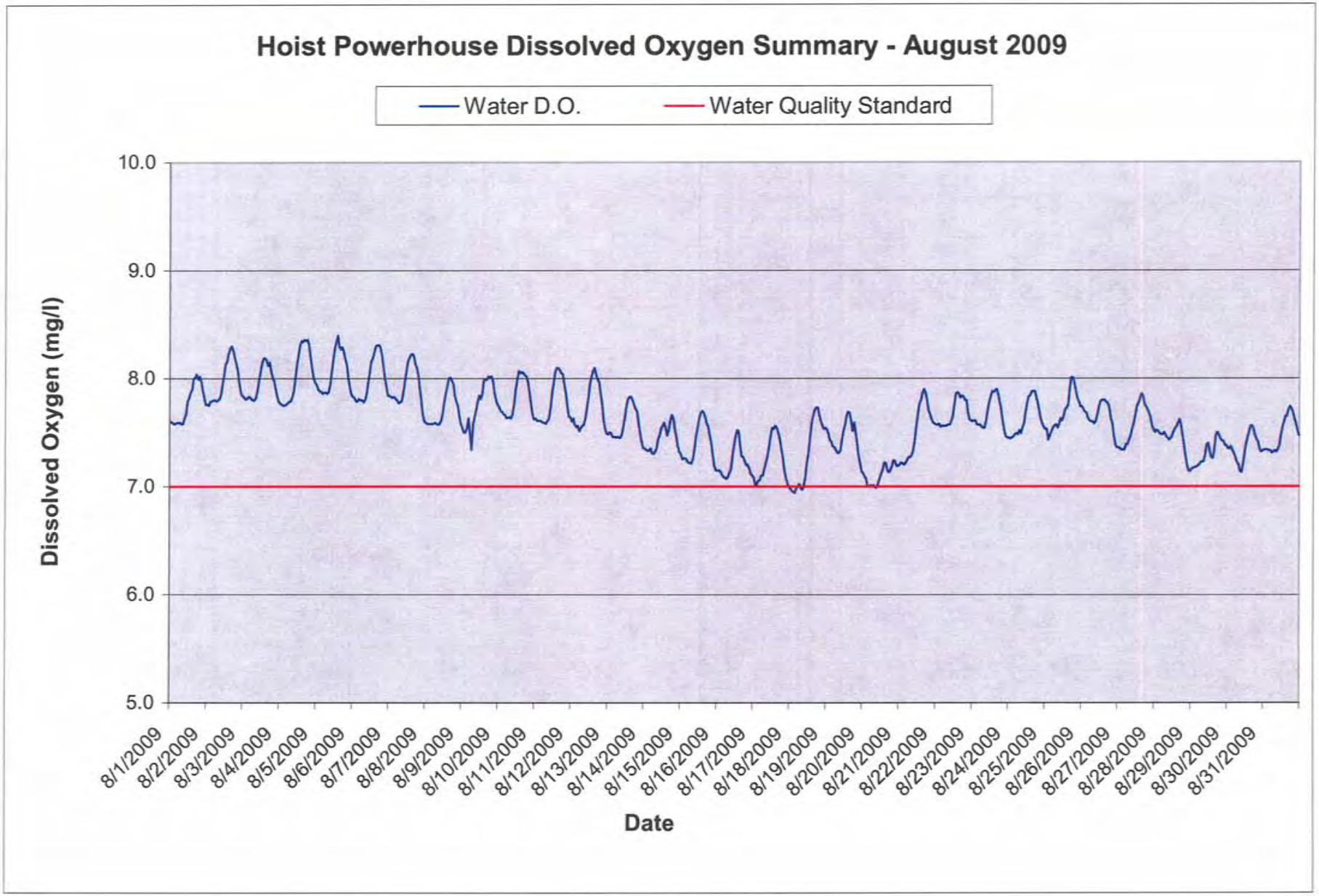
Readings not representative of river conditions. Water found in battery compartment of monitor upon retreival on 9/02/09, which cause erratic readings.

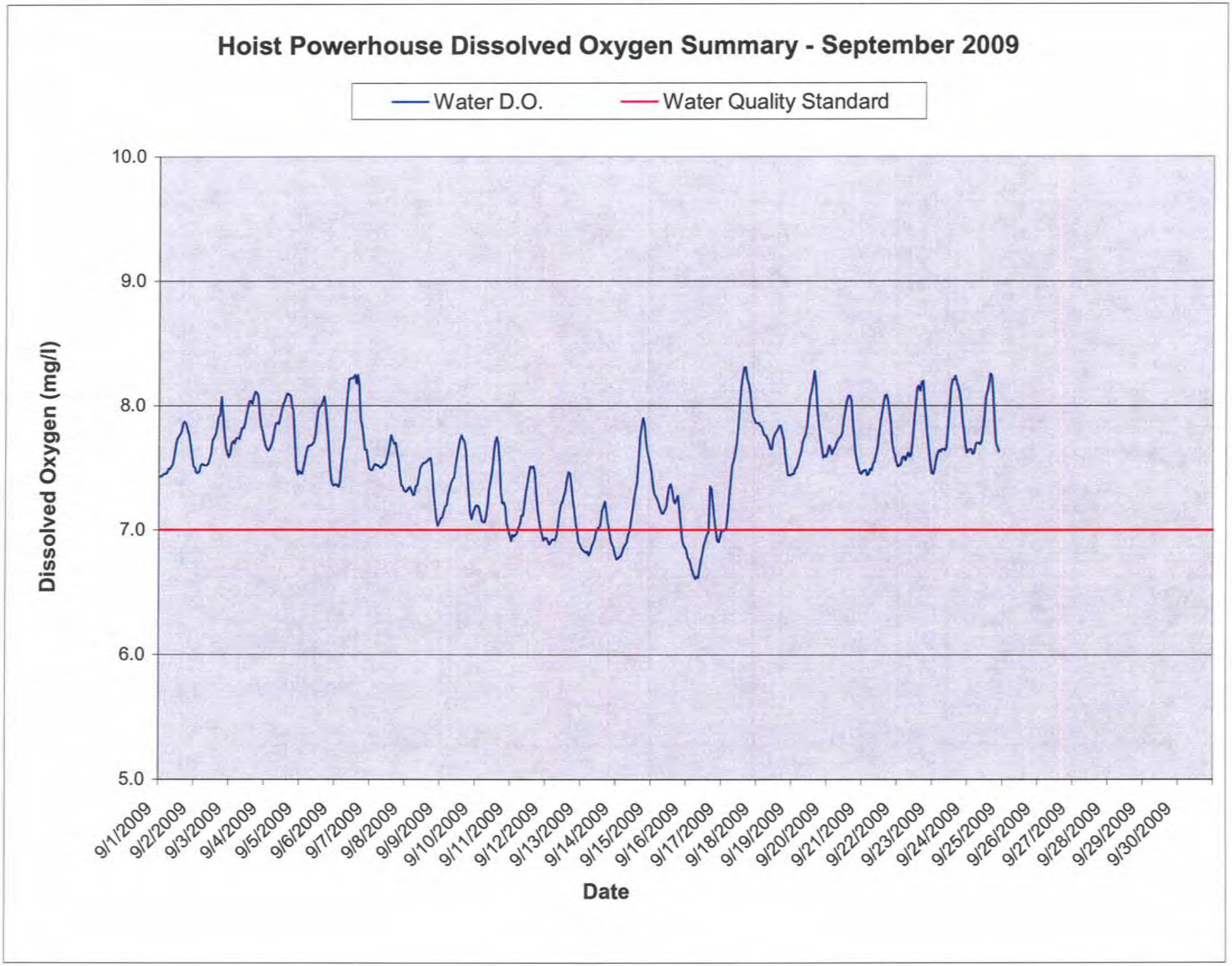
Dead River at County Road AAO Bridge - September 2009 Dissolved Oxygen Data

Time HHMMSS	9/17/2009	9/18/2009	9/19/2009	9/20/2009	9/21/2009	9/22/2009	9/23/2009	9/24/2009	9/25/2009	9/26/2009	9/27/2009	9/28/2009	9/29/2009	9/30/2009
0	8.2	7.8	8.4	8.3	8.2	8.3	7.9	8.0	8.0	8.3	8.3	8.0	8.7	9.6
10000	8.3	7.9	8.5	8.3	8.3	8.4	8.0	8.2	8.0	8.3	8.3	8.0	8.8	9.5
20000	8.4	7.4	8.6	8.4	8.3	8.4	8.0	8.2	8.1	8.3	8.3	8.0	9.2	9.5
30000	8.6	7.6	8.7	8.5	8.4	8.3	8.3	8.3	8.2	8.4	8.3	8.1	9.3	9.5
40000	8.7	7.6	8.8	8.6	8.4	8.5	8.3	8.6	8.2	8.4	8.4	8.2	9.3	9.6
50000	8.8	8.1	8.9	8.6	8.5	8.6	8.4	8.6	8.6	8.4	8.4	8.2	9.3	9.6
60000	8.8	8.0	8.9	8.7	8.5	8.6	8.4	8.7	8.6	8.4	8.4	8.3	9.3	9.7
70000	8.8	8.3	9.0	8.7	8.6	8.7	8.4	8.8	8.7	8.5	8.5	8.3	9.3	9.7
80000	8.9	8.4	9.1	8.8	8.6	8.8	8.5	8.9	8.8	8.5	8.5	8.5	9.4	9.7
90000	9.0	7.5	9.2	8.9	8.8	8.9	8.6	9.0	8.9	8.5	8.6	8.6	9.4	9.8
100000	9.1	8.6	9.3	9.1	8.8	9.1	8.8	9.2	9.0	8.7	8.8	8.8	9.4	9.9
110000	9.2	8.7	9.6	9.3	8.9	9.3	9.0	9.4	9.2	8.9	9.0	9.0	9.4	9.9
120000	9.3	8.4	9.7	9.5	9.0	9.5	9.3	9.6	9.4	9.1	9.2	9.3	9.3	9.9
130000	9.4	8.6	9.7	9.6	9.2	9.6	9.4	9.7	9.6	9.3	9.4	9.4	9.3	9.9
140000	9.4	9.1	9.7	9.6	9.4	9.7	9.4	9.7	9.6	9.4	9.4	9.4	9.4	9.9
150000	9.3	9.2	9.7	9.5	9.5	9.7	9.3	9.7	9.6	9.4	9.3	9.4	9.4	9.9
160000	9.3	8.5	9.6	9.4	9.5	9.6	9.3	9.6	9.5	9.3	9.1	9.2	9.5	9.7
170000	9.2	7.5	9.5	9.3	9.3	9.5	9.1	9.4	9.4	9.2	9.0	9.1	9.5	9.8
180000	9.0	8.4	9.3	9.1	9.2	9.4	9.0	9.3	9.2	9.1	8.9	9.1	9.5	9.8
190000	8.7	8.4	9.0	8.9	8.9	9.2	8.8	9.0	9.0	8.9	8.8	9.1	9.5	9.7
200000	8.6	8.4	8.8	8.6	8.6	8.9	8.6	8.7	8.7	8.7	8.6	9.0	9.5	9.7
210000	8.4	8.5	8.6	8.5	8.4	8.6	8.4	8.5	8.4	8.5	8.1	8.9	9.5	9.7
220000	8.4	8.4	8.4	8.3	8.3	8.3	8.0	7.9	8.2	8.4	8.0	8.8	9.5	9.7
230000	8.3	8.4	8.3	8.2	8.3	7.9	8.0	7.9	8.2	8.3	8.0	8.5	9.5	9.8
Daily Max	9.4	9.2	9.7	9.6	9.5	9.7	9.4	9.7	9.6	9.4	9.4	9.4	9.5	9.9
Daily Min	8.2	7.4	8.3	8.2	8.2	7.9	7.9	7.9	8.0	8.3	8.0	8.0	8.7	9.5
Average	8.8	8.2	9.1	8.9	8.8	8.9	8.6	8.9	8.8	8.7	8.7	8.7	9.3	9.7









Dead River Below Hoist Powerhouse - June 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	06/01/09	06/02/09	06/03/09	06/04/09	06/05/09	06/06/09	06/07/09	06/08/09	06/09/09	06/10/09	06/11/09	06/12/09	06/13/09	06/14/09	06/15/09	06/16/09
0	9.0	9.1	9.0	8.9	8.8	8.8	8.7	8.6	8.6	8.6	8.9	8.8	8.8	8.8	8.7	8.5
10000	9.0	9.1	9.0	8.9	8.8	8.8	8.7	8.6	8.6	8.6	8.9	8.8	8.8	8.8	8.7	8.5
20000	9.0	9.1	9.0	8.9	8.8	8.8	8.7	8.6	8.6	8.6	8.9	8.8	8.8	8.7	8.7	8.5
30000	9.0	9.1	9.0	8.9	8.8	8.8	8.7	8.6	8.6	8.6	8.9	8.8	8.8	8.8	8.7	8.6
40000	9.0	9.1	9.0	8.9	8.8	8.8	8.7	8.6	8.6	8.6	8.9	8.8	8.8	8.8	8.7	8.6
50000	9.0	9.0	9.0	8.9	8.8	8.8	8.7	8.6	8.6	8.6	8.9	8.8	8.8	8.8	8.7	8.6
60000	9.0	9.1	9.0	8.9	8.8	8.8	8.7	8.6	8.6	8.6	8.9	8.8	8.9	8.8	8.7	8.6
70000	9.0	9.1	9.0	8.9	8.8	8.8	8.7	8.6	8.6	8.5	8.9	8.8	9.4	8.8	8.7	8.7
80000	9.0	9.1	9.0	9.0	8.8	8.8	8.7	8.6	8.6	8.6	8.9	8.8	9.7	8.8	8.7	8.7
90000	9.1	9.2	9.1	9.0	8.9	8.9	8.7	8.6	8.7	8.6	8.9	8.9	9.8	8.9	8.8	8.7
100000	9.2	9.2	9.2	9.1	8.9	8.9	8.8	8.7	8.8	8.7	9.0	9.0	9.6	8.9	8.8	8.8
110000	9.2	9.3	9.2	9.2	9.0	9.0	8.8	8.7	8.8	8.8	9.1	9.1	9.2	9.0	8.9	8.9
120000	9.2	9.3	9.3	9.2	9.0	9.1	8.9	8.7	8.9	8.8	9.2	9.1	9.1	9.1	9.0	8.9
130000	9.3	9.3	9.3	9.3	9.0	9.1	8.9	8.8	8.9	8.8	9.1	9.1	9.1	9.1	9.0	8.9
140000	9.3	9.3	9.3	9.3	9.0	9.1	9.0	8.7	8.8	8.8	9.1	9.1	9.1	9.1	9.0	9.0
150000	9.4	9.3	9.3	9.3	9.0	9.1	9.0	8.7	8.8	8.7	9.1	9.1	9.1	9.1	9.0	9.0
160000	9.4	9.2	9.3	9.3	9.1	9.1	9.0	8.7	8.8	9.0	9.1	9.1	9.1	9.1	9.0	8.9
170000	9.4	9.3	9.2	9.2	9.1	9.1	9.0	8.7	9.3	9.1	9.1	9.1	9.0	9.0	8.9	8.8
180000	9.4	9.2	9.2	9.2	9.1	9.0	9.0	8.7	9.6	9.0	9.1	9.1	9.0	9.0	8.9	8.8
190000	9.3	9.3	9.2	9.1	9.1	9.0	8.9	8.7	9.7	9.0	9.1	9.1	8.9	9.0	8.8	8.7
200000	9.3	9.2	9.1	9.1	9.0	8.9	8.9	8.7	9.4	9.0	9.0	9.0	8.9	8.9	8.7	8.7
210000	9.2	9.1	9.0	9.0	9.0	8.8	8.8	8.7	8.9	8.9	9.0	8.9	8.8	8.8	8.6	8.6
220000	9.2	9.1	9.0	8.9	8.9	8.8	8.7	8.7	8.7	8.9	8.9	8.9	8.8	8.8	8.6	8.5
230000	9.1	9.1	8.9	8.9	8.8	8.7	8.6	8.7	8.6	8.9	8.8	8.8	8.8	8.8	8.5	8.5
Daily Max	9.4	9.3	9.3	9.3	9.1	9.1	9.0	8.8	9.7	9.1	9.2	9.1	9.8	9.1	9.0	9.0
Daily Min	9.0	9.0	8.9	8.9	8.8	8.7	8.6	8.6	8.6	8.5	8.8	8.8	8.8	8.7	8.5	8.5
Average	9.2	9.2	9.1	9.1	8.9	8.9	8.8	8.7	8.9	8.7	9.0	8.9	9.0	8.9	8.8	8.7

Water Quality Standard: 7 mg/l Dissolved Oxygen

Dead River Below Hoist Powerhouse - June 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	06/17/09	06/18/09	06/19/09	06/20/09	06/21/09	06/22/09	06/23/09	06/24/09	06/25/09	06/26/09	06/27/09	06/28/09	06/29/09	06/30/09
0	8.4	8.3	8.3	8.3	8.2				7.8	7.7	7.6	7.5	7.7	7.8
10000	8.4	8.4	8.3	8.2					7.8	7.7	7.6	7.5	7.7	7.7
20000	8.4	8.4	8.3	8.2	8.2				7.8	7.7	7.6	7.5	7.6	7.8
30000	8.4	8.4	8.3	8.2	8.2				7.8	7.7	7.6	7.5	7.6	7.7
40000	8.5	8.4	8.3	8.2	8.2				7.8	7.7	7.6	7.5	7.6	7.7
50000	8.5	8.4	8.3	8.2	8.1				7.8	7.7	7.6	7.5	7.6	7.8
60000	8.5	8.4	8.3	8.2	8.2				7.8	7.7	7.6	7.5	7.6	7.8
70000	8.5	8.5	8.3	8.2	8.2				7.8	7.7	7.6	7.5	7.6	7.8
80000	8.6	8.5	8.3	8.2	8.2				7.8	7.7	7.7	7.6	7.7	7.8
90000	8.7	8.6	8.3	8.2	8.2				7.9	7.8	7.7	7.6	7.8	7.8
100000	8.7	8.6	8.4	8.3	8.3				7.9	7.9	7.8	7.8	7.9	8.0
110000	8.8	8.7	8.5	8.4	8.4				7.9	8.0	7.9	7.9	7.9	8.0
120000	8.9	8.8	8.7	8.5					8.1	8.0	7.9	8.1	7.9	8.1
130000	8.9	8.8	8.7	8.5					8.1	8.1	7.9	8.1	8.0	8.2
140000	8.9	8.7	8.7	8.6					8.2	8.1	7.9	8.0	8.1	8.2
150000	8.8	8.7	8.7	8.6					8.2	8.1	7.8	8.0	8.1	8.2
160000	8.8	8.6	8.7	8.6					8.2	8.1	7.8	8.0	8.1	8.2
170000	8.7	8.6	8.6	8.5					8.2	8.1	7.8	8.1	8.0	8.1
180000	8.7	8.5	8.6	8.5				8.2	8.1	8.0	7.8	8.1	8.0	8.1
190000	8.6	8.5	8.5	8.5				8.2	8.1	8.0	7.8	8.1	7.9	8.1
200000	8.6	8.4	8.4	8.5				8.1	8.0	7.9	7.7	8.0	7.8	8.0
210000	8.5	8.3	8.3	8.4				8.0	7.9	7.8	7.6	7.9	7.8	8.0
220000	8.5	8.3	8.3	8.2				7.9	7.8	7.7	7.6	7.8	7.8	7.9
230000	8.4	8.3	8.3	8.1				7.9	7.7	7.7	7.5	7.7	7.8	7.8
Daily Max	8.9	8.8	8.7	8.6	8.4	0.0	0.0	8.2	8.2	8.1	7.9	8.1	8.1	8.2
Daily Min	8.4	8.3	8.3	8.1	8.1	0.0	0.0	7.9	7.7	7.7	7.5	7.5	7.6	7.7
Average	8.6	8.5	8.4	8.3	8.2			8.0	7.9	7.8	7.7	7.8	7.8	7.9

No data - Equipment Power Failure

Dead River Below Hoist Powerhouse - July 2009 Dissolved Oxygen Monitoring Data

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

Water Quality Standard: 7 mg/l Dissolved Oxygen

Missing data from 7/16 @ 11:00 through 7/22 @ 16:00 due to equipment malfunction
Water entered battery compartment.

Dead River Below Hoist Powerhouse - July 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	07/17/09	07/18/09	07/19/09	07/20/09	07/21/09	07/22/09	07/23/09	07/24/09	07/25/09	07/26/09	07/27/09	07/28/09	07/29/09	07/30/09	07/31/09
0							8.0	7.9	7.8	7.9	8.0	7.7	7.9	7.8	7.7
10000							8.0	7.9	7.8	7.9	8.0	7.7	7.9	7.8	7.7
20000							8.0	7.9	7.8	7.9	8.0	7.7	7.8	7.8	7.7
30000							8.0	7.9	7.8	7.9	7.9	7.7	7.9	7.8	7.7
40000							8.0	7.8	7.8	7.9	7.9	7.7	7.9	7.8	7.7
50000							8.0	7.8	7.8	7.9	7.9	7.7	7.8	7.8	7.7
60000							8.0	7.8	7.8	7.9	7.9	7.7	7.9	7.8	7.7
70000							8.0	7.9	7.8	7.9	7.9	7.7	7.9	7.8	7.7
80000							8.0	7.9	7.9	7.9	7.9	7.7	7.9	7.8	7.7
90000							8.1	7.9	8.0	7.9	7.9	7.7	7.9	7.8	7.7
100000							8.1	7.9	8.0	8.0	7.9	7.8	8.0	7.9	7.8
110000							8.2	8.0	8.1	8.0	8.0	8.0	8.1	8.0	7.9
120000							8.2	8.0	8.1	8.1	8.1	8.1	8.2	8.0	7.9
130000							8.2	8.1	8.1	8.1	8.1	8.1	8.2	8.1	8.0
140000							8.2	8.1	8.2	8.1	8.1	8.2	8.2	8.0	8.0
150000							8.3	8.0	8.2	8.2	8.1	8.3	8.2	8.0	8.0
160000							8.2	8.0	8.2	8.3	8.1	8.2	8.2	8.0	8.0
170000						8.3	8.2	8.0	8.2	8.3	8.1	8.2	8.1	8.1	8.0
180000						8.3	8.2	8.0	8.2	8.3	8.0	8.2	8.1	8.1	8.0
190000						8.2	8.2	7.9	8.1	8.2	7.9	8.1	8.1	8.0	7.9
200000						8.1	8.1	7.9	8.1	8.2	7.9	8.1	8.1	7.9	7.8
210000						8.1	8.0	7.9	8.0	8.1	7.8	8.0	8.0	7.9	7.8
220000						8.0	8.0	7.8	7.9	8.0	7.8	8.0	7.9	7.8	7.7
230000						8.0	7.9	7.8	7.9	8.0	7.7	7.9	7.9	7.7	7.6
Daily Max	0.0	0.0	0.0	0.0	0.0	8.3	8.3	8.1	8.2	8.3	8.1	8.3	8.2	8.1	8.0
Daily Min	0.0	0.0	0.0	0.0	0.0	8.0	7.9	7.8	7.8	7.9	7.7	7.7	7.8	7.7	7.6
Average						8.1	8.1	7.9	8.0	8.0	7.9	7.9	8.0	7.9	7.8

Missing data from 7/16 @ 11:00 through 7/22 @ 16:00 due to equipment malfunction
Water entered battery compartment.

Dead River Below Hoist Powerhouse - August 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	8/1/2009	8/2/2009	8/3/2009	8/4/2009	8/5/2009	8/6/2009	8/7/2009	8/8/2009	8/9/2009	8/10/2009	8/11/2009	8/12/2009	8/13/2009	8/14/2009	8/15/2009	8/16/2009	8/17/2009
0	7.6	7.8	7.8	7.8	7.9	7.8	7.8	7.6	7.5	7.7	7.6	7.6	7.5	7.4	7.3	7.2	7.1
10000	7.6	7.8	7.8	7.8	7.9	7.8	7.8	7.6	7.5	7.7	7.6	7.6	7.5	7.3	7.3	7.2	7.0
20000	7.6	7.8	7.8	7.8	7.9	7.8	7.8	7.6	7.5	7.7	7.6	7.6	7.5	7.3	7.3	7.1	7.0
30000	7.6	7.8	7.8	7.8	7.9	7.8	7.8	7.6	7.5	7.7	7.6	7.6	7.5	7.3	7.3	7.1	7.1
40000	7.6	7.8	7.8	7.8	7.9	7.8	7.8	7.6	7.6	7.7	7.6	7.6	7.5	7.4	7.2	7.1	7.1
50000	7.6	7.8	7.8	7.8	7.9	7.8	7.8	7.6	7.5	7.6	7.6	7.5	7.5	7.3	7.2	7.1	7.1
60000	7.6	7.8	7.8	7.8	7.9	7.8	7.8	7.6	7.3	7.6	7.6	7.5	7.5	7.3	7.2	7.1	7.1
70000	7.6	7.8	7.8	7.8	7.9	7.8	7.8	7.6	7.6	7.6	7.6	7.6	7.5	7.3	7.2	7.1	7.2
80000	7.6	7.8	7.8	7.8	7.9	7.8	7.8	7.6	7.6	7.6	7.6	7.6	7.5	7.4	7.3	7.1	7.2
90000	7.6	7.9	7.9	7.9	7.9	7.9	7.9	7.6	7.7	7.7	7.6	7.6	7.5	7.4	7.3	7.2	7.3
100000	7.7	7.9	8.0	8.0	8.1	8.0	8.0	7.6	7.8	7.8	7.7	7.7	7.6	7.5	7.5	7.3	7.4
110000	7.8	8.0	8.1	8.1	8.2	8.1	8.1	7.7	7.8	7.9	7.9	7.8	7.6	7.5	7.5	7.4	7.5
120000	7.8	8.1	8.1	8.2	8.3	8.2	8.2	7.8	7.8	8.0	8.0	8.0	7.7	7.6	7.6	7.5	7.5
130000	7.9	8.2	8.2	8.3	8.3	8.2	8.2	7.9	7.9	8.1	8.1	8.0	7.8	7.6	7.7	7.5	7.5
140000	7.9	8.2	8.2	8.4	8.4	8.2	8.2	7.9	8.0	8.1	8.1	8.1	7.8	7.5	7.7	7.5	7.6
150000	8.0	8.3	8.2	8.3	8.3	8.3	8.2	8.0	8.0	8.1	8.1	8.1	7.8	7.5	7.7	7.4	7.5
160000	8.0	8.3	8.1	8.4	8.3	8.3	8.2	8.0	8.0	8.1	8.1	8.0	7.8	7.5	7.6	7.3	7.5
170000	8.0	8.3	8.2	8.4	8.3	8.3	8.1	8.0	8.0	8.0	8.1	8.0	7.8	7.6	7.6	7.3	7.4
180000	8.0	8.2	8.1	8.4	8.2	8.3	8.1	8.0	8.0	8.0	8.0	8.0	7.7	7.7	7.6	7.2	7.4
190000	8.0	8.1	8.0	8.3	8.2	8.2	8.0	7.8	8.0	8.0	8.0	7.9	7.7	7.6	7.5	7.2	7.3
200000	8.0	8.1	8.0	8.2	8.1	8.1	7.9	7.8	8.0	7.9	7.9	7.8	7.6	7.5	7.4	7.2	7.2
210000	7.9	8.0	7.9	8.1	8.0	8.0	7.8	7.8	7.9	7.8	7.8	7.6	7.5	7.5	7.3	7.2	7.1
220000	7.8	7.9	7.8	8.0	7.9	7.9	7.7	7.7	7.8	7.7	7.7	7.5	7.4	7.4	7.2	7.1	7.0
230000	7.8	7.8	7.8	8.0	7.9	7.8	7.6	7.6	7.8	7.6	7.6	7.5	7.4	7.3	7.2	7.1	7.0
Daily Max	8.0	8.3	8.2	8.4	8.4	8.3	8.2	8.0	8.0	8.1	8.1	8.1	7.8	7.7	7.7	7.5	7.6
Daily Min	7.6	7.8	7.8	7.8	7.9	7.8	7.6	7.6	7.3	7.6	7.6	7.5	7.4	7.3	7.2	7.1	7.0
Average	7.8	8.0	8.0	8.0	8.1	8.0	7.9	7.7	7.8	7.8	7.8	7.7	7.6	7.4	7.4	7.2	7.2

Water Quality Standard: 7.0 mg/l Dissolved Oxygen
Reading below water quality standard

Dead River Below Hoist Powerhouse - August 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	8/18/2009	8/19/2009	8/20/2009	8/21/2009	8/22/2009	8/23/2009	8/24/2009	8/25/2009	8/26/2009	8/27/2009	8/28/2009	8/29/2009	8/30/2009	8/31/2009
0	7.0	7.5	7.1	7.2	7.6	7.6	7.5	7.5	7.7	7.4	7.5	7.2	7.4	7.3
10000	7.0	7.5	7.1	7.2	7.6	7.6	7.4	7.5	7.7	7.4	7.5	7.2	7.4	7.3
20000	7.0	7.4	7.1	7.2	7.6	7.6	7.5	7.4	7.7	7.3	7.5	7.2	7.4	7.3
30000	6.9	7.4	7.0	7.2	7.6	7.6	7.5	7.5	7.7	7.3	7.5	7.2	7.3	7.3
40000	7.0	7.4	7.0	7.2	7.6	7.6	7.5	7.5	7.6	7.3	7.5	7.2	7.3	7.3
50000	7.0	7.4	7.0	7.2	7.6	7.6	7.5	7.5	7.6	7.4	7.5	7.2	7.3	7.3
60000	7.0	7.3	7.0	7.3	7.6	7.6	7.5	7.6	7.6	7.4	7.5	7.2	7.2	7.3
70000	7.0	7.3	7.0	7.3	7.6	7.5	7.5	7.6	7.6	7.4	7.5	7.2	7.2	7.3
80000	7.0	7.3	7.0	7.3	7.6	7.5	7.5	7.5	7.6	7.5	7.5	7.2	7.1	7.3
90000	7.0	7.3	7.0	7.3	7.6	7.6	7.5	7.6	7.6	7.5	7.4	7.3	7.1	7.3
100000	7.1	7.4	7.0	7.4	7.6	7.7	7.6	7.6	7.7	7.6	7.4	7.4	7.2	7.4
110000	7.2	7.5	7.1	7.6	7.7	7.8	7.7	7.6	7.7	7.7	7.5	7.4	7.3	7.5
120000	7.3	7.6	7.1	7.7	7.8	7.8	7.8	7.7	7.8	7.7	7.5	7.3	7.4	7.5
130000	7.5	7.7	7.2	7.8	7.9	7.9	7.8	7.7	7.8	7.8	7.5	7.3	7.5	7.6
140000	7.6	7.7	7.2	7.8	7.9	7.9	7.8	7.7	7.8	7.8	7.6	7.3	7.5	7.7
150000	7.7	7.7	7.2	7.9	7.9	7.9	7.9	7.8	7.8	7.9	7.6	7.3	7.6	7.7
160000	7.7	7.6	7.2	7.9	7.8	7.9	7.9	7.9	7.8	7.8	7.6	7.5	7.6	7.7
170000	7.7	7.5	7.1	7.9	7.8	7.9	7.9	8.0	7.8	7.8	7.6	7.5	7.5	7.7
180000	7.7	7.6	7.2	7.8	7.8	7.8	7.8	8.0	7.7	7.7	7.5	7.5	7.5	7.7
190000	7.7	7.5	7.2	7.7	7.8	7.7	7.8	8.0	7.6	7.7	7.4	7.4	7.4	7.7
200000	7.6	7.4	7.2	7.7	7.8	7.6	7.7	7.9	7.6	7.7	7.3	7.4	7.4	7.6
210000	7.6	7.3	7.2	7.6	7.7	7.5	7.6	7.8	7.5	7.6	7.2	7.4	7.3	7.6
220000	7.5	7.2	7.2	7.6	7.6	7.5	7.6	7.8	7.4	7.6	7.2	7.4	7.3	7.5
230000	7.5	7.1	7.2	7.6	7.6	7.5	7.6	7.7	7.4	7.5	7.1	7.4	7.3	7.5
Daily Max	7.7	7.7	7.2	7.9	7.9	7.9	7.9	8.0	7.8	7.9	7.6	7.5	7.6	7.7
Daily Min	6.9	7.1	7.0	7.2	7.6	7.5	7.4	7.4	7.4	7.3	7.1	7.2	7.1	7.3
Average	7.3	7.4	7.1	7.5	7.7	7.7	7.6	7.7	7.7	7.6	7.4	7.3	7.4	7.5

Reading below water quality standard

Dead River Below Hoist Powerhouse - September 2009 Dissolved Oxygen Monitoring Data

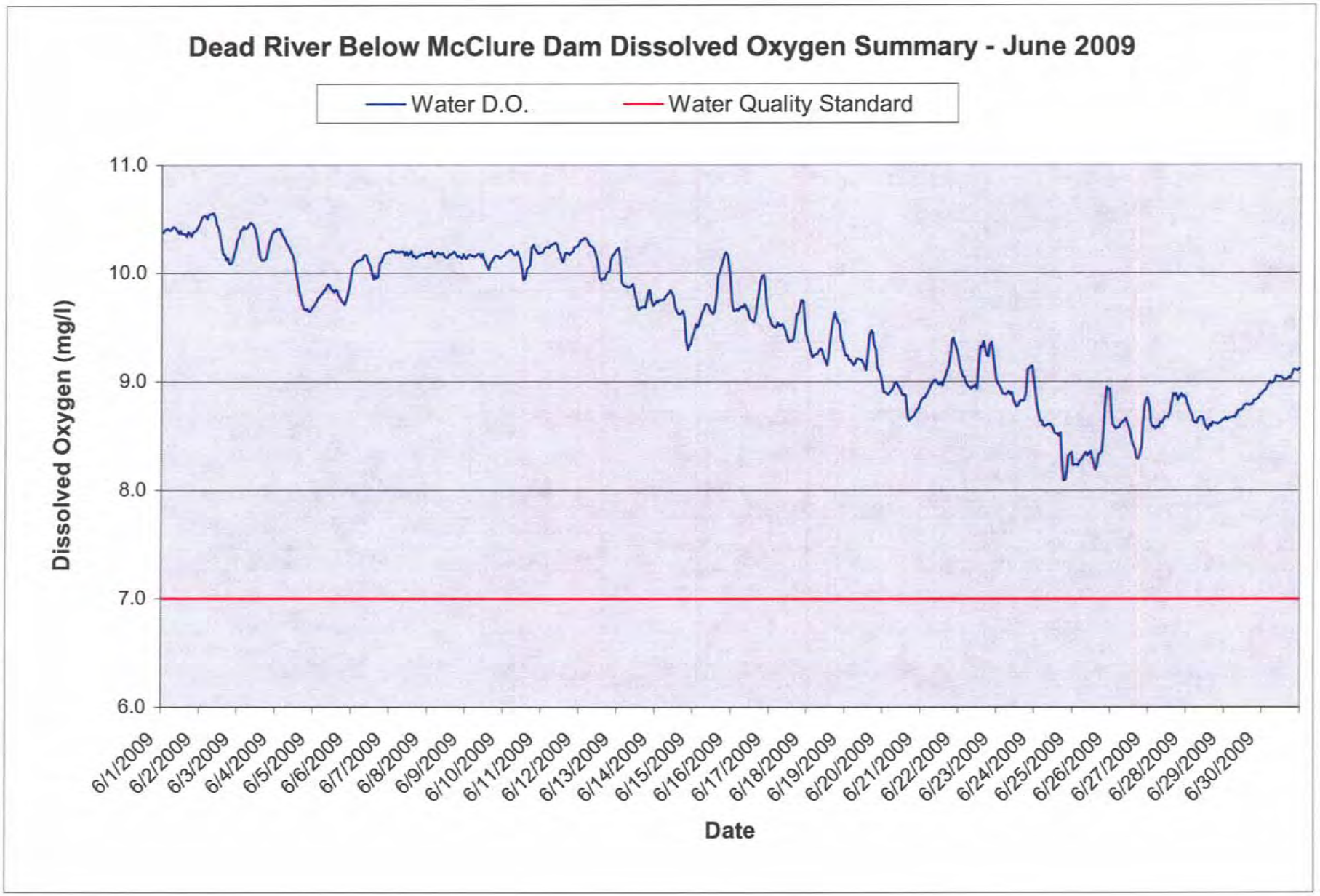
Time HHMMSS	9/1/2009	9/2/2009	9/3/2009	9/4/2009	9/5/2009	9/6/2009	9/7/2009	9/8/2009	9/9/2009	9/10/2009	9/11/2009	9/12/2009	9/13/2009	9/14/2009	9/15/2009	9/16/2009
0	7.4	7.5	7.6	7.7	7.5	7.4	7.5	7.3	7.1	7.2	6.9	6.9	6.8	6.8	7.5	6.8
10000	7.4	7.5	7.7	7.6	7.5	7.4	7.5	7.3	7.1	7.2	7.0	6.9	6.8	6.8	7.3	6.8
20000	7.4	7.5	7.7	7.6	7.5	7.3	7.5	7.3	7.1	7.2	6.9	6.9	6.8	6.8	7.3	6.8
30000	7.5	7.5	7.7	7.7	7.6	7.4	7.5	7.3	7.2	7.1	7.0	6.9	6.8	6.8	7.3	6.7
40000	7.5	7.5	7.7	7.7	7.6	7.5	7.5	7.3	7.2	7.1	7.0	6.9	6.8	6.8	7.2	6.7
50000	7.5	7.5	7.7	7.7	7.7	7.7	7.5	7.3	7.3	7.1	7.0	6.9	6.8	6.9	7.2	6.6
60000	7.5	7.5	7.7	7.8	7.7	7.7	7.5	7.3	7.3	7.1	7.0	6.9	6.8	6.9	7.2	6.6
70000	7.5	7.5	7.8	7.9	7.7	7.9	7.5	7.4	7.4	7.1	7.1	7.0	6.9	6.9	7.1	6.6
80000	7.5	7.5	7.8	7.9	7.7	8.1	7.5	7.4	7.4	7.2	7.1	7.0	6.9	7.0	7.1	6.6
90000	7.5	7.5	7.8	7.9	7.7	8.2	7.5	7.4	7.4	7.3	7.2	7.1	6.9	7.0	7.2	6.7
100000	7.6	7.6	7.9	7.9	7.8	8.2	7.5	7.5	7.5	7.4	7.3	7.2	7.0	7.1	7.2	6.8
110000	7.7	7.6	7.9	8.0	7.9	8.2	7.6	7.5	7.6	7.5	7.4	7.2	7.0	7.2	7.3	6.8
120000	7.7	7.7	8.0	8.0	8.0	8.2	7.6	7.5	7.7	7.6	7.5	7.3	7.0	7.2	7.3	6.9
130000	7.8	7.7	8.0	8.0	8.0	8.2	7.7	7.5	7.7	7.7	7.5	7.3	7.0	7.3	7.4	6.9
140000	7.8	7.8	8.0	8.1	8.0	8.2	7.8	7.5	7.8	7.7	7.5	7.4	7.1	7.4	7.3	7.0
150000	7.8	7.8	8.0	8.1	8.0	8.2	7.7	7.6	7.7	7.7	7.5	7.5	7.2	7.6	7.2	7.0
160000	7.9	7.9	8.1	8.1	8.1	8.2	7.7	7.6	7.7	7.5	7.5	7.5	7.2	7.7	7.2	7.4
170000	7.9	7.9	8.1	8.1	8.0	7.9	7.7	7.6	7.6	7.3	7.3	7.4	7.2	7.8	7.2	7.3
180000	7.9	8.1	8.1	8.0	7.8	7.8	7.6	7.5	7.5	7.2	7.2	7.3	7.1	7.9	7.3	7.2
190000	7.8	7.9	8.1	8.0	7.7	7.8	7.6	7.3	7.3	7.2	7.1	7.2	7.0	7.8	7.2	7.1
200000	7.8	7.8	7.9	7.7	7.5	7.6	7.4	7.2	7.1	7.2	7.0	7.0	6.9	7.7	7.0	7.0
210000	7.7	7.7	7.8	7.5	7.4	7.6	7.4	7.1	7.1	7.1	7.0	7.0	6.9	7.6	6.9	6.9
220000	7.6	7.6	7.8	7.4	7.4	7.6	7.3	7.0	7.1	7.0	6.9	6.9	6.9	7.6	6.9	6.9
230000	7.5	7.6	7.7	7.5	7.4	7.5	7.3	7.1	7.2	7.0	6.9	6.9	6.8	7.5	6.9	7.0
Daily Max	7.9	8.1	8.1	8.1	8.1	8.2	7.8	7.6	7.8	7.7	7.5	7.5	7.2	7.9	7.5	7.4
Daily Min	7.4	7.5	7.6	7.4	7.4	7.3	7.3	7.0	7.1	7.0	6.9	6.9	6.8	6.8	6.9	6.6
Average	7.6	7.7	7.9	7.8	7.7	7.8	7.5	7.4	7.4	7.3	7.2	7.1	6.9	7.2	7.2	6.9

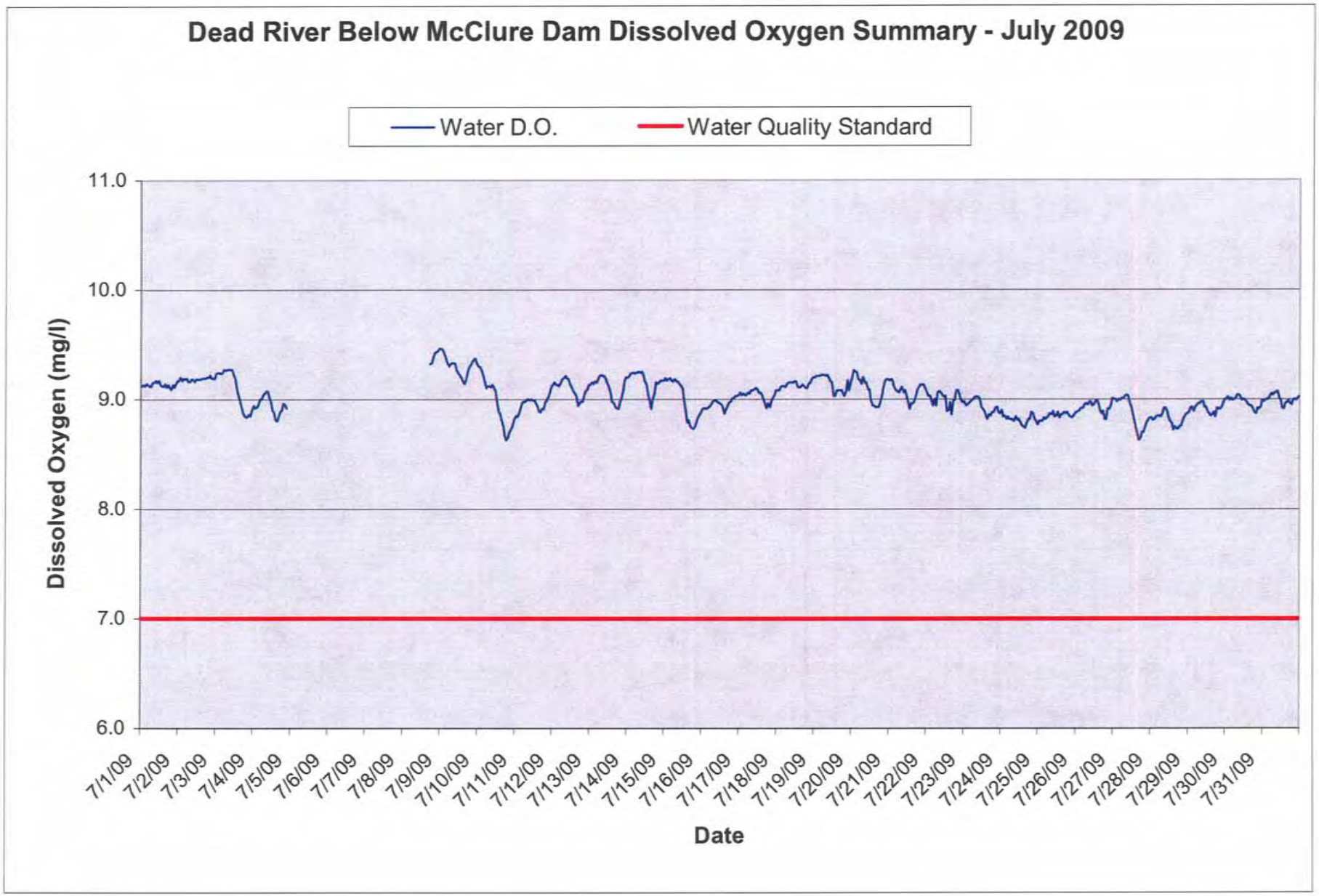
Water Quality Standard: 7 mg/l Dissolved Oxygen
Readings below the water quality standard

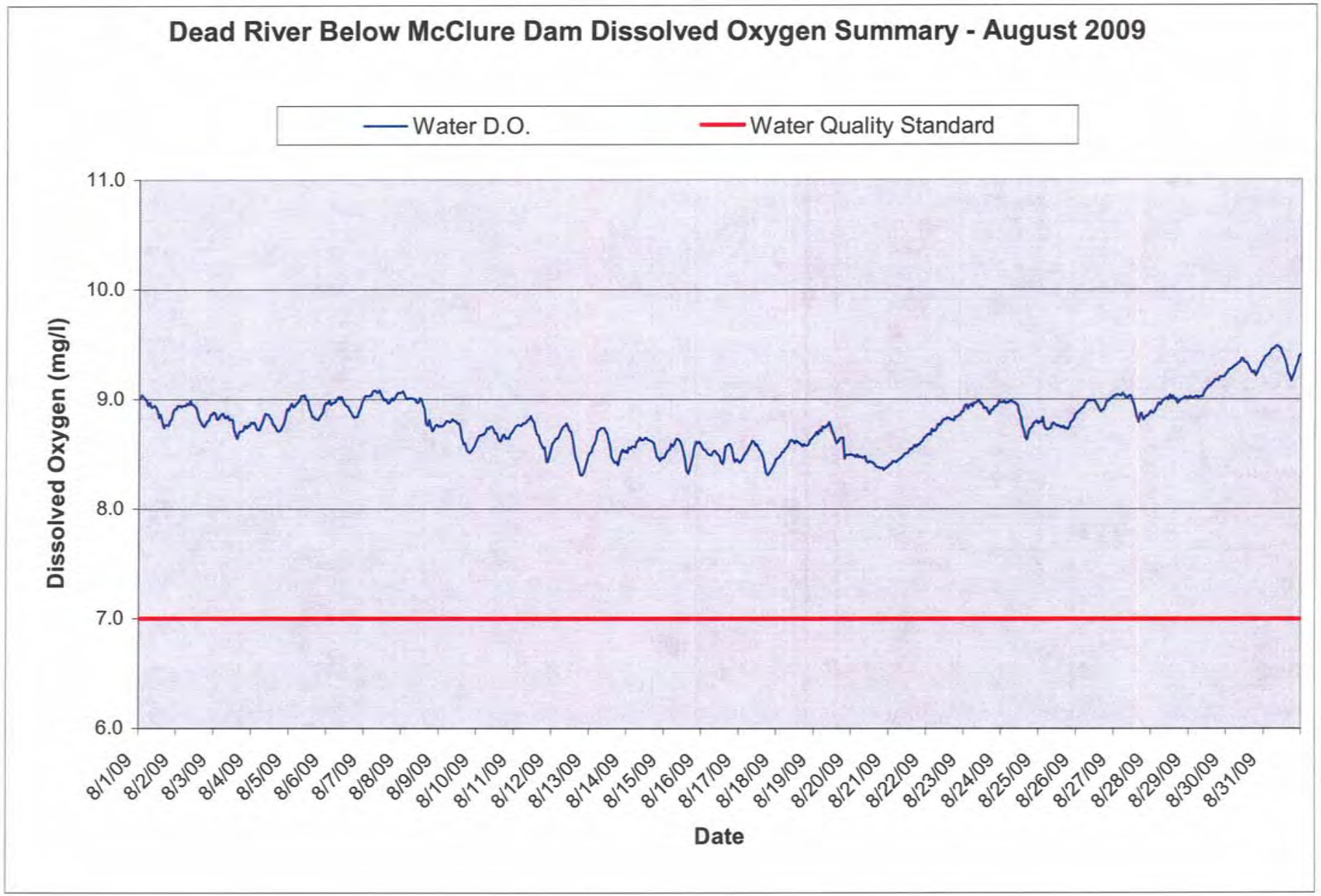
Dead River Below Hoist Powerhouse - September 2009 Dissolved Oxygen Monitoring Data

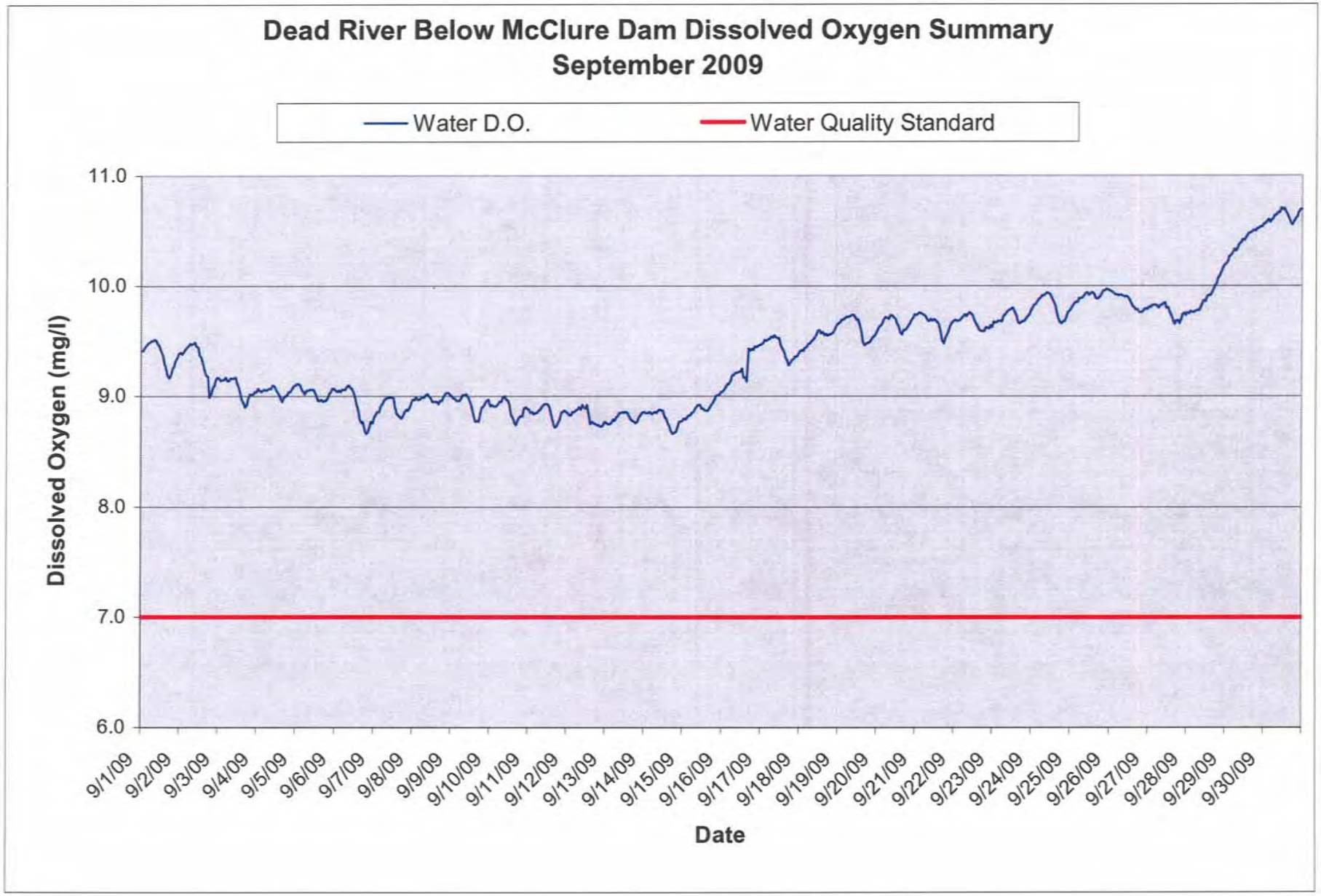
Time HHMMSS	9/17/2009	9/18/2009	9/19/2009	9/20/2009	9/21/2009	9/22/2009	9/23/2009	9/24/2009	9/25/2009	9/26/2009	9/27/2009	9/28/2009	9/29/2009	9/30/2009
0	7.0	7.9	7.5	7.6	7.5	7.5	7.5	7.6	0.0	0.0	0.0	0.0	0.0	0.0
10000	7.0	7.9	7.5	7.7	7.5	7.5	7.5	7.7	0.0	0.0	0.0	0.0	0.0	0.0
20000	7.0	7.8	7.5	7.7	7.5	7.5	7.6	7.7	0.0	0.0	0.0	0.0	0.0	0.0
30000	7.0	7.8	7.5	7.6	7.4	7.6	7.6	7.6	0.0	0.0	0.0	0.0	0.0	0.0
40000	7.1	7.8	7.5	7.6	7.5	7.6	7.6	7.6	0.0	0.0	0.0	0.0	0.0	0.0
50000	7.3	7.8	7.6	7.7	7.5	7.6	7.6	7.7	0.0	0.0	0.0	0.0	0.0	0.0
60000	7.4	7.8	7.6	7.7	7.5	7.6	7.7	7.7	0.0	0.0	0.0	0.0	0.0	0.0
70000	7.5	7.7	7.7	7.7	7.5	7.6	7.7	7.7	0.0	0.0	0.0	0.0	0.0	0.0
80000	7.6	7.7	7.7	7.7	7.6	7.6	7.6	7.7	0.0	0.0	0.0	0.0	0.0	0.0
90000	7.6	7.7	7.8	7.8	7.6	7.6	7.7	7.7	0.0	0.0	0.0	0.0	0.0	0.0
100000	7.7	7.7	7.8	7.8	7.7	7.7	7.8	7.8	0.0	0.0	0.0	0.0	0.0	0.0
110000	7.8	7.7	8.0	7.9	7.8	7.9	8.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0
120000	8.0	7.8	8.1	8.0	7.9	8.0	8.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0
130000	8.1	7.8	8.1	8.0	7.9	8.2	8.2	8.1	0.0	0.0	0.0	0.0	0.0	0.0
140000	8.2	7.8	8.2	8.1	8.0	8.2	8.2	8.2	0.0	0.0	0.0	0.0	0.0	0.0
150000	8.3	7.8	8.3	8.1	8.1	8.1	8.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0
160000	8.3	7.8	8.2	8.1	8.1	8.2	8.2	8.2	0.0	0.0	0.0	0.0	0.0	0.0
170000	8.2	7.8	8.0	7.9	8.0	8.2	8.2	8.1	0.0	0.0	0.0	0.0	0.0	0.0
180000	8.2	7.7	7.8	7.8	8.0	8.1	8.1	7.9	0.0	0.0	0.0	0.0	0.0	0.0
190000	8.1	7.6	7.8	7.6	7.9	7.9	8.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0
200000	8.0	7.5	7.7	7.6	7.7	7.8	7.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0
210000	7.9	7.4	7.6	7.5	7.6	7.7	7.8	7.6	0.0	0.0	0.0	0.0	0.0	0.0
220000	7.9	7.4	7.6	7.5	7.6	7.6	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230000	7.9	7.4	7.6	7.5	7.5	7.5	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Daily Max	8.3	7.9	8.3	8.1	8.1	8.2	8.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0
Daily Min	7.0	7.4	7.5	7.5	7.4	7.5	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	7.7	7.7	7.8	7.7	7.7	7.8	7.8	7.2	0.0	0.0	0.0	0.0	0.0	0.0

No data - dissolved oxygen sensor failure









Dead River Below McClure Dam - June 2009 Dissolved Oxygen Summary

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

License Minimum Dissolved Oxygen: 7.0 mg/l

Dead River Below McClure Dam - June 2009 Dissolved Oxygen Summary

Time HHMMSS	06/17/09	06/18/09	06/19/09	06/20/09	06/21/09	06/22/09	06/23/09	06/24/09	06/25/09	06/26/09	06/27/09	06/28/09	06/29/09	06/30/09
0	9.6	9.4	9.2	8.9	8.8	9.1	9.0	8.9	8.2	8.7	8.8	8.8	8.7	8.9
10000	9.5	9.3	9.2	8.9	8.9	9.1	9.0	8.8	8.2	8.6	8.6	8.8	8.7	8.9
20000	9.5	9.3	9.2	8.9	8.9	9.0	8.9	8.7	8.2	8.6	8.6	8.7	8.7	8.9
30000	9.5	9.2	9.2	8.9	8.9	9.0	8.9	8.6	8.2	8.6	8.6	8.7	8.7	9.0
40000	9.5	9.2	9.2	8.9	8.9	9.0	8.9	8.6	8.3	8.6	8.6	8.6	8.7	9.0
50000	9.5	9.3	9.2	8.9	8.9	9.0	8.9	8.6	8.3	8.6	8.6	8.6	8.7	9.0
60000	9.5	9.3	9.2	8.9	9.0	9.0	8.9	8.6	8.3	8.6	8.6	8.6	8.7	9.0
70000	9.5	9.3	9.2	9.0	9.0	8.9	8.9	8.6	8.3	8.6	8.6	8.7	8.7	9.0
80000	9.5	9.3	9.2	9.0	9.0	9.0	8.9	8.6	8.4	8.6	8.6	8.7	8.7	9.1
90000	9.5	9.3	9.2	9.0	9.0	9.0	8.9	8.6	8.3	8.7	8.7	8.7	8.7	9.0
100000	9.5	9.2	9.2	8.9	9.0	9.0	8.8	8.6	8.3	8.6	8.7	8.7	8.7	9.0
110000	9.4	9.2	9.2	8.9	9.0	8.9	8.8	8.6	8.4	8.6	8.7	8.6	8.8	9.0
120000	9.4	9.2	9.1	8.9	9.0	9.2	8.8	8.5	8.3	8.5	8.7	8.6	8.8	9.0
130000	9.4	9.2	9.1	8.9	9.0	9.3	8.8	8.5	8.2	8.5	8.7	8.6	8.8	9.0
140000	9.4	9.3	9.3	8.9	9.0	9.3	8.8	8.5	8.2	8.4	8.8	8.6	8.8	9.0
150000	9.4	9.5	9.4	8.7	9.0	9.4	8.8	8.5	8.2	8.4	8.9	8.6	8.8	9.0
160000	9.5	9.6	9.5	8.6	9.1	9.3	8.8	8.5	8.3	8.3	8.9	8.6	8.8	9.0
170000	9.6	9.6	9.5	8.7	9.1	9.2	8.8	8.2	8.3	8.3	8.9	8.6	8.8	9.0
180000	9.6	9.6	9.3	8.7	9.2	9.2	8.9	8.1	8.4	8.3	8.8	8.6	8.8	9.1
190000	9.7	9.6	9.3	8.7	9.4	9.3	9.1	8.1	8.5	8.4	8.9	8.6	8.8	9.1
200000	9.8	9.5	9.1	8.7	9.4	9.4	9.1	8.2	8.8	8.6	8.9	8.6	8.8	9.1
210000	9.7	9.4	9.1	8.7	9.3	9.3	9.1	8.3	9.0	8.8	8.9	8.6	8.9	9.1
220000	9.6	9.4	9.1	8.8	9.3	9.1	9.1	8.3	8.9	8.8	8.9	8.7	8.9	9.1
230000	9.4	9.3	9.0	8.8	9.2	9.0	9.0	8.4	8.9	8.9	8.9	8.7	8.9	9.1
Daily Max	9.8	9.6	9.5	9.0	9.4	9.4	9.1	8.9	9.0	8.9	8.9	8.8	8.9	9.1
Daily Min	9.4	9.2	9.0	8.6	8.8	8.9	8.8	8.1	8.2	8.3	8.6	8.6	8.7	8.9
Average	9.5	9.3	9.2	8.8	9.1	9.1	8.9	8.5	8.4	8.6	8.7	8.6	8.8	9.0

Dead River Below McClure Dam - July 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	07/01/09	07/02/09	07/03/09	07/04/09	07/05/09	07/06/09	07/07/09	07/08/09	07/09/09	07/10/09	07/11/09	07/12/09	07/13/09	07/14/09	07/15/09	07/16/09
0	9.1	9.2	9.2	8.9					9.5	9.3	8.9	9.1	9.1	9.2	9.2	8.9
10000	9.1	9.2	9.2	8.9					9.5	9.3	8.8	9.2	9.2	9.2	9.2	8.9
20000	9.1	9.2	9.2	8.9					9.4	9.3	8.9	9.1	9.1	9.2	9.2	8.9
30000	9.1	9.2	9.2	9.0					9.4	9.2	8.9	9.1	9.2	9.2	9.2	8.9
40000	9.1	9.2	9.2	9.0					9.3	9.2	9.0	9.1	9.2	9.2	9.2	8.9
50000	9.1	9.2	9.3	9.0					9.3	9.1	9.0	9.2	9.2	9.2	9.2	8.9
60000	9.1	9.2	9.3	9.0					9.3	9.1	9.0	9.2	9.2	9.2	9.2	9.0
70000	9.2	9.2	9.3	9.1					9.3	9.1	9.0	9.2	9.2	9.3	9.2	9.0
80000	9.2	9.2	9.3	9.1					9.3	9.1	9.0	9.2	9.2	9.2	9.2	9.0
90000	9.2	9.2	9.3	9.1					9.3	9.1	9.0	9.2	9.2	9.3	9.1	9.0
100000	9.2	9.2	9.3	9.0					9.3	9.1	9.0	9.2	9.2	9.2	9.1	9.0
110000	9.2	9.2	9.2	9.0					9.2	9.1	9.0	9.1	9.1	9.2	9.1	9.0
120000	9.1	9.2	9.2	8.9					9.2	9.0	9.0	9.1	9.1	9.1	9.0	9.0
130000	9.1	9.2	9.1	8.9					9.2	8.9	9.0	9.1	9.1	9.1	8.9	8.9
140000	9.1	9.2	9.1	8.8					9.2	8.9	8.9	9.1	9.0	9.0	8.8	8.9
150000	9.1	9.2	9.0	8.8					9.1	8.8	8.9	9.0	9.0	8.9	8.8	8.9
160000	9.1	9.2	8.9	8.8					9.2	8.8	8.9	8.9	8.9	9.0	8.8	8.9
170000	9.1	9.2	8.9	8.9				9.3	9.3	8.7	8.9	9.0	8.9	9.1	8.7	9.0
180000	9.1	9.2	8.9	8.9				9.3	9.3	8.6	8.9	9.0	8.9	9.2	8.7	9.0
190000	9.1	9.2	8.8	9.0				9.4	9.3	8.7	9.0	9.0	9.0	9.1	8.8	9.0
200000	9.1	9.2	8.8	9.0				9.4	9.3	8.7	9.0	9.0	9.0	9.2	8.8	9.0
210000	9.1	9.2	8.9	8.9				9.4	9.4	8.7	9.0	9.1	9.1	9.2	8.8	9.0
220000	9.1	9.2	8.9					9.4	9.4	8.8	9.1	9.1	9.2	9.2	8.9	9.0
230000	9.2	9.2	8.9					9.5	9.3	8.8	9.1	9.1	9.2	9.2	8.9	9.0
Daily Max	9.2	9.2	9.3	9.1	0.0	0.0	0.0	9.5	9.5	9.3	9.1	9.2	9.2	9.3	9.2	9.0
Daily Min	9.1	9.2	8.8	8.8	0.0	0.0	0.0	9.3	9.1	8.6	8.8	8.9	8.9	8.9	8.7	8.9
Average	9.1	9.2	9.1	8.9				9.4	9.3	9.0	9.0	9.1	9.1	9.2	9.0	9.0

License Minimum Dissolved Oxygen: 7.0 mg/l
No dissolved oxygen data from 7/4 @ 22:00 through 7/8 @ 16:00 due to equipment power failure.

Dead River Below McClure Dam - July 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	07/17/09	07/18/09	07/19/09	07/20/09	07/21/09	07/22/09	07/23/09	07/24/09	07/25/09	07/26/09	07/27/09	07/28/09	07/29/09	07/30/09	07/31/09
0	9.1	9.1	9.2	9.2	9.2	9.1	9.0	8.9	8.8	8.9	9.0	8.8	8.9	9.0	9.0
10000	9.0	9.1	9.2	9.3	9.2	9.0	8.9	8.8	8.8	8.9	9.0	8.8	8.9	9.0	9.0
20000	9.1	9.1	9.2	9.3	9.2	9.0	9.0	8.9	8.8	8.9	9.0	8.8	8.9	9.0	9.0
30000	9.0	9.1	9.2	9.2	9.1	9.0	9.0	8.8	8.8	8.9	9.0	8.8	8.9	9.0	9.0
40000	9.0	9.1	9.2	9.2	9.1	8.9	9.0	8.8	8.8	8.9	9.0	8.9	8.9	9.0	9.0
50000	9.1	9.1	9.2	9.2	9.1	9.0	9.0	8.8	8.8	9.0	9.0	8.9	8.9	9.0	9.1
60000	9.1	9.1	9.2	9.1	9.1	8.9	9.0	8.8	8.9	9.0	9.0	8.8	9.0	9.0	9.0
70000	9.1	9.2	9.2	9.2	9.1	9.1	9.0	8.8	8.9	9.0	9.0	8.9	9.0	9.0	9.1
80000	9.1	9.2	9.2	9.2	9.1	9.1	9.0	8.8	8.9	9.0	9.0	8.9	9.0	9.0	9.1
90000	9.1	9.2	9.2	9.2	9.1	9.1	9.0	8.8	8.9	9.0	9.0	8.9	9.0	9.0	9.1
100000	9.1	9.2	9.2	9.1	9.1	9.0	9.0	8.8	8.8	8.9	9.0	8.9	8.9	9.0	9.0
110000	9.1	9.2	9.2	9.1	9.0	9.0	8.9	8.8	8.9	9.0	8.9	8.8	8.9	9.0	9.0
120000	9.1	9.2	9.0	9.0	9.0	9.0	8.9	8.8	8.9	9.0	8.9	8.8	8.9	9.0	8.9
130000	9.1	9.1	9.0	8.9	8.9	8.9	8.9	8.8	8.8	9.0	8.8	8.8	8.9	9.0	8.9
140000	9.0	9.1	9.1	8.9	9.0	8.9	8.9	8.8	8.9	9.0	8.7	8.7	8.9	9.0	9.0
150000	9.0	9.1	9.1	8.9	9.0	9.0	8.8	8.7	8.9	8.9	8.7	8.8	8.9	8.9	9.0
160000	9.0	9.1	9.1	8.9	9.0	8.9	8.9	8.8	8.9	8.9	8.6	8.7	8.9	8.9	9.0
170000	8.9	9.1	9.1	8.9	9.0	9.0	8.9	8.8	8.9	8.9	8.7	8.7	8.8	8.9	9.0
180000	9.0	9.1	9.1	9.0	9.1	9.0	8.9	8.8	8.9	8.8	8.7	8.8	8.9	8.9	9.0
190000	8.9	9.1	9.0	9.0	9.1	9.1	8.9	8.9	8.9	8.8	8.7	8.8	8.9	8.9	9.0
200000	9.0	9.1	9.1	9.1	9.1	9.1	8.9	8.9	8.8	8.9	8.8	8.8	8.9	8.9	9.0
210000	9.0	9.2	9.2	9.2	9.1	9.0	8.9	8.8	8.8	8.9	8.8	8.8	8.9	8.9	9.0
220000	9.0	9.2	9.1	9.2	9.1	9.0	8.9	8.8	8.9	8.9	8.8	8.9	9.0	8.9	9.0
230000	9.1	9.2	9.2	9.2	9.1	9.0	8.9	8.8	8.9	9.0	8.8	8.9	9.0	9.0	9.0
Daily Max	9.1	9.2	9.2	9.3	9.2	9.1	9.0	8.9	8.9	9.0	9.0	8.9	9.0	9.0	9.1
Daily Min	8.9	9.1	9.0	8.9	8.9	8.9	8.8	8.7	8.8	8.8	8.6	8.7	8.8	8.9	8.9
Average	9.0	9.1	9.1	9.1	9.1	9.0	8.9	8.8	8.8	8.9	8.9	8.8	8.9	9.0	9.0

Dead River Below McClure Dam - August 2009 Dissolved Oxugen Monitoring Data

Time HHMMSS	8/1/2009	8/2/2009	8/3/2009	8/4/2009	8/5/2009	8/6/2009	8/7/2009	8/8/2009	8/9/2009	8/10/2009	8/11/2009	8/12/2009	8/13/2009	8/14/2009	8/15/2009	8/16/2009
0	9.0	8.9	8.9	8.8	8.9	9.0	9.0	9.1	8.8	8.6	8.8	8.6	8.5	8.5	8.5	8.6
10000	9.0	8.9	8.8	8.8	9.0	9.0	9.0	9.1	8.8	8.7	8.8	8.6	8.5	8.6	8.5	8.5
20000	9.0	8.9	8.8	8.8	8.9	9.0	9.0	9.0	8.8	8.7	8.8	8.6	8.6	8.6	8.5	8.5
30000	9.0	8.9	8.9	8.7	8.9	9.0	9.0	9.0	8.8	8.7	8.8	8.6	8.6	8.6	8.5	8.5
40000	9.0	8.9	8.9	8.7	9.0	9.0	9.0	9.0	8.8	8.7	8.8	8.7	8.6	8.6	8.6	8.5
50000	8.9	8.9	8.9	8.8	9.0	9.0	9.1	9.0	8.8	8.7	8.8	8.7	8.7	8.6	8.6	8.5
60000	9.0	9.0	8.8	8.8	9.0	9.0	9.1	9.0	8.8	8.7	8.8	8.7	8.7	8.6	8.6	8.5
70000	8.9	9.0	8.8	8.8	9.0	9.0	9.1	9.0	8.8	8.7	8.8	8.8	8.7	8.6	8.6	8.5
80000	8.9	9.0	8.9	8.9	9.0	9.0	9.1	9.0	8.8	8.8	8.8	8.8	8.7	8.7	8.6	8.5
90000	8.9	9.0	8.8	8.9	9.0	9.0	9.1	9.0	8.8	8.8	8.8	8.8	8.7	8.6	8.6	8.5
100000	8.9	9.0	8.8	8.9	9.0	9.0	9.1	9.0	8.8	8.7	8.9	8.7	8.7	8.6	8.6	8.5
110000	8.9	8.9	8.8	8.8	9.0	9.0	9.0	9.0	8.8	8.7	8.8	8.7	8.7	8.6	8.6	8.5
120000	8.8	8.9	8.7	8.8	8.9	8.9	9.0	9.0	8.8	8.7	8.8	8.7	8.6	8.7	8.5	8.4
130000	8.9	8.9	8.7	8.8	8.9	8.9	9.0	8.9	8.7	8.6	8.7	8.6	8.6	8.6	8.5	8.4
140000	8.8	8.8	8.6	8.8	8.8	8.9	9.0	8.9	8.7	8.6	8.7	8.5	8.5	8.6	8.4	8.5
150000	8.7	8.8	8.7	8.7	8.8	8.9	9.0	8.8	8.6	8.6	8.7	8.5	8.4	8.6	8.3	8.6
160000	8.8	8.8	8.7	8.7	8.8	8.9	9.0	8.8	8.6	8.7	8.6	8.4	8.4	8.6	8.4	8.6
170000	8.8	8.8	8.7	8.7	8.8	8.8	9.0	8.8	8.5	8.7	8.6	8.4	8.4	8.6	8.4	8.6
180000	8.8	8.8	8.7	8.7	8.8	8.8	9.0	8.8	8.5	8.6	8.6	8.3	8.4	8.5	8.5	8.6
190000	8.8	8.8	8.8	8.8	8.8	8.8	9.0	8.7	8.5	8.7	8.6	8.3	8.5	8.5	8.6	8.5
200000	8.8	8.8	8.7	8.8	8.9	8.9	9.0	8.7	8.5	8.6	8.4	8.3	8.5	8.5	8.6	8.5
210000	8.9	8.9	8.8	8.9	8.9	8.9	9.1	8.8	8.6	8.7	8.4	8.4	8.5	8.4	8.6	8.4
220000	8.9	8.9	8.8	8.9	8.9	9.0	9.1	8.8	8.6	8.7	8.5	8.4	8.5	8.5	8.6	8.5
230000	8.9	8.9	8.8	8.9	9.0	9.0	9.1	8.8	8.6	8.7	8.6	8.5	8.5	8.5	8.6	8.4
Daily Max	9.0	9.0	8.9	8.9	9.0	9.0	9.1	9.1	8.8	8.8	8.9	8.8	8.7	8.7	8.6	8.6
Daily Min	8.7	8.8	8.6	8.7	8.8	8.8	9.0	8.7	8.5	8.6	8.4	8.3	8.4	8.4	8.3	8.4
Average	8.9	8.9	8.8	8.8	8.9	8.9	9.0	8.9	8.7	8.7	8.7	8.6	8.6	8.6	8.5	8.5

License Minimum Dissolved Oxygen: 7.0 mg/l

Dead River Below McClure Dam - August 2009 Dissolved Oxugen Monitoring Data

Time HHMMSS	8/17/2009	8/18/2009	8/19/2009	8/20/2009	8/21/2009	8/22/2009	8/23/2009	8/24/2009	8/25/2009	8/26/2009	8/27/2009	8/28/2009	8/29/2009	8/30/2009	8/31/2009
0	8.4	8.5	8.7	8.5	8.4	8.7	8.9	9.0	8.8	8.9	9.0	8.9	9.0	9.2	9.4
10000	8.4	8.5	8.7	8.5	8.4	8.7	8.9	9.0	8.8	8.9	9.0	8.9	9.0	9.3	9.4
20000	8.5	8.5	8.7	8.5	8.4	8.7	8.9	9.0	8.8	8.9	9.0	8.9	9.0	9.3	9.4
30000	8.5	8.5	8.7	8.5	8.4	8.7	8.9	9.0	8.8	8.9	9.0	8.9	9.0	9.3	9.4
40000	8.5	8.5	8.7	8.5	8.4	8.7	9.0	9.0	8.7	8.9	9.0	9.0	9.0	9.3	9.4
50000	8.5	8.6	8.8	8.5	8.4	8.7	8.9	9.0	8.7	9.0	9.1	8.9	9.0	9.3	9.5
60000	8.6	8.6	8.7	8.5	8.4	8.7	9.0	9.0	8.7	9.0	9.0	9.0	9.0	9.3	9.5
70000	8.6	8.6	8.8	8.5	8.5	8.8	9.0	9.0	8.7	9.0	9.0	9.0	9.0	9.3	9.5
80000	8.6	8.6	8.8	8.5	8.5	8.8	9.0	9.0	8.8	9.0	9.0	9.0	9.0	9.3	9.5
90000	8.6	8.6	8.8	8.4	8.5	8.8	9.0	9.0	8.8	9.0	9.0	9.0	9.1	9.4	9.5
100000	8.6	8.6	8.8	8.4	8.5	8.8	9.0	8.9	8.8	9.0	9.0	9.0	9.1	9.4	9.5
110000	8.6	8.6	8.7	8.4	8.5	8.8	9.0	8.9	8.8	9.0	9.0	9.0	9.1	9.3	9.4
120000	8.6	8.6	8.7	8.4	8.5	8.8	8.9	8.8	8.8	9.0	9.0	9.0	9.1	9.3	9.4
130000	8.5	8.6	8.6	8.4	8.5	8.8	8.9	8.8	8.8	8.9	8.9	9.0	9.1	9.3	9.3
140000	8.5	8.6	8.6	8.4	8.5	8.8	8.9	8.7	8.7	8.9	8.8	9.0	9.1	9.3	9.3
150000	8.5	8.6	8.6	8.4	8.6	8.8	8.9	8.7	8.8	8.9	8.8	9.0	9.2	9.3	9.2
160000	8.4	8.6	8.6	8.4	8.6	8.8	8.9	8.6	8.7	8.9	8.9	9.0	9.2	9.2	9.2
170000	8.3	8.6	8.7	8.4	8.6	8.8	8.9	8.7	8.7	8.9	8.9	9.0	9.2	9.3	9.2
180000	8.3	8.6	8.7	8.4	8.6	8.8	8.9	8.7	8.7	8.9	8.8	9.0	9.2	9.2	9.2
190000	8.3	8.6	8.5	8.4	8.6	8.8	8.9	8.7	8.7	9.0	8.8	9.0	9.2	9.2	9.2
200000	8.4	8.6	8.5	8.4	8.6	8.9	8.9	8.8	8.8	9.0	8.8	9.0	9.2	9.3	9.3
210000	8.4	8.6	8.5	8.4	8.6	8.9	8.9	8.8	8.8	9.0	8.8	9.0	9.2	9.3	9.3
220000	8.4	8.6	8.5	8.4	8.7	8.9	9.0	8.8	8.8	9.0	8.9	9.0	9.2	9.3	9.4
230000	8.5	8.7	8.5	8.4	8.7	8.9	9.0	8.8	8.9	9.0	8.9	9.0	9.2	9.3	9.4
Daily Max	8.6	8.7	8.8	8.5	8.7	8.9	9.0	9.0	8.9	9.0	9.1	9.0	9.2	9.4	9.5
Daily Min	8.3	8.5	8.5	8.4	8.4	8.7	8.9	8.6	8.7	8.9	8.8	8.9	9.0	9.2	9.2
Average	8.5	8.6	8.7	8.4	8.5	8.8	8.9	8.9	8.8	9.0	8.9	9.0	9.1	9.3	9.4

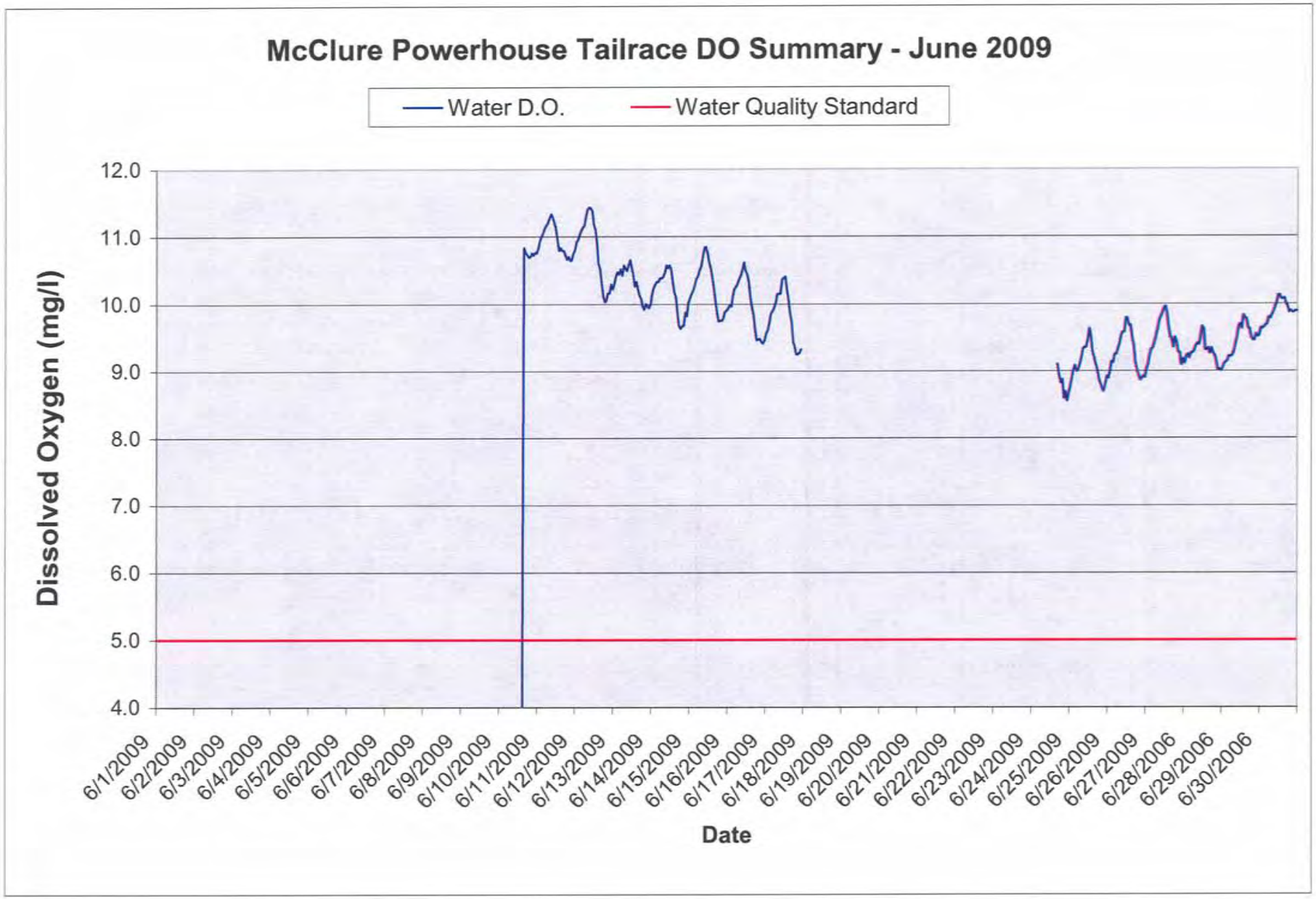
Dead River Below McClure Dam - September 2009 Dissolved Oxygen Data

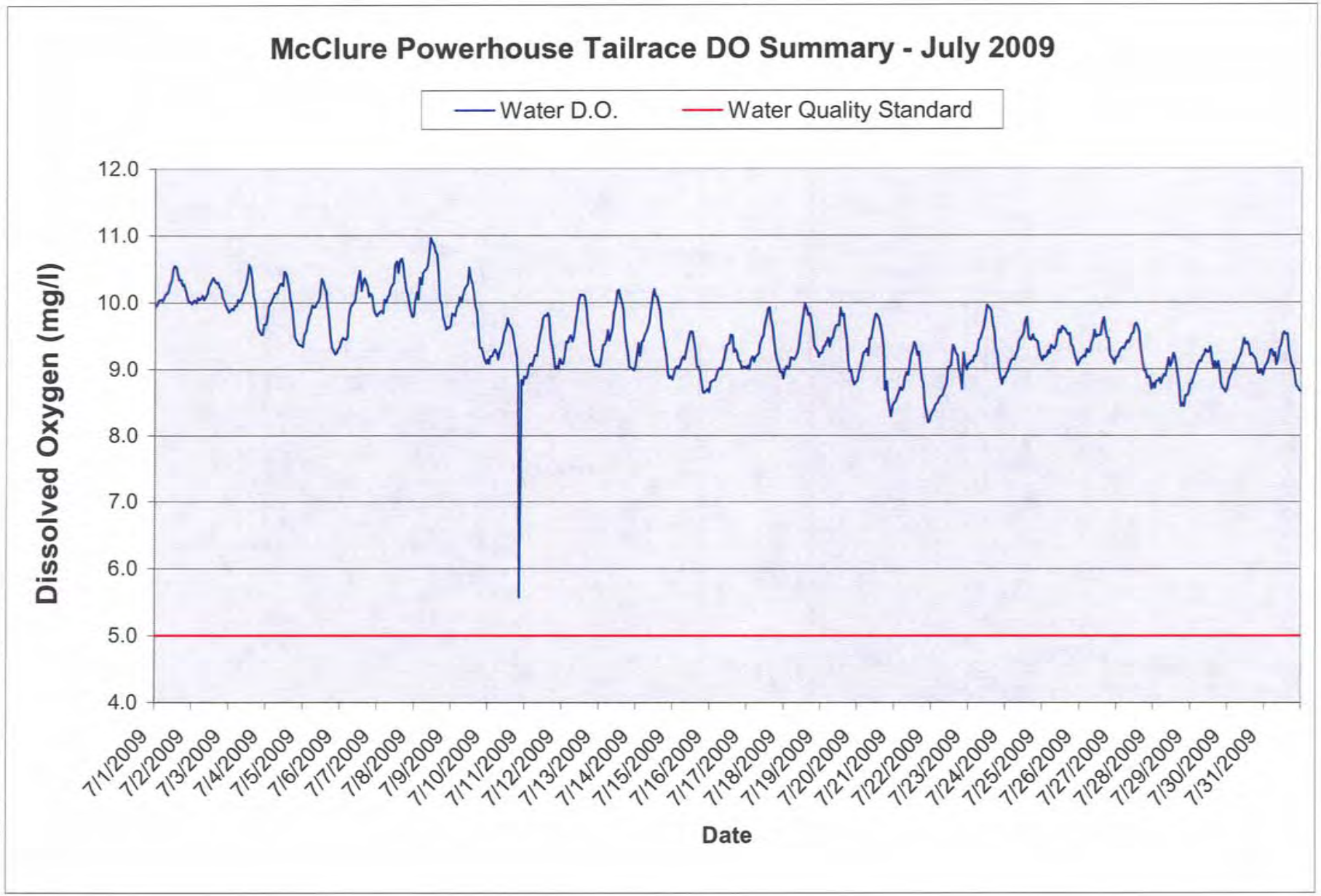
Time HHMMSS	9/1/2009	9/2/2009	9/3/2009	9/4/2009	9/5/2009	9/6/2009	9/7/2009	9/8/2009	9/9/2009	9/10/2009	9/11/2009	9/12/2009	9/13/2009	9/14/2009	9/15/2009	9/16/2009
0	9.4	9.4	9.2	9.1	9.1	9.1	8.8	9.0	9.0	8.9	8.9	8.9	8.8	8.9	8.8	9.0
10000	9.4	9.4	9.1	9.1	9.1	9.0	8.8	9.0	9.0	8.9	8.9	8.8	8.8	8.9	8.8	9.1
20000	9.4	9.4	9.2	9.0	9.1	9.1	8.9	9.0	9.0	8.9	8.9	8.8	8.8	8.9	8.8	9.1
30000	9.5	9.4	9.2	9.1	9.1	9.0	8.9	9.0	9.0	8.9	8.8	8.9	8.8	8.9	8.8	9.1
40000	9.5	9.4	9.2	9.1	9.0	9.1	8.9	9.0	9.0	8.9	8.9	8.9	8.8	8.8	8.8	9.1
50000	9.5	9.5	9.1	9.1	9.0	9.1	8.9	9.0	9.0	8.9	8.9	8.9	8.8	8.9	8.9	9.2
60000	9.5	9.5	9.1	9.1	9.1	9.1	9.0	9.0	9.0	9.0	8.9	8.9	8.8	8.9	8.9	9.2
70000	9.5	9.5	9.2	9.1	9.1	9.1	9.0	9.0	9.0	9.0	8.9	8.9	8.8	8.9	8.9	9.2
80000	9.5	9.5	9.2	9.1	9.1	9.1	9.0	9.0	9.0	9.0	8.9	8.9	8.9	8.9	8.9	9.2
90000	9.5	9.5	9.2	9.1	9.1	9.1	9.0	9.0	9.0	9.0	8.9	8.9	8.9	8.9	8.9	9.2
100000	9.5	9.5	9.2	9.1	9.1	9.1	9.0	9.0	9.0	9.0	8.9	8.9	8.9	8.9	8.9	9.2
110000	9.4	9.4	9.1	9.1	9.0	9.0	9.0	9.0	9.0	9.0	8.9	8.9	8.9	8.9	8.9	9.2
120000	9.4	9.4	9.1	9.0	9.0	9.0	9.0	9.0	8.9	8.9	8.9	8.9	8.9	8.8	8.9	9.3
130000	9.4	9.3	9.0	9.0	9.0	8.9	8.9	9.0	8.9	8.8	8.9	8.8	8.9	8.8	8.9	9.2
140000	9.3	9.3	9.0	9.0	9.0	8.9	8.8	9.0	8.8	8.8	8.8	8.8	8.8	8.8	8.9	9.2
150000	9.2	9.2	8.9	9.0	9.0	8.8	8.8	9.0	8.8	8.8	8.8	8.8	8.8	8.7	8.9	9.1
160000	9.2	9.2	8.9	9.0	9.0	8.8	8.8	8.9	8.8	8.7	8.7	8.8	8.8	8.7	8.9	9.4
170000	9.2	9.2	8.9	9.0	9.0	8.8	8.8	9.0	8.8	8.8	8.7	8.8	8.8	8.7	8.9	9.4
180000	9.2	9.0	9.0	9.0	9.0	8.7	8.8	9.0	8.9	8.8	8.8	8.7	8.8	8.7	8.9	9.4
190000	9.2	9.0	9.0	9.0	9.0	8.7	8.9	9.0	8.9	8.8	8.8	8.7	8.8	8.7	9.0	9.4
200000	9.3	9.1	9.0	9.0	9.0	8.7	8.9	9.0	8.9	8.8	8.9	8.7	8.8	8.7	9.0	9.4
210000	9.3	9.1	9.0	9.1	9.0	8.7	8.9	9.0	8.9	8.9	8.9	8.7	8.8	8.8	9.0	9.4
220000	9.3	9.2	9.0	9.1	9.1	8.8	8.9	9.0	9.0	8.9	8.9	8.7	8.9	8.8	9.0	9.5
230000	9.4	9.2	9.0	9.1	9.1	8.8	8.9	9.0	9.0	8.9	8.9	8.8	8.9	8.8	9.0	9.5
Daily Max	9.5	9.5	9.2	9.1	9.1	9.1	9.0	9.0	9.0	9.0	8.9	8.9	8.9	8.9	9.0	9.5
Daily Min	9.2	9.0	8.9	9.0	9.0	8.7	8.8	8.9	8.8	8.7	8.7	8.7	8.8	8.7	8.8	9.0
Average	9.4	9.3	9.1	9.0	9.0	8.9	8.9	9.0	8.9	8.9	8.8	8.8	8.8	8.8	8.9	9.3

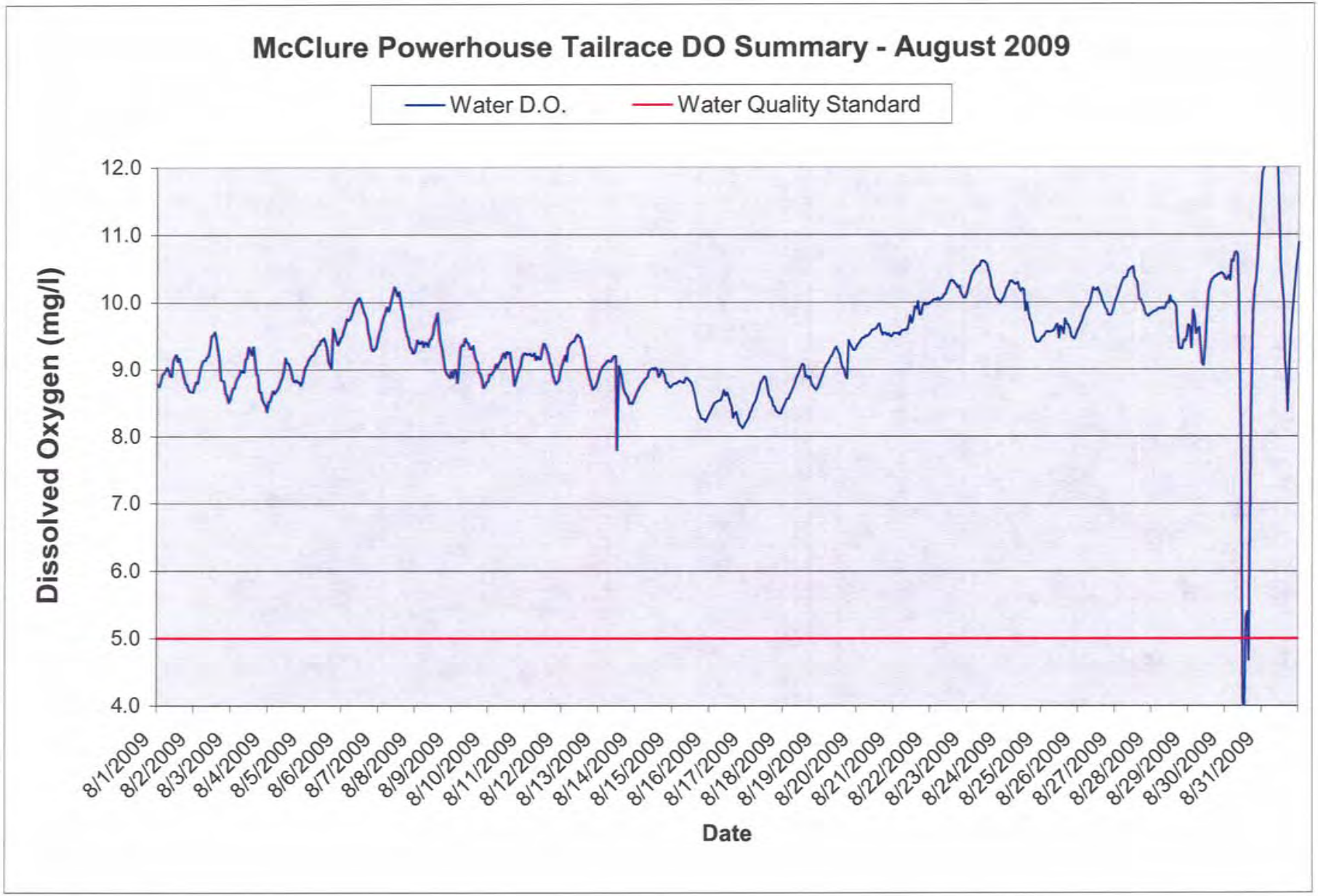
License Minimum Dissolved Oxygen: 7.0 mg/l

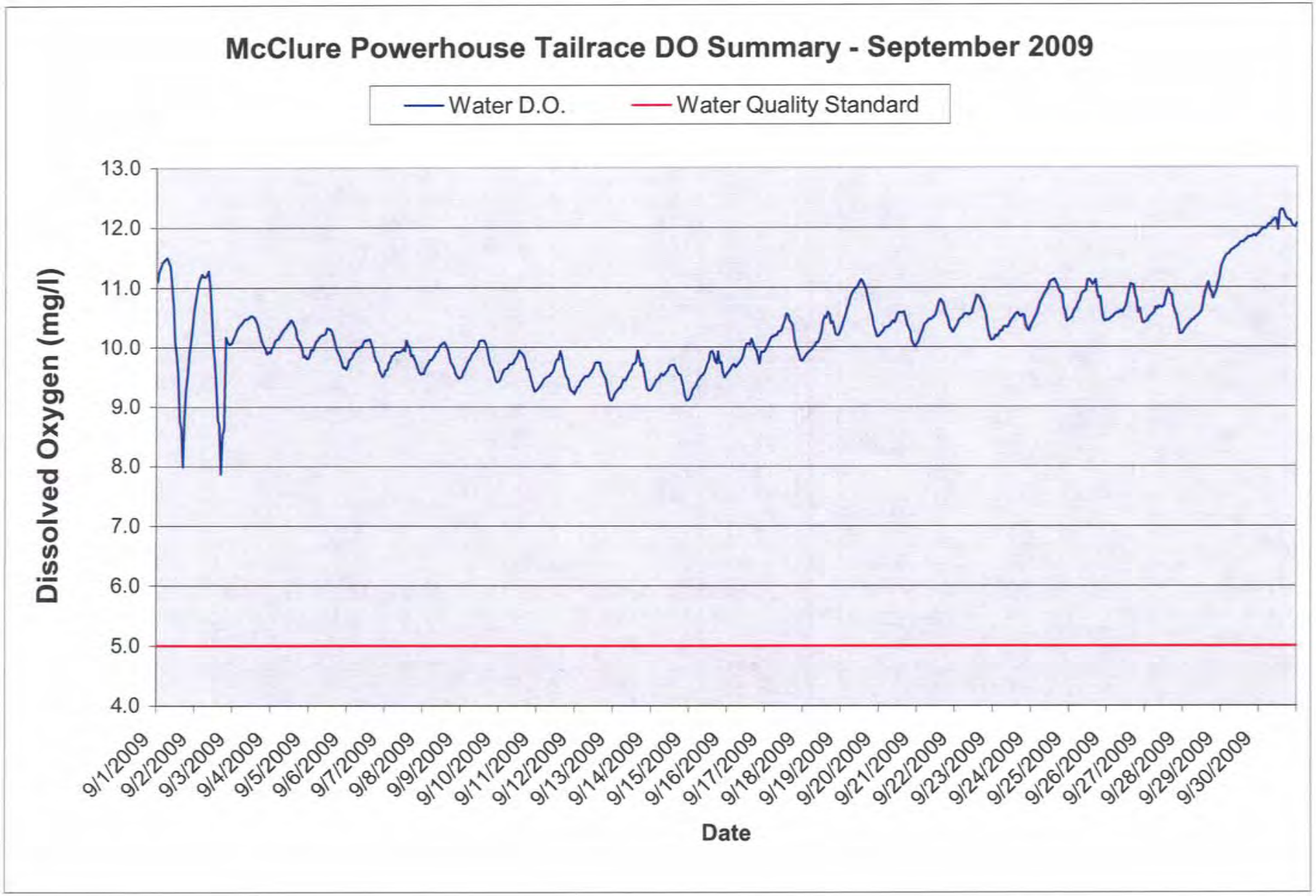
Dead River Below McClure Dam - September 2009 Dissolved Oxygen Data

Time HHMMSS	9/17/2009	9/18/2009	9/19/2009	9/20/2009	9/21/2009	9/22/2009	9/23/2009	9/24/2009	9/25/2009	9/26/2009	9/27/2009	9/28/2009	9/29/2009	9/30/2009
0	9.5	9.4	9.7	9.6	9.7	9.7	9.7	9.8	9.8	10.0	9.8	9.8	10.2	10.6
10000	9.5	9.4	9.7	9.6	9.7	9.7	9.7	9.8	9.8	9.9	9.8	9.7	10.2	10.6
20000	9.5	9.4	9.7	9.6	9.8	9.7	9.7	9.8	9.8	9.9	9.8	9.8	10.3	10.6
30000	9.5	9.4	9.7	9.7	9.7	9.7	9.7	9.9	9.9	9.9	9.8	9.8	10.3	10.6
40000	9.5	9.4	9.7	9.7	9.7	9.7	9.7	9.9	9.9	9.9	9.8	9.8	10.3	10.6
50000	9.5	9.5	9.7	9.7	9.7	9.7	9.7	9.9	9.9	9.9	9.8	9.8	10.3	10.6
60000	9.5	9.5	9.7	9.7	9.7	9.7	9.7	9.9	9.9	9.9	9.8	9.8	10.3	10.6
70000	9.5	9.5	9.7	9.7	9.7	9.7	9.7	9.9	9.9	9.9	9.8	9.8	10.3	10.6
80000	9.6	9.5	9.7	9.7	9.7	9.7	9.8	9.9	9.9	9.9	9.8	9.8	10.4	10.7
90000	9.5	9.5	9.7	9.7	9.7	9.8	9.8	9.9	9.9	9.9	9.8	9.8	10.4	10.7
100000	9.5	9.6	9.7	9.7	9.7	9.7	9.8	9.9	9.9	9.9	9.8	9.9	10.4	10.7
110000	9.5	9.6	9.7	9.7	9.7	9.7	9.8	9.9	9.9	9.9	9.8	9.9	10.4	10.7
120000	9.5	9.6	9.7	9.7	9.7	9.7	9.8	9.9	9.9	9.9	9.8	9.9	10.4	10.7
130000	9.4	9.6	9.6	9.6	9.7	9.7	9.8	9.9	9.9	9.8	9.8	9.9	10.5	10.7
140000	9.4	9.6	9.6	9.6	9.6	9.6	9.7	9.8	9.9	9.8	9.7	9.9	10.5	10.6
150000	9.4	9.6	9.5	9.6	9.6	9.6	9.7	9.8	9.9	9.8	9.7	9.9	10.5	10.6
160000	9.3	9.6	9.5	9.6	9.5	9.6	9.7	9.7	9.9	9.8	9.7	10.0	10.5	10.6
170000	9.3	9.5	9.5	9.6	9.5	9.6	9.7	9.7	9.9	9.8	9.7	10.0	10.5	10.6
180000	9.3	9.6	9.5	9.6	9.5	9.6	9.7	9.7	9.9	9.8	9.7	10.0	10.5	10.6
190000	9.3	9.6	9.5	9.6	9.6	9.6	9.7	9.7	9.9	9.8	9.7	10.1	10.5	10.6
200000	9.3	9.6	9.5	9.7	9.6	9.6	9.7	9.7	10.0	9.8	9.7	10.1	10.5	10.6
210000	9.4	9.6	9.5	9.7	9.6	9.6	9.7	9.7	10.0	9.8	9.7	10.1	10.5	10.7
220000	9.4	9.6	9.5	9.7	9.7	9.6	9.7	9.8	10.0	9.8	9.8	10.2	10.5	10.7
230000	9.4	9.6	9.6	9.7	9.7	9.6	9.8	9.8	10.0	9.8	9.7	10.2	10.6	10.7
Daily Max	9.6	9.6	9.7	9.7	9.8	9.8	9.8	9.9	10.0	10.0	9.8	10.2	10.6	10.7
Daily Min	9.3	9.4	9.5	9.6	9.5	9.6	9.7	9.7	9.8	9.8	9.7	9.7	10.2	10.6
Average	9.4	9.5	9.6	9.7	9.7	9.7	9.7	9.8	9.9	9.9	9.8	9.9	10.4	10.6









McClure Powerhouse Tailrace - June 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	06/01/09	06/02/09	06/03/09	06/04/09	06/05/09	06/06/09	06/07/09	06/08/09	06/09/09	06/10/09	06/11/09	06/12/09	06/13/09	06/14/09	06/15/09	06/16/09
0	0.3	0.3	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.2	10.8	10.9	10.3	10.1	10.1	9.9
10000	0.3	0.2	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.2	10.9	11.0	10.4	10.2	10.2	10.0
20000	0.2	0.2	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.2	11.0	11.0	10.5	10.3	10.2	10.0
30000	0.2	0.2	0.1	0.1	0.4	0.1	0.1	0.1	0.1	0.2	11.1	11.1	10.4	10.3	10.3	10.1
40000	0.2	0.2	0.1	0.1	0.4	0.1	0.1	0.1	0.1	0.2	11.1	11.1	10.5	10.3	10.4	10.2
50000	0.1	0.2	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.2	11.2	11.2	10.4	10.4	10.4	10.3
60000	0.1	0.2	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.3	11.2	11.3	10.6	10.4	10.5	10.3
70000	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.3	11.3	11.4	10.5	10.4	10.6	10.4
80000	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.3	11.3	11.4	10.5	10.5	10.7	10.4
90000	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	11.3	11.4	10.6	10.6	10.8	10.5
100000	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.3	11.2	11.4	10.7	10.5	10.8	10.6
110000	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.4	11.1	11.2	10.5	10.6	10.8	10.5
120000	0.2	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.4	11.0	11.1	10.4	10.5	10.6	10.4
130000	0.2	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.4	10.8	10.9	10.3	10.3	10.5	10.3
140000	0.2	0.4	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.4	10.8	10.6	10.3	10.2	10.4	10.1
150000	0.2	0.5	0.1	0.2	0.1	0.1	0.1	0.1	0.1	10.8	10.8	10.5	10.2	10.1	10.2	10.0
160000	0.2	0.5	0.1	0.2	0.1	0.1	0.1	0.1	0.1	10.8	10.8	10.3	10.1	9.9	10.1	9.8
170000	0.2	0.5	0.2	0.2	0.1	0.1	0.1	0.1	0.1	10.7	10.7	10.1	10.1	9.7	9.9	9.6
180000	0.2	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.1	10.7	10.7	10.0	10.0	9.6	9.7	9.5
190000	0.2	0.4	0.1	0.3	0.1	0.1	0.1	0.1	0.1	10.7	10.7	10.1	9.9	9.7	9.8	9.5
200000	0.3	0.3	0.1	0.3	0.1	0.1	0.1	0.1	0.1	10.8	10.6	10.2	10.0	9.7	9.8	9.5
210000	0.2	0.3	0.1	0.5	0.1	0.1	0.1	0.1	0.1	10.7	10.7	10.2	10.0	9.9	9.8	9.4
220000	0.3	0.2	0.1	0.4	0.1	0.1	0.1	0.1	0.1	10.8	10.7	10.3	9.9	9.8	9.9	9.4
230000	0.3	0.2	0.1	0.5	0.1	0.1	0.1	0.1	0.2	10.8	10.8	10.2	10.0	10.0	9.9	9.5
Daily Max	0.3	0.5	0.2	0.5	0.5	0.1	0.1	0.1	0.2	10.8	11.3	11.4	10.7	10.6	10.8	10.6
Daily Min	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	10.6	10.0	9.9	9.6	9.7	9.4
Average	0.2	0.3	0.1	0.2	0.2	0.1	0.1	0.1	0.1	4.2	10.9	10.8	10.3	10.2	10.3	10.0

License Minimum Dissolved Oxygen: 5.0 mg/l

Sonde found buried in sand. DO readings not representative.

McClure Powerhouse Tailrace - June 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	06/17/09	06/18/09	06/19/09	06/20/09	06/21/09	06/22/09	06/23/09	06/24/09	06/25/09	06/26/09	06/27/09	06/28/09	06/29/09	06/30/09
0	9.6								8.8	8.9	9.0	9.1	9.1	9.6
10000	9.6								8.9	9.0	9.1	9.2	9.1	9.6
20000	9.7								9.0	9.1	9.2	9.3	9.1	9.7
30000	9.9								9.1	9.1	9.3	9.2	9.2	9.7
40000	9.9								9.0	9.3	9.3	9.3	9.2	9.7
50000	9.9								9.0	9.3	9.4	9.3	9.2	9.8
60000	10.0								9.1	9.3	9.5	9.3	9.2	9.8
70000	10.1								9.2	9.4	9.6	9.4	9.3	9.8
80000	10.2								9.3	9.5	9.7	9.4	9.4	9.9
90000	10.2								9.4	9.6	9.8	9.4	9.5	10.0
100000	10.4								9.4	9.6	9.9	9.5	9.7	10.0
110000	10.4								9.5	9.8	9.9	9.7	9.7	10.1
120000	10.4								9.6	9.8	10.0	9.6	9.6	10.1
130000	10.2								9.5	9.7	9.9	9.3	9.8	10.1
140000	10.1								9.3	9.7	9.7	9.3	9.8	10.1
150000	9.9								9.2	9.5	9.5	9.3	9.8	10.1
160000	9.7								9.1	9.4	9.5	9.3	9.6	10.0
170000	9.4								9.0	9.1	9.4	9.3	9.6	10.0
180000	9.4							8.8	8.9	9.0	9.5	9.3	9.5	9.9
190000	9.3							8.9	8.8	9.0	9.4	9.2	9.5	9.9
200000	9.3							8.6	8.8	8.9	9.3	9.1	9.5	9.9
210000	9.3							8.7	8.7	8.9	9.3	9.0	9.6	9.9
220000	9.3							8.6	8.8	8.9	9.1	9.0	9.5	9.9
230000								8.7	8.9	8.9	9.2	9.0	9.5	9.9
Daily Max	10.4	0.0	0.0	0.0	0.0	0.0	0.0	8.9	9.6	9.8	10.0	9.7	9.8	10.1
Daily Min	9.3	0.0	0.0	0.0	0.0	0.0	0.0	8.6	8.7	8.9	9.0	9.0	9.1	9.6
Average	9.8							8.7	9.1	9.3	9.5	9.3	9.5	9.9

No data - Equipment Power Failure

McClure Powerhouse Tailrace - July 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	07/01/09	07/02/09	07/03/09	07/04/09	07/05/09	07/06/09	07/07/09	07/08/09	07/09/09	07/10/09	07/11/09	07/12/09	07/13/09	07/14/09	07/15/09	07/16/09
0	9.9	10.0	9.9	9.8	9.5	9.4	9.8	10.0	9.8	9.1	8.9	9.1	9.0	9.2	8.9	8.8
10000	10.0	10.0	9.9	10.0	9.6	9.5	9.9	10.2	9.8	9.2	8.9	9.2	9.2	9.4	9.0	8.8
20000	10.0	10.0	9.9	10.0	9.7	9.5	9.9	10.1	9.8	9.2	9.0	9.4	9.4	9.2	9.0	8.8
30000	10.0	10.1	10.0	10.0	9.8	9.4	9.8	10.4	9.9	9.2	9.1	9.4	9.4	9.4	9.0	8.8
40000	10.0	10.0	10.0	10.1	9.8	9.5	10.0	10.3	10.0	9.3	9.0	9.5	9.4	9.4	9.0	8.9
50000	10.1	10.1	10.0	10.1	10.0	9.8	10.0	10.4	10.1	9.2	9.1	9.5	9.6	9.5	9.1	9.0
60000	10.1	10.1	10.0	10.1	9.9	9.9	10.1	10.5	10.0	9.1	9.2	9.4	9.4	9.6	9.2	9.0
70000	10.1	10.0	10.0	10.2	9.9	10.0	10.1	10.5	10.1	9.3	9.2	9.5	9.5	9.6	9.1	9.0
80000	10.2	10.1	10.1	10.3	10.0	10.0	10.2	10.6	10.2	9.3	9.4	9.7	9.6	9.7	9.3	9.1
90000	10.3	10.1	10.2	10.3	10.0	10.0	10.3	10.7	10.2	9.4	9.5	9.9	9.9	9.9	9.4	9.2
100000	10.3	10.2	10.3	10.3	10.1	10.2	10.3	11.0	10.3	9.5	9.6	10.0	9.9	10.1	9.5	9.3
110000	10.5	10.3	10.4	10.5	10.4	10.4	10.6	10.9	10.5	9.6	9.8	10.1	10.2	10.2	9.6	9.4
120000	10.6	10.3	10.6	10.4	10.3	10.5	10.6	10.9	10.4	9.8	9.8	10.1	10.2	10.1	9.6	9.4
130000	10.5	10.4	10.5	10.3	10.2	10.2	10.4	10.8	10.3	9.7	9.8	10.1	10.1	10.1	9.4	9.5
140000	10.4	10.3	10.4	10.2	10.2	10.3	10.6	10.7	10.1	9.6	9.8	10.1	10.0	10.0	9.3	9.5
150000	10.3	10.3	10.1	10.0	9.9	10.4	10.7	10.5	10.0	9.6	9.8	9.9	9.9	9.9	9.0	9.3
160000	10.3	10.3	10.0	9.9	9.8	10.3	10.6	10.0	9.9	9.5	9.5	9.6	9.6	9.6	9.0	9.3
170000	10.3	10.2	9.8	9.7	9.5	10.2	10.4	10.0	9.6	9.3	9.3	9.5	9.4	9.5	9.0	9.2
180000	10.3	10.2	9.6	9.5	9.3	10.1	10.2	9.8	9.3	9.2	9.2	9.3	9.2	9.3	8.8	9.1
190000	10.2	10.1	9.6	9.4	9.3	10.1	10.1	9.7	9.3	8.8	9.0	9.2	9.0	9.2	8.6	9.1
200000	10.1	10.0	9.5	9.4	9.2	10.1	10.0	9.6	9.2	5.6	9.0	9.1	9.0	8.9	8.6	9.0
210000	10.0	9.9	9.5	9.4	9.3	9.9	9.9	9.6	9.2	8.8	9.0	9.0	9.0	8.9	8.7	9.0
220000	10.0	9.9	9.7	9.4	9.3	9.8	9.8	9.6	9.1	8.8	9.2	9.1	9.0	8.9	8.7	9.0
230000	10.0	9.9	9.7	9.3	9.3	9.8	9.8	9.6	9.1	8.9	9.1	9.0	9.0	8.8	8.6	9.0
Daily Max	10.6	10.4	10.6	10.5	10.4	10.5	10.7	11.0	10.5	9.8	9.8	10.1	10.2	10.2	9.6	9.5
Daily Min	9.9	9.9	9.5	9.3	9.2	9.4	9.8	9.6	9.1	5.6	8.9	9.0	9.0	8.8	8.6	8.8
Average	10.2	10.1	10.0	9.9	9.8	10.0	10.2	10.3	9.8	9.1	9.3	9.5	9.5	9.5	9.1	9.1

License Minimum Dissolved Oxygen: 5.0 mg/l

DO reading on 7/10 at 20:00 likely an anomolie due to an equipment error.

McClure Powerhouse Tailrace - July 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	07/17/09	07/18/09	07/19/09	07/20/09	07/21/09	07/22/09	07/23/09	07/24/09	07/25/09	07/26/09	07/27/09	07/28/09	07/29/09	07/30/09	07/31/09
0	9.0	9.0	9.2	8.9	8.5	8.3	9.1	8.9	9.2	9.2	9.2	8.7	8.8	8.8	9.0
10000	9.0	9.0	9.3	9.0	8.6	8.4	9.1	9.0	9.2	9.2	9.2	8.8	8.9	8.9	9.1
20000	9.1	9.0	9.3	9.1	8.6	8.5	9.1	9.1	9.2	9.2	9.3	8.8	8.9	8.9	9.1
30000	9.2	9.0	9.4	9.2	8.7	8.5	9.2	9.1	9.3	9.2	9.3	8.9	9.0	9.1	9.2
40000	9.1	9.2	9.5	9.3	8.7	8.5	9.2	9.1	9.2	9.3	9.3	8.8	9.1	9.0	9.3
50000	9.2	9.2	9.3	9.3	8.7	8.6	9.3	9.1	9.4	9.2	9.4	8.9	9.1	9.1	9.3
60000	9.2	9.1	9.4	9.2	8.9	8.6	9.4	9.2	9.3	9.3	9.4	8.9	9.1	9.1	9.2
70000	9.2	9.2	9.5	9.4	9.0	8.6	9.5	9.3	9.3	9.4	9.4	8.9	9.2	9.2	9.2
80000	9.4	9.2	9.6	9.5	8.9	8.7	9.6	9.4	9.3	9.5	9.4	9.0	9.2	9.2	9.1
90000	9.5	9.3	9.6	9.6	9.1	8.8	9.6	9.5	9.5	9.6	9.5	9.2	9.3	9.4	9.2
100000	9.5	9.5	9.7	9.7	9.2	9.0	9.8	9.5	9.6	9.5	9.5	9.0	9.2	9.5	9.3
110000	9.7	9.7	9.7	9.8	9.3	9.0	10.0	9.5	9.5	9.5	9.7	9.1	9.3	9.4	9.4
120000	9.8	9.8	9.9	9.8	9.4	9.1	9.9	9.7	9.6	9.5	9.7	9.2	9.3	9.4	9.5
130000	9.9	10.0	9.8	9.7	9.4	9.4	9.9	9.8	9.6	9.5	9.6	9.2	9.2	9.3	9.6
140000	9.9	9.9	9.8	9.7	9.2	9.3	9.9	9.5	9.6	9.7	9.6	9.1	9.0	9.2	9.5
150000	9.7	9.8	9.6	9.5	9.3	9.2	9.7	9.4	9.5	9.8	9.3	8.9	9.1	9.2	9.5
160000	9.6	9.8	9.4	9.3	9.0	9.2	9.6	9.4	9.5	9.6	9.1	8.7	9.0	9.2	9.3
170000	9.4	9.7	9.1	8.7	8.8	9.0	9.3	9.5	9.5	9.5	9.0	8.4	9.1	9.2	9.2
180000	9.2	9.6	9.0	8.8	8.8	8.9	9.2	9.4	9.4	9.5	9.0	8.5	9.0	9.1	9.1
190000	9.1	9.3	9.0	8.5	8.5	8.7	9.0	9.4	9.3	9.2	8.9	8.4	8.8	8.9	9.0
200000	9.1	9.3	8.8	8.4	8.3	9.2	8.9	9.4	9.2	9.2	8.9	8.6	8.7	8.9	8.9
210000	8.9	9.3	8.8	8.3	8.2	9.1	8.8	9.3	9.2	9.1	8.9	8.6	8.7	9.0	8.8
220000	9.0	9.2	8.8	8.5	8.2	9.0	8.9	9.2	9.1	9.1	8.7	8.6	8.6	8.9	8.7
230000	8.9	9.2	8.8	8.5	8.3	9.1	8.9	9.1	9.1	9.2	8.8	8.8	8.7	9.0	8.7
Daily Max	9.9	10.0	9.9	9.8	9.4	9.4	10.0	9.8	9.6	9.8	9.7	9.2	9.3	9.5	9.6
Daily Min	8.9	9.0	8.8	8.3	8.2	8.3	8.8	8.9	9.1	9.1	8.7	8.4	8.6	8.8	8.7
Average	9.3	9.4	9.4	9.2	8.8	8.9	9.4	9.3	9.4	9.4	9.2	8.8	9.0	9.1	9.2

McClure Powerhouse Tailrace - August 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	8/1/2009	8/2/2009	8/3/2009	8/4/2009	8/5/2009	8/6/2009	8/7/2009	8/8/2009	8/9/2009	8/10/2009	8/11/2009	8/12/2009	8/13/2009	8/14/2009	8/15/2009	8/16/2009
0	8.8	8.8	8.6	8.5	9.0	9.5	9.5	9.3	8.9	8.9	9.2	9.1	9.0	8.7	8.8	8.4
10000	8.7	8.8	8.7	8.5	9.1	9.6	9.6	9.4	9.0	8.9	9.2	9.2	9.0	8.7	8.8	8.4
20000	8.8	8.8	8.7	8.6	9.1	9.7	9.7	9.4	9.0	9.0	9.2	9.1	9.1	8.7	8.8	8.5
30000	8.9	8.9	8.8	8.7	9.2	9.7	9.8	9.4	8.8	9.0	9.2	9.3	9.1	8.8	8.8	8.5
40000	8.9	9.0	8.9	8.6	9.2	9.7	9.8	9.4	9.0	9.1	9.2	9.4	9.1	8.8	8.8	8.5
50000	9.0	9.1	8.9	8.7	9.2	9.8	9.9	9.3	9.3	9.0	9.2	9.4	9.1	8.8	8.8	8.5
60000	9.0	9.1	9.0	8.7	9.3	9.8	9.9	9.4	9.4	9.1	9.1	9.4	9.1	8.9	8.8	8.5
70000	9.0	9.1	9.0	8.8	9.3	9.9	9.9	9.4	9.4	9.1	9.2	9.4	9.1	8.9	8.8	8.5
80000	8.9	9.2	9.0	8.8	9.4	9.9	10.0	9.3	9.5	9.2	9.1	9.5	9.2	9.0	8.9	8.6
90000	8.9	9.2	9.2	8.9	9.4	10.0	10.1	9.4	9.4	9.2	9.2	9.5	9.2	9.0	8.9	8.7
100000	9.1	9.3	9.2	9.0	9.4	10.0	10.2	9.5	9.4	9.2	9.3	9.5	9.2	9.0	8.8	8.6
110000	9.2	9.5	9.3	9.2	9.4	10.1	10.2	9.5	9.3	9.3	9.4	9.5	7.8	9.0	8.8	8.7
120000	9.2	9.5	9.3	9.1	9.5	10.0	10.1	9.7	9.3	9.2	9.4	9.4	9.1	9.0	8.8	8.6
130000	9.1	9.6	9.2	9.1	9.4	9.9	10.1	9.7	9.3	9.2	9.3	9.3	9.0	9.0	8.7	8.5
140000	9.2	9.5	9.3	9.0	9.3	9.9	10.0	9.8	9.2	9.1	9.2	9.2	8.9	8.9	8.6	8.4
150000	9.1	9.3	9.2	8.9	9.1	9.8	9.9	9.6	9.1	9.0	9.1	9.0	8.7	8.9	8.5	8.3
160000	9.0	9.2	8.9	8.8	9.1	9.7	9.8	9.4	9.1	8.8	9.1	9.0	8.7	9.0	8.4	8.3
170000	8.9	8.8	8.9	8.8	9.0	9.5	9.6	9.3	9.0	8.8	8.9	8.9	8.6	9.0	8.3	8.4
180000	8.8	8.8	8.7	8.8	9.6	9.5	9.5	9.2	8.9	8.9	8.8	8.8	8.6	8.9	8.3	8.3
190000	8.8	8.8	8.7	8.8	9.5	9.3	9.5	9.0	8.8	9.0	8.8	8.7	8.5	8.8	8.3	8.2
200000	8.7	8.6	8.5	8.8	9.4	9.3	9.3	8.9	8.7	9.0	8.8	8.7	8.5	8.8	8.3	8.2
210000	8.7	8.6	8.5	8.8	9.4	9.3	9.3	8.9	8.8	9.2	8.8	8.7	8.5	8.7	8.2	8.1
220000	8.7	8.5	8.5	8.8	9.4	9.3	9.2	8.9	8.8	9.2	9.0	8.8	8.5	8.7	8.3	8.1
230000	8.7	8.6	8.4	8.9	9.5	9.4	9.2	9.0	8.8	9.2	9.1	8.9	8.6	8.8	8.3	8.2
Daily Max	9.2	9.6	9.3	9.2	9.6	10.1	10.2	9.8	9.5	9.3	9.4	9.5	9.2	9.0	8.9	8.7
Daily Min	8.7	8.5	8.4	8.5	9.0	9.3	9.2	8.9	8.7	8.8	8.8	8.7	7.8	8.7	8.2	8.1
Average	8.9	9.0	8.9	8.8	9.3	9.7	9.8	9.3	9.1	9.1	9.1	9.2	8.8	8.9	8.6	8.4

License Minimum Dissolved Oxygen: 5.0 mg/l

McClure Powerhouse Tailrace - August 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	8/17/2009	8/18/2009	8/19/2009	8/20/2009	8/21/2009	8/22/2009	8/23/2009	8/24/2009	8/25/2009	8/26/2009	8/27/2009	8/28/2009	8/29/2009	8/30/2009	8/31/2009
0	8.2	8.5	8.8	9.4	9.5	10.0	10.2	10.2	9.5	9.6	10.0	9.9	9.6	10.3	12.0
10000	8.3	8.5	8.9	9.4	9.5	10.0	10.3	10.2	9.5	9.7	10.1	9.9	9.3	10.4	12.1
20000	8.4	8.6	9.0	9.4	9.5	10.0	10.4	10.3	9.5	9.7	10.2	9.9	9.9	10.3	12.2
30000	8.4	8.6	9.0	9.5	9.5	10.0	10.4	10.3	9.6	9.8	10.3	9.9	9.8	10.6	12.3
40000	8.5	8.6	9.1	9.5	9.6	10.1	10.5	10.3	9.6	9.9	10.3	9.9	9.5	10.6	12.3
50000	8.5	8.7	9.1	9.5	9.6	10.0	10.5	10.3	9.6	9.9	10.4	9.9	9.6	10.7	12.4
60000	8.6	8.7	9.2	9.5	9.6	10.1	10.5	10.3	9.6	9.9	10.4	9.9	9.6	10.7	12.5
70000	8.6	8.8	9.2	9.5	9.6	10.1	10.5	10.3	9.6	10.0	10.4	9.9	9.4	10.7	12.6
80000	8.7	8.9	9.2	9.5	9.6	10.1	10.6	10.3	9.6	10.1	10.5	9.9	9.1	9.9	12.5
90000	8.8	8.9	9.3	9.6	9.7	10.1	10.6	10.2	9.7	10.2	10.5	10.0	9.1	8.6	12.1
100000	8.8	9.0	9.3	9.6	9.8	10.2	10.6	10.2	9.7	10.2	10.5	10.0	9.3	7.5	11.3
110000	8.9	9.0	9.3	9.6	9.7	10.3	10.6	10.2	9.5	10.2	10.5	10.1	9.8	4.1	10.6
120000	8.9	9.1	9.2	9.6	9.8	10.3	10.6	10.2	9.6	10.2	10.4	10.0	10.2	3.9	10.3
130000	8.8	9.1	9.1	9.7	9.9	10.3	10.5	9.9	9.6	10.2	10.3	10.0	10.3	5.3	10.0
140000	8.6	8.9	9.0	9.7	9.9	10.3	10.4	10.0	9.5	10.1	10.3	10.0	10.3	5.4	9.1
150000	8.6	8.9	9.0	9.6	10.0	10.3	10.2	9.9	9.8	10.0	10.0	9.9	10.4	4.7	8.9
160000	8.6	8.9	8.9	9.5	9.8	10.3	10.2	9.7	9.7	10.0	10.0	9.6	10.4	8.4	8.4
170000	8.5	8.9	8.9	9.5	9.8	10.2	10.1	9.7	9.7	9.9	10.0	9.3	10.4	9.9	9.1
180000	8.4	8.8	9.4	9.5	9.9	10.2	10.1	9.6	9.6	9.9	9.9	9.3	10.4	10.2	9.6
190000	8.4	8.7	9.4	9.5	10.0	10.1	10.0	9.5	9.5	9.8	9.8	9.3	10.4	10.3	9.9
200000	8.4	8.7	9.3	9.5	10.0	10.1	10.0	9.4	9.5	9.8	9.8	9.4	10.4	10.6	10.1
210000	8.3	8.7	9.3	9.5	10.0	10.1	10.0	9.4	9.5	9.8	9.8	9.4	10.4	11.1	10.4
220000	8.3	8.7	9.3	9.5	10.0	10.1	10.0	9.4	9.5	9.9	9.8	9.5	10.4	11.6	10.7
230000	8.4	8.8	9.3	9.5	10.0	10.1	10.1	9.4	9.6	10.0	9.8	9.7	10.3	11.9	10.9
Daily Max	8.9	9.1	9.4	9.7	10.0	10.3	10.6	10.3	9.8	10.2	10.5	10.1	10.4	11.9	12.6
Daily Min	8.2	8.5	8.8	9.4	9.5	10.0	10.0	9.4	9.5	9.6	9.8	9.3	9.1	3.9	8.4
Average	8.5	8.8	9.2	9.5	9.8	10.1	10.3	10.0	9.6	9.9	10.2	9.8	9.9	9.1	10.9

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

McClure Powerhouse Tailrace - September 2009 Dissolved Oxygen Monitoring Data

Time HHMMSS	9/1/2009	9/2/2009	9/3/2009	9/4/2009	9/5/2009	9/6/2009	9/7/2009	9/8/2009	9/9/2009	9/10/2009	9/11/2009	9/12/2009	9/13/2009	9/14/2009	9/15/2009	9/16/2009
0	11.1	10.8	10.2	10.0	9.9	9.7	9.6	9.5	9.5	9.4	9.3	9.3	9.2	9.3	9.1	9.6
10000	11.3	11.0	10.2	10.0	10.0	9.8	9.6	9.6	9.6	9.5	9.3	9.3	9.2	9.3	9.2	9.6
20000	11.3	11.1	10.3	10.1	9.9	9.8	9.7	9.7	9.6	9.6	9.4	9.3	9.3	9.4	9.3	9.6
30000	11.4	11.2	10.3	10.1	10.0	9.8	9.8	9.7	9.7	9.6	9.4	9.4	9.3	9.4	9.3	9.7
40000	11.5	11.2	10.4	10.1	10.1	9.9	9.9	9.8	9.8	9.6	9.5	9.4	9.3	9.5	9.4	9.7
50000	11.5	11.2	10.4	10.2	10.1	9.9	9.9	9.8	9.8	9.7	9.5	9.5	9.4	9.5	9.4	9.7
60000	11.5	11.2	10.4	10.2	10.2	10.0	9.9	9.8	9.9	9.7	9.5	9.5	9.4	9.5	9.5	9.7
70000	11.4	11.2	10.5	10.3	10.2	10.0	9.9	9.9	9.9	9.7	9.5	9.5	9.4	9.5	9.5	9.7
80000	11.4	11.3	10.5	10.3	10.2	10.0	9.9	9.9	9.9	9.7	9.5	9.5	9.5	9.5	9.5	9.8
90000	11.1	11.0	10.5	10.3	10.2	10.0	9.9	9.9	10.0	9.8	9.6	9.6	9.5	9.6	9.6	9.8
100000	10.7	10.7	10.5	10.4	10.2	10.1	9.9	10.0	10.0	9.8	9.6	9.6	9.6	9.6	9.6	9.9
110000	10.1	10.1	10.5	10.4	10.3	10.1	10.0	10.0	10.1	9.9	9.7	9.6	9.6	9.7	9.7	10.0
120000	9.9	9.8	10.5	10.5	10.3	10.1	9.9	10.1	10.1	9.9	9.8	9.7	9.7	9.7	9.8	10.1
130000	9.6	9.3	10.5	10.4	10.3	10.1	10.1	10.1	10.1	9.9	9.8	9.7	9.7	9.7	9.9	10.1
140000	8.8	8.8	10.4	10.4	10.3	10.1	10.0	10.0	10.1	9.9	9.9	9.7	9.8	9.7	9.9	10.0
150000	8.6	8.7	10.4	10.3	10.2	10.1	10.0	10.0	10.1	9.9	9.8	9.7	9.9	9.7	9.9	10.1
160000	8.0	7.9	10.3	10.1	10.1	10.0	9.8	9.9	10.0	9.8	9.7	9.6	9.8	9.6	9.8	10.1
170000	8.8	8.5	10.2	10.1	10.0	9.8	9.9	9.7	9.8	9.6	9.6	9.6	9.7	9.5	9.7	10.0
180000	9.3	8.6	10.1	10.1	9.9	9.8	9.8	9.7	9.7	9.6	9.5	9.5	9.7	9.5	9.9	10.0
190000	9.5	10.2	10.0	10.0	9.8	9.7	9.7	9.7	9.7	9.5	9.5	9.4	9.6	9.4	9.7	9.8
200000	9.9	10.1	10.0	9.8	9.8	9.6	9.7	9.6	9.6	9.4	9.3	9.3	9.4	9.3	9.7	9.7
210000	10.1	10.0	9.9	9.9	9.7	9.6	9.6	9.5	9.5	9.3	9.3	9.2	9.3	9.2	9.6	9.9
220000	10.3	10.1	9.9	9.8	9.7	9.5	9.5	9.5	9.4	9.3	9.3	9.1	9.3	9.1	9.5	9.9
230000	10.6	10.1	9.9	9.8	9.6	9.5	9.6	9.5	9.4	9.3	9.2	9.1	9.3	9.1	9.5	9.9
Daily Max	11.5	11.3	10.5	10.5	10.3	10.1	10.1	10.1	10.1	9.9	9.9	9.7	9.9	9.7	9.9	10.1
Daily Min	8.0	7.9	9.9	9.8	9.6	9.5	9.5	9.5	9.4	9.3	9.2	9.1	9.2	9.1	9.1	9.6
Average	10.3	10.2	10.3	10.2	10.0	9.9	9.8	9.8	9.8	9.6	9.5	9.5	9.5	9.5	9.6	9.8

License Minimum Dissolved Oxygen: 5.0 mg/l

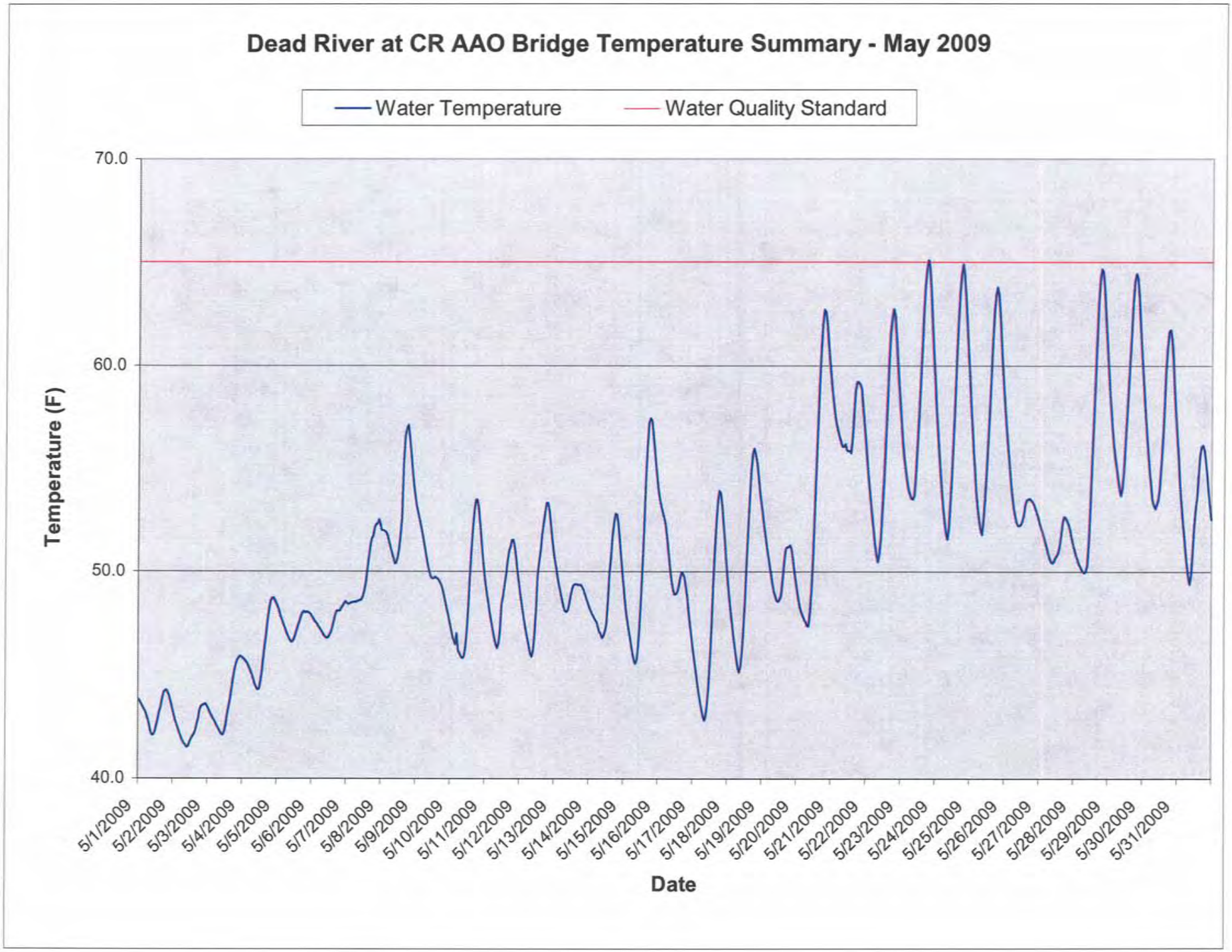
Monitor found out of water upon retreival. Data not representative of in-stream conditions.

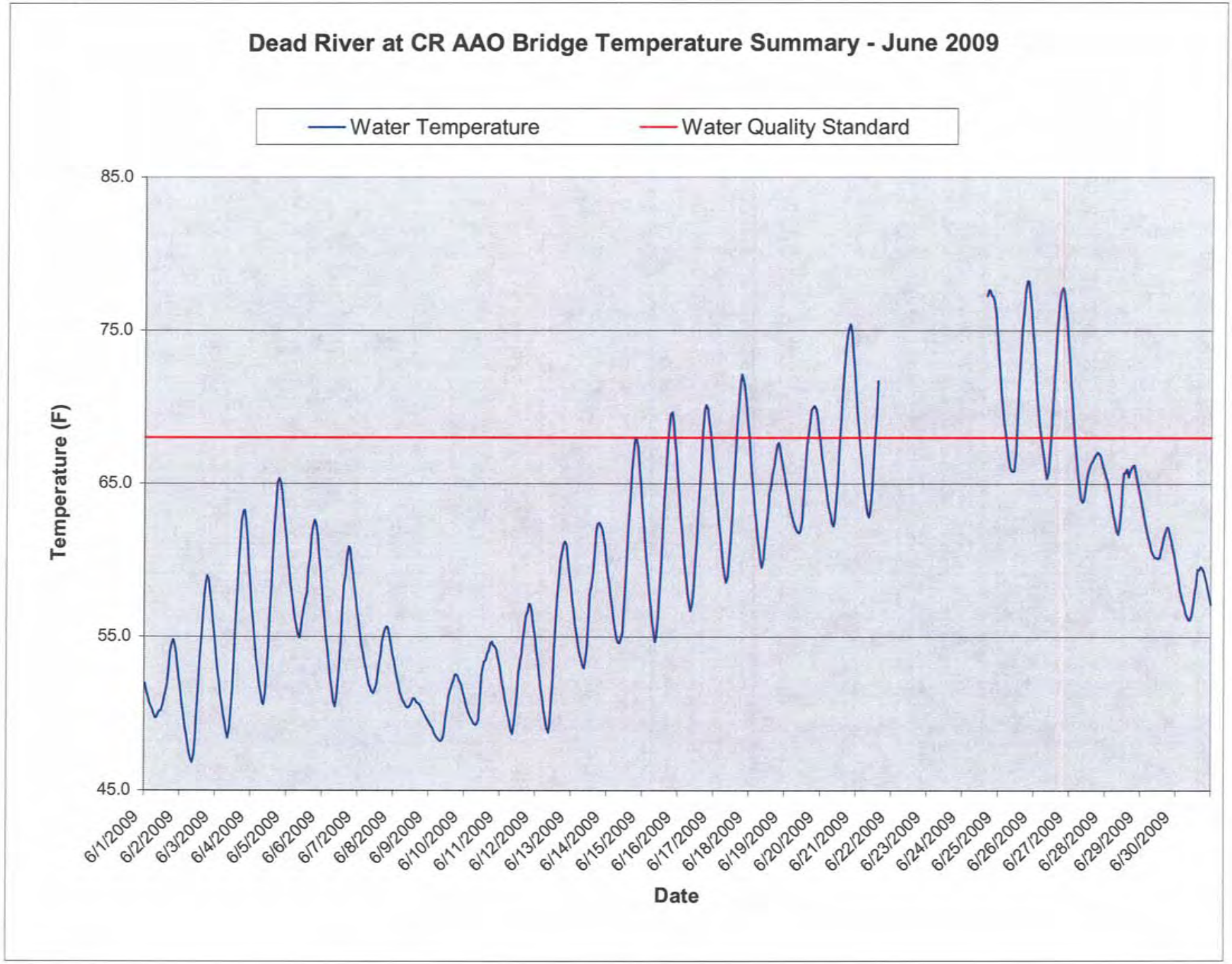
McClure Powerhouse Tailrace - September 2009 Dissolved Oxygen Monitoring Data

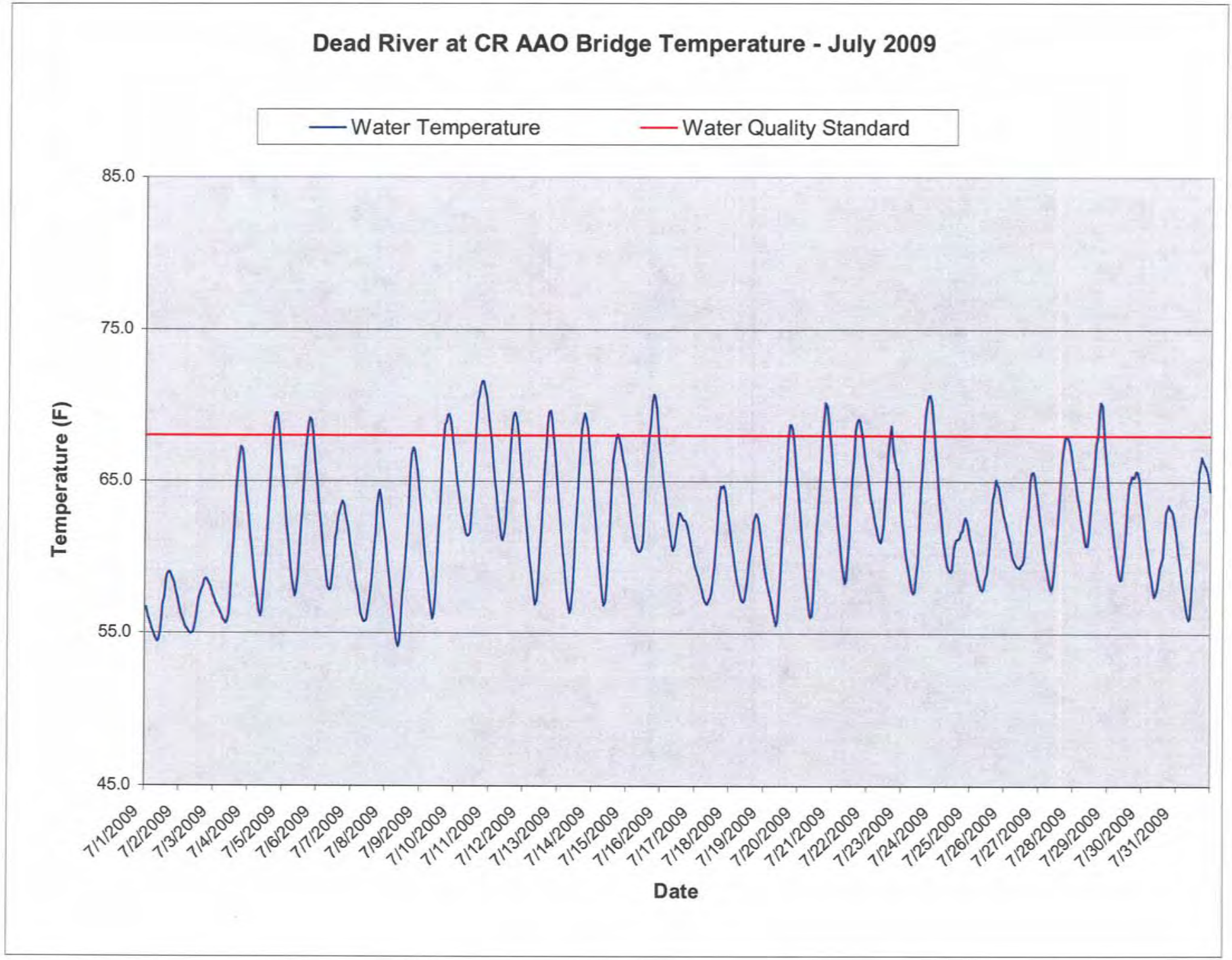
Time HHMMSS	9/17/2009	9/18/2009	9/19/2009	9/20/2009	9/21/2009	9/22/2009	9/23/2009	9/24/2009	9/25/2009	9/26/2009	9/27/2009	9/28/2009	9/29/2009	9/30/2009
0	10.0	9.8	10.4	10.2	10.1	10.3	10.1	10.4	10.5	10.4	10.4	10.3	11.4	11.9
10000	10.0	9.8	10.4	10.2	10.2	10.4	10.2	10.5	10.5	10.5	10.5	10.3	11.5	12.0
20000	10.1	9.9	10.5	10.3	10.2	10.5	10.2	10.5	10.6	10.5	10.5	10.4	11.5	12.0
30000	10.1	9.9	10.6	10.3	10.3	10.5	10.2	10.6	10.6	10.5	10.5	10.4	11.5	12.0
40000	10.2	9.9	10.7	10.3	10.4	10.5	10.3	10.6	10.7	10.5	10.6	10.4	11.6	12.0
50000	10.2	10.0	10.8	10.3	10.4	10.5	10.3	10.7	10.7	10.6	10.6	10.5	11.6	12.0
60000	10.2	10.0	10.9	10.4	10.4	10.6	10.3	10.8	10.8	10.6	10.7	10.5	11.6	12.0
70000	10.2	10.0	10.9	10.4	10.5	10.6	10.3	10.9	10.9	10.6	10.6	10.5	11.6	12.1
80000	10.3	10.1	11.0	10.4	10.5	10.5	10.3	10.9	10.9	10.6	10.7	10.5	11.7	12.1
90000	10.3	10.1	11.0	10.4	10.5	10.6	10.3	10.9	10.9	10.6	10.7	10.5	11.7	12.1
100000	10.3	10.1	11.0	10.5	10.5	10.6	10.4	11.0	11.0	10.6	10.7	10.6	11.7	12.1
110000	10.4	10.2	11.1	10.5	10.5	10.7	10.5	11.1	11.1	10.7	10.7	10.6	11.7	12.0
120000	10.4	10.4	11.1	10.6	10.6	10.8	10.5	11.1	11.1	10.8	10.8	10.8	11.8	12.2
130000	10.6	10.5	11.1	10.6	10.7	10.9	10.5	11.1	11.1	10.9	10.9	10.9	11.7	12.3
140000	10.5	10.5	11.0	10.6	10.8	10.9	10.6	11.1	11.0	11.1	11.0	11.0	11.8	12.3
150000	10.4	10.6	11.0	10.6	10.8	10.8	10.6	11.1	11.1	11.0	10.9	11.1	11.8	12.2
160000	10.4	10.6	10.8	10.5	10.7	10.7	10.5	11.0	11.1	11.0	10.9	11.0	11.8	12.2
170000	10.4	10.4	10.7	10.4	10.6	10.7	10.5	11.0	10.9	10.9	10.7	10.9	11.8	12.1
180000	10.1	10.4	10.6	10.3	10.5	10.6	10.5	10.9	10.8	10.8	10.6	10.8	11.8	12.1
190000	10.0	10.3	10.5	10.3	10.4	10.5	10.5	10.9	10.8	10.6	10.5	10.9	11.9	12.1
200000	10.0	10.2	10.4	10.1	10.3	10.3	10.4	10.6	10.6	10.6	10.4	10.9	11.9	12.0
210000	9.9	10.2	10.3	10.0	10.3	10.2	10.3	10.6	10.5	10.5	10.2	11.1	11.8	12.0
220000	9.8	10.2	10.2	10.0	10.2	10.1	10.3	10.4	10.4	10.4	10.2	11.2	11.9	12.0
230000	9.8	10.3	10.2	10.0	10.3	10.1	10.3	10.5	10.5	10.4	10.2	11.3	11.9	12.1
Daily Max	10.6	10.6	11.1	10.6	10.8	10.9	10.6	11.1	11.1	11.1	11.0	11.3	11.9	12.3
Daily Min	9.8	9.8	10.2	10.0	10.1	10.1	10.1	10.4	10.4	10.4	10.2	10.3	11.4	11.9
Average	10.2	10.2	10.7	10.3	10.5	10.5	10.4	10.8	10.8	10.7	10.6	10.7	11.7	12.1

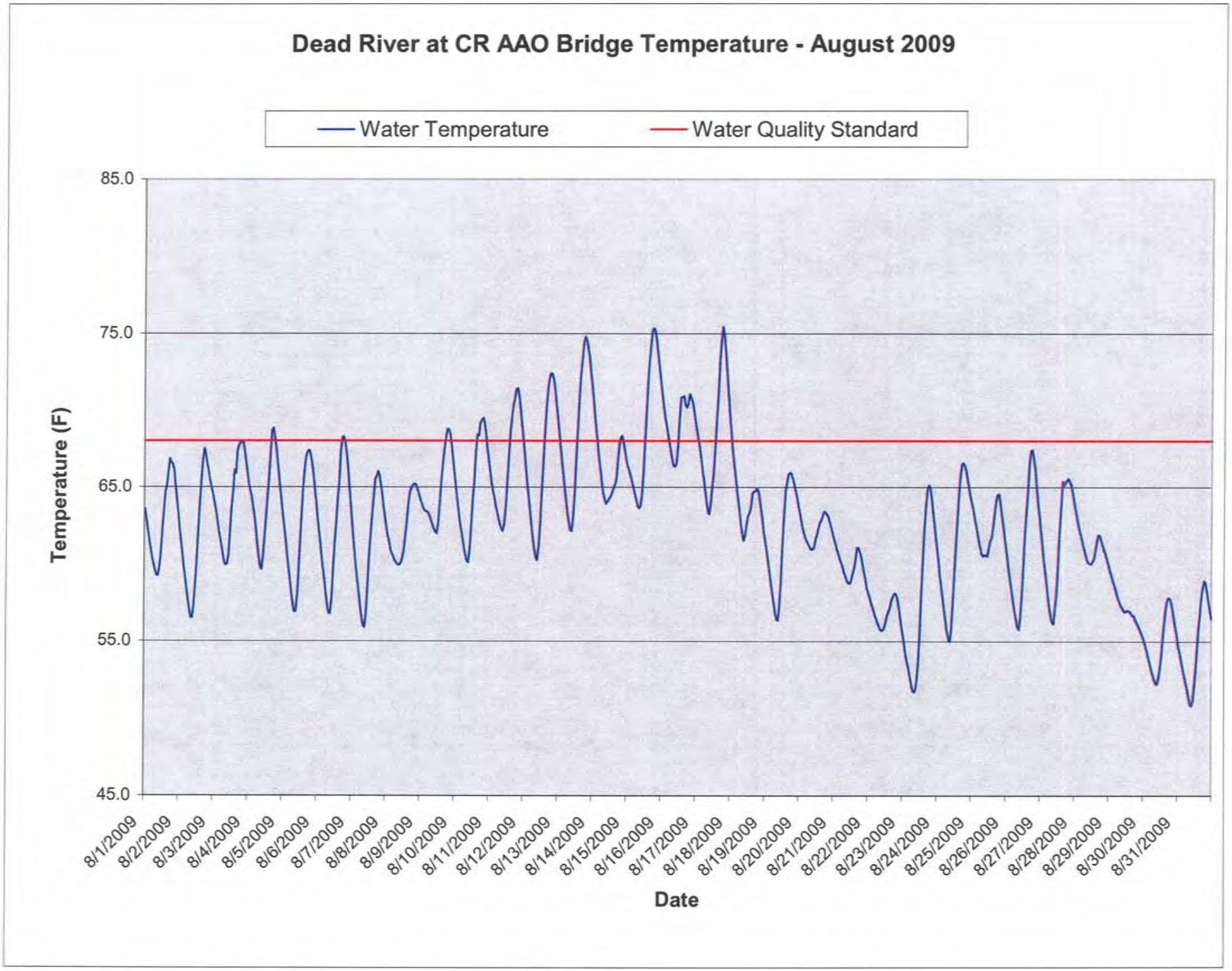
Appendix B

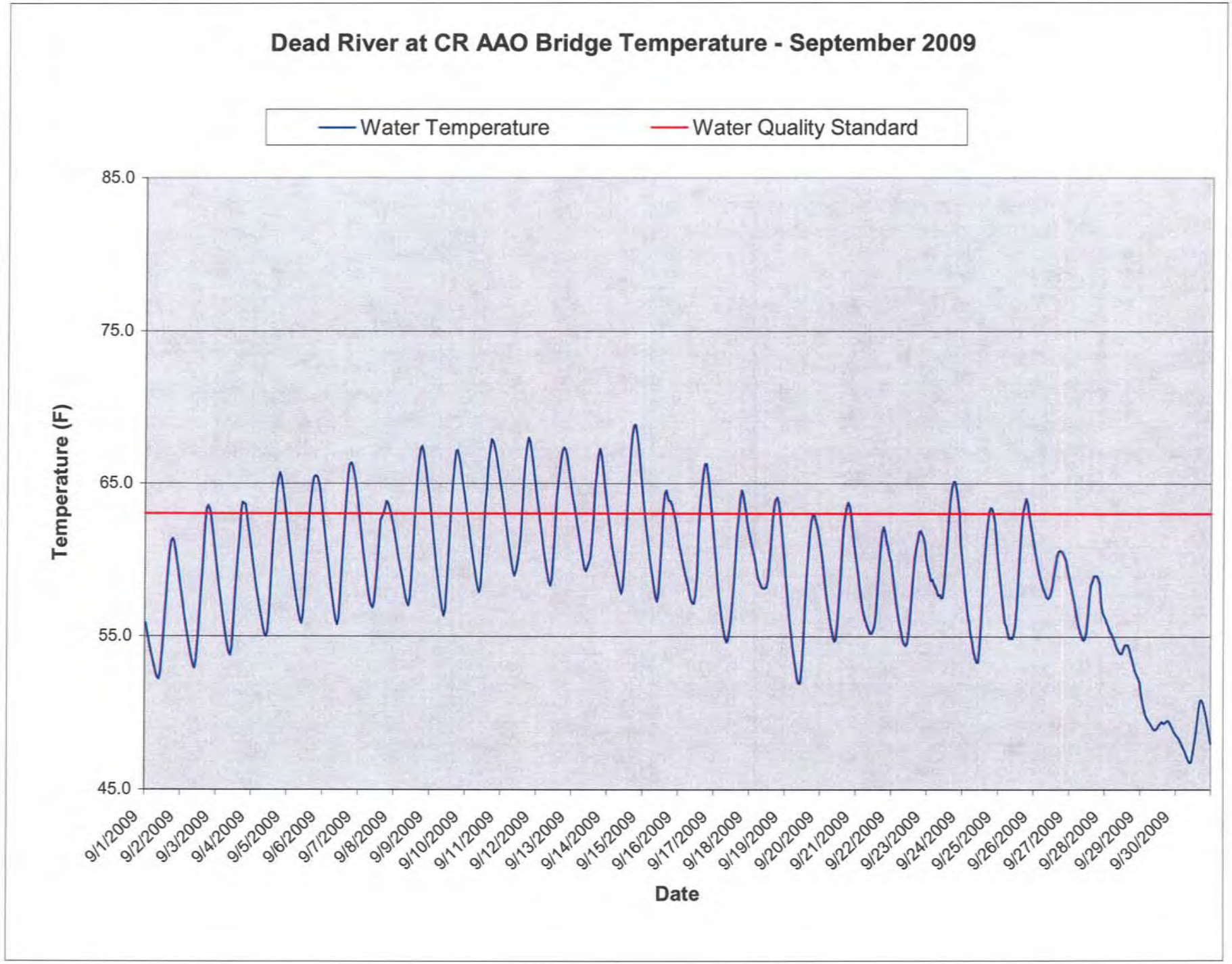
Temperature Monitoring Data

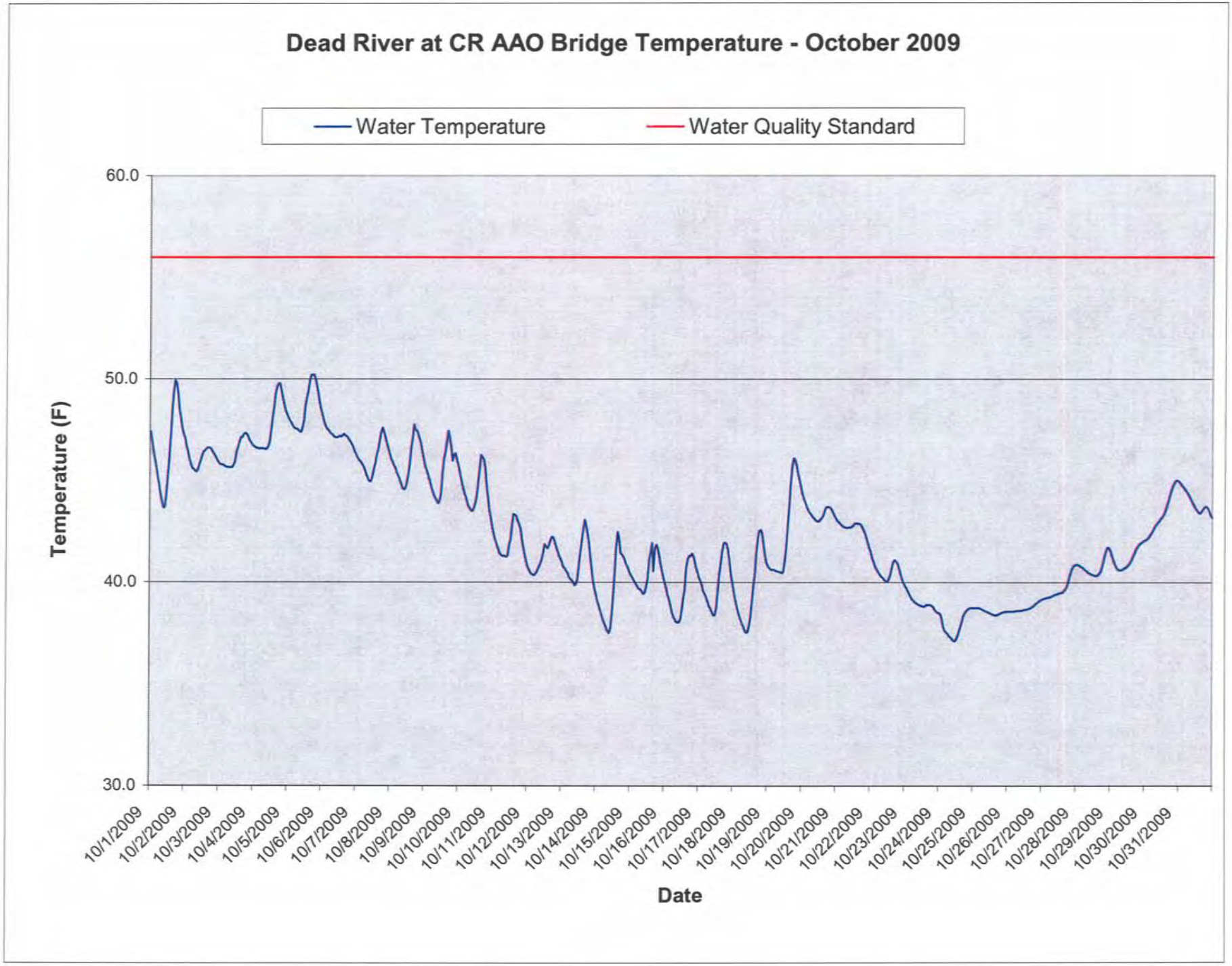












Dead River at County Road AAO Bridge - May 2009 Temperature Monitoring Data

Time HHMMSS	5/1/09	5/2/09	5/3/09	5/4/09	5/5/09	5/6/09	5/7/09	5/8/09	5/9/09	5/10/09	5/11/09	5/12/09	5/13/09	5/14/09	5/15/09	5/16/09
0	43.8	43.1	43.4	45.8	48.3	47.8	48.5	52.0	53.2	47.3	49.3	48.9	50.5	48.3	49.1	53.9
10000	43.6	42.8	43.2	45.7	48.1	47.7	48.4	52.0	52.9	46.9	48.8	48.4	50.1	48.1	48.5	53.4
20000	43.5	42.6	43.1	45.6	47.8	47.6	48.5	51.9	52.6	46.7	48.4	47.9	49.7	47.9	47.9	53.1
30000	43.4	42.4	42.9	45.5	47.7	47.5	48.5	51.9	52.2	46.5	48.0	47.5	49.3	47.8	47.4	52.8
40000	43.3	42.2	42.8	45.4	47.4	47.4	48.5	51.7	51.9	47.0	47.6	47.1	49.0	47.7	47.0	52.5
50000	43.1	42.0	42.7	45.2	47.2	47.3	48.5	51.5	51.5	46.2	47.2	46.7	48.6	47.6	46.5	52.2
60000	42.9	41.8	42.5	45.0	47.0	47.2	48.5	51.2	51.1	46.0	46.8	46.4	48.3	47.4	46.1	51.6
70000	42.6	41.7	42.4	44.8	46.9	47.0	48.5	50.9	50.7	45.9	46.5	46.0	48.1	47.1	45.8	50.9
80000	42.2	41.6	42.3	44.6	46.7	46.9	48.6	50.7	50.3	45.8	46.3	45.9	48.1	47.0	45.6	50.1
90000	42.1	41.5	42.1	44.4	46.6	46.8	48.6	50.4	50.0	45.9	46.5	46.2	48.1	46.8	45.7	49.6
100000	42.1	41.5	42.1	44.3	46.6	46.8	48.6	50.4	49.7	46.3	47.2	47.0	48.4	46.9	46.3	49.2
110000	42.3	41.7	42.3	44.3	46.7	46.8	48.8	50.7	49.7	47.1	48.5	48.2	48.8	47.1	47.3	48.9
120000	42.6	41.9	42.6	44.6	46.9	46.9	49.1	51.1	49.7	48.3	48.8	49.8	49.1	47.4	48.7	48.9
130000	42.9	42.0	43.1	45.1	47.1	47.1	49.4	51.8	49.7	49.7	49.3	50.4	49.3	48.6	50.4	49.0
140000	43.2	42.1	43.4	45.8	47.4	47.4	50.1	52.6	49.7	51.0	49.8	51.0	49.4	50.0	52.3	49.2
150000	43.4	42.3	43.8	46.5	47.6	47.6	50.6	55.3	49.6	52.1	50.5	51.8	49.4	50.7	54.3	49.6
160000	43.8	42.6	44.3	47.0	47.8	47.9	51.2	56.6	49.5	53.0	51.0	52.3	49.4	51.7	56.0	49.9
170000	44.2	42.9	44.8	47.6	48.0	48.1	51.6	56.9	49.4	53.5	51.2	52.8	49.4	52.3	57.2	49.9
180000	44.3	43.3	45.2	48.2	48.1	48.1	51.7	57.1	49.2	53.5	51.5	53.3	49.4	52.8	57.5	49.7
190000	44.3	43.5	45.5	48.6	48.0	48.1	52.1	56.6	48.9	53.1	51.5	53.3	49.2	52.8	57.3	49.3
200000	44.2	43.5	45.7	48.7	48.1	48.2	52.3	55.9	48.6	52.3	51.2	53.0	49.1	52.4	56.7	48.8
210000	43.9	43.6	45.8	48.7	48.0	48.3	52.3	55.0	48.2	51.4	50.6	52.4	48.9	51.6	56.0	48.1
220000	43.6	43.6	45.9	48.6	48.0	48.5	52.5	54.3	47.9	50.5	50.0	51.6	48.7	50.7	55.1	47.4
230000	43.4	43.5	45.9	48.5	47.9	48.5	52.3	53.7	47.6	49.9	49.5	51.0	48.5	49.9	54.4	46.8
Daily Max	44.3	43.6	45.9	48.7	48.3	48.5	52.5	57.1	53.2	53.5	51.5	53.3	50.5	52.8	57.5	53.9
Daily Min	42.1	41.5	42.1	44.3	46.6	46.8	48.4	50.4	47.6	45.8	46.3	45.9	48.1	46.8	45.6	46.8
Average	43.3	42.5	43.7	46.2	47.5	47.6	49.9	53.0	50.2	49.0	49.0	49.5	49.0	49.2	50.8	50.2

Monthly average temp (F): 51.3
License Maximum Monthly Average: 65°F

Dead River at County Road AAO Bridge - May 2009 Temperature Monitoring Data

Time HHMMSS	5/17/09	5/18/09	5/19/09	5/20/09	5/21/09	5/22/09	5/23/09	5/24/09	5/25/09	5/26/09	5/27/09	5/28/09	5/29/09	5/30/09	5/31/09
0	46.3	49.6	52.9	49.1	58.7	55.6	57.1	58.2	58.3	57.7	52.4	51.1	58.9	58.6	55.4
10000	45.8	48.8	52.2	48.6	58.0	54.8	56.2	57.0	57.1	56.8	52.1	50.8	57.9	57.6	54.3
20000	45.2	48.1	51.7	48.3	57.6	54.0	55.5	55.9	55.9	55.9	51.9	50.6	57.0	56.6	53.3
30000	44.7	47.5	51.2	48.1	57.1	53.3	54.9	54.9	54.8	55.1	51.7	50.4	56.2	55.7	52.5
40000	44.2	46.9	50.8	47.9	56.8	52.6	54.4	53.9	53.9	54.3	51.4	50.3	55.5	54.8	51.7
50000	43.8	46.4	50.3	47.7	56.5	51.9	54.0	53.2	53.1	53.6	51.2	50.1	55.0	54.1	51.0
60000	43.4	45.8	49.8	47.6	56.3	51.3	53.7	52.5	52.5	53.1	50.9	50.0	54.5	53.5	50.3
70000	43.0	45.4	49.4	47.4	56.1	50.8	53.5	51.9	52.1	52.7	50.6	49.9	54.1	53.2	49.8
80000	42.8	45.1	49.0	47.4	56.1	50.5	53.5	51.6	51.8	52.4	50.5	50.0	53.7	53.1	49.4
90000	43.1	45.4	48.8	48.0	56.2	50.9	53.7	52.1	52.4	52.2	50.4	50.3	54.0	53.3	49.9
100000	43.6	46.1	48.6	49.1	55.9	51.7	54.6	53.2	53.4	52.2	50.5	51.4	54.8	53.5	50.9
110000	44.6	47.3	48.6	50.8	55.9	52.9	56.0	54.6	54.7	52.3	50.7	53.3	56.0	54.1	52.2
120000	45.9	48.6	48.7	52.7	55.9	54.4	57.5	56.3	56.2	52.5	50.8	55.1	57.4	55.2	53.0
130000	47.4	50.3	48.9	54.9	55.8	56.2	59.1	58.2	57.8	52.7	50.9	57.1	58.8	56.4	53.6
140000	49.2	52.0	49.6	57.1	56.5	58.1	60.8	60.2	59.3	53.2	51.3	59.1	60.3	58.2	54.8
150000	50.9	53.5	50.5	59.1	57.8	59.9	62.5	62.0	61.3	53.5	51.8	61.2	61.6	59.8	55.7
160000	52.4	55.0	51.1	60.9	58.8	61.6	63.9	63.5	62.7	53.5	52.4	62.8	63.1	60.9	56.1
170000	53.4	55.8	51.2	62.0	59.2	62.2	64.7	64.4	63.4	53.5	52.7	64.1	64.0	61.6	56.1
180000	53.9	56.0	51.2	62.7	59.2	62.7	65.1	64.9	63.8	53.5	52.6	64.7	64.4	61.7	55.9
190000	53.8	55.7	51.3	62.6	59.1	62.4	64.7	64.4	63.4	53.4	52.5	64.5	64.2	61.2	55.4
200000	53.2	55.3	51.1	62.0	58.9	61.5	63.7	63.4	62.4	53.2	52.3	63.7	63.3	60.3	54.8
210000	52.3	54.6	50.6	61.1	58.2	60.3	62.1	62.1	61.0	53.1	52.0	62.6	62.2	58.8	53.9
220000	51.4	54.0	50.1	60.2	57.4	59.1	60.7	60.8	59.8	52.9	51.7	61.3	60.9	57.6	53.2
230000	50.5	53.4	49.6	59.4	56.5	58.1	59.4	59.6	58.8	52.6	51.4	60.1	59.7	56.5	52.5
Daily Max	53.9	56.0	52.9	62.7	59.2	62.7	65.1	64.9	63.8	57.7	52.7	64.7	64.4	61.7	56.1
Daily Min	42.8	45.1	48.6	47.4	55.8	50.5	53.5	51.6	51.8	52.2	50.4	49.9	53.7	53.1	49.4
Average	47.7	50.3	50.3	53.9	57.3	56.1	58.4	57.9	57.5	53.6	51.5	56.0	58.7	56.9	53.2

Dead River at County Road AAO Bridge - June 2009 Temperature Monitoring Data

Time HHMMSS	06/01/09	06/02/09	06/03/09	06/04/09	06/05/09	06/06/09	06/07/09	06/08/09	06/09/09	06/10/09	06/11/09	06/12/09	06/13/09	06/14/09	06/15/09	06/16/09
0	52.0	51.5	53.9	56.9	60.3	57.2	55.9	53.3	49.4	50.8	52.6	54.2	57.5	59.1	62.4	64.2
10000	51.5	50.6	52.9	55.7	59.3	56.0	55.1	52.8	49.2	50.4	52.0	53.4	56.6	58.4	61.2	62.9
20000	51.1	49.9	52.1	54.7	58.4	55.0	54.5	52.4	49.0	50.1	51.5	52.5	55.8	57.7	60.1	61.8
30000	50.7	49.2	51.2	53.7	57.5	54.0	53.9	51.9	48.8	49.9	50.9	51.7	55.1	56.9	59.0	60.6
40000	50.5	48.5	50.5	52.8	56.8	53.1	53.4	51.4	48.6	49.6	50.3	51.0	54.5	56.1	57.9	59.6
50000	50.3	47.9	49.9	52.0	56.2	52.3	52.9	51.1	48.4	49.5	49.9	50.2	54.0	55.4	56.9	58.7
60000	50.0	47.4	49.2	51.3	55.6	51.5	52.4	50.8	48.3	49.3	49.3	49.5	53.6	54.9	56.0	57.8
70000	49.7	47.0	48.7	50.8	55.1	50.8	51.9	50.7	48.2	49.2	48.9	49.0	53.2	54.6	55.2	57.1
80000	49.8	46.8	48.4	50.6	54.9	50.4	51.6	50.5	48.2	49.3	48.7	48.7	52.9	54.6	54.6	56.6
90000	50.0	47.3	49.0	51.3	55.4	51.0	51.4	50.4	48.4	49.6	49.3	49.3	53.4	54.8	55.1	57.1
100000	50.2	48.4	50.2	52.6	56.2	52.2	51.3	50.4	48.8	50.8	50.2	50.5	54.4	55.3	56.2	58.1
110000	50.2	50.1	51.6	54.3	56.9	53.3	51.5	50.5	49.7	52.5	51.4	52.1	55.9	56.7	57.8	59.6
120000	50.5	51.9	53.5	56.2	57.4	54.4	51.8	50.8	50.4	53.0	52.6	54.1	57.8	58.7	59.6	61.3
130000	51.0	53.5	55.4	58.2	57.8	56.8	52.5	51.0	51.1	53.3	53.4	56.0	58.3	60.6	61.7	63.2
140000	51.4	54.8	57.4	60.1	59.4	58.3	53.2	50.9	51.5	53.5	53.9	57.5	58.9	62.4	63.8	64.9
150000	51.9	56.0	59.3	62.0	60.2	59.0	53.8	50.7	51.8	53.9	54.8	58.8	60.4	64.1	65.6	66.6
160000	52.7	57.7	61.2	63.6	61.6	60.1	54.7	50.7	52.1	54.1	55.6	59.9	61.8	65.8	67.3	68.4
170000	54.0	58.5	62.6	65.0	62.2	60.8	55.2	50.6	52.4	54.5	56.3	60.4	62.3	67.1	68.7	69.8
180000	54.5	58.9	63.2	65.3	62.6	60.7	55.5	50.5	52.6	54.6	56.6	61.0	62.4	67.9	69.5	70.1
190000	54.8	58.6	63.2	65.1	62.4	60.0	55.6	50.2	52.4	54.4	57.1	61.2	62.3	67.9	69.7	69.9
200000	54.6	57.9	62.6	64.4	61.6	59.1	55.5	50.1	52.2	54.4	57.1	60.9	62.0	67.4	69.0	69.1
210000	53.9	57.0	61.3	63.4	60.4	58.3	55.0	49.8	52.0	54.2	56.5	60.0	61.6	66.2	68.0	68.3
220000	53.1	55.9	59.7	62.5	59.3	57.5	54.4	49.7	51.6	53.7	55.7	59.2	60.8	64.9	66.8	67.4
230000	52.3	54.8	58.2	61.4	58.3	56.6	53.9	49.5	51.3	53.2	55.0	58.4	60.0	63.6	65.5	66.4
Daily Max	54.8	58.9	63.2	65.3	62.6	60.8	55.9	53.3	52.6	54.6	57.1	61.2	62.4	67.9	69.7	70.1
Daily Min	49.7	46.8	48.4	50.6	54.9	50.4	51.3	49.5	48.2	49.2	48.7	48.7	52.9	54.6	54.6	56.6
Average	51.7	52.5	55.2	57.7	58.6	55.8	53.6	50.9	50.3	52.0	52.9	55.0	57.7	60.5	62.0	63.3

Monthly average temp (F): 59.9
License Maximum Monthly Average: 68°F

Dead River at County Road AAO Bridge - June 2009 Temperature Monitoring Data

Time HHMMSS	06/17/09	06/18/09	06/19/09	06/20/09	06/21/09	06/22/09	06/23/09	06/24/09	06/25/09	06/26/09	06/27/09	06/28/09	06/29/09	06/30/09
0	65.4	66.8	64.9	66.9	69.7				72.3	72.5	71.5	65.4	63.7	59.2
10000	64.3	65.7	64.3	66.1	68.5				71.0	71.0	70.1	65.0	63.1	58.6
20000	63.3	64.5	63.8	65.4	67.5				69.9	69.8	68.8	64.5	62.6	58.1
30000	62.3	63.4	63.3	64.7	66.4				69.0	68.8	67.6	64.0	62.1	57.6
40000	61.4	62.4	62.9	64.0	65.5				68.2	68.0	66.5	63.5	61.6	57.3
50000	60.5	61.4	62.5	63.4	64.6				67.5	67.3	65.5	62.9	61.2	56.9
60000	59.6	60.6	62.2	63.0	63.8				66.7	66.6	64.6	62.4	60.8	56.5
70000	58.9	59.9	62.0	62.5	63.1				66.1	65.8	64.0	62.0	60.5	56.2
80000	58.5	59.5	61.8	62.2	62.8				65.8	65.3	63.8	61.7	60.3	56.1
90000	58.9	60.0	61.7	62.6	63.3				65.8	65.8	64.0	62.1	60.1	56.1
100000	60.1	61.1	61.9	63.8	64.5				65.8	66.9	64.5	63.2	60.1	56.5
110000	61.2	62.3	62.6	65.4	66.3				67.1	68.6	65.4	64.9	60.1	57.1
120000	63.2	63.2	64.0	67.4	67.8				69.2	70.3	65.8	65.7	60.2	58.0
130000	65.1	64.4	65.9	69.2	69.5				71.5	72.3	66.2	65.7	60.6	58.4
140000	67.0	64.9	67.4	71.0	71.7				73.5	74.0	66.3	65.9	60.9	59.4
150000	68.8	65.6	68.1	72.6				77.2	75.1	75.5	66.5	65.4	61.5	59.4
160000	70.3	66.1	69.0	73.8				77.6	76.4	76.9	66.7	65.8	61.8	59.5
170000	71.5	66.8	69.8	74.6				77.6	77.6	77.5	66.9	66.0	62.2	59.5
180000	72.1	67.6	70.0	75.2				77.3	78.2	77.8	67.0	66.2	62.1	59.3
190000	71.7	67.7	70.1	75.4				77.2	78.2	77.5	67.0	66.2	61.7	58.9
200000	71.3	67.3	69.9	74.8				76.8	77.5	76.8	66.8	65.6	61.3	58.5
210000	70.3	66.6	69.4	73.6				76.1	76.4	75.7	66.4	65.1	60.8	58.1
220000	69.2	66.1	68.6	72.3				75.0	75.1	74.4	66.1	64.6	60.3	57.6
230000	68.1	65.5	67.8	70.9				73.7	73.9	73.0	65.7	64.2	59.7	57.1
Daily Max	72.1	67.7	70.1	75.4	71.7	0.0	0.0	77.6	78.2	77.8	71.5	66.2	63.7	59.5
Daily Min	58.5	59.5	61.7	62.2	62.8	0.0	0.0	73.7	65.8	65.3	63.8	61.7	59.7	56.1
Average	65.1	64.1	65.6	68.4	66.3			76.5	71.6	71.6	66.4	64.5	61.2	57.9

No Data - Equipment Power Failure

Dead River at County Road AAO Bridge - July 2009 Temperature Monitoring Data

Time HHMMSS	07/01/09	07/02/09	07/03/09	07/04/09	07/05/09	07/06/09	07/07/09	07/08/09	07/09/09	07/10/09	07/11/09	07/12/09	07/13/09	07/14/09	07/15/09	07/16/09
0	56.7	56.5	57.2	62.3	64.4	64.0	59.9	60.4	62.8	65.7	68.4	63.8	63.9	64.5	64.6	65.9
10000	56.3	56.2	57.0	61.3	63.3	63.1	59.3	59.4	61.8	64.9	67.4	62.7	62.7	63.3	63.9	65.1
20000	56.0	55.9	56.8	60.4	62.2	62.1	58.6	58.4	60.8	64.2	66.2	61.6	61.6	62.1	63.1	64.2
30000	55.7	55.6	56.6	59.5	61.2	61.1	58.1	57.5	59.8	63.5	65.3	60.6	60.5	61.0	62.4	63.5
40000	55.3	55.4	56.4	58.7	60.2	60.2	57.6	56.7	58.9	62.9	64.4	59.8	59.5	59.9	61.7	62.7
50000	55.1	55.2	56.1	57.9	59.3	59.4	57.0	55.9	58.1	62.4	63.5	58.9	58.6	59.0	61.2	62.0
60000	54.8	55.1	55.9	57.1	58.5	58.6	56.4	55.1	57.2	62.0	62.7	58.1	57.7	58.1	60.8	61.3
70000	54.6	55.0	55.7	56.5	57.8	58.0	56.0	54.5	56.5	61.6	61.9	57.4	56.9	57.3	60.5	60.8
80000	54.4	55.0	55.6	56.1	57.4	57.8	55.8	54.1	55.9	61.4	61.2	56.9	56.3	56.8	60.4	60.4
90000	54.5	55.0	55.8	56.5	57.7	57.9	55.8	54.4	56.2	61.4	61.1	57.2	56.6	57.0	60.4	60.7
100000	55.0	55.3	56.2	57.7	58.8	58.6	55.9	55.7	57.6	61.6	61.6	58.3	57.8	58.2	60.5	61.4
110000	55.9	55.9	57.4	59.2	60.2	59.8	56.5	57.4	59.6	62.8	62.5	59.9	59.5	60.1	61.1	62.1
120000	56.9	56.6	59.3	60.4	61.8	61.3	57.1	58.6	61.7	64.6	64.0	61.9	61.7	62.5	63.0	62.9
130000	57.4	57.2	61.0	62.4	63.5	61.6	58.0	59.8	63.6	66.5	65.5	63.6	63.7	64.8	65.4	62.9
140000	58.4	57.6	62.7	63.9	65.2	62.6	58.9	61.1	65.6	68.5	67.1	65.5	65.4	66.4	66.9	62.7
150000	58.8	57.9	64.6	65.9	66.7	63.1	60.2	63.2	67.4	70.4	68.4	67.2	67.0	67.2	68.0	62.4
160000	59.0	58.1	66.0	67.6	68.0	63.4	61.5	65.5	68.8	70.7	69.3	68.8	68.4	67.9	68.7	62.5
170000	58.9	58.4	66.7	68.7	68.8	63.7	63.3	66.7	68.9	71.3	69.5	69.5	69.1	68.1	70.3	62.3
180000	58.7	58.6	67.3	69.5	69.2	63.4	64.1	67.2	69.4	71.6	69.3	69.7	69.5	67.7	70.7	61.9
190000	58.4	58.4	67.1	69.5	69.0	62.9	64.4	67.1	69.4	71.6	68.7	69.1	69.1	67.4	70.6	61.5
200000	58.2	58.2	66.4	68.9	68.3	62.4	63.7	66.5	69.0	71.1	67.8	68.2	68.5	66.9	69.8	61.1
210000	57.8	58.0	65.3	67.8	67.1	61.9	62.9	65.6	68.4	70.6	66.6	67.2	67.6	66.4	68.7	60.5
220000	57.3	57.8	64.2	66.7	66.1	61.2	62.2	64.8	67.5	69.9	65.7	66.1	66.6	65.9	67.6	60.0
230000	56.9	57.5	63.2	65.6	65.0	60.5	61.3	63.8	66.6	69.1	64.8	65.0	65.6	65.3	66.7	59.6
Daily Max	59.0	58.6	67.3	69.5	69.2	64.0	64.4	67.2	69.4	71.6	69.5	69.7	69.5	68.1	70.7	65.9
Daily Min	54.4	55.0	55.6	56.1	57.4	57.8	55.8	54.1	55.9	61.4	61.1	56.9	56.3	56.8	60.4	59.6
Average	56.7	56.7	60.4	62.5	63.3	61.2	59.3	60.4	63.0	66.3	65.5	63.2	63.1	63.1	64.9	62.1

Monthly average temp (F): 62.1
License Maximum Monthly Average: 68°F

Dead River at County Road AAO Bridge - July 2009 Temperature Monitoring Data

Time HHMMSS	07/17/09	07/18/09	07/19/09	07/20/09	07/21/09	07/22/09	07/23/09	07/24/09	07/25/09	07/26/09	07/27/09	07/28/09	07/29/09	07/30/09	07/31/09
0	59.2	61.6	59.3	63.3	65.1	65.1	62.3	65.9	60.9	62.3	62.5	65.3	64.1	62.7	61.0
10000	58.9	60.9	58.6	62.3	64.1	64.5	61.5	64.8	60.5	61.9	61.7	64.7	63.2	61.9	60.2
20000	58.6	60.1	58.2	61.3	63.2	63.9	60.5	63.7	60.1	61.5	61.0	64.0	62.4	61.0	59.5
30000	58.3	59.5	57.8	60.2	62.2	63.4	59.9	62.7	59.5	61.0	60.3	63.5	61.6	60.3	58.8
40000	57.9	58.9	57.3	59.2	61.2	62.8	59.3	61.8	59.0	60.4	59.7	63.0	60.9	59.7	58.1
50000	57.5	58.4	56.8	58.3	60.3	62.3	58.9	60.9	58.6	60.0	59.1	62.4	60.2	59.0	57.5
60000	57.2	57.9	56.4	57.4	59.5	61.9	58.3	60.2	58.2	59.7	58.6	61.8	59.5	58.4	56.9
70000	56.9	57.5	55.9	56.6	58.7	61.4	57.9	59.7	57.9	59.5	58.1	61.2	58.9	57.9	56.3
80000	56.9	57.1	55.5	56.0	58.3	61.1	57.6	59.3	57.8	59.4	57.8	60.8	58.5	57.4	55.9
90000	57.1	57.0	55.8	56.2	58.5	61.0	57.7	59.1	58.0	59.3	58.2	60.8	58.6	57.6	56.0
100000	57.3	57.2	57.0	57.4	59.6	61.3	58.7	59.0	58.6	59.3	58.9	61.5	59.3	58.0	57.2
110000	57.8	57.7	59.0	59.3	61.4	62.0	59.7	59.2	58.9	59.5	60.5	62.7	60.4	58.6	59.2
120000	58.6	58.6	60.9	61.8	63.4	64.0	62.2	60.5	59.7	59.5	61.5	63.8	61.7	59.3	61.4
130000	59.3	59.7	62.2	62.8	65.1	65.3	64.5	61.0	60.7	59.9	62.9	65.2	63.5	59.7	62.7
140000	60.9	60.3	64.3	64.2	66.5	67.0	66.1	61.2	62.6	61.1	64.9	66.1	64.9	60.0	63.5
150000	62.2	61.2	65.8	66.1	68.3	67.7	68.0	61.2	63.8	62.2	66.3	67.5	65.0	61.3	65.6
160000	63.8	62.3	67.7	68.1	68.9	68.7	69.4	61.3	64.2	63.3	67.1	68.0	65.4	63.0	66.0
170000	64.7	62.6	68.7	69.2	69.1	67.6	70.2	61.6	65.1	65.0	67.9	69.5	65.2	63.2	66.6
180000	64.6	62.9	68.7	70.2	69.0	66.8	70.7	61.7	64.8	65.6	67.9	70.2	65.4	63.5	66.3
190000	64.7	62.6	68.4	70.0	68.5	66.2	70.7	62.3	64.7	65.6	67.9	70.0	65.7	63.2	66.1
200000	64.4	62.1	67.6	69.3	67.9	65.8	70.2	62.6	64.1	65.4	67.7	68.7	65.6	63.1	65.9
210000	63.8	61.4	66.5	68.3	67.2	65.8	69.2	62.4	63.6	64.7	67.2	67.4	65.1	62.9	65.6
220000	63.0	60.6	65.5	67.3	66.4	64.7	68.2	61.9	63.1	63.9	66.6	66.2	64.3	62.3	65.1
230000	62.2	59.9	64.3	66.1	65.8	63.4	67.1	61.3	62.7	63.2	66.0	65.1	63.6	61.6	64.4
Daily Max	64.7	62.9	68.7	70.2	69.1	68.7	70.7	65.9	65.1	65.6	67.9	70.2	65.7	63.5	66.6
Daily Min	56.9	57.0	55.5	56.0	58.3	61.0	57.6	59.0	57.8	59.3	57.8	60.8	58.5	57.4	55.9
Average	60.2	59.9	61.6	63.0	64.1	64.3	63.7	61.5	61.1	61.8	62.9	65.0	62.6	60.6	61.5

Dead River at County Road AAO Bridge - August 2009 Temperature Monitoring Data

Time HHMMSS	8/1/2009	8/2/2009	8/3/2009	8/4/2009	8/5/2009	8/6/2009	8/7/2009	8/8/2009	8/9/2009	8/10/2009	8/11/2009	8/12/2009	8/13/2009	8/14/2009	8/15/2009	8/16/2009
0	63.6	62.3	64.1	65.2	63.1	63.1	62.8	62.2	64.1	65.2	66.0	67.2	68.6	70.7	66.3	71.0
10000	62.8	61.5	63.6	64.8	62.3	62.2	61.7	61.8	63.8	64.3	65.3	66.2	67.6	69.6	66.1	70.3
20000	62.1	60.6	63.0	64.3	61.4	61.4	60.7	61.4	63.5	63.6	64.8	65.1	66.7	68.6	65.7	69.6
30000	61.5	59.8	62.3	63.7	60.5	60.5	59.7	60.9	63.4	62.8	64.3	64.3	65.8	67.7	65.3	69.0
40000	60.9	59.1	61.7	63.1	59.6	59.6	58.9	60.6	63.4	62.2	63.8	63.4	64.9	66.8	65.0	68.5
50000	60.4	58.4	61.2	62.2	58.8	58.9	58.1	60.4	63.3	61.6	63.3	62.5	64.1	66.1	64.6	67.9
60000	59.9	57.6	60.6	61.3	58.1	58.1	57.3	60.2	63.1	61.1	63.0	61.6	63.4	65.3	64.1	67.3
70000	59.6	57.0	60.1	60.5	57.3	57.3	56.5	60.0	62.8	60.6	62.6	60.9	62.7	64.6	63.8	66.8
80000	59.3	56.5	59.9	59.9	56.9	56.8	56.0	59.9	62.5	60.2	62.2	60.4	62.2	64.2	63.6	66.4
90000	59.2	56.5	60.0	59.6	56.9	56.8	55.9	59.9	62.3	60.1	62.1	60.2	62.1	63.9	63.7	66.3
100000	59.8	57.4	60.5	60.4	57.9	57.7	56.8	60.0	62.1	61.0	62.6	61.1	63.0	64.1	64.5	66.5
110000	60.7	58.7	62.1	61.6	59.5	59.4	58.4	60.3	62.0	62.4	63.8	62.6	64.7	64.2	66.0	67.7
120000	62.3	60.2	63.7	63.0	61.6	61.3	60.4	60.8	62.6	64.2	65.4	64.6	66.7	64.3	67.9	69.4
130000	63.4	62.1	64.7	64.4	63.6	62.6	61.9	61.7	64.0	65.5	67.1	66.6	68.8	64.6	69.9	70.8
140000	64.7	63.9	66.1	65.6	65.2	64.1	63.1	62.5	65.3	67.2	68.6	68.3	70.8	64.9	72.1	70.9
150000	65.1	65.6	65.9	67.3	66.3	65.4	64.3	63.7	66.5	68.4	69.5	70.0	72.3	65.1	73.3	70.9
160000	65.9	66.7	67.3	68.7	67.0	67.3	65.5	64.6	67.5	68.3	70.4	71.3	73.4	65.4	74.4	70.4
170000	66.8	67.5	67.7	68.8	67.3	68.2	65.7	64.9	68.1	69.2	70.7	72.0	74.4	66.5	75.2	70.2
180000	66.6	67.1	67.9	68.1	67.4	68.3	66.0	65.1	68.8	69.4	71.4	72.4	74.8	67.7	75.3	70.4
190000	66.5	66.5	67.9	67.6	67.1	67.9	65.8	65.2	68.8	69.5	71.4	72.4	74.5	68.2	75.0	71.1
200000	66.1	66.0	67.9	66.7	66.5	67.2	65.1	65.2	68.5	69.2	70.9	72.0	74.1	68.3	74.4	70.8
210000	65.1	65.4	67.3	65.7	65.8	66.3	64.4	65.0	67.8	68.4	70.1	71.4	73.5	67.9	73.5	70.5
220000	64.2	65.0	66.6	64.8	64.9	65.1	63.7	64.7	67.0	67.5	69.2	70.5	72.5	67.3	72.7	70.0
230000	63.3	64.6	65.9	63.8	64.0	63.9	62.9	64.3	66.0	66.8	68.2	69.6	71.7	66.8	71.9	69.4
Daily Max	66.8	67.5	67.9	68.8	67.4	68.3	66.0	65.2	68.8	69.5	71.4	72.4	74.8	70.7	75.3	71.1
Daily Min	59.2	56.5	59.9	59.6	56.9	56.8	55.9	59.9	62.0	60.1	62.1	60.2	62.1	63.9	63.6	66.3
Average	62.9	61.9	64.1	64.2	62.5	62.5	61.3	62.3	64.9	64.9	66.5	66.5	68.5	66.4	68.9	69.3

Monthly average temp (F): 62.9
License Maximum Monthly Average: 68°F

Dead River at County Road AAO Bridge - August 2009 Temperature Monitoring Data

Time HHMMSS	8/17/2009	8/18/2009	8/19/2009	8/20/2009	8/21/2009	8/22/2009	8/23/2009	8/24/2009	8/25/2009	8/26/2009	8/27/2009	8/28/2009	8/29/2009	8/30/2009	8/31/2009
0	68.8	68.6	61.4	63.3	61.6	58.1	55.5	61.0	64.0	61.0	62.3	63.6	59.6	55.0	54.7
10000	68.2	67.6	60.8	62.8	61.3	57.8	54.9	60.1	63.5	60.3	61.4	63.1	59.3	54.7	54.2
20000	67.7	66.6	60.2	62.3	61.0	57.5	54.2	59.2	63.0	59.6	60.5	62.6	59.0	54.4	53.7
30000	67.0	65.8	59.5	62.0	60.7	57.2	53.7	58.5	62.5	58.9	59.6	62.1	58.7	54.0	53.3
40000	66.3	65.0	58.9	61.7	60.4	56.9	53.3	57.7	62.0	58.2	58.8	61.8	58.4	53.6	52.8
50000	65.5	64.1	58.2	61.4	60.1	56.6	52.8	57.0	61.5	57.6	58.0	61.4	58.1	53.2	52.4
60000	64.8	63.4	57.5	61.3	59.8	56.4	52.3	56.3	61.1	57.0	57.3	61.0	57.8	52.9	52.0
70000	64.0	62.6	56.9	61.1	59.5	56.1	51.9	55.7	60.7	56.4	56.6	60.6	57.5	52.6	51.4
80000	63.4	61.9	56.4	60.9	59.2	55.9	51.7	55.2	60.5	56.0	56.2	60.3	57.3	52.3	51.0
90000	63.2	61.5	56.4	61.0	58.9	55.7	51.8	55.0	60.6	55.8	56.1	60.1	57.1	52.2	50.8
100000	64.0	61.9	57.2	61.1	58.8	55.7	52.4	55.7	60.6	56.5	57.1	60.0	56.9	52.6	51.2
110000	65.1	62.6	58.9	61.6	58.7	55.9	53.6	57.3	60.5	58.0	58.0	60.0	56.9	53.1	52.0
120000	65.9	63.1	61.1	61.9	58.9	56.2	55.5	59.4	61.1	60.0	59.9	60.2	57.0	53.9	53.0
130000	67.7	63.3	63.1	62.3	59.4	56.6	57.9	61.1	61.5	62.0	62.0	60.3	57.0	55.0	54.3
140000	69.6	63.8	64.7	62.7	59.7	56.9	60.2	62.9	61.7	63.3	63.5	60.9	56.9	56.1	55.8
150000	71.0	64.6	65.3	62.8	60.2	57.1	62.1	64.4	62.4	64.8	65.4	61.5	56.8	57.0	56.7
160000	73.3	64.7	65.8	63.2	61.1	57.6	63.7	65.8	63.3	66.5	65.1	61.9	56.7	57.6	57.8
170000	74.5	64.7	65.9	63.4	61.1	57.9	64.8	66.5	64.1	67.4	65.3	61.8	56.6	57.8	58.5
180000	75.4	64.9	65.9	63.3	60.8	58.0	65.1	66.6	64.5	67.4	65.4	61.5	56.4	57.8	58.9
190000	74.8	64.7	65.5	63.2	60.5	58.1	65.0	66.4	64.5	66.8	65.6	61.2	56.2	57.5	58.8
200000	73.8	64.3	65.2	63.1	60.0	57.9	64.2	66.0	63.9	66.1	65.3	60.9	56.0	57.0	58.3
210000	72.4	63.5	64.8	62.7	59.5	57.4	63.4	65.5	63.2	65.1	65.1	60.7	55.8	56.4	57.7
220000	71.0	62.8	64.3	62.4	59.0	56.8	62.6	64.9	62.5	64.0	64.6	60.3	55.5	55.9	57.1
230000	69.8	62.0	63.8	62.0	58.4	56.1	61.8	64.4	61.8	63.1	64.0	60.0	55.3	55.3	56.5
Daily Max	75.4	68.6	65.9	63.4	61.6	58.1	65.1	66.6	64.5	67.4	65.6	63.6	59.6	57.8	58.9
Daily Min	63.2	61.5	56.4	60.9	58.4	55.7	51.7	55.0	60.5	55.8	56.1	60.0	55.3	52.2	50.8
Average	68.6	64.1	61.6	62.2	59.9	56.9	57.7	60.9	62.3	61.3	61.4	61.2	57.2	54.9	54.7

Dead River at County Road AAO Bridge - September 2009 Temperature Monitoring Data

Time HHMMSS	9/1/2009	9/2/2009	9/3/2009	9/4/2009	9/5/2009	9/6/2009	9/7/2009	9/8/2009	9/9/2009	9/10/2009	9/11/2009	9/12/2009	9/13/2009	9/14/2009	9/15/2009	9/16/2009
0	55.9	57.8	59.4	60.0	61.6	62.2	62.7	61.5	63.3	63.5	64.5	64.0	64.1	62.8	63.5	60.9
10000	55.3	57.1	58.6	59.3	60.8	61.3	61.8	60.9	62.3	62.8	63.9	63.3	63.6	62.0	62.6	60.5
20000	54.8	56.4	57.8	58.5	60.0	60.5	60.9	60.3	61.3	62.1	63.2	62.5	62.9	61.3	61.7	60.0
30000	54.3	55.8	57.1	57.9	59.2	59.6	60.1	59.8	60.4	61.3	62.4	61.7	62.3	60.6	60.9	59.5
40000	53.8	55.2	56.4	57.3	58.5	58.8	59.4	59.3	59.6	60.6	61.7	61.0	61.7	60.1	60.2	59.1
50000	53.4	54.6	55.7	56.7	57.7	58.0	58.6	58.8	58.8	60.0	61.0	60.3	61.1	59.6	59.5	58.7
60000	53.0	54.0	55.0	56.2	57.1	57.3	57.9	58.2	58.0	59.3	60.3	59.7	60.5	59.1	58.8	58.3
70000	52.6	53.5	54.4	55.6	56.5	56.6	57.4	57.6	57.4	58.8	59.7	59.1	59.9	58.6	58.2	57.8
80000	52.3	53.1	53.9	55.2	56.0	56.0	57.0	57.2	56.7	58.2	59.2	58.6	59.4	58.1	57.6	57.4
90000	52.2	52.9	53.8	55.0	55.9	55.8	56.9	57.0	56.3	57.9	59.0	58.3	59.3	57.8	57.3	57.2
100000	52.7	53.4	54.3	55.3	56.4	56.3	57.3	57.4	56.7	58.3	59.3	58.7	59.5	58.2	57.8	57.1
110000	53.8	54.6	55.6	56.4	57.8	57.6	58.4	58.7	58.1	59.8	59.8	60.0	59.8	59.7	59.1	57.7
120000	55.1	56.1	57.3	58.3	59.7	59.5	59.6	60.5	59.9	61.6	60.6	61.8	60.2	61.6	61.0	58.9
130000	56.5	57.6	58.9	60.0	61.5	61.1	61.0	62.5	61.9	63.4	61.6	63.9	61.1	63.8	63.3	62.0
140000	57.8	59.1	60.4	61.7	62.9	62.7	62.6	64.1	63.7	64.6	63.4	65.0	62.6	65.6	64.3	63.6
150000	59.3	60.5	61.5	63.1	64.0	64.2	62.8	65.5	65.1	66.4	65.2	65.8	64.7	67.1	64.5	64.7
160000	60.5	62.4	63.2	64.6	64.8	65.6	63.1	66.6	66.3	67.2	66.6	66.7	65.7	68.2	64.0	65.6
170000	61.2	63.4	63.8	65.3	65.4	66.2	63.4	67.2	67.1	67.9	67.4	67.2	66.8	68.8	63.8	66.3
180000	61.4	63.5	63.7	65.7	65.5	66.3	63.8	67.4	67.2	67.7	68.0	67.4	67.3	68.8	63.8	66.3
190000	61.2	63.3	63.6	65.4	65.5	66.2	63.7	67.0	66.8	67.4	67.8	67.2	66.9	68.3	63.6	65.6
200000	60.6	62.7	62.9	64.8	65.2	65.7	63.4	66.4	66.3	67.0	67.1	66.7	66.3	67.5	63.1	64.9
210000	60.0	61.9	62.1	64.1	64.7	65.2	63.1	65.6	65.5	66.4	66.4	66.1	65.4	66.6	62.7	63.8
220000	59.3	61.1	61.4	63.3	64.0	64.5	62.6	64.9	64.8	65.8	65.6	65.3	64.5	65.5	62.2	62.8
230000	58.6	60.3	60.7	62.5	63.1	63.6	62.1	64.2	64.2	65.1	64.9	64.6	63.6	64.5	61.4	61.8
Daily Max	61.4	63.5	63.8	65.7	65.5	66.3	63.8	67.4	67.2	67.9	68.0	67.4	67.3	68.8	64.5	66.3
Daily Min	52.2	52.9	53.8	55.0	55.9	55.8	56.9	57.0	56.3	57.9	59.0	58.3	59.3	57.8	57.3	57.1
Average	56.5	57.9	58.8	60.1	61.0	61.3	60.8	62.0	62.0	63.0	63.3	63.1	62.9	63.1	61.5	61.3

Monthly average temp (F): 59.3
License Maximum Monthly Average: 63°F

Dead River at County Road AAO Bridge - September 2009 Temperature Monitoring Data

Time HHMMSS	9/17/2009	9/18/2009	9/19/2009	9/20/2009	9/21/2009	9/22/2009	9/23/2009	9/24/2009	9/25/2009	9/26/2009	9/27/2009	9/28/2009	9/29/2009	9/30/2009
0	60.7	61.4	58.9	60.5	59.7	59.3	59.5	59.1	59.3	60.7	58.5	56.1	51.2	48.5
10000	59.6	60.9	57.9	59.7	58.9	58.5	59.1	58.1	58.5	60.1	58.1	55.9	50.7	48.4
20000	58.5	60.5	56.7	58.9	58.1	57.7	58.6	57.2	57.6	59.6	57.6	55.6	50.3	48.2
30000	57.5	60.0	55.8	58.0	57.4	56.9	58.7	56.4	56.7	59.2	57.1	55.3	49.9	48.1
40000	56.8	59.5	54.9	57.3	56.8	56.3	58.4	55.9	55.9	58.8	56.6	55.2	49.7	47.9
50000	56.0	58.9	54.1	56.6	56.4	55.7	58.2	55.1	55.7	58.4	56.0	54.9	49.5	47.6
60000	55.4	58.6	53.4	56.0	56.0	55.3	58.0	54.7	55.2	58.1	55.6	54.7	49.3	47.4
70000	54.9	58.4	52.9	55.5	55.7	54.8	57.7	54.0	54.9	57.8	55.3	54.4	49.2	47.2
80000	54.6	58.2	52.2	55.0	55.5	54.6	57.7	53.6	54.9	57.6	55.0	54.2	49.0	46.9
90000	54.7	58.1	51.9	54.7	55.2	54.4	57.5	53.3	54.9	57.5	54.8	54.0	48.9	46.7
100000	55.3	58.2	52.0	54.8	55.2	54.5	57.5	53.3	55.1	57.6	54.9	53.9	48.9	46.8
110000	56.1	58.2	53.0	55.8	55.4	55.3	58.4	54.3	55.7	57.8	55.3	53.9	49.0	47.3
120000	57.3	58.7	54.6	57.3	55.7	56.4	59.8	55.9	56.9	58.3	56.2	54.2	49.2	47.9
130000	58.5	59.9	56.6	58.8	56.4	57.5	61.4	57.8	58.7	59.1	57.6	54.4	49.3	48.6
140000	60.2	61.1	58.6	60.7	58.0	58.8	62.9	59.6	60.4	59.6	58.4	54.5	49.4	49.4
150000	61.7	62.6	60.2	62.2	59.6	60.1	64.0	61.1	62.1	60.2	58.6	54.4	49.3	50.3
160000	62.8	63.5	61.6	62.9	60.9	60.8	64.7	62.2	63.1	60.5	59.0	54.2	49.3	50.8
170000	63.9	63.9	62.5	63.5	61.8	61.3	65.1	63.0	63.6	60.6	59.0	53.8	49.4	50.8
180000	64.5	64.1	62.9	63.7	62.1	61.8	65.1	63.4	64.0	60.6	59.0	53.5	49.5	50.6
190000	64.2	63.8	62.9	63.5	61.8	61.9	64.6	63.3	63.7	60.4	58.8	53.1	49.4	50.2
200000	63.6	63.0	62.6	62.9	61.2	61.6	63.9	63.0	63.1	60.2	58.4	52.7	49.2	49.8
210000	63.1	62.1	62.2	61.9	60.8	61.4	63.1	62.5	62.4	60.0	57.1	52.5	49.0	49.2
220000	62.3	61.0	61.8	61.1	60.2	60.9	61.0	61.3	61.8	59.5	56.5	52.3	48.8	48.6
230000	61.8	60.0	61.2	60.4	60.0	59.9	60.1	60.1	61.2	59.0	56.3	52.0	48.7	48.0
Daily Max	64.5	64.1	62.9	63.7	62.1	61.9	65.1	63.4	64.0	60.7	59.0	56.1	51.2	50.8
Daily Min	54.6	58.1	51.9	54.7	55.2	54.4	57.5	53.3	54.9	57.5	54.8	52.0	48.7	46.7
Average	59.3	60.6	57.5	59.2	58.3	58.2	60.6	58.3	59.0	59.2	57.1	54.2	49.4	48.6

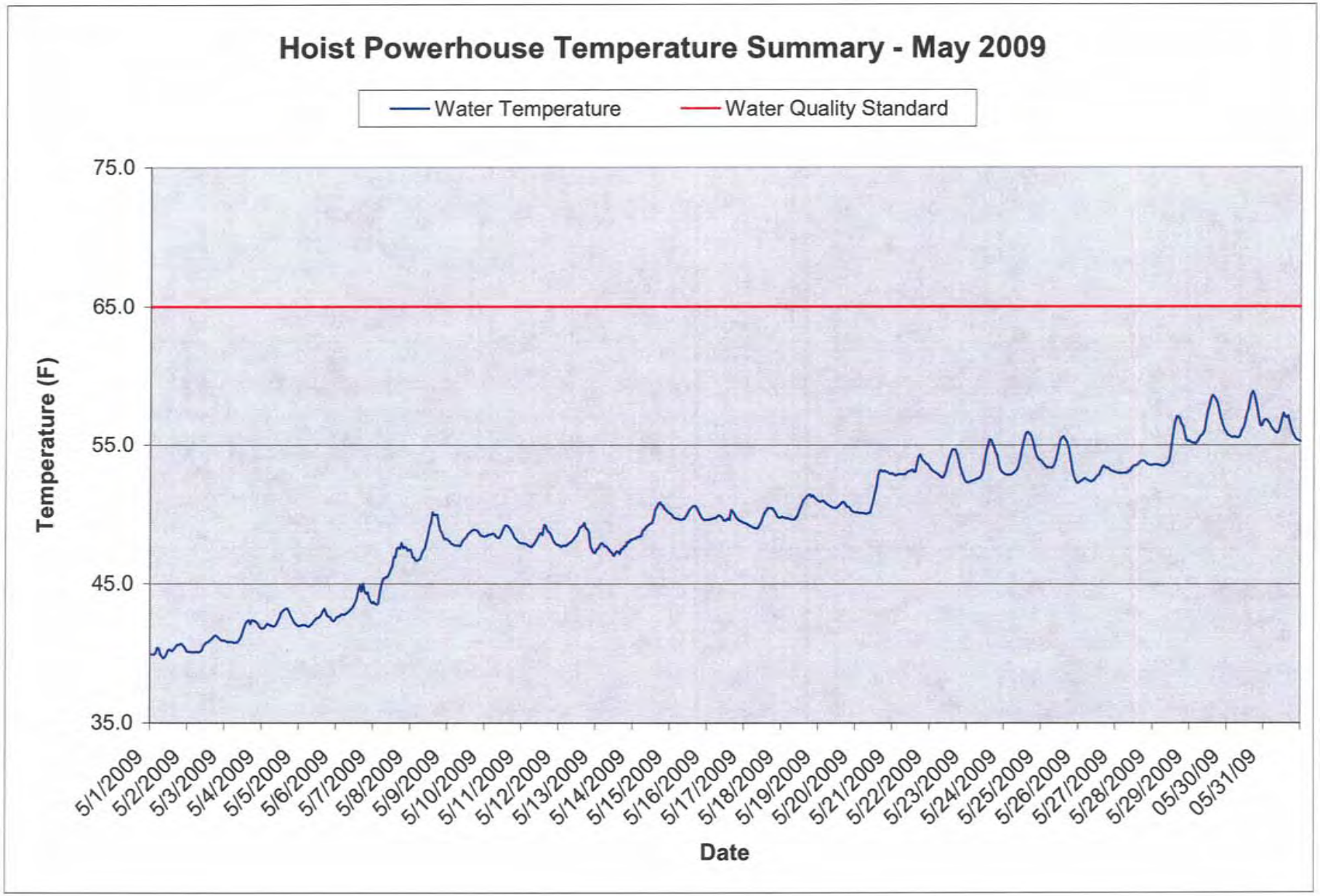
Dead River at County Road AAO Bridge - October 2009 Temperature Monitoring Data

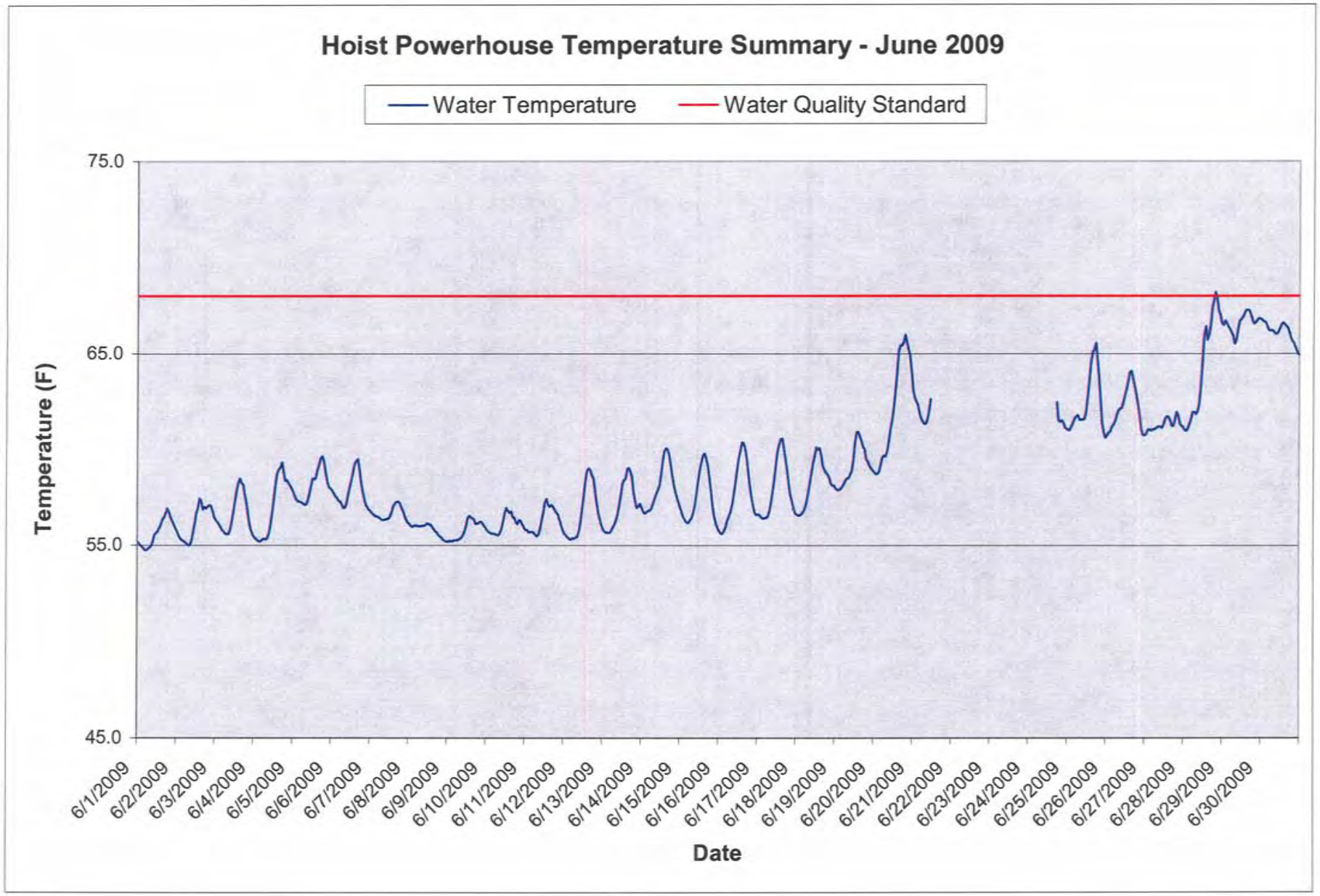
Time HHMMSS	10/1/2009	10/2/2009	10/3/2009	10/4/2009	10/5/2009	10/6/2009	10/7/2009	10/8/2009	10/9/2009	10/10/2009	10/11/2009	10/12/2009	10/13/2009	10/14/2009	10/15/2009	10/16/2009	10/17/2009
0	47.4	47.1	45.8	46.7	48.1	48.2	46.2	46.1	45.7	45.4	42.4	40.8	41.0	39.4	40.4	40.0	40.2
10000	46.9	46.7	45.8	46.6	48.0	47.9	46.1	45.9	45.5	45.1	42.1	40.6	40.8	39.1	40.3	39.7	40.0
20000	46.4	46.4	45.8	46.6	47.8	47.7	46.0	45.7	45.2	44.8	41.9	40.5	40.7	38.9	40.1	39.4	39.8
30000	46.0	46.1	45.8	46.6	47.7	47.6	45.9	45.6	45.0	44.5	41.7	40.4	40.6	38.6	40.0	39.1	39.5
40000	45.6	45.8	45.7	46.6	47.6	47.5	45.8	45.4	44.7	44.3	41.5	40.4	40.5	38.4	39.9	38.9	39.4
50000	45.2	45.6	45.7	46.6	47.6	47.4	45.6	45.2	44.5	44.0	41.4	40.4	40.3	38.2	39.8	38.5	39.3
60000	44.7	45.6	45.7	46.6	47.5	47.3	45.4	45.0	44.3	43.8	41.3	40.5	40.2	38.0	39.7	38.3	39.0
70000	44.3	45.5	45.6	46.6	47.5	47.2	45.2	44.8	44.1	43.7	41.3	40.6	40.1	37.8	39.7	38.2	38.8
80000	43.9	45.4	45.6	46.5	47.4	47.2	45.0	44.6	44.0	43.5	41.3	40.8	40.0	37.6	39.5	38.0	38.7
90000	43.6	45.6	45.7	46.6	47.4	47.1	44.9	44.5	43.9	43.5	41.3	40.9	39.8	37.5	39.4	38.0	38.5
100000	43.7	45.8	45.8	46.7	47.6	47.1	45.0	44.6	44.0	43.6	41.3	41.2	39.9	37.7	39.5	38.0	38.4
110000	44.3	46.0	45.9	46.9	47.9	47.1	45.2	44.9	44.3	43.8	41.8	41.5	40.2	38.3	39.8	38.2	38.4
120000	45.2	46.2	46.4	47.4	48.7	47.2	45.6	45.3	45.3	44.2	42.1	41.9	40.9	39.3	40.1	38.6	38.8
130000	46.2	46.4	46.7	48.1	49.1	47.2	45.9	45.8	46.0	44.8	42.8	41.7	41.5	40.4	41.1	39.2	39.5
140000	47.3	46.5	46.9	48.5	49.4	47.2	46.3	46.5	46.4	45.5	43.3	41.7	42.1	41.7	41.5	39.7	40.4
150000	48.5	46.6	47.1	49.2	49.9	47.3	46.5	47.0	46.9	46.3	43.3	41.8	42.6	42.5	41.9	40.7	40.9
160000	49.4	46.6	47.1	49.6	50.2	47.2	46.9	47.8	47.4	46.1	43.3	42.1	43.1	42.2	40.6	41.1	41.5
170000	49.9	46.6	47.3	49.7	50.2	47.2	47.4	47.5	47.1	46.0	43.0	42.2	42.8	41.5	41.6	41.3	41.9
180000	49.8	46.6	47.3	49.8	50.2	47.1	47.6	47.4	46.7	45.6	42.8	42.2	42.4	41.4	41.8	41.3	42.0
190000	49.2	46.5	47.3	49.5	50.0	47.0	47.4	47.2	46.0	44.7	42.6	42.0	41.9	41.3	41.7	41.4	41.9
200000	48.5	46.3	47.2	49.1	49.6	46.9	47.1	47.0	46.3	44.1	42.1	41.7	41.2	41.1	41.3	41.3	41.6
210000	48.0	46.2	47.0	48.8	49.3	46.7	46.9	46.7	46.3	43.6	41.7	41.5	40.6	40.9	40.9	41.0	41.1
220000	47.6	46.1	46.9	48.5	48.8	46.5	46.6	46.4	46.1	43.2	41.3	41.3	40.1	40.8	40.6	40.7	40.6
230000	47.3	45.9	46.8	48.3	48.5	46.4	46.3	46.0	45.8	42.7	41.0	41.2	39.7	40.6	40.2	40.4	40.1
Daily Max	49.9	47.1	47.3	49.8	50.2	48.2	47.6	47.8	47.4	46.3	43.3	42.2	43.1	42.5	41.9	41.4	42.0
Daily Min	43.6	45.4	45.6	46.5	47.4	46.4	44.9	44.5	43.9	42.7	41.0	40.4	39.7	37.5	39.4	38.0	38.4
Average	46.6	46.2	46.4	47.7	48.6	47.2	46.1	46.0	45.5	44.5	42.0	41.2	40.9	39.7	40.5	39.6	40.0

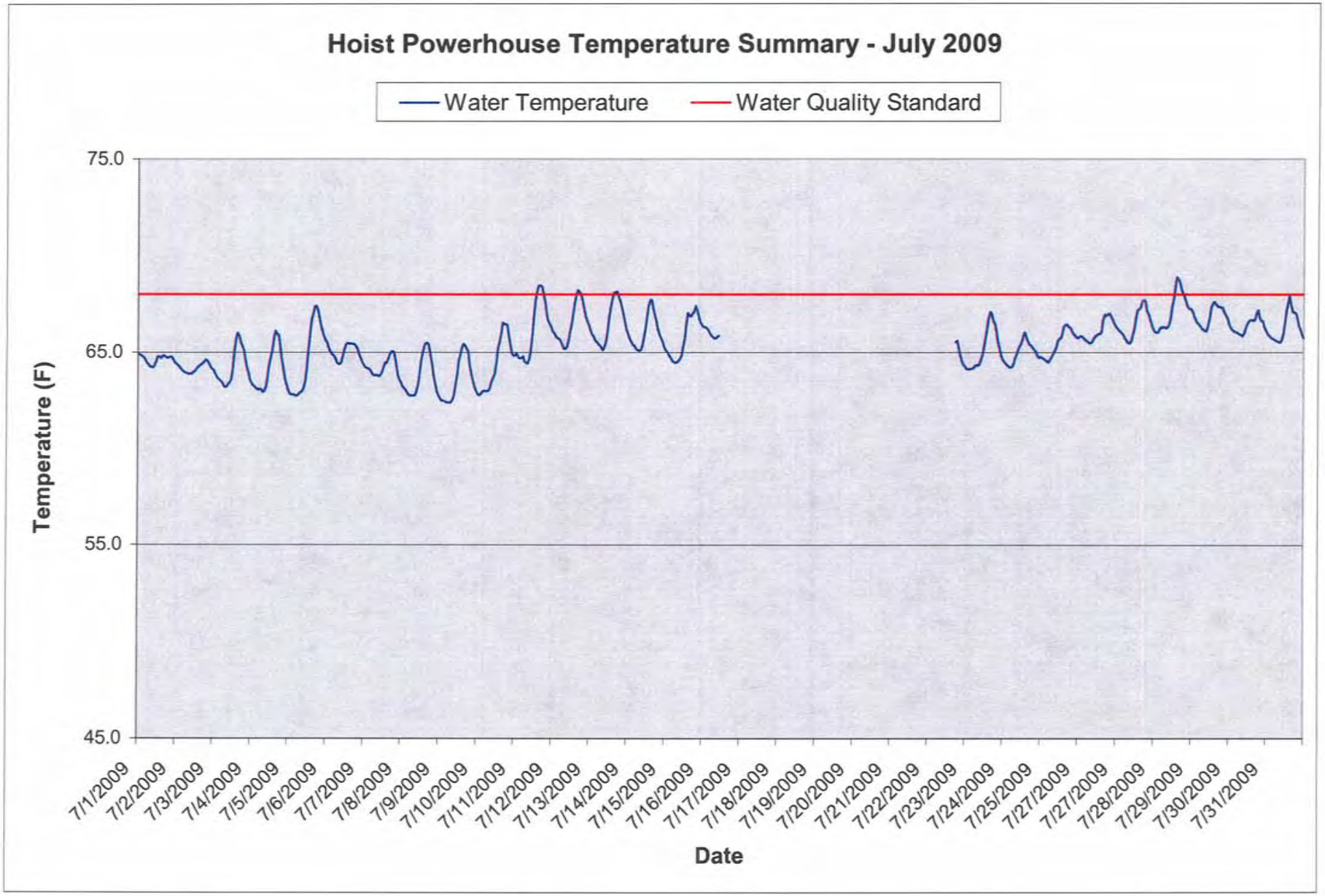
Monthly average temp (F): 42.6
License Maximum Monthly Average: 56°F

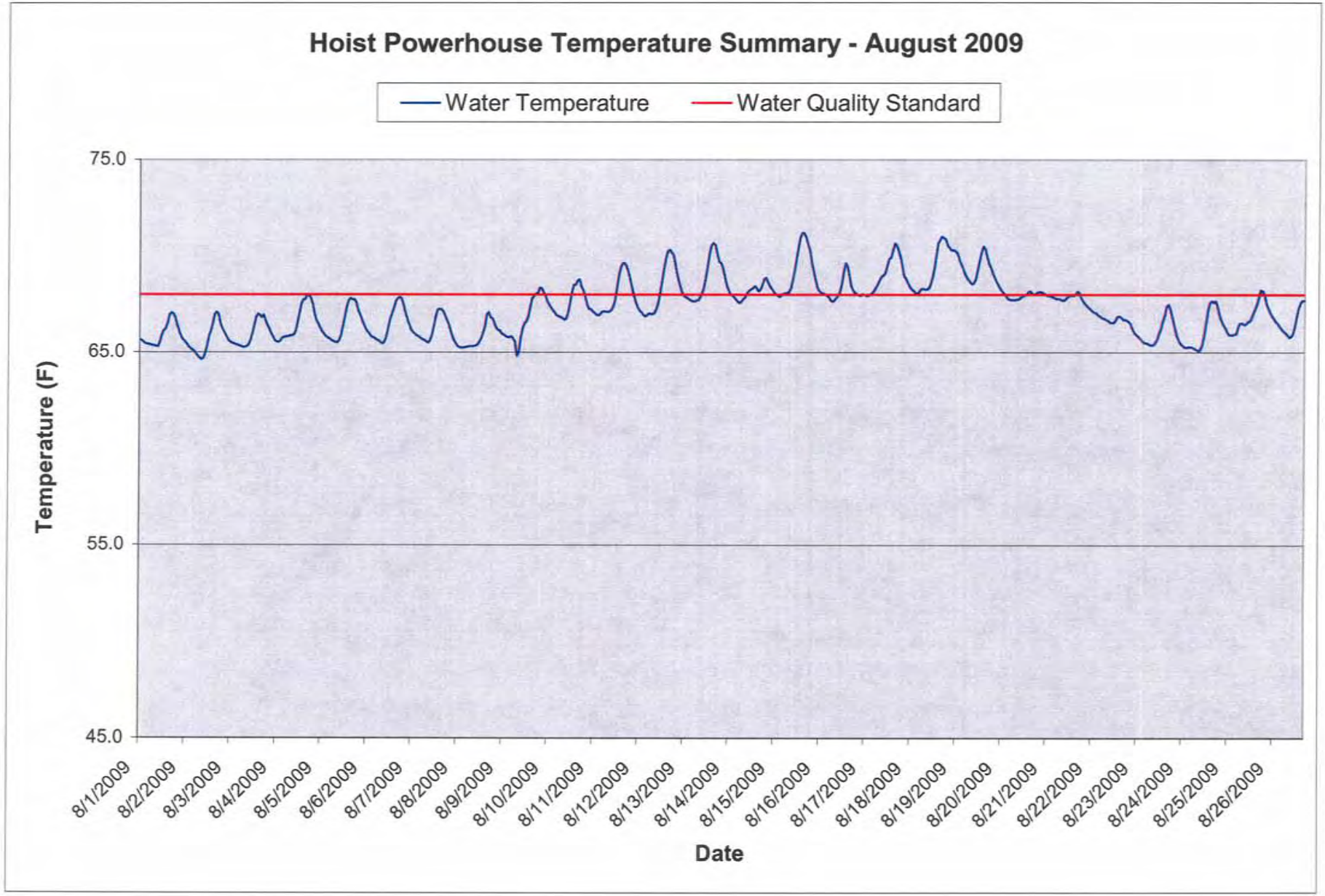
Dead River at County Road AAO Bridge - October 2009 Temperature Monitoring Data

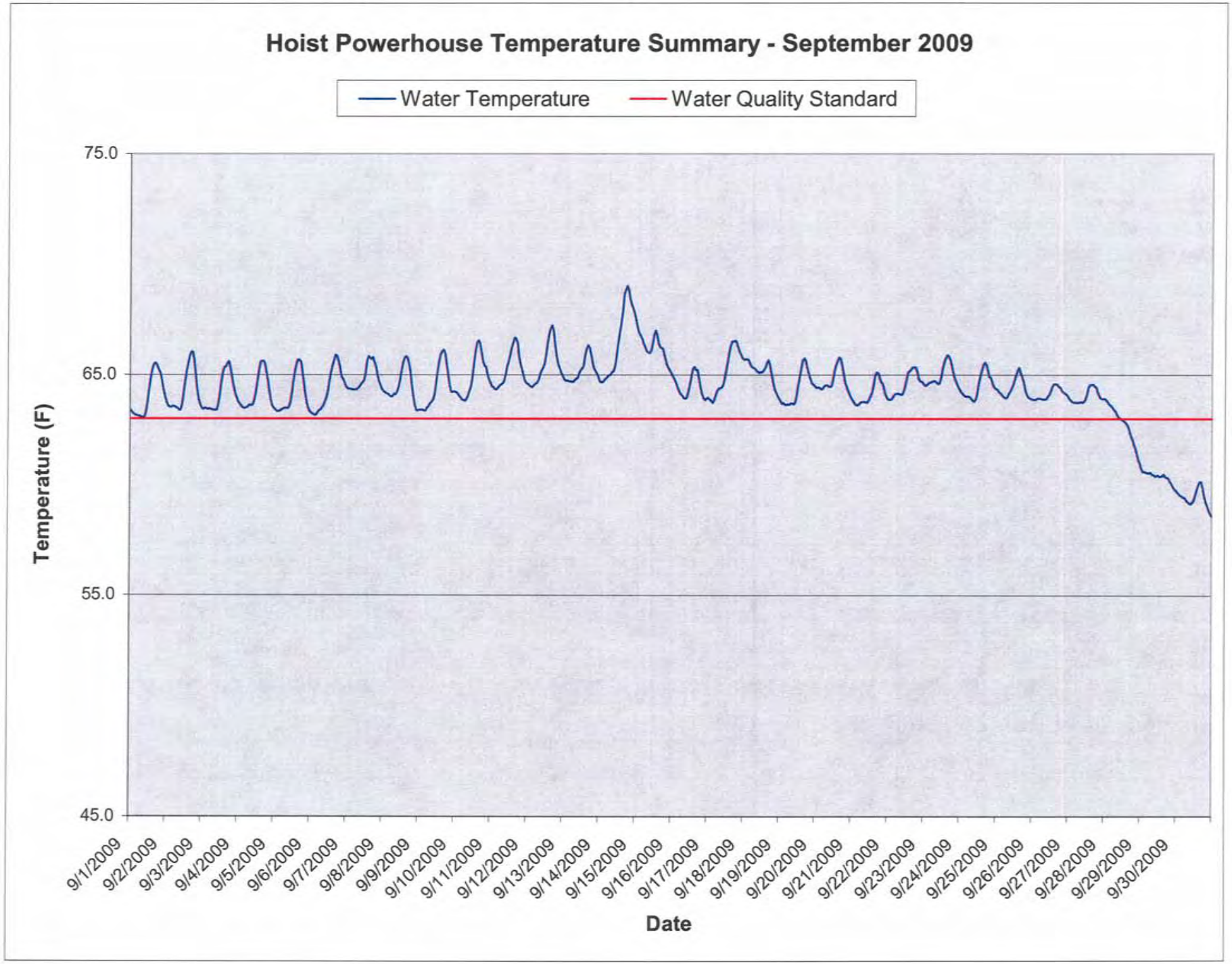
Time HHMMSS	10/18/2009	10/19/2009	10/20/2009	10/21/2009	10/22/2009	10/23/2009	10/24/2009	10/25/2009	10/26/2009	10/27/2009	10/28/2009	10/29/2009	10/30/2009	10/31/2009
0	39.7	40.8	44.4	43.1	41.5	39.8	38.5	38.7	38.6	39.2	40.9	41.5	42.1	44.9
10000	39.3	40.7	44.2	43.0	41.3	39.7	38.4	38.8	38.6	39.2	40.9	41.2	42.1	44.8
20000	38.9	40.6	44.0	42.9	41.1	39.6	38.2	38.8	38.6	39.2	40.8	41.0	42.2	44.7
30000	38.6	40.6	43.8	42.9	40.9	39.4	37.8	38.8	38.6	39.2	40.8	40.9	42.3	44.6
40000	38.4	40.6	43.6	42.8	40.7	39.3	37.6	38.8	38.6	39.3	40.7	40.7	42.4	44.5
50000	38.2	40.6	43.5	42.7	40.6	39.2	37.5	38.7	38.6	39.3	40.7	40.6	42.5	44.4
60000	38.0	40.6	43.4	42.7	40.4	39.1	37.5	38.7	38.6	39.3	40.6	40.6	42.6	44.3
70000	37.8	40.5	43.3	42.7	40.4	39.0	37.4	38.6	38.6	39.3	40.6	40.6	42.7	44.2
80000	37.7	40.5	43.2	42.7	40.3	39.0	37.3	38.6	38.6	39.4	40.5	40.6	42.9	44.1
90000	37.5	40.5	43.1	42.7	40.2	38.9	37.2	38.6	38.6	39.4	40.4	40.7	42.9	43.9
100000	37.6	40.5	43.0	42.7	40.1	38.9	37.1	38.5	38.6	39.4	40.4	40.7	43.0	43.8
110000	37.8	40.5	43.0	42.7	40.0	38.9	37.1	38.5	38.6	39.5	40.4	40.8	43.1	43.7
120000	38.3	41.1	43.0	42.8	40.0	38.8	37.2	38.5	38.7	39.5	40.4	40.8	43.2	43.6
130000	38.9	41.8	43.1	42.9	40.2	38.8	37.3	38.4	38.7	39.5	40.3	40.9	43.3	43.4
140000	39.8	42.7	43.2	42.9	40.4	38.8	37.6	38.4	38.7	39.5	40.3	41.0	43.5	43.4
150000	40.4	43.7	43.3	42.9	40.7	38.9	37.8	38.4	38.7	39.6	40.4	41.2	43.7	43.4
160000	41.5	44.8	43.5	42.9	41.0	38.9	38.1	38.4	38.8	39.7	40.4	41.3	43.9	43.5
170000	42.1	45.7	43.7	42.8	41.1	38.9	38.3	38.4	38.8	39.8	40.6	41.5	44.2	43.6
180000	42.5	46.1	43.7	42.7	41.0	38.9	38.5	38.4	38.8	40.0	40.8	41.7	44.4	43.7
190000	42.6	46.0	43.7	42.6	40.9	38.9	38.6	38.5	38.9	40.3	41.1	41.8	44.6	43.7
200000	42.4	45.7	43.6	42.4	40.7	38.8	38.7	38.5	39.0	40.5	41.4	41.9	44.8	43.6
210000	41.9	45.4	43.5	42.2	40.4	38.7	38.7	38.5	39.0	40.7	41.6	41.9	44.9	43.5
220000	41.3	45.1	43.4	42.0	40.2	38.6	38.8	38.6	39.1	40.8	41.7	42.0	45.0	43.3
230000	41.0	44.7	43.2	41.7	40.0	38.5	38.8	38.6	39.1	40.9	41.6	42.0	45.0	43.2
Daily Max	42.6	46.1	44.4	43.1	41.5	39.8	38.8	38.8	39.1	40.9	41.7	42.0	45.0	44.9
Daily Min	37.5	40.5	43.0	41.7	40.0	38.5	37.1	38.4	38.6	39.2	40.3	40.6	42.1	43.2
Average	39.7	42.5	43.5	42.7	40.6	39.0	37.9	38.6	38.7	39.7	40.8	41.2	43.4	43.9

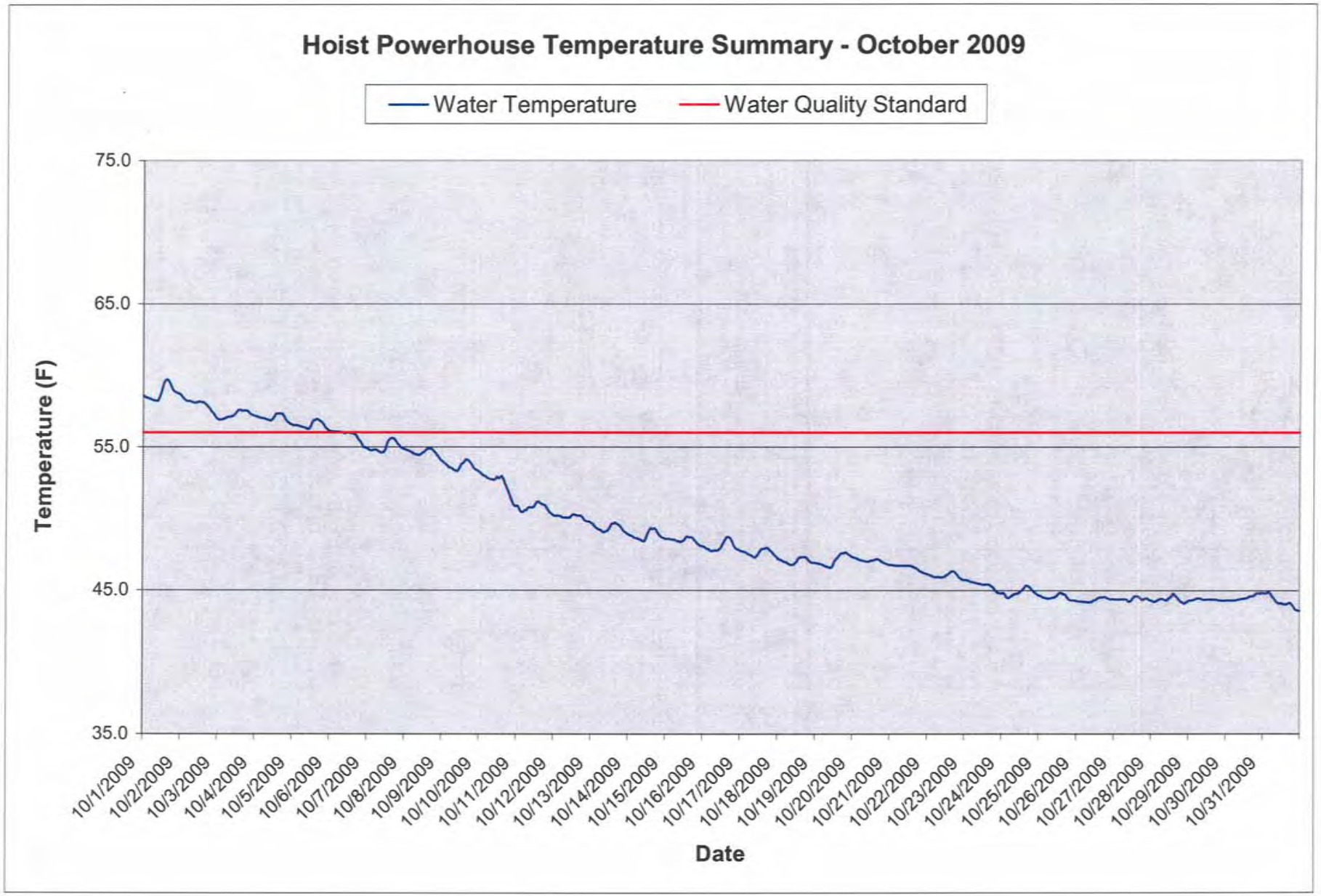












Dead River Below Hoist Powerhouse - May 2009 Temperature Monitoring Data

Time HHMMSS	5/1/2009	5/2/2009	5/3/2009	5/4/2009	5/5/2009	5/6/2009	5/7/2009	5/8/2009	5/9/2009	5/10/2009	5/11/2009	5/12/2009	5/13/2009	5/14/2009	5/15/2009	5/16/2009
0	40.0	40.1	40.9	41.8	42.0	42.6	43.7	47.4	48.1	48.4	47.9	47.8	47.5	48.3	50.0	49.6
10000	39.9	40.1	40.9	41.8	42.0	42.7	43.6	46.9	48.1	48.5	47.9	47.7	47.5	48.3	49.9	49.6
20000	39.9	40.1	40.8	42.0	42.0	42.7	43.5	46.9	47.9	48.5	47.9	47.7	47.8	48.3	49.7	49.7
30000	40.0	40.1	40.9	42.2	42.1	42.8	43.6	46.7	47.9	48.5	47.8	47.8	47.9	48.4	49.7	49.7
40000	40.4	40.1	40.9	42.1	42.0	42.8	44.4	46.7	47.8	48.5	47.7	47.7	47.9	48.4	49.7	49.7
50000	40.4	40.1	40.8	42.0	42.0	42.8	44.9	46.7	47.8	48.6	47.7	47.8	47.7	48.5	49.7	49.7
60000	40.0	40.1	40.8	42.0	41.9	42.9	45.3	46.8	47.8	48.6	47.6	47.9	47.7	48.8	49.6	49.8
70000	39.8	40.1	40.8	42.0	42.0	42.9	45.4	47.1	47.7	48.4	47.8	48.0	47.6	48.9	49.6	49.9
80000	39.7	40.2	40.9	42.0	42.2	43.0	45.4	47.4	47.7	48.3	47.9	48.1	47.5	49.1	49.7	49.9
90000	39.8	40.3	41.0	42.2	42.3	43.2	45.5	47.5	48.0	48.3	48.1	48.2	47.3	49.2	49.7	49.8
100000	40.0	40.6	41.2	42.4	42.4	43.3	45.7	48.0	48.2	48.5	48.3	48.4	47.2	49.3	49.9	49.6
110000	40.2	40.7	41.5	42.6	42.5	43.4	46.0	48.5	48.3	48.7	48.6	48.5	47.0	49.3	50.1	49.5
120000	40.3	40.8	41.9	42.9	42.6	43.7	46.2	49.1	48.4	49.0	48.7	48.7	47.2	49.4	50.3	49.6
130000	40.2	40.8	42.2	43.0	42.7	44.0	46.9	49.4	48.6	49.2	48.5	49.0	47.4	49.8	50.5	49.7
140000	40.2	41.0	42.3	43.2	42.8	44.5	46.9	50.1	48.7	49.2	49.2	49.1	47.3	50.3	50.6	49.6
150000	40.3	41.1	42.4	43.2	43.0	44.9	47.5	49.9	48.8	49.1	49.2	49.2	47.2	50.5	50.6	50.3
160000	40.5	41.2	42.1	43.3	43.2	44.5	47.6	50.0	48.8	49.0	48.9	49.4	47.5	50.8	50.6	50.2
170000	40.6	41.3	42.4	43.1	43.0	45.0	47.5	50.0	48.9	48.8	48.7	49.0	47.5	50.8	50.4	50.1
180000	40.6	41.3	42.4	42.7	42.7	44.5	47.9	49.3	48.9	48.6	48.7	48.9	47.7	50.7	50.2	49.8
190000	40.7	41.2	42.4	42.5	42.7	44.3	47.6	48.9	48.8	48.3	48.4	48.7	47.7	50.6	49.9	49.7
200000	40.7	41.1	42.2	42.3	42.6	44.4	47.6	48.7	48.7	48.2	48.1	47.7	48.0	50.4	49.8	49.6
210000	40.5	41.0	42.2	42.2	42.4	44.0	47.6	48.3	48.5	48.1	47.9	47.5	48.0	50.3	49.6	49.5
220000	40.4	40.9	41.9	42.1	42.3	43.7	47.4	48.2	48.5	47.9	47.8	47.2	48.2	50.2	49.6	49.5
230000	40.2	40.9	41.8	42.0	42.4	43.6	47.5	48.3	48.4	47.9	47.8	47.2	48.2	50.1	49.6	49.4
Daily Max	40.7	41.3	42.4	43.3	43.2	45.0	47.9	50.1	48.9	49.2	49.2	49.4	48.2	50.8	50.6	50.3
Daily Min	39.7	40.1	40.8	41.8	41.9	42.6	43.5	46.7	47.7	47.9	47.6	47.2	47.0	48.3	49.6	49.4
Average	40.2	40.6	41.6	42.4	42.4	43.6	46.1	48.2	48.3	48.6	48.2	48.2	47.6	49.5	50.0	49.7

Monthly average temp (F): 49.6
License Max. Average Temperature: 65°F

Dead River Below Hoist Powerhouse - May 2009 Temperature Monitoring Data

Time HHMMSS	5/17/2009	5/18/2009	5/19/2009	5/20/2009	5/21/2009	5/22/2009	5/23/2009	5/24/2009	5/25/2009	5/26/2009	5/27/2009	5/28/2009	5/29/2009	5/30/2009	5/31/2009
0	49.4	49.8	50.9	50.1	52.9	53.3	52.3	52.9	53.8	52.3	53.0	53.6	55.2	55.7	56.8
10000	49.3	49.8	50.9	50.1	52.8	53.2	52.3	52.8	53.7	52.4	53.0	53.6	55.2	55.7	56.8
20000	49.2	49.7	51.0	50.1	52.8	53.1	52.4	52.8	53.5	52.4	53.0	53.6	55.1	55.6	56.7
30000	49.2	49.7	51.0	50.1	52.9	53.0	52.4	52.8	53.4	52.5	53.0	53.6	55.1	55.5	56.5
40000	49.1	49.7	50.8	50.1	52.9	52.9	52.4	52.8	53.4	52.6	53.0	53.5	55.2	55.6	56.3
50000	49.1	49.7	50.7	50.1	52.9	52.9	52.5	52.9	53.4	52.5	53.0	53.5	55.3	55.6	56.2
60000	49.0	49.6	50.7	50.1	52.9	52.7	52.6	53.0	53.3	52.4	53.0	53.5	55.6	55.5	56.0
70000	49.0	49.6	50.6	50.1	52.9	52.6	52.6	53.1	53.4	52.4	53.0	53.5	55.7	55.5	55.9
80000	49.0	49.6	50.5	50.1	53.0	52.6	52.6	53.2	53.5	52.4	53.1	53.6	55.8	55.7	55.9
90000	49.1	49.7	50.5	50.1	53.0	52.8	52.8	53.6	53.9	52.4	53.2	53.7	56.1	56.0	56.0
100000	49.3	49.9	50.5	50.6	53.1	53.2	53.2	54.1	54.3	52.5	53.3	53.8	56.7	56.2	56.4
110000	49.6	50.2	50.5	51.0	53.2	53.6	53.9	54.6	54.8	52.6	53.5	54.3	57.4	56.5	56.9
120000	49.9	50.5	50.5	51.5	53.2	54.1	54.5	55.1	55.3	52.8	53.5	55.2	57.8	57.1	57.3
130000	50.1	50.8	50.6	52.0	53.1	54.4	54.9	55.7	55.5	52.8	53.5	56.1	58.3	57.5	57.1
140000	50.3	51.0	50.8	52.8	53.1	54.7	55.4	55.9	55.6	53.1	53.6	56.6	58.6	58.0	57.0
150000	50.5	51.2	50.9	53.1	53.6	54.7	55.4	55.9	55.4	53.4	53.7	57.1	58.5	58.7	57.1
160000	50.5	51.3	50.9	53.2	54.1	54.6	55.1	55.8	55.3	53.5	53.9	57.0	58.3	58.9	56.7
170000	50.4	51.4	50.7	53.1	54.3	54.4	54.8	55.7	54.9	53.4	53.9	56.9	58.1	58.6	56.2
180000	50.4	51.4	50.6	53.2	54.1	53.9	54.5	55.3	54.5	53.3	53.9	56.5	57.8	58.2	55.9
190000	50.2	51.2	50.6	53.1	53.9	53.4	54.2	54.9	53.7	53.3	53.7	56.4	57.1	57.6	55.7
200000	50.1	51.4	50.4	53.0	53.8	53.1	53.6	54.4	53.1	53.2	53.6	56.0	56.7	56.9	55.5
210000	49.8	51.2	50.3	53.0	53.6	52.7	53.2	54.1	52.6	53.1	53.6	55.4	56.4	56.4	55.4
220000	49.7	51.1	50.2	52.9	53.6	52.5	53.1	53.9	52.4	53.1	53.5	55.3	56.1	56.4	55.3
230000	49.7	51.0	50.1	53.0	53.4	52.3	53.0	53.9	52.2	53.0	53.5	55.3	55.9	56.7	55.3
Daily Max	50.5	51.4	51.0	53.2	54.3	54.7	55.4	55.9	55.6	53.5	53.9	57.1	58.6	58.9	57.3
Daily Min	49.0	49.6	50.1	50.1	52.8	52.3	52.3	52.8	52.2	52.3	53.0	53.5	55.1	55.5	55.3
Average	49.7	50.4	50.6	51.5	53.3	53.4	53.5	54.1	54.0	52.8	53.4	54.9	56.6	56.7	56.3

Dead River Below Hoist Powerhouse - June 2009 Temperature Monitoring Data

Time HHMMSS	6/1/2009	6/2/2009	6/3/2009	6/4/2009	6/5/2009	6/6/2009	6/7/2009	6/8/2009	6/9/2009	6/10/2009	6/11/2009	6/12/2009	6/13/2009	6/14/2009	6/15/2009	6/16/2009
0	55.1	55.7	56.3	55.4	57.8	57.8	56.8	56.1	55.2	55.8	55.8	55.6	55.8	56.9	56.9	55.7
10000	55.0	55.5	56.2	55.3	57.5	57.7	56.6	56.0	55.2	55.7	55.8	55.5	55.7	56.7	56.6	55.6
20000	55.0	55.3	56.0	55.2	57.4	57.5	56.6	56.0	55.2	55.7	55.7	55.4	55.7	56.6	56.4	55.6
30000	54.9	55.3	55.9	55.2	57.3	57.4	56.5	56.0	55.2	55.6	55.7	55.3	55.7	56.7	56.3	55.7
40000	54.8	55.2	55.8	55.2	57.3	57.3	56.5	56.0	55.3	55.6	55.7	55.3	55.7	56.8	56.2	55.9
50000	54.7	55.1	55.7	55.3	57.2	57.3	56.4	56.0	55.3	55.6	55.7	55.4	55.7	56.8	56.2	56.3
60000	54.8	55.1	55.6	55.3	57.2	57.1	56.4	56.0	55.3	55.5	55.5	55.3	55.9	56.9	56.3	56.5
70000	54.9	55.0	55.6	55.3	57.1	56.9	56.3	56.0	55.3	55.5	55.5	55.4	56.0	57.2	56.4	56.7
80000	55.0	55.0	55.6	55.4	57.1	56.9	56.3	56.0	55.4	55.6	55.6	55.4	56.3	57.4	56.7	57.0
90000	55.2	55.3	55.8	55.6	57.3	57.1	56.3	56.0	55.5	55.9	55.9	55.7	56.6	57.7	57.1	57.6
100000	55.5	55.7	56.2	56.1	57.7	57.6	56.4	56.1	55.7	56.2	56.3	56.2	57.0	57.9	57.7	58.2
110000	55.6	56.2	56.8	56.7	58.1	58.0	56.4	56.1	56.0	56.7	56.7	56.8	57.5	58.1	58.3	58.9
120000	55.7	56.7	57.3	57.4	58.5	58.4	56.5	56.1	56.4	56.9	57.2	57.5	58.2	58.6	58.9	59.5
130000	55.9	56.9	57.8	58.2	58.4	58.8	56.7	56.1	56.5	56.8	57.4	58.3	58.4	59.3	59.3	59.9
140000	56.1	57.4	58.2	58.7	58.5	59.2	57.1	56.0	56.4	56.7	57.1	58.9	58.4	59.9	59.7	60.4
150000	56.3	57.3	58.5	58.9	58.9	59.4	57.2	55.8	56.4	56.8	57.0	59.0	59.0	60.0	59.8	60.3
160000	56.5	56.8	58.2	59.0	59.2	59.5	57.3	55.7	56.4	56.5	57.1	58.9	59.0	60.0	59.5	60.0
170000	56.7	57.0	58.1	59.3	59.5	58.9	57.3	55.7	56.1	56.4	57.0	58.6	58.8	59.7	59.1	59.5
180000	56.9	56.9	57.6	58.9	59.6	58.2	57.2	55.5	56.1	56.2	56.9	58.5	58.6	59.2	58.4	58.8
190000	56.7	57.0	57.2	58.4	59.3	57.8	57.0	55.5	56.2	56.1	56.7	57.8	57.8	58.6	57.8	58.1
200000	56.5	57.1	56.5	58.4	58.8	57.3	56.8	55.4	56.2	56.3	56.6	57.2	57.3	58.1	57.0	57.5
210000	56.3	57.0	56.0	58.2	58.3	57.1	56.5	55.3	56.2	56.3	56.3	56.7	56.9	57.7	56.5	57.1
220000	56.0	56.8	55.7	58.1	58.0	56.9	56.3	55.2	56.0	56.1	56.0	56.4	57.0	57.4	56.1	56.7
230000	55.9	56.5	55.5	57.9	57.9	56.8	56.2	55.2	55.9	55.9	55.8	56.0	57.1	57.2	55.9	56.6
Daily Max	56.9	57.4	58.5	59.3	59.6	59.5	57.3	56.1	56.5	56.9	57.4	59.0	59.0	60.0	59.8	60.4
Daily Min	54.7	55.0	55.5	55.2	57.1	56.8	56.2	55.2	55.2	55.5	55.5	55.3	55.7	56.6	55.9	55.6
Average	55.7	56.2	56.6	57.0	58.1	57.8	56.6	55.8	55.8	56.1	56.3	56.7	57.1	58.0	57.5	57.7

Monthly average temp (F): 58.9
License Max. Average Temperature: 68 F

Dead River Below Hoist Powerhouse - June 2009 Temperature Monitoring Data

Time HHMMSS	6/17/2009	6/18/2009	6/19/2009	6/20/2009	6/21/2009	6/22/2009	6/23/2009	6/24/2009	6/25/2009	6/26/2009	6/27/2009	6/28/2009	6/29/2009	6/30/2009
0	56.6	56.6	58.0	58.8	63.1				61.0	60.7	60.8	61.0	66.5	66.8
10000	56.6	56.5	57.9	58.7	62.7				61.0	60.9	61.0	61.0	66.7	66.7
20000	56.5	56.6	57.9	58.7	62.5				61.2	60.9	61.1	61.1	66.6	66.7
30000	56.4	56.6	57.9	58.8	62.3				61.4	61.2	61.0	61.3	66.4	66.5
40000	56.4	56.8	58.0	59.2	61.9				61.6	61.3	61.0	61.6	66.3	66.2
50000	56.4	56.9	58.2	59.6	61.6				61.7	61.5	61.1	61.9	66.1	66.2
60000	56.5	57.2	58.4	59.7	61.5				61.8	61.8	61.1	61.9	65.9	66.2
70000	56.8	57.7	58.5	59.6	61.3				61.5	62.0	61.2	61.8	65.5	66.2
80000	57.2	58.2	58.5	59.9	61.3				61.5	62.1	61.2	62.0	65.7	66.1
90000	57.8	58.7	58.7	60.4	61.6				61.6	62.2	61.2	62.3	66.3	66.0
100000	58.4	59.3	58.9	61.1	62.0				61.6	62.4	61.1	63.3	66.7	66.1
110000	59.2	59.6	59.4	61.6	62.6				61.9	62.8	61.3	64.6	66.8	66.3
120000	59.8	60.1	60.4	62.1					62.7	63.1	61.6	65.9	66.9	66.5
130000	60.2	60.0	60.9	62.9					63.6	63.5	61.7	66.4	67.1	66.6
140000	60.5	60.0	60.9	64.0					64.6	64.0	61.7	65.7	67.3	66.5
150000	60.5	59.7	60.7	65.1					65.1	64.1	61.5	66.0	67.3	66.4
160000	60.0	59.1	60.4	65.4					65.2	63.7	61.2	66.5	67.2	66.4
170000	59.5	58.9	60.1	65.4					65.6	63.3	61.2	67.4	67.0	66.1
180000	58.9	58.8	60.0	65.6				61.5	64.8	62.9	61.6	67.7	66.8	65.8
190000	58.2	58.7	59.5	66.0				61.4	63.8	62.4	61.9	68.2	66.6	65.6
200000	57.6	58.5	59.4	65.6				61.5	62.6	61.8	61.8	67.9	66.6	65.5
210000	57.3	58.2	59.1	65.2				61.4	61.3	61.1	61.3	67.3	66.8	65.3
220000	56.9	58.1	59.0	64.9				61.1	60.9	60.7	61.2	67.0	66.8	65.1
230000	56.6	58.1	58.9	64.0				61.1	60.6	60.7	61.2	66.6	66.8	64.9
Daily Max	60.5	60.1	60.9	66.0	63.1	0.0	0.0	61.5	65.6	64.1	61.9	68.2	67.3	66.8
Daily Min	56.4	56.5	57.9	58.7	61.3	0.0	0.0	61.1	60.6	60.7	60.8	61.0	65.5	64.9
Average	57.9	58.3	59.1	62.2	62.0	#DIV/0!	#DIV/0!	61.3	62.4	62.1	61.3	64.4	66.6	66.1

No data - Equipment Power Failure

Dead River Below Hoist Powerhouse - July 2009 Temperature Monitoring Data

Time HHMMSS	7/1/09	7/2/09	7/3/09	7/4/09	7/5/09	7/6/09	7/7/09	7/8/09	7/9/09	7/10/09	7/11/09	7/12/09	7/13/09	7/14/09	7/15/09	7/16/09
0	64.9	64.4	64.0	63.3	62.9	65.4	64.3	63.2	62.6	62.8	64.8	66.1	66.1	65.9	65.1	66.3
10000	64.9	64.3	63.8	63.3	62.8	65.2	64.2	63.1	62.5	62.8	64.9	66.0	65.9	65.7	65.0	66.3
20000	64.8	64.3	63.7	63.2	62.8	65.0	64.1	63.0	62.5	62.8	64.7	65.8	65.8	65.6	64.9	66.2
30000	64.7	64.1	63.6	63.1	62.8	64.9	64.1	62.9	62.4	62.9	64.7	65.7	65.6	65.4	64.7	66.1
40000	64.6	64.0	63.5	63.1	62.7	64.8	64.0	62.8	62.4	63.0	64.7	65.7	65.5	65.3	64.6	66.0
50000	64.5	64.0	63.4	63.1	62.8	64.7	63.8	62.7	62.4	63.0	64.8	65.6	65.4	65.2	64.5	65.9
60000	64.4	63.9	63.3	63.0	62.8	64.5	63.8	62.7	62.4	63.0	64.5	65.4	65.4	65.1	64.5	65.8
70000	64.3	63.9	63.2	62.9	62.9	64.4	63.8	62.7	62.4	63.0	64.4	65.2	65.2	65.1	64.5	65.7
80000	64.2	63.9	63.2	63.0	63.0	64.4	63.8	62.7	62.5	63.1	64.4	65.2	65.1	65.1	64.5	65.7
90000	64.2	63.9	63.3	63.2	63.1	64.5	63.7	62.9	62.8	63.4	64.6	65.3	65.3	65.3	64.6	65.8
100000	64.3	63.9	63.4	63.7	63.5	64.8	63.8	63.3	63.2	63.7	65.0	65.6	65.6	65.7	64.8	65.9
110000	64.5	64.0	63.6	64.3	64.2	65.2	64.0	63.9	63.9	63.9	65.9	66.0	66.1	66.2	65.2	
120000	64.8	64.0	64.1	64.7	65.0	65.4	64.2	64.5	64.5	64.5	66.9	66.5	66.8	66.8	65.8	
130000	64.8	64.1	65.1	65.0	66.0	65.5	64.5	65.0	64.8	65.2	67.7	67.0	67.4	67.4	66.5	
140000	64.7	64.2	65.7	65.8	66.7	65.4	64.4	65.3	65.3	65.5	68.2	67.5	67.8	67.7	67.0	
150000	64.8	64.3	66.0	66.1	67.0	65.4	64.7	65.5	65.4	66.0	68.5	68.0	68.1	67.7	66.9	
160000	64.8	64.4	65.8	65.9	67.4	65.4	64.9	65.5	65.3	66.5	68.5	68.2	68.1	67.3	66.9	
170000	64.8	64.4	65.5	65.9	67.4	65.4	65.0	65.3	65.2	66.5	68.4	68.1	68.1	66.9	67.0	
180000	64.7	64.5	65.3	65.4	67.1	65.3	65.0	64.9	65.0	66.5	68.0	68.0	67.9	66.6	67.1	
190000	64.7	64.6	65.1	64.7	66.7	65.2	64.9	64.4	64.4	66.4	67.6	67.7	67.6	66.2	67.4	
200000	64.8	64.5	64.6	64.1	66.4	65.0	64.3	63.8	63.9	65.9	67.0	67.2	67.3	65.9	67.2	
210000	64.7	64.4	64.2	63.7	66.0	64.7	63.8	63.3	63.6	65.3	66.6	66.8	66.9	65.8	66.8	
220000	64.6	64.2	63.9	63.4	65.8	64.5	63.6	63.0	63.3	64.9	66.5	66.6	66.5	65.5	66.6	
230000	64.5	64.1	63.5	63.1	65.6	64.4	63.4	62.8	63.0	64.8	66.3	66.4	66.2	65.2	66.4	
Daily Max	64.9	64.6	66.0	66.1	67.4	65.5	65.0	65.5	65.4	66.5	68.5	68.2	68.1	67.7	67.4	66.3
Daily Min	64.2	63.9	63.2	62.9	62.7	64.4	63.4	62.7	62.4	62.8	64.4	65.2	65.1	65.1	64.5	65.7
Average	64.6	64.2	64.2	64.0	64.7	65.0	64.2	63.7	63.6	64.4	66.2	66.5	66.5	66.0	65.8	66.0

Monthly average temp (F): 65.4
License Max. Average Temperature: 68 F

Missing data from 7/16 @ 11:00 through 7/22 @ 16:00 due to equipment malfunction
Water entered battery compartment.

Dead River Below Hoist Powerhouse - July 2009 Temperature Monitoring Data

Time HHMMSS	7/17/09	7/18/09	7/19/09	7/20/09	7/21/09	7/22/09	7/23/09	7/24/09	7/25/09	7/26/09	7/27/09	7/28/09	7/29/09	7/30/09	7/31/09
0							64.1	64.5	64.7	65.8	66.2	66.1	67.1	66.3	66.0
10000							64.1	64.4	64.7	65.8	66.1	66.0	66.9	66.2	65.9
20000							64.1	64.3	64.6	65.8	66.1	66.0	66.7	66.1	65.8
30000							64.1	64.2	64.5	65.7	66.0	66.2	66.5	66.1	65.7
40000							64.1	64.2	64.5	65.6	65.9	66.3	66.5	66.1	65.7
50000							64.2	64.3	64.6	65.6	65.7	66.3	66.3	66.0	65.6
60000							64.3	64.4	64.8	65.5	65.6	66.3	66.2	65.9	65.6
70000							64.3	64.7	64.9	65.5	65.5	66.3	66.2	65.9	65.5
80000							64.3	64.9	65.0	65.6	65.4	66.3	66.1	65.8	65.5
90000							64.5	65.2	65.2	65.7	65.6	66.4	66.1	66.0	65.6
100000							64.8	65.3	65.6	65.8	65.9	66.8	66.4	66.2	66.0
110000							65.2	65.6	65.7	65.9	66.3	67.4	66.8	66.4	66.5
120000							65.6	65.8	65.7	66.0	66.8	67.8	67.3	66.6	67.1
130000							66.3	66.0	66.0	66.0	67.2	68.3	67.6	66.7	67.5
140000							66.7	65.8	66.3	66.1	67.2	68.9	67.6	66.7	67.9
150000							67.1	65.5	66.4	66.7	67.3	68.8	67.5	66.6	67.5
160000							67.0	65.4	66.4	67.0	67.6	68.6	67.4	66.7	67.1
170000						65.5	66.6	65.3	66.3	66.9	67.7	68.3	67.4	67.1	67.1
180000						65.6	66.5	65.2	66.3	67.0	67.6	68.0	67.3	67.2	67.0
190000						65.2	66.0	65.1	66.1	67.0	67.2	67.9	67.3	66.8	66.8
200000						64.8	65.6	65.0	65.9	66.9	67.0	67.6	67.1	66.6	66.4
210000						64.6	65.1	64.8	65.9	66.7	66.7	67.4	67.0	66.6	66.2
220000						64.4	64.8	64.7	65.8	66.5	66.4	67.3	66.8	66.3	65.9
230000						64.2	64.6	64.7	65.7	66.4	66.2	67.2	66.6	66.1	65.8
Daily Max	0.0	0.0	0.0	0.0	0.0	65.6	67.1	66.0	66.4	67.0	67.7	68.9	67.6	67.2	67.9
Daily Min	0.0	0.0	0.0	0.0	0.0	64.2	64.1	64.2	64.5	65.5	65.4	66.0	66.1	65.8	65.5
Average	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	64.9	65.2	65.0	65.5	66.1	66.5	67.2	66.9	66.4	66.3

Missing data from 7/16 @ 11:00 through 7/22 @ 16:00 due to equipment malfunction
Water entered battery compartment.

Dead River Below Hoist Powerhouse - August 2009 Temperature Monitoring Data

Time HHMMSS	8/1/2009	8/2/2009	8/3/2009	8/4/2009	8/5/2009	8/6/2009	8/7/2009	8/8/2009	8/9/2009	8/10/2009	8/11/2009	8/12/2009	8/13/2009	8/14/2009	8/15/2009	8/16/2009
0	65.6	65.5	65.5	65.5	66.1	66.1	66.1	65.3	65.9	67.5	67.0	67.2	67.9	68.0	68.0	68.1
10000	65.6	65.3	65.4	65.5	65.9	65.9	65.9	65.2	65.8	67.3	67.0	67.1	67.8	67.9	67.9	68.1
20000	65.5	65.2	65.4	65.6	65.8	65.8	65.9	65.2	65.8	67.2	66.9	66.9	67.8	67.9	67.9	68.0
30000	65.4	65.1	65.4	65.8	65.8	65.8	65.8	65.2	65.8	67.0	67.0	66.9	67.7	67.7	67.9	67.9
40000	65.4	65.1	65.3	65.8	65.7	65.7	65.7	65.3	65.8	66.9	67.1	66.9	67.7	67.6	68.0	67.9
50000	65.4	65.0	65.3	65.8	65.6	65.6	65.7	65.3	65.7	66.9	67.1	67.0	67.6	67.6	68.1	67.7
60000	65.4	64.8	65.3	65.8	65.6	65.6	65.6	65.3	65.5	66.8	67.1	67.0	67.7	67.7	68.1	67.6
70000	65.3	64.7	65.3	65.9	65.5	65.5	65.6	65.3	64.8	66.8	67.1	67.0	67.7	67.8	68.1	67.7
80000	65.3	64.6	65.3	65.9	65.5	65.4	65.5	65.3	65.0	66.7	67.1	67.1	67.9	67.9	68.3	67.8
90000	65.3	64.7	65.4	65.9	65.6	65.6	65.6	65.3	65.8	66.7	67.2	67.3	68.1	68.1	68.8	68.0
100000	65.5	65.0	65.6	66.1	65.9	65.8	65.9	65.4	66.3	67.0	67.4	67.6	68.4	68.2	69.3	68.2
110000	65.9	65.3	65.9	66.5	66.3	66.3	66.4	65.5	66.5	67.5	67.7	68.1	68.9	68.3	69.9	68.6
120000	66.1	65.8	66.3	67.0	66.9	66.7	66.9	65.7	66.6	68.1	68.4	68.8	69.5	68.3	70.4	69.2
130000	66.2	66.1	66.8	67.5	67.4	67.0	67.2	66.0	66.9	68.5	69.0	69.4	70.2	68.5	71.0	69.6
140000	66.5	66.5	67.0	67.7	67.7	67.3	67.2	66.3	67.4	68.5	69.4	70.0	70.6	68.3	71.2	69.5
150000	66.9	66.9	66.9	67.7	67.8	67.7	67.2	67.0	67.8	68.7	69.6	70.3	70.7	68.2	71.2	69.0
160000	67.0	67.1	66.8	68.0	67.7	67.8	67.1	67.1	67.9	68.8	69.6	70.3	70.6	68.3	71.0	68.4
170000	67.0	67.0	66.9	68.0	67.7	67.9	66.9	66.8	68.0	68.5	69.5	70.2	70.1	68.5	70.6	68.2
180000	66.8	66.5	66.7	67.8	67.6	67.8	66.7	66.8	68.1	68.2	69.2	70.0	69.7	68.8	70.3	68.1
190000	66.4	66.2	66.4	67.5	67.2	67.4	66.4	66.5	68.4	67.9	68.8	69.5	69.6	68.9	69.7	68.0
200000	66.2	66.0	66.2	67.0	67.0	67.0	66.1	66.3	68.3	67.6	68.3	69.0	69.4	68.6	69.2	68.0
210000	65.9	65.9	66.0	66.7	66.7	66.7	65.8	66.2	68.1	67.3	67.9	68.6	69.0	68.4	68.8	67.9
220000	65.7	65.7	65.8	66.5	66.4	66.5	65.6	66.1	67.9	67.2	67.6	68.2	68.5	68.3	68.4	68.0
230000	65.6	65.6	65.6	66.3	66.2	66.2	65.4	66.0	67.7	67.1	67.3	68.0	68.2	68.1	68.2	68.0
Daily Max	67.0	67.1	67.0	68.0	67.8	67.9	67.2	67.1	68.4	68.8	69.6	70.3	70.7	68.9	71.2	69.6
Daily Min	65.3	64.6	65.3	65.5	65.5	65.4	65.4	65.2	64.8	66.7	66.9	66.9	67.6	67.6	67.9	67.6
Average	65.9	65.6	65.9	66.6	66.5	66.5	66.2	65.9	66.7	67.5	67.9	68.3	68.8	68.2	69.2	68.2

Monthly average temp (F): 66.9
License Max. Average Temperature: 68 F

Dead River Below Hoist Powerhouse - August 2009 Temperature Monitoring Data

Time HHMMSS	8/17/2009	8/18/2009	8/19/2009	8/20/2009	8/21/2009	8/22/2009	8/23/2009	8/24/2009	8/25/2009	8/26/2009	8/27/2009	8/28/2009	8/29/2009	8/30/2009	8/31/2009
0	67.9	68.3	70.2	68.2	67.9	67.1	65.8	65.3	65.9	66.7	65.3	65.9	65.0	63.7	63.4
10000	67.9	68.2	69.9	68.1	67.9	67.1	65.7	65.2	65.9	66.6	65.2	65.9	64.9	63.6	63.3
20000	68.0	68.1	69.7	67.9	67.9	67.0	65.6	65.3	65.9	66.5	65.1	65.8	64.9	63.5	63.3
30000	68.1	68.1	69.4	67.8	67.9	66.9	65.5	65.3	65.9	66.3	65.0	65.8	64.9	63.5	63.2
40000	68.2	68.1	69.2	67.7	67.8	66.9	65.5	65.3	66.0	66.2	65.0	65.8	64.9	63.4	63.1
50000	68.4	68.3	68.9	67.7	67.8	66.8	65.5	65.2	66.3	66.1	64.9	65.8	64.9	63.4	63.1
60000	68.5	68.3	68.8	67.7	67.8	66.8	65.4	65.2	66.5	66.0	64.9	65.8	64.9	63.2	63.0
70000	68.8	68.3	68.7	67.7	67.7	66.7	65.4	65.1	66.5	65.9	64.9	65.8	64.8	63.2	62.9
80000	68.9	68.3	68.6	67.7	67.7	66.7	65.4	65.0	66.4	65.8	64.9	65.8	64.8	63.1	62.9
90000	69.0	68.3	68.6	67.8	67.7	66.6	65.5	65.2	66.5	65.8	65.0	65.7	64.7	63.2	62.9
100000	69.1	68.5	68.8	67.9	67.8	66.5	65.7	65.4	66.6	65.9	65.2	65.7	64.5	63.3	63.1
110000	69.5	68.9	69.3	67.9	67.9	66.5	66.0	65.9	66.6	66.3	65.5	65.7	64.2	63.8	63.6
120000	69.9	69.3	69.8	68.0	67.9	66.7	66.2	66.5	66.8	66.8	66.1	65.8	63.9	64.2	64.2
130000	69.9	70.0	70.2	68.0	68.0	66.8	66.6	67.2	67.0	67.3	66.7	65.8	63.6	64.6	64.7
140000	70.3	70.7	70.5	68.1	67.9	66.9	66.9	67.6	67.3	67.6	67.2	65.7	63.5	64.9	65.1
150000	70.7	70.8	70.4	68.2	68.0	66.8	67.4	67.7	67.5	67.7	67.5	65.9	63.4	65.2	65.2
160000	70.6	71.0	70.0	68.0	68.2	66.7	67.5	67.6	67.9	67.7	67.3	66.0	63.3	65.2	65.3
170000	70.3	71.0	69.6	68.0	68.1	66.7	67.3	67.7	68.2	67.5	66.8	65.9	63.3	64.9	65.4
180000	69.9	70.9	69.4	68.1	67.8	66.7	66.8	67.4	68.2	67.0	66.9	65.7	63.4	64.6	65.2
190000	69.5	70.6	69.2	68.1	67.6	66.6	66.4	67.0	67.9	66.5	66.6	65.5	63.4	64.4	64.7
200000	69.0	70.4	68.9	68.1	67.5	66.5	66.0	66.7	67.5	66.1	66.4	65.3	63.5	64.2	64.3
210000	68.8	70.3	68.7	68.1	67.4	66.2	65.7	66.4	67.3	65.8	66.2	65.1	63.6	64.0	64.0
220000	68.6	70.3	68.5	68.1	67.3	66.0	65.5	66.3	67.1	65.5	66.1	65.1	63.6	63.7	63.8
230000	68.4	70.3	68.3	68.0	67.2	65.9	65.4	66.0	66.9	65.4	66.0	65.0	63.7	63.6	63.6
Daily Max	70.7	71.0	70.5	68.2	68.2	67.1	67.5	67.7	68.2	67.7	67.5	66.0	65.0	65.2	65.4
Daily Min	67.9	68.1	68.3	67.7	67.2	65.9	65.4	65.0	65.9	65.4	64.9	65.0	63.3	63.1	62.9
Average	69.1	69.4	69.3	68.0	67.8	66.7	66.0	66.1	66.9	66.5	65.9	65.7	64.1	63.9	63.9

Dead River Below Hoist Powerhouse - September 2009 Temperature Monitoring Data

Time HHMMSS	9/1/2009	9/2/2009	9/3/2009	9/4/2009	9/5/2009	9/6/2009	9/7/2009	9/8/2009	9/9/2009	9/10/2009	9/11/2009	9/12/2009	9/13/2009	9/14/2009	9/15/2009	9/16/2009
0	63.4	63.7	63.4	63.7	63.4	63.2	64.4	64.3	63.4	64.2	64.5	64.6	64.8	64.7	67.5	65.0
10000	63.3	63.6	63.5	63.6	63.3	63.2	64.4	64.2	63.4	64.2	64.4	64.5	64.7	64.7	67.1	64.9
20000	63.2	63.5	63.5	63.5	63.3	63.2	64.3	64.1	63.4	64.1	64.3	64.5	64.7	64.7	66.9	64.8
30000	63.2	63.5	63.4	63.5	63.4	63.2	64.3	64.1	63.4	64.0	64.3	64.4	64.7	64.8	66.8	64.6
40000	63.1	63.6	63.5	63.5	63.4	63.3	64.3	64.1	63.4	63.9	64.4	64.5	64.7	64.8	66.6	64.4
50000	63.1	63.6	63.4	63.5	63.4	63.4	64.3	64.0	63.5	63.8	64.5	64.6	64.7	64.9	66.4	64.2
60000	63.1	63.5	63.4	63.6	63.5	63.4	64.3	64.0	63.6	63.8	64.5	64.6	64.7	65.0	66.2	64.1
70000	63.1	63.5	63.4	63.6	63.5	63.5	64.4	64.1	63.7	63.9	64.6	64.8	64.7	65.0	66.1	64.0
80000	63.1	63.4	63.4	63.6	63.5	63.6	64.5	64.1	63.8	64.0	64.7	65.0	64.8	65.1	66.0	63.9
90000	63.1	63.4	63.4	63.6	63.5	63.8	64.6	64.2	63.9	64.2	65.0	65.2	64.9	65.2	66.0	63.9
100000	63.3	63.6	63.6	63.9	63.8	64.0	64.6	64.4	64.1	64.4	65.4	65.3	65.0	65.4	66.1	64.0
110000	63.7	64.2	64.1	64.2	64.2	64.3	64.7	64.8	64.6	64.9	65.6	65.5	65.2	65.9	66.4	64.2
120000	64.3	64.7	64.6	64.7	64.8	64.7	65.0	65.2	65.1	65.5	65.9	65.9	65.3	66.4	66.8	64.6
130000	64.8	65.1	65.1	65.2	65.2	65.1	65.6	65.6	65.6	66.0	66.2	66.4	65.4	66.9	67.0	64.9
140000	65.2	65.5	65.3	65.6	65.5	65.4	65.8	65.8	65.9	66.5	66.5	66.8	65.9	67.3	66.8	65.3
150000	65.4	65.8	65.4	65.6	65.7	65.6	65.8	65.8	66.1	66.6	66.7	67.1	66.2	67.9	66.5	65.4
160000	65.5	66.0	65.5	65.6	65.7	65.9	65.7	65.8	66.1	66.4	66.6	67.2	66.3	68.7	66.3	65.2
170000	65.5	66.0	65.6	65.5	65.6	65.8	65.8	65.5	65.9	66.0	66.4	67.0	66.2	68.9	66.2	65.2
180000	65.3	65.7	65.3	65.1	65.1	65.6	65.6	65.1	65.4	65.6	65.8	66.3	65.9	69.0	66.2	64.8
190000	65.2	65.0	64.9	64.7	64.6	65.3	65.4	64.5	65.0	65.4	65.5	65.8	65.5	68.8	65.9	64.4
200000	65.0	64.4	64.5	64.2	64.1	64.9	65.0	64.0	64.5	65.4	65.2	65.5	65.3	68.4	65.6	64.1
210000	64.6	63.9	64.2	63.8	63.7	64.8	64.7	63.6	64.2	65.0	65.0	65.3	65.2	68.2	65.4	63.9
220000	64.2	63.7	64.0	63.6	63.4	64.6	64.5	63.4	64.2	64.8	64.7	65.1	65.0	68.0	65.2	63.8
230000	63.9	63.5	63.8	63.5	63.3	64.5	64.4	63.4	64.2	64.6	64.6	65.0	64.9	67.8	65.2	63.9
Daily Max	65.5	66.0	65.6	65.6	65.7	65.9	65.8	65.8	66.1	66.6	66.7	67.2	66.3	69.0	67.5	65.4
Daily Min	63.1	63.4	63.4	63.5	63.3	63.2	64.3	63.4	63.4	63.8	64.3	64.4	64.7	64.7	65.2	63.8
Average	64.1	64.3	64.2	64.2	64.1	64.3	64.8	64.5	64.4	64.9	65.2	65.5	65.2	66.5	66.3	64.5

Monthly average temp (F): 64.3 ** Monthly Average Temperature Deviates From License Maximum Average Temperature.

License Max. Average Temperature: 63 F

Dead River Below Hoist Powerhouse - September 2009 Temperature Monitoring Data

Time HHMMSS	9/17/2009	9/18/2009	9/19/2009	9/20/2009	9/21/2009	9/22/2009	9/23/2009	9/24/2009	9/25/2009	9/26/2009	9/27/2009	9/28/2009	9/29/2009	9/30/2009
0	64.0	65.7	63.8	64.4	63.8	63.9	64.5	64.2	64.3	63.9	63.9	63.9	60.7	59.7
10000	63.9	65.7	63.7	64.4	63.8	63.9	64.5	64.1	64.3	63.9	63.8	63.8	60.6	59.6
20000	63.8	65.7	63.7	64.4	63.6	63.9	64.6	64.1	64.2	63.9	63.8	63.7	60.6	59.5
30000	63.7	65.7	63.6	64.3	63.6	64.0	64.6	64.0	64.1	63.9	63.8	63.6	60.6	59.5
40000	63.8	65.5	63.6	64.4	63.6	64.1	64.7	64.0	64.0	63.9	63.8	63.6	60.5	59.4
50000	64.0	65.4	63.7	64.5	63.7	64.1	64.7	64.0	64.0	63.9	63.7	63.5	60.5	59.4
60000	64.2	65.3	63.6	64.5	63.8	64.1	64.7	64.0	63.9	63.9	63.7	63.4	60.6	59.3
70000	64.4	65.3	63.7	64.5	63.8	64.1	64.7	63.9	64.0	63.9	63.8	63.3	60.5	59.2
80000	64.4	65.2	63.7	64.5	63.8	64.1	64.6	63.8	64.1	63.9	63.8	63.2	60.5	59.2
90000	64.4	65.1	63.7	64.5	63.7	64.1	64.6	63.8	64.2	63.9	63.7	63.1	60.4	59.1
100000	64.5	65.1	63.8	64.5	63.8	64.3	64.6	63.9	64.4	64.0	63.8	63.0	60.4	59.2
110000	64.8	65.1	64.1	64.8	63.9	64.5	64.9	64.1	64.5	64.1	63.9	63.0	60.4	59.3
120000	65.2	65.1	64.5	65.2	64.0	64.8	65.3	64.6	64.8	64.3	64.1	62.9	60.4	59.5
130000	65.6	65.2	64.9	65.4	64.2	65.1	65.6	64.9	65.0	64.5	64.4	62.9	60.4	59.8
140000	66.0	65.3	65.3	65.6	64.5	65.2	65.8	65.2	65.2	64.6	64.5	62.8	60.4	60.0
150000	66.3	65.5	65.7	65.8	65.0	65.2	65.9	65.4	65.3	64.6	64.5	62.7	60.5	60.1
160000	66.5	65.7	65.8	65.7	65.1	65.3	65.8	65.6	65.1	64.6	64.6	62.5	60.4	60.1
170000	66.5	65.5	65.6	65.4	65.1	65.3	65.7	65.4	64.9	64.5	64.5	62.3	60.3	59.9
180000	66.6	65.1	65.3	65.0	64.9	65.3	65.4	65.2	64.7	64.4	64.4	62.1	60.3	59.5
190000	66.5	64.7	65.0	64.6	64.7	65.1	65.1	64.9	64.3	64.3	64.2	61.9	60.2	59.2
200000	66.2	64.4	64.8	64.4	64.6	64.8	64.8	64.9	64.1	64.2	64.0	61.7	60.1	59.1
210000	66.0	64.2	64.6	64.3	64.3	64.7	64.7	64.7	64.0	64.2	63.9	61.4	59.9	58.9
220000	65.9	64.1	64.6	64.1	64.1	64.7	64.5	64.5	63.9	64.1	63.9	61.2	59.8	58.7
230000	65.8	63.9	64.5	63.9	63.9	64.6	64.3	64.4	63.9	64.0	63.9	61.0	59.8	58.6
Daily Max	66.6	65.7	65.8	65.8	65.1	65.3	65.9	65.6	65.3	64.6	64.6	63.9	60.7	60.1
Daily Min	63.7	63.9	63.6	63.9	63.6	63.9	64.3	63.8	63.9	63.9	63.7	61.0	59.8	58.6
Average	65.1	65.1	64.4	64.7	64.1	64.6	64.9	64.5	64.4	64.1	64.0	62.8	60.4	59.4

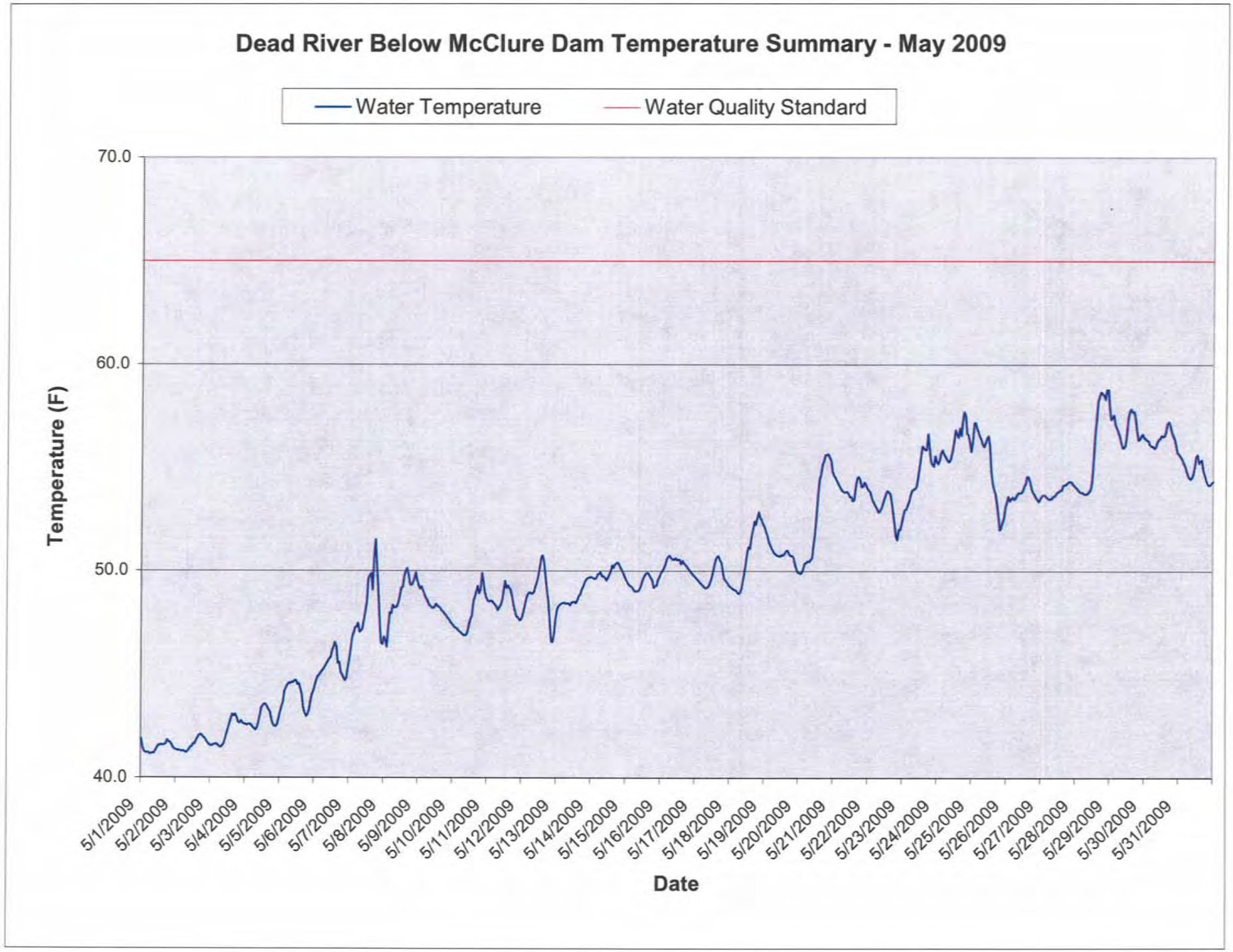
Dead River Below Hoist Powerhouse - October 2009 Temperature Monitoring Data

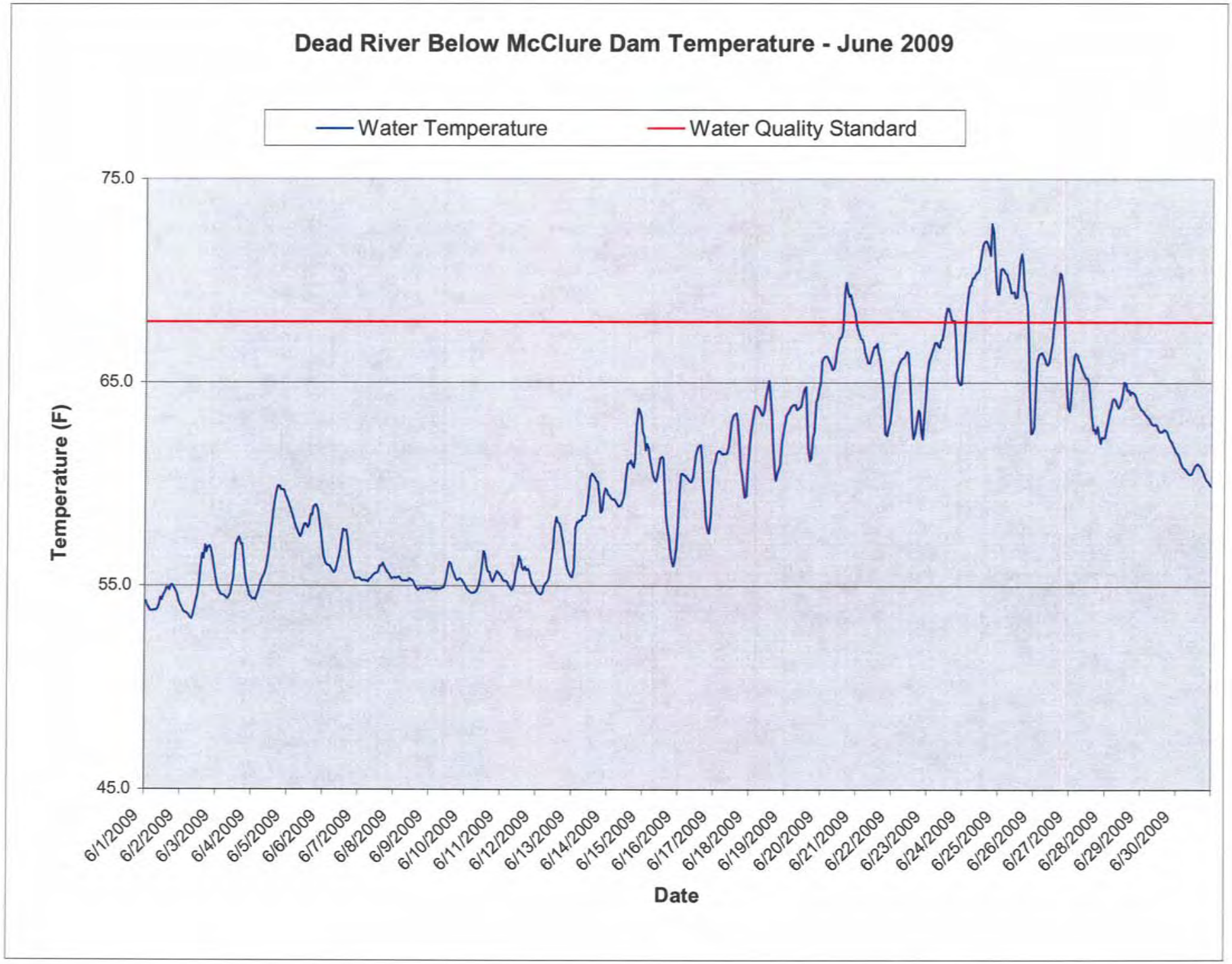
Time HHMMSS	10/1/2009	10/2/2009	10/3/2009	10/4/2009	10/5/2009	10/6/2009	10/7/2009	10/8/2009	10/9/2009	10/10/2009	10/11/2009	10/12/2009	10/13/2009	10/14/2009	10/15/2009	10/16/2009
0	58.6	58.6	56.9	57.1	56.5	56.1	54.9	54.8	54.0	53.2	50.9	50.2	49.7	48.9	48.6	48.1
10000	58.5	58.5	56.9	57.1	56.5	56.1	54.8	54.8	53.9	53.1	50.8	50.2	49.6	48.8	48.6	48.0
20000	58.4	58.3	56.9	57.0	56.5	56.1	54.8	54.7	53.8	53.0	50.5	50.2	49.5	48.8	48.6	47.9
30000	58.4	58.2	56.9	57.0	56.5	56.0	54.8	54.7	53.7	53.0	50.5	50.2	49.4	48.7	48.6	47.9
40000	58.4	58.2	57.0	57.0	56.4	56.0	54.8	54.6	53.6	52.9	50.5	50.2	49.3	48.7	48.6	47.8
50000	58.3	58.2	57.0	57.0	56.4	56.0	54.8	54.6	53.6	52.8	50.6	50.1	49.2	48.7	48.5	47.8
60000	58.2	58.2	57.1	56.9	56.4	56.0	54.8	54.5	53.5	52.8	50.6	50.1	49.2	48.6	48.5	47.8
70000	58.2	58.1	57.1	56.9	56.3	56.0	54.7	54.5	53.4	52.8	50.8	50.1	49.1	48.6	48.5	47.8
80000	58.2	58.1	57.1	56.9	56.3	56.0	54.6	54.4	53.4	52.8	50.8	50.1	49.1	48.5	48.4	47.8
90000	58.2	58.1	57.1	56.8	56.2	56.0	54.6	54.4	53.3	52.7	50.8	50.1	49.1	48.5	48.4	47.8
100000	58.4	58.1	57.2	56.9	56.3	56.0	54.6	54.5	53.4	52.8	50.8	50.1	49.2	48.5	48.4	47.9
110000	58.7	58.1	57.3	57.0	56.4	56.0	54.8	54.6	53.6	52.9	50.8	50.2	49.3	48.7	48.5	48.0
120000	59.1	58.2	57.5	57.1	56.7	56.0	55.2	54.6	53.8	52.8	51.0	50.3	49.5	49.0	48.6	48.2
130000	59.5	58.1	57.6	57.3	56.9	56.0	55.4	54.8	53.9	52.9	51.2	50.3	49.7	49.2	48.8	48.4
140000	59.6	58.1	57.6	57.3	56.9	55.9	55.6	54.9	54.0	53.0	51.2	50.2	49.7	49.4	48.7	48.6
150000	59.7	58.0	57.5	57.3	56.9	55.9	55.6	54.9	54.1	52.8	51.1	50.2	49.7	49.3	48.7	48.7
160000	59.6	58.0	57.5	57.3	56.9	55.8	55.6	54.9	54.1	52.5	51.0	50.2	49.7	49.4	48.7	48.7
170000	59.4	57.8	57.5	57.3	56.8	55.7	55.5	54.9	54.0	52.3	51.0	50.2	49.6	49.3	48.7	48.7
180000	59.1	57.7	57.5	57.1	56.8	55.5	55.4	54.7	53.9	52.0	51.0	50.1	49.5	49.1	48.5	48.5
190000	58.9	57.6	57.5	56.9	56.6	55.4	55.2	54.6	53.7	51.7	50.8	50.0	49.4	48.9	48.4	48.2
200000	58.8	57.4	57.3	56.8	56.4	55.2	55.1	54.5	53.5	51.4	50.6	49.9	49.2	48.8	48.3	48.0
210000	58.8	57.3	57.3	56.7	56.3	55.0	55.0	54.4	53.4	51.1	50.5	49.8	49.1	48.7	48.2	47.9
220000	58.7	57.1	57.2	56.6	56.2	55.0	54.9	54.2	53.4	51.0	50.4	49.8	49.0	48.7	48.1	47.9
230000	58.7	57.0	57.2	56.6	56.1	54.9	54.9	54.1	53.3	50.9	50.3	49.8	48.9	48.6	48.1	47.8
Daily Max	59.7	58.6	57.6	57.3	56.9	56.1	55.6	54.9	54.1	53.2	51.2	50.3	49.7	49.4	48.8	48.7
Daily Min	58.2	57.0	56.9	56.6	56.1	54.9	54.6	54.1	53.3	50.9	50.3	49.8	48.9	48.5	48.1	47.8
Average	58.8	58.0	57.2	57.0	56.5	55.8	55.0	54.6	53.7	52.5	50.8	50.1	49.4	48.8	48.5	48.1

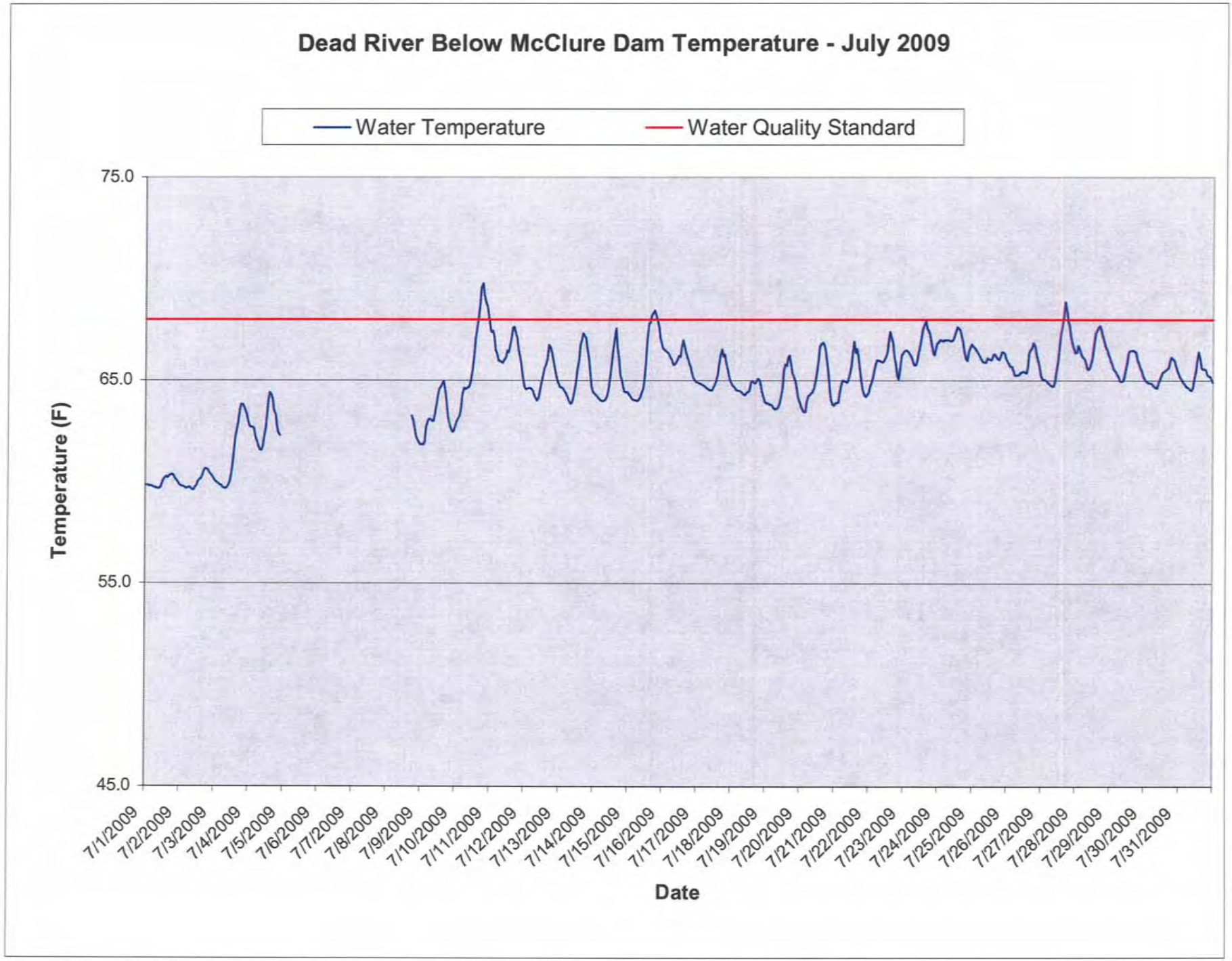
Monthly average temp (F): 49.6
License Max. Average Temperature: 56 F

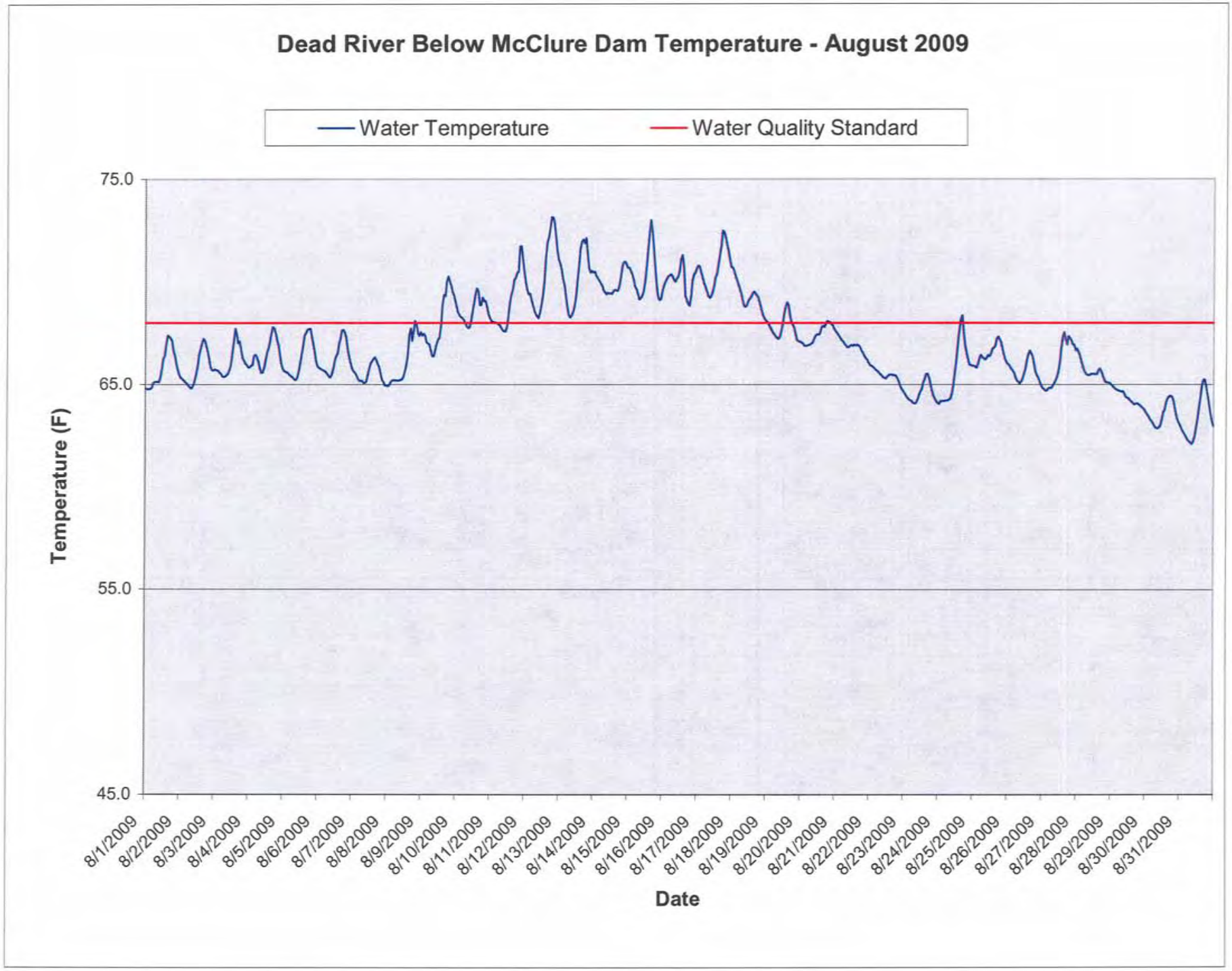
Dead River Below Hoist Powerhouse - October 2009 Temperature Monitoring Data

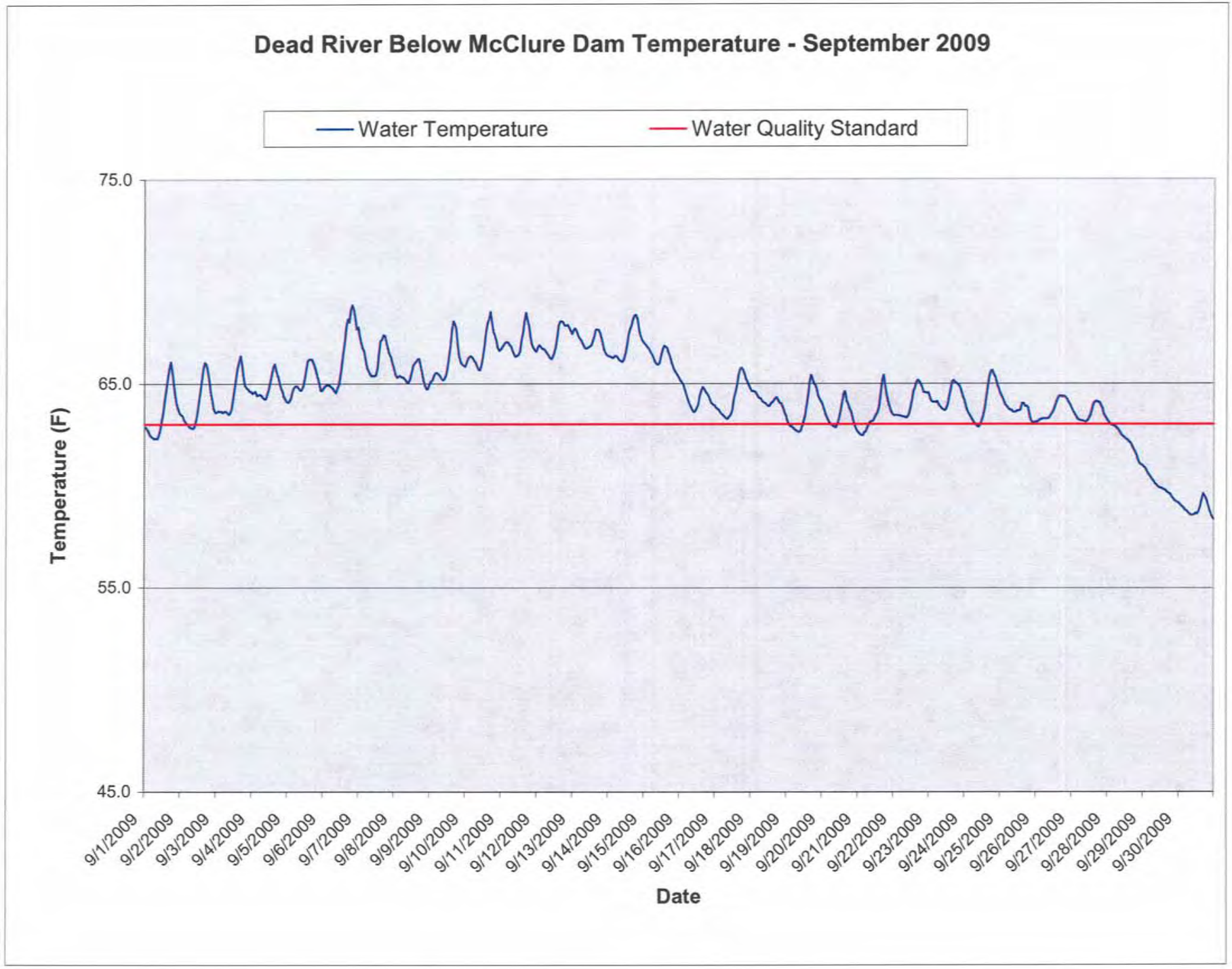
Time HHMMSS	10/17/2009	10/18/2009	10/19/2009	10/20/2009	10/21/2009	10/22/2009	10/23/2009	10/24/2009	10/25/2009	10/26/2009	10/27/2009	10/28/2009	10/29/2009	10/30/2009	10/31/2009
0	47.8	47.2	46.9	47.3	46.8	46.1	45.7	44.8	44.6	44.3	44.4	44.3	44.3	44.3	44.8
10000	47.7	47.2	46.9	47.3	46.8	46.1	45.7	44.8	44.6	44.2	44.4	44.2	44.3	44.3	44.8
20000	47.7	47.1	46.9	47.3	46.8	46.1	45.7	44.7	44.5	44.2	44.4	44.2	44.3	44.3	44.8
30000	47.7	47.0	46.9	47.2	46.7	46.0	45.6	44.5	44.5	44.2	44.4	44.3	44.3	44.3	44.9
40000	47.6	47.0	46.8	47.2	46.7	46.0	45.6	44.5	44.5	44.2	44.4	44.3	44.4	44.3	44.8
50000	47.5	47.0	46.8	47.1	46.7	46.0	45.6	44.5	44.4	44.2	44.4	44.4	44.5	44.3	44.7
60000	47.5	46.9	46.7	47.1	46.7	46.0	45.5	44.6	44.4	44.2	44.4	44.4	44.4	44.3	44.5
70000	47.4	46.8	46.7	47.1	46.7	46.0	45.5	44.7	44.5	44.2	44.4	44.4	44.5	44.3	44.4
80000	47.3	46.8	46.6	47.0	46.7	45.9	45.5	44.7	44.5	44.2	44.3	44.4	44.4	44.4	44.2
90000	47.3	46.8	46.6	47.0	46.7	45.9	45.5	44.8	44.5	44.2	44.2	44.3	44.4	44.4	44.1
100000	47.4	46.8	46.6	47.0	46.7	45.9	45.4	44.8	44.6	44.2	44.2	44.3	44.4	44.4	44.1
110000	47.5	46.9	46.7	47.1	46.7	46.0	45.4	44.9	44.6	44.3	44.3	44.5	44.4	44.4	44.1
120000	47.7	47.0	47.0	47.1	46.7	46.1	45.4	45.0	44.7	44.3	44.5	44.5	44.4	44.4	44.1
130000	47.9	47.2	47.2	47.1	46.7	46.1	45.4	45.1	44.8	44.4	44.6	44.7	44.4	44.5	44.0
140000	47.9	47.3	47.3	47.1	46.7	46.2	45.4	45.2	44.8	44.5	44.6	44.8	44.4	44.5	44.0
150000	47.9	47.3	47.4	47.2	46.6	46.3	45.4	45.3	44.7	44.5	44.6	44.7	44.4	44.6	44.1
160000	48.0	47.3	47.6	47.2	46.6	46.3	45.4	45.3	44.7	44.5	44.5	44.5	44.4	44.6	44.1
170000	48.0	47.3	47.6	47.1	46.5	46.3	45.3	45.3	44.6	44.5	44.4	44.4	44.4	44.6	44.1
180000	47.9	47.3	47.6	47.1	46.5	46.3	45.2	45.2	44.5	44.6	44.3	44.3	44.3	44.7	44.0
190000	47.8	47.2	47.7	47.0	46.4	46.1	45.1	45.1	44.3	44.5	44.4	44.2	44.3	44.8	43.9
200000	47.7	47.0	47.6	46.9	46.3	46.0	44.9	44.9	44.3	44.4	44.5	44.1	44.3	44.8	43.7
210000	47.5	47.0	47.5	46.9	46.3	45.9	44.8	44.8	44.3	44.4	44.5	44.1	44.3	44.8	43.6
220000	47.4	46.9	47.5	46.8	46.2	45.8	44.8	44.8	44.3	44.4	44.4	44.2	44.3	44.8	43.6
230000	47.3	46.9	47.4	46.8	46.2	45.7	44.8	44.7	44.3	44.4	44.3	44.2	44.3	44.9	43.6
Daily Max	48.0	47.3	47.7	47.3	46.8	46.3	45.7	45.3	44.8	44.6	44.6	44.8	44.5	44.9	44.9
Daily Min	47.3	46.8	46.6	46.8	46.2	45.7	44.8	44.5	44.3	44.2	44.2	44.1	44.3	44.3	43.6
Average	47.6	47.1	47.1	47.1	46.6	46.0	45.4	44.9	44.5	44.3	44.4	44.4	44.4	44.5	44.2

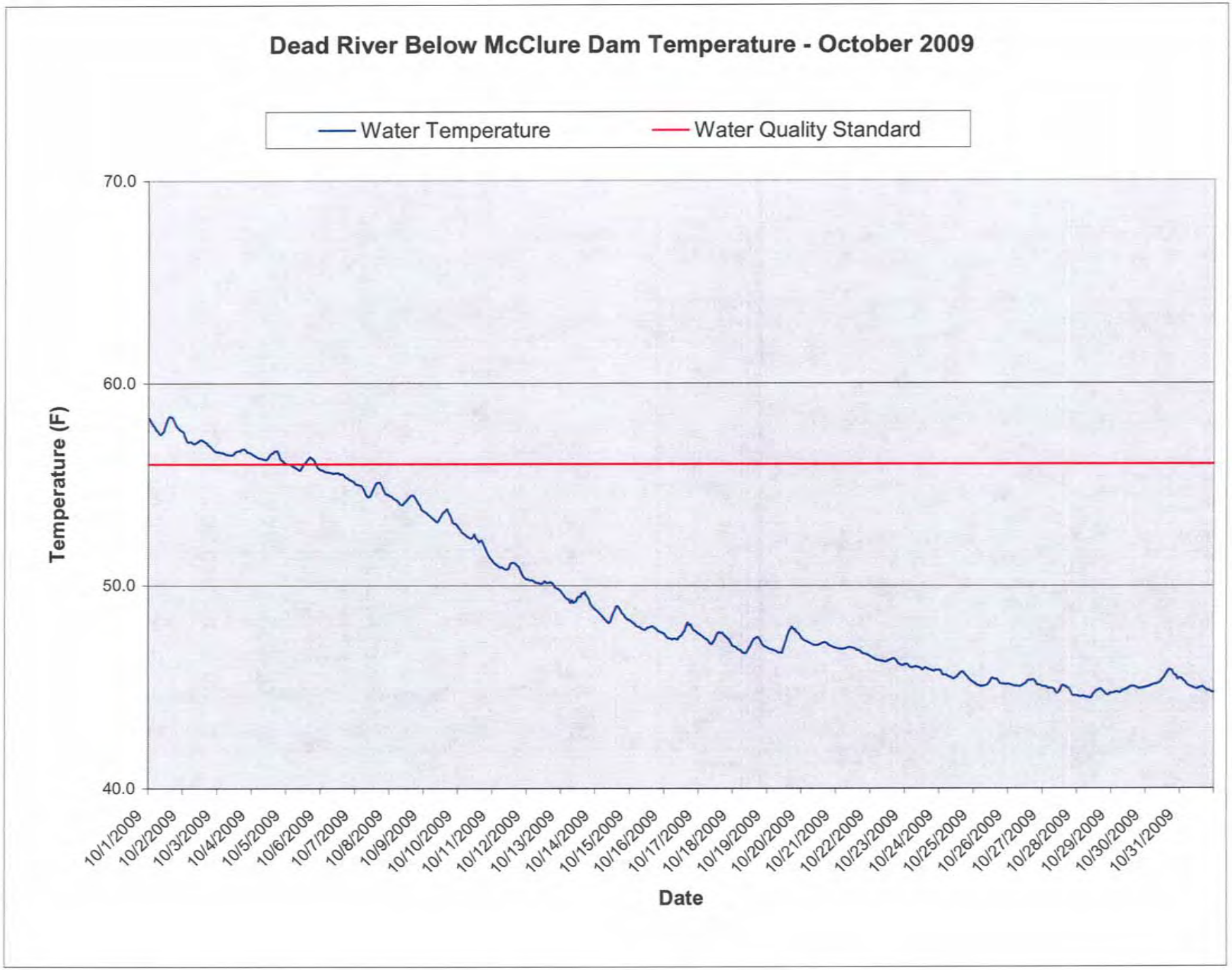












Dead River Below McClure Dam - May 2009 Temperature Monitoring Data

Time HHMMSS	5/1/09	5/2/09	5/3/09	5/4/09	5/5/09	5/6/09	5/7/09	5/8/09	5/9/09	5/10/09	5/11/09	5/12/09	5/13/09	5/14/09	5/15/09	5/16/09
0	41.9	41.3	41.5	42.6	43.2	44.4	45.7	46.8	49.3	47.4	48.5	47.8	48.1	49.7	49.5	49.9
10000	41.4	41.3	41.5	42.5	43.4	44.7	46.3	46.6	49.1	47.3	48.5	48.1	48.3	49.6	49.4	50.0
20000	41.3	41.3	41.6	42.6	43.7	44.9	46.8	46.3	49.2	47.2	48.5	48.4	48.4	49.6	49.3	50.1
30000	41.2	41.3	41.6	42.6	44.2	44.9	47.0	47.3	49.0	47.2	48.5	48.7	48.4	49.6	49.3	50.3
40000	41.2	41.3	41.6	42.5	44.3	45.1	47.2	48.0	48.8	47.1	48.4	48.9	48.4	49.8	49.2	50.5
50000	41.2	41.3	41.5	42.4	44.5	45.1	47.3	47.9	48.7	47.0	48.3	49.0	48.5	49.9	49.1	50.7
60000	41.1	41.2	41.5	42.4	44.6	45.2	47.5	48.3	48.6	47.0	48.3	48.9	48.4	49.9	49.0	50.7
70000	41.2	41.2	41.5	42.3	44.5	45.3	47.0	48.2	48.4	46.9	48.1	48.9	48.4	49.7	49.0	50.6
80000	41.2	41.3	41.5	42.4	44.6	45.5	47.1	48.2	48.3	46.9	48.2	49.0	48.4	49.7	49.0	50.6
90000	41.2	41.3	41.6	42.6	44.6	45.6	47.2	48.3	48.2	46.9	48.3	49.2	48.3	49.7	49.1	50.5
100000	41.3	41.5	41.8	43.0	44.7	45.7	47.6	48.5	48.2	47.0	48.6	49.4	48.5	49.5	49.3	50.6
110000	41.4	41.5	42.1	43.4	44.7	45.8	48.0	48.8	48.2	47.4	49.0	49.8	48.5	49.7	49.5	50.5
120000	41.6	41.6	42.4	43.5	44.5	46.1	48.5	49.2	48.4	47.7	49.5	50.2	48.5	49.8	49.7	50.5
130000	41.6	41.6	42.6	43.5	44.5	46.3	49.6	49.2	48.3	47.8	49.2	50.7	48.4	50.0	49.8	50.5
140000	41.6	41.8	42.9	43.5	44.3	46.5	49.8	49.7	48.3	48.5	49.3	50.7	48.6	50.3	49.9	50.3
150000	41.6	41.9	43.1	43.4	44.0	46.3	49.9	50.0	48.2	48.7	49.2	50.4	48.8	50.1	49.9	50.5
160000	41.6	42.0	43.0	43.3	43.4	45.5	49.1	50.1	48.1	49.0	49.0	49.7	48.9	50.3	49.8	50.4
170000	41.6	42.1	43.1	43.1	43.1	45.6	50.6	49.8	48.0	49.3	48.7	49.0	49.1	50.4	49.7	50.3
180000	41.8	42.0	42.9	42.8	42.9	45.1	51.5	49.3	47.9	48.9	48.3	48.5	49.2	50.4	49.6	50.2
190000	41.7	41.9	42.7	42.5	43.0	45.0	50.2	49.3	47.8	49.1	48.0	47.6	49.4	50.3	49.2	50.1
200000	41.7	41.9	42.6	42.5	43.3	44.8	49.0	49.4	47.8	49.9	47.8	46.6	49.6	50.1	49.3	50.0
210000	41.6	41.8	42.7	42.5	43.6	44.7	47.5	49.6	47.6	49.4	47.8	46.6	49.6	50.0	49.3	49.9
220000	41.5	41.6	42.6	42.5	44.0	44.8	46.5	49.9	47.5	48.9	47.6	47.0	49.7	49.9	49.6	49.8
230000	41.4	41.6	42.6	42.8	44.2	45.3	46.4	49.5	47.4	48.7	47.6	47.7	49.7	49.7	49.7	49.8
Daily Max	41.9	42.1	43.1	43.5	44.7	46.5	51.5	50.1	49.3	49.9	49.5	50.7	49.7	50.4	49.9	50.7
Daily Min	41.1	41.2	41.5	42.3	42.9	44.4	45.7	46.3	47.4	46.9	47.6	46.6	48.1	49.5	49.0	49.8
Average	41.4	41.6	42.2	42.8	44.0	45.3	48.0	48.7	48.3	48.0	48.5	48.8	48.7	49.9	49.4	50.3

Monthly average temp (F): 50.1
License Maximum Monthly Average: 65ºF

Note: The McClure penstock and powerhouse were out of service during the 2009 monitoring season.

Dead River Below McClure Dam - May 2009 Temperature Monitoring Data

Time HHMMSS	5/17/09	5/18/09	5/19/09	5/20/09	5/21/09	5/22/09	5/23/09	5/24/09	5/25/09	5/26/09	5/27/09	5/28/09	5/29/09	5/30/09	5/31/09
0	49.7	49.3	52.1	49.9	54.6	53.9	52.7	55.2	56.2	53.3	53.6	54.0	57.3	56.4	55.6
10000	49.6	49.2	51.9	49.9	54.5	53.8	52.9	55.3	57.2	53.6	53.7	53.9	57.4	56.3	55.4
20000	49.5	49.1	51.7	49.9	54.4	53.6	53.0	55.7	57.2	53.4	53.7	53.9	57.6	56.3	55.3
30000	49.4	49.1	51.4	50.1	54.2	53.4	53.2	55.9	56.9	53.5	53.6	53.8	57.1	56.1	55.1
40000	49.4	49.1	51.2	50.4	54.1	53.2	53.4	55.7	56.7	53.6	53.5	53.8	56.9	56.0	54.9
50000	49.3	49.0	51.1	50.4	54.0	53.1	53.7	55.6	56.5	53.5	53.5	53.7	56.8	56.0	54.7
60000	49.2	48.9	50.9	50.5	53.9	53.0	53.9	55.4	56.3	53.5	53.5	53.7	56.5	55.9	54.5
70000	49.2	48.9	50.8	50.5	53.8	52.8	53.9	55.3	56.1	53.7	53.5	53.7	56.2	56.0	54.4
80000	49.2	49.1	50.8	50.5	53.8	52.9	54.0	55.3	56.0	53.8	53.6	53.8	56.0	56.2	54.5
90000	49.2	49.5	50.7	50.6	53.8	53.1	54.1	55.5	56.2	53.8	53.6	53.9	56.0	56.4	54.7
100000	49.4	49.9	50.7	51.2	53.7	53.3	54.4	55.8	56.4	53.8	53.7	54.0	56.1	56.4	55.1
110000	49.6	50.3	50.7	51.8	53.6	53.5	55.0	56.2	56.5	53.9	53.8	54.3	56.6	56.6	55.5
120000	49.8	50.9	50.8	52.7	53.6	53.7	55.5	56.8	56.0	54.1	53.8	55.4	57.4	56.5	55.6
130000	50.2	51.2	50.8	53.7	53.4	53.9	56.0	56.6	54.8	54.2	53.9	56.6	57.8	56.5	55.2
140000	50.5	51.1	50.8	54.4	53.4	53.8	56.0	56.5	54.2	54.6	53.9	57.4	57.8	56.7	55.3
150000	50.7	51.7	51.0	54.6	54.1	53.7	55.9	56.9	53.9	54.5	54.1	58.2	57.7	57.1	55.4
160000	50.7	52.0	51.0	55.1	54.5	53.3	55.9	56.6	53.7	54.3	54.2	58.5	57.7	57.2	54.9
170000	50.5	52.4	50.8	55.3	54.6	52.8	56.6	57.2	53.3	54.0	54.2	58.7	57.4	57.1	54.6
180000	50.4	52.2	50.7	55.6	54.4	52.2	55.9	57.7	52.6	53.8	54.3	58.6	56.8	56.8	54.4
190000	50.1	52.6	50.7	55.6	54.1	51.7	55.3	57.5	52.0	53.7	54.3	58.5	56.3	56.6	54.2
200000	49.7	52.8	50.7	55.7	54.1	51.5	55.1	56.7	52.1	53.6	54.3	58.3	56.4	56.4	54.2
210000	49.5	52.6	50.4	55.5	54.3	52.0	55.1	56.6	52.4	53.5	54.3	58.8	56.5	56.1	54.2
220000	49.4	52.5	50.1	55.3	54.2	52.0	55.6	56.2	52.6	53.3	54.2	58.8	56.6	55.7	54.3
230000	49.3	52.3	49.9	54.8	54.0	52.3	55.3	55.8	53.1	53.5	54.1	57.8	56.4	55.7	54.3
Daily Max	50.7	52.8	52.1	55.7	54.6	53.9	56.6	57.7	57.2	54.6	54.3	58.8	57.8	57.2	55.6
Daily Min	49.2	48.9	49.9	49.9	53.4	51.5	52.7	55.2	52.0	53.3	53.5	53.7	56.0	55.7	54.2
Average	49.7	50.6	50.9	52.7	54.0	53.0	54.7	56.2	55.0	53.8	53.9	55.9	56.9	56.4	54.9

Dead River Below McClure Dam - June 2009 Temperature Monitoring Data

Time HHMMSS	06/01/09	06/02/09	06/03/09	06/04/09	06/05/09	06/06/09	06/07/09	06/08/09	06/09/09	06/10/09	06/11/09	06/12/09	06/13/09	06/14/09	06/15/09	06/16/09
0	54.0	53.8	54.8	54.4	58.8	56.1	55.3	55.4	54.8	54.8	55.3	54.7	55.9	59.4	61.7	60.5
10000	53.9	53.7	54.7	54.3	58.6	56.0	55.3	55.4	54.8	54.8	55.2	54.6	57.8	59.3	62.0	60.5
20000	53.8	53.7	54.6	54.5	58.4	56.0	55.3	55.4	54.8	54.7	55.2	54.6	58.1	59.2	61.8	60.4
30000	53.8	53.6	54.5	54.8	58.2	56.0	55.2	55.3	54.8	54.6	55.2	54.7	58.1	59.3	61.2	60.4
40000	53.8	53.5	54.5	55.0	57.9	55.9	55.2	55.2	54.8	54.6	55.0	55.0	58.2	59.1	60.8	60.3
50000	53.8	53.4	54.4	55.3	57.7	55.7	55.2	55.3	54.8	54.7	54.9	55.1	58.2	59.0	60.4	60.2
60000	53.8	53.4	54.4	55.4	57.5	55.6	55.3	55.2	54.8	54.7	54.8	55.2	58.4	58.9	60.2	60.1
70000	53.9	53.5	54.4	55.5	57.4	55.7	55.4	55.2	54.9	54.8	54.9	55.3	58.4	58.9	60.1	60.1
80000	54.1	53.9	54.6	55.8	57.5	56.0	55.5	55.3	54.9	55.1	55.2	55.7	58.5	59.0	60.4	60.3
90000	54.4	54.2	54.9	56.2	57.8	56.4	55.6	55.3	55.1	55.4	55.7	56.3	59.1	59.3	60.9	60.9
100000	54.3	54.5	55.4	56.8	58.0	56.7	55.6	55.3	55.4	56.1	56.0	56.9	59.7	59.6	61.3	61.4
110000	54.6	55.1	56.2	57.5	58.0	57.2	55.6	55.3	55.9	56.7	56.5	57.8	60.4	60.5	61.3	61.8
120000	54.7	55.8	57.1	58.1	57.8	57.8	55.7	55.1	56.2	56.6	56.2	58.4	60.5	61.0	61.2	61.9
130000	54.9	56.6	57.2	58.7	57.9	57.7	56.0	54.9	56.0	55.9	55.9	58.1	60.4	61.0	60.0	61.9
140000	54.9	56.3	57.4	59.2	58.5	57.7	56.0	54.8	55.8	55.7	55.8	58.0	60.3	61.2	58.4	61.3
150000	54.8	57.0	57.0	59.6	58.4	57.4	56.1	54.8	55.6	55.7	55.9	57.8	60.1	61.0	57.8	60.1
160000	55.0	56.6	57.1	59.9	58.9	56.6	55.9	54.9	55.4	55.4	55.8	57.5	60.1	60.8	57.3	59.1
170000	55.0	56.9	56.2	59.9	58.9	56.1	55.8	54.9	55.3	55.2	55.8	57.0	59.4	61.2	56.7	58.1
180000	54.9	56.9	55.5	59.7	58.9	55.8	55.7	54.8	55.3	55.3	55.7	56.4	58.6	62.9	56.2	57.7
190000	54.8	56.8	55.1	59.7	58.7	55.6	55.6	54.9	55.3	55.5	55.4	56.0	58.7	63.7	56.0	57.6
200000	54.6	56.4	54.8	59.7	58.2	55.4	55.5	54.9	55.3	55.7	55.1	55.7	59.4	63.6	56.2	58.4
210000	54.3	55.9	54.5	59.5	57.6	55.3	55.3	54.9	55.2	55.7	55.0	55.6	59.8	63.3	56.8	59.8
220000	54.1	55.4	54.4	59.3	57.0	55.4	55.4	54.9	55.1	55.5	54.9	55.5	59.7	62.6	57.8	60.8
230000	53.9	55.1	54.3	59.1	56.4	55.4	55.4	54.9	54.9	55.5	54.8	55.4	59.5	62.3	59.7	61.1
Daily Max	55.0	57.0	57.4	59.9	58.9	57.8	56.1	55.4	56.2	56.7	56.5	58.4	60.5	63.7	62.0	61.9
Daily Min	53.8	53.4	54.3	54.3	56.4	55.3	55.2	54.8	54.8	54.6	54.8	54.6	55.9	58.9	56.0	57.6
Average	54.3	55.1	55.3	57.4	58.1	56.2	55.5	55.1	55.2	55.4	55.4	56.1	59.1	60.7	59.4	60.2

Monthly average temp (F): 60.6
License Maximum Monthly Average: 68°F

Note: The McClure penstock and powerhouse were out of service during the 2009 monitoring season.

Dead River Below McClure Dam - June 2009 Temperature Monitoring Data

Time HHMMSS	06/17/09	06/18/09	06/19/09	06/20/09	06/21/09	06/22/09	06/23/09	06/24/09	06/25/09	06/26/09	06/27/09	06/28/09	06/29/09	06/30/09
0	61.5	63.0	63.5	66.2	67.4	64.4	66.1	67.2	70.6	64.6	64.3	62.7	63.7	61.5
10000	61.6	63.6	63.6	66.3	67.2	65.0	66.3	68.5	70.6	66.0	65.6	63.1	63.6	61.4
20000	61.6	63.9	63.8	66.3	67.1	65.5	66.5	69.3	70.5	66.4	66.3	63.5	63.5	61.2
30000	61.5	63.8	63.9	66.2	66.9	65.7	66.7	69.7	70.4	66.4	66.5	63.8	63.4	60.9
40000	61.4	63.7	63.9	66.0	66.5	65.9	67.0	69.8	70.3	66.5	66.4	64.1	63.3	60.8
50000	61.5	63.6	63.9	65.8	66.2	66.1	67.0	70.2	70.1	66.4	66.1	64.2	63.2	60.8
60000	61.5	63.4	63.6	65.6	66.0	66.2	66.8	70.1	69.9	66.1	65.9	64.1	63.1	60.7
70000	61.5	63.4	63.7	65.7	66.0	66.2	66.7	70.3	69.4	65.9	65.7	63.9	63.0	60.6
80000	61.8	63.6	63.8	66.0	66.2	66.3	67.1	70.4	69.4	65.9	65.5	63.8	62.9	60.5
90000	62.4	64.3	63.8	66.6	66.5	66.5	67.1	70.5	69.5	66.0	65.4	63.9	63.0	60.5
100000	63.1	64.7	64.3	67.0	66.8	66.5	67.6	70.8	69.2	66.5	65.2	64.2	62.9	60.5
110000	63.4	65.1	64.7	67.2	66.7	65.5	68.2	71.3	69.2	67.0	65.2	64.5	62.7	60.7
120000	63.4	64.5	64.8	67.3	66.9	64.0	68.7	71.8	70.0	67.7	65.0	65.0	62.6	60.9
130000	63.5	63.4	63.1	67.6	66.5	62.8	68.7	71.9	70.9	68.6	64.1	65.0	62.6	61.0
140000	63.1	62.0	61.8	69.4	66.2	62.2	68.4	72.0	71.3	69.2	63.4	64.6	62.6	61.0
150000	62.2	60.7	61.2	69.9	65.7	62.5	68.1	71.8	70.9	69.6	62.7	64.7	62.7	60.9
160000	60.9	60.2	61.3	69.6	64.9	63.0	68.1	71.6	69.6	70.4	62.7	64.4	62.7	60.9
170000	60.5	60.5	62.3	69.2	63.8	63.6	68.1	71.3	69.4	70.3	62.5	64.6	62.6	60.7
180000	59.9	60.7	62.6	69.3	62.5	63.5	67.1	72.8	68.8	69.8	62.8	64.5	62.4	60.5
190000	59.3	60.9	64.1	68.9	62.4	62.5	65.3	72.4	67.2	68.7	62.4	64.5	62.2	60.3
200000	59.4	62.1	64.2	68.7	62.7	62.2	65.1	71.2	64.5	66.6	62.0	64.2	62.1	60.2
210000	60.7	62.5	64.6	68.4	63.0	63.2	64.9	69.7	62.5	64.8	62.3	64.0	61.9	60.1
220000	61.9	63.0	65.0	67.9	63.6	64.3	64.9	69.4	62.5	63.7	62.3	63.8	61.8	60.0
230000	62.5	63.4	66.1	67.6	64.4	65.4	66.0	69.4	62.8	63.6	62.3	63.7	61.6	59.9
Daily Max	63.5	65.1	66.1	69.9	67.4	66.5	68.7	72.8	71.3	70.4	66.5	65.0	63.7	61.5
Daily Min	59.3	60.2	61.2	65.6	62.4	62.2	64.9	67.2	62.5	63.6	62.0	62.7	61.6	59.9
Average	61.7	62.9	63.6	67.5	65.5	64.6	66.9	70.6	68.7	67.0	64.3	64.1	62.7	60.7

Dead River Below McClure Dam - July 2009 Temperature Monitoring Data

Time HHMMSS	07/01/09	07/02/09	07/03/09	07/04/09	07/05/09	07/06/09	07/07/09	07/08/09	07/09/09	07/10/09	07/11/09	07/12/09	07/13/09	07/14/09	07/15/09	07/16/09
0	59.8	59.8	60.0	62.7					61.8	63.0	67.4	64.6	64.7	64.3	64.3	66.6
10000	59.8	59.8	60.0	62.7					61.8	63.1	67.4	64.6	64.7	64.3	64.2	66.5
20000	59.8	59.7	59.9	62.7					62.0	63.3	67.2	64.6	64.6	64.2	64.1	66.4
30000	59.8	59.7	59.8	62.6					62.7	63.6	66.5	64.6	64.5	64.1	64.1	66.4
40000	59.8	59.6	59.8	62.2					63.0	64.3	66.3	64.6	64.4	64.0	64.0	66.3
50000	59.7	59.7	59.7	62.0					63.1	64.6	66.0	64.5	64.2	64.0	64.0	66.1
60000	59.7	59.7	59.7	61.8					63.1	64.6	66.0	64.2	64.0	64.0	64.0	66.0
70000	59.7	59.6	59.6	61.6					63.0	64.6	65.9	64.1	63.9	64.0	64.0	65.8
80000	59.6	59.6	59.7	61.5					63.0	64.7	65.9	64.0	63.9	64.1	64.1	65.8
90000	59.6	59.6	59.8	61.7					63.3	64.8	66.0	64.2	64.1	64.3	64.4	65.9
100000	59.7	59.7	60.0	62.2					63.8	65.0	66.1	64.5	64.5	64.6	64.6	66.1
110000	59.9	59.8	60.3	62.7					64.3	65.4	66.5	64.9	64.9	65.1	65.1	66.2
120000	60.1	60.0	60.7	63.3					64.6	66.2	66.4	65.3	65.5	65.9	65.9	66.2
130000	60.2	60.1	61.6	64.0					64.7	67.1	66.8	65.6	66.0	66.5	67.0	66.7
140000	60.2	60.2	62.2	64.4					64.9	67.5	67.1	65.8	66.7	67.0	67.8	67.0
150000	60.2	60.3	62.5	64.3					65.0	68.1	67.6	66.1	67.0	67.6	67.9	66.6
160000	60.3	60.5	63.0	64.1					64.5	68.7	67.6	66.8	67.3	66.6	68.2	66.3
170000	60.3	60.6	63.5	63.5				63.2	63.9	69.6	67.3	66.7	67.2	66.1	68.3	66.1
180000	60.4	60.6	63.8	63.3				62.9	63.2	69.8	67.1	66.4	67.1	65.2	68.5	65.9
190000	60.3	60.6	63.8	62.7				62.6	62.9	69.2	66.5	66.1	66.6	65.0	68.3	65.7
200000	60.1	60.4	63.6	62.4				62.2	62.6	68.9	66.1	65.7	66.1	64.7	67.9	65.4
210000	60.1	60.3	63.5	62.3				62.0	62.5	68.7	65.7	65.3	65.4	64.5	67.7	65.2
220000	59.9	60.2	63.3					61.9	62.5	68.2	65.2	65.0	64.7	64.4	67.1	65.0
230000	59.8	60.1	62.9					61.8	62.8	67.8	64.7	64.8	64.4	64.4	66.7	64.9
Daily Max	60.4	60.6	63.8	64.4	0.0	0.0	0.0	63.2	65.0	69.8	67.6	66.8	67.3	67.6	68.5	67.0
Daily Min	59.6	59.6	59.6	61.5	0.0	0.0	0.0	61.8	61.8	63.0	64.7	64.0	63.9	64.0	64.0	64.9
Average	60.0	60.0	61.4	62.8				62.4	63.3	66.3	66.5	65.1	65.3	65.0	65.9	66.0

Monthly average temp (F): 64.9
License Maximum Monthly Average: 68°F
No temperature data from 7/4 @ 22:00 through 7/8 @ 16:00 due to equipment power failure.

Note: The McClure penstock and powerhouse were out of service during the 2009 monitoring season.

Dead River Below McClure Dam - July 2009 Temperature Monitoring Data

Time HHMMSS	07/17/09	07/18/09	07/19/09	07/20/09	07/21/09	07/22/09	07/23/09	07/24/09	07/25/09	07/26/09	07/27/09	07/28/09	07/29/09	07/30/09	07/31/09
0	64.9	64.8	63.9	63.7	63.9	64.7	66.5	66.9	66.7	65.9	65.1	66.4	65.9	65.0	65.2
10000	64.9	64.7	63.9	63.6	63.9	64.9	66.5	67.0	66.6	65.8	65.0	66.7	65.7	64.9	65.1
20000	64.8	64.6	63.8	63.5	63.9	65.1	66.5	67.0	66.5	65.7	65.0	66.6	65.5	64.9	64.9
30000	64.8	64.5	63.8	63.5	64.4	65.5	66.4	66.9	66.4	65.7	65.0	66.3	65.4	64.9	64.8
40000	64.8	64.5	63.7	64.0	64.8	65.8	66.3	67.0	66.3	65.5	64.9	66.1	65.3	64.9	64.7
50000	64.7	64.5	63.6	64.2	65.0	66.0	66.1	67.0	66.1	65.3	64.8	66.1	65.2	64.8	64.7
60000	64.7	64.5	63.6	64.3	65.0	66.0	65.9	67.0	66.0	65.3	64.8	65.9	65.0	64.7	64.6
70000	64.6	64.4	63.6	64.4	64.9	66.0	65.8	67.0	65.9	65.3	64.7	65.6	64.9	64.7	64.5
80000	64.5	64.3	63.7	64.4	64.9	65.9	65.8	67.0	65.9	65.3	64.7	65.5	65.0	64.6	64.5
90000	64.5	64.3	63.8	64.6	65.0	65.9	66.0	67.0	65.9	65.4	65.0	65.6	65.1	64.9	64.7
100000	64.5	64.4	64.1	64.9	65.3	66.0	66.4	67.0	66.1	65.4	65.5	65.9	65.5	65.1	65.1
110000	64.7	64.4	64.6	65.3	65.7	66.1	66.8	67.2	66.1	65.4	66.0	66.1	65.9	65.2	65.5
120000	64.8	64.5	65.4	66.0	66.4	66.4	67.2	67.5	66.0	65.4	66.7	66.7	66.3	65.4	66.1
130000	65.0	64.9	65.8	66.7	66.9	67.0	67.6	67.6	66.0	65.4	67.3	67.3	66.5	65.4	66.4
140000	65.3	65.0	65.7	66.8	66.4	67.4	67.8	67.6	66.3	65.6	67.7	67.5	66.5	65.5	66.1
150000	65.8	64.9	66.1	66.9	66.6	67.2	67.9	67.5	66.3	66.4	68.2	67.6	66.5	65.6	65.6
160000	66.2	64.9	66.2	66.8	66.2	66.8	67.6	67.2	66.2	66.5	68.9	67.7	66.5	65.6	65.6
170000	66.5	64.9	65.8	66.5	65.5	66.2	67.4	66.9	66.1	66.6	68.4	67.5	66.4	66.0	65.6
180000	66.2	65.1	65.3	66.0	64.9	65.8	67.2	66.4	66.0	66.8	67.9	67.2	66.1	66.2	65.5
190000	66.3	65.0	65.2	65.3	64.5	65.2	66.8	66.1	66.2	66.7	67.7	66.9	65.9	66.1	65.3
200000	65.8	64.8	65.0	64.5	64.3	65.1	66.4	66.0	66.4	66.3	67.2	66.7	65.7	66.0	65.2
210000	65.6	64.4	64.6	64.0	64.2	65.6	66.3	66.4	66.4	66.0	66.8	66.6	65.5	65.8	65.2
220000	65.2	64.1	64.2	63.8	64.3	66.3	66.6	66.7	66.3	65.7	66.6	66.3	65.3	65.5	65.0
230000	64.9	63.9	63.9	63.8	64.4	66.3	66.8	66.8	66.1	65.3	66.4	66.1	65.1	65.3	64.9
Daily Max	66.5	65.1	66.2	66.9	66.9	67.4	67.9	67.6	66.7	66.8	68.9	67.7	66.5	66.2	66.4
Daily Min	64.5	63.9	63.6	63.5	63.9	64.7	65.8	66.0	65.9	65.3	64.7	65.5	64.9	64.6	64.5
Average	65.2	64.6	64.6	64.9	65.1	66.0	66.7	66.9	66.2	65.8	66.3	66.5	65.7	65.3	65.2

Dead River Below McClure Dam - August 2009 Temperature Monitoring Data

Time HHMMSS	8/1/2009	8/2/2009	8/3/2009	8/4/2009	8/5/2009	8/6/2009	8/7/2009	8/8/2009	8/9/2009	8/10/2009	8/11/2009	8/12/2009	8/13/2009	8/14/2009	8/15/2009	8/16/2009
0	64.8	65.3	65.7	65.8	65.6	65.8	65.6	64.9	67.4	68.8	68.1	70.0	70.9	70.5	70.7	69.8
10000	64.8	65.3	65.7	65.9	65.6	65.8	65.6	65.0	67.5	68.5	68.1	69.6	70.6	70.3	70.6	70.0
20000	64.8	65.2	65.7	66.0	65.6	65.7	65.4	65.1	67.4	68.4	68.0	69.4	70.1	70.2	70.4	70.1
30000	64.8	65.1	65.6	66.4	65.5	65.7	65.3	65.2	67.1	68.3	68.0	69.4	69.8	70.1	70.1	70.3
40000	64.9	65.0	65.5	66.5	65.4	65.6	65.2	65.2	67.0	68.2	68.0	69.1	69.3	69.9	69.8	70.3
50000	65.0	65.0	65.4	66.3	65.4	65.6	65.2	65.2	67.0	68.1	67.9	68.9	68.8	69.8	69.7	70.4
60000	65.1	64.9	65.4	66.1	65.3	65.5	65.2	65.2	66.7	68.0	67.9	68.6	68.4	69.6	69.4	70.3
70000	65.1	64.8	65.4	65.8	65.2	65.4	65.1	65.2	66.4	67.8	67.8	68.4	68.3	69.5	69.2	70.1
80000	65.1	64.8	65.4	65.6	65.2	65.3	65.1	65.2	66.4	67.7	67.6	68.3	68.4	69.4	69.2	70.0
90000	65.1	65.0	65.5	65.6	65.3	65.5	65.1	65.2	66.7	67.8	67.6	68.2	68.5	69.5	69.3	70.2
100000	65.4	65.2	65.7	65.8	65.6	65.8	65.4	65.2	67.0	68.1	67.6	68.5	68.8	69.4	69.6	70.3
110000	65.8	65.5	66.0	66.1	66.0	66.1	65.7	65.4	67.2	68.5	67.8	68.9	69.3	69.5	70.1	70.6
120000	66.3	65.9	66.5	66.5	66.5	66.4	66.0	65.6	67.3	69.0	68.4	69.3	70.1	69.4	70.7	71.1
130000	66.4	66.5	67.2	66.8	66.9	66.5	66.1	66.0	67.9	69.4	69.0	70.1	70.8	69.6	71.6	71.3
140000	67.0	66.8	67.7	67.1	67.4	67.0	66.2	66.4	68.8	69.7	69.4	71.2	71.6	69.6	72.4	70.7
150000	67.4	67.0	67.4	67.5	67.5	67.2	66.3	67.4	69.4	69.5	69.6	71.9	72.0	69.6	73.0	69.3
160000	67.3	67.2	67.0	67.8	67.7	67.6	66.2	67.7	69.3	68.9	70.1	72.2	72.1	69.6	72.4	69.1
170000	67.2	67.1	67.1	67.7	67.7	67.7	66.0	67.1	70.0	68.9	70.2	72.6	71.9	69.8	71.6	68.9
180000	67.1	66.8	66.7	67.5	67.7	67.5	65.8	67.6	70.3	69.2	70.4	73.1	72.1	70.2	70.7	68.8
190000	66.7	66.6	66.3	67.2	67.4	67.3	65.5	68.1	70.1	69.1	70.5	73.1	71.3	70.7	69.8	69.3
200000	66.4	66.2	66.2	66.9	67.0	66.7	65.2	67.9	69.8	69.1	71.7	72.9	70.7	71.0	69.3	70.1
210000	66.0	65.8	66.0	66.4	66.6	66.3	65.1	67.5	69.5	68.8	71.7	72.2	70.5	71.0	69.1	70.4
220000	65.7	65.7	65.9	66.0	66.1	66.1	64.9	67.4	69.4	68.5	71.2	71.5	70.5	70.9	69.2	70.5
230000	65.5	65.7	65.8	65.8	65.9	65.8	64.9	67.6	69.1	68.3	70.5	71.1	70.5	70.7	69.5	70.7
Daily Max	67.4	67.2	67.7	67.8	67.7	67.7	66.3	68.1	70.3	69.7	71.7	73.1	72.1	71.0	73.0	71.3
Daily Min	64.8	64.8	65.4	65.6	65.2	65.3	64.9	64.9	66.4	67.7	67.6	68.2	68.3	69.4	69.1	68.8
Average	65.8	65.8	66.1	66.5	66.3	66.2	65.5	66.2	68.1	68.6	69.1	70.4	70.2	70.0	70.3	70.1

Monthly average temp (F): 67.1
License Maximum Monthly Average: 68°F

Note: The McClure penstock and powerhouse were out of service during the 2009 monitoring season.

Dead River Below McClure Dam - August 2009 Temperature Monitoring Data

Time HHMMSS	8/17/2009	8/18/2009	8/19/2009	8/20/2009	8/21/2009	8/22/2009	8/23/2009	8/24/2009	8/25/2009	8/26/2009	8/27/2009	8/28/2009	8/29/2009	8/30/2009	8/31/2009
0	70.8	70.7	68.1	67.0	67.6	65.9	64.6	64.0	65.9	66.0	64.8	66.8	65.0	63.6	63.0
10000	70.8	70.5	68.0	67.0	67.5	65.9	64.5	64.2	65.9	65.9	64.8	66.6	64.9	63.5	62.8
20000	70.4	70.3	67.8	66.9	67.4	65.9	64.4	64.2	65.8	65.8	64.7	66.4	64.8	63.4	62.7
30000	70.2	70.1	67.7	66.9	67.3	65.8	64.3	64.2	66.0	65.7	64.7	66.1	64.8	63.3	62.5
40000	70.0	69.9	67.6	66.9	67.2	65.7	64.2	64.2	66.3	65.6	64.8	65.9	64.7	63.2	62.4
50000	69.7	69.7	67.5	66.9	67.1	65.7	64.2	64.2	66.4	65.4	64.8	65.7	64.7	63.1	62.3
60000	69.5	69.4	67.4	67.0	67.0	65.6	64.1	64.2	66.3	65.2	64.8	65.5	64.7	62.9	62.2
70000	69.3	69.1	67.3	67.0	66.9	65.5	64.1	64.3	66.3	65.1	64.9	65.5	64.6	62.9	62.1
80000	69.2	68.8	67.2	67.0	66.8	65.4	64.1	64.3	66.2	65.0	65.0	65.4	64.7	62.9	62.1
90000	69.3	68.8	67.3	67.3	66.8	65.4	64.2	64.6	66.3	65.1	65.2	65.5	64.5	62.9	62.2
100000	69.5	68.9	67.6	67.4	66.9	65.3	64.4	65.0	66.4	65.3	65.3	65.5	64.4	63.0	62.5
110000	69.8	69.1	67.9	67.5	66.9	65.3	64.7	65.6	66.4	65.5	65.6	65.5	64.3	63.3	62.9
120000	70.2	69.2	68.4	67.4	66.9	65.4	64.8	66.3	66.5	65.8	66.1	65.5	64.3	63.6	63.3
130000	70.4	69.3	68.8	67.5	66.9	65.4	65.1	67.0	66.7	66.2	66.7	65.5	64.2	63.8	63.8
140000	70.9	69.5	69.0	67.8	66.9	65.5	65.3	67.7	66.8	66.5	67.3	65.5	64.2	64.1	64.3
150000	71.3	69.5	68.9	67.9	66.9	65.5	65.5	68.2	66.9	66.7	67.6	65.7	64.1	64.3	64.9
160000	71.8	69.4	68.4	67.8	66.9	65.4	65.5	68.4	67.2	66.5	67.2	65.8	64.0	64.4	65.2
170000	72.5	69.3	68.0	68.0	66.8	65.4	65.3	67.5	67.3	66.4	66.9	65.6	64.1	64.5	65.2
180000	72.4	69.2	67.9	68.1	66.7	65.4	65.0	67.0	67.2	66.0	67.4	65.4	64.1	64.4	64.9
190000	72.2	69.0	67.7	68.1	66.5	65.3	64.7	66.5	67.0	65.6	67.3	65.2	64.0	64.3	64.5
200000	71.8	68.7	67.5	68.0	66.4	65.1	64.5	66.2	66.7	65.4	67.1	65.1	64.0	63.9	64.1
210000	71.5	68.4	67.2	68.0	66.3	64.9	64.3	66.0	66.5	65.3	67.0	65.1	63.9	63.5	63.6
220000	71.1	68.3	67.1	67.9	66.2	64.8	64.2	65.9	66.2	65.1	66.9	65.1	63.8	63.2	63.2
230000	70.8	68.1	67.1	67.7	66.1	64.7	64.1	65.9	66.1	64.9	66.7	65.0	63.8	63.1	63.0
Daily Max	72.5	70.7	69.0	68.1	67.6	65.9	65.5	68.4	67.3	66.7	67.6	66.8	65.0	64.5	65.2
Daily Min	69.2	68.1	67.1	66.9	66.1	64.7	64.1	64.0	65.8	64.9	64.7	65.0	63.8	62.9	62.1
Average	70.6	69.3	67.8	67.5	66.9	65.4	64.6	65.7	66.5	65.7	66.0	65.6	64.4	63.5	63.3

Dead River Below McClure Dam - September 2009 Temperature Monitoring Data

Time HHMMSS	9/1/2009	9/2/2009	9/3/2009	9/4/2009	9/5/2009	9/6/2009	9/7/2009	9/8/2009	9/9/2009	9/10/2009	9/11/2009	9/12/2009	9/13/2009	9/14/2009	9/15/2009	9/16/2009
0	62.9	63.5	63.6	64.5	64.1	64.8	67.4	65.5	65.1	66.0	66.8	66.8	67.6	66.3	67.0	65.2
10000	62.8	63.4	63.7	64.6	64.2	64.9	67.0	65.3	65.2	66.2	66.9	66.9	67.7	66.3	66.9	65.1
20000	62.7	63.2	63.6	64.6	64.3	64.9	66.8	65.3	65.4	66.3	67.0	66.8	67.6	66.3	66.8	65.0
30000	62.5	63.1	63.6	64.4	64.6	64.9	66.6	65.4	65.5	66.3	67.0	66.7	67.4	66.3	66.7	64.7
40000	62.4	63.0	63.6	64.4	64.8	64.9	66.2	65.3	65.5	66.3	67.0	66.7	67.2	66.4	66.5	64.5
50000	62.3	62.9	63.6	64.5	64.9	64.8	65.8	65.3	65.5	66.1	66.9	66.6	67.1	66.3	66.4	64.2
60000	62.3	62.9	63.6	64.4	64.9	64.8	65.6	65.2	65.4	66.0	66.8	66.5	67.0	66.2	66.2	64.0
70000	62.3	62.8	63.6	64.3	64.8	64.7	65.5	65.2	65.2	65.9	66.6	66.4	66.8	66.1	66.1	63.9
80000	62.3	62.8	63.5	64.3	64.7	64.5	65.4	65.0	65.2	65.7	66.4	66.3	66.7	66.1	65.9	63.7
90000	62.5	62.9	63.6	64.3	64.7	64.8	65.4	65.1	65.2	65.7	66.3	66.2	66.7	66.1	65.9	63.6
100000	62.7	63.2	63.8	64.5	64.8	64.9	65.4	65.2	65.4	65.9	66.4	66.3	66.8	66.2	66.0	63.6
110000	63.2	63.5	64.2	64.7	65.2	65.3	65.4	65.6	65.7	66.3	66.4	66.5	66.8	66.5	66.3	63.8
120000	63.6	64.1	64.7	65.1	65.6	65.8	65.8	65.9	66.2	66.9	66.6	66.8	66.9	66.9	66.7	64.0
130000	64.1	64.6	65.3	65.4	66.1	66.5	66.5	66.0	66.8	67.5	67.2	67.3	67.1	67.4	66.9	64.4
140000	64.7	65.2	65.8	65.8	66.2	67.0	67.1	66.1	67.6	67.9	67.5	67.9	67.3	67.7	66.8	64.6
150000	65.2	65.7	66.1	66.0	66.2	67.8	67.2	66.2	68.1	68.2	68.1	68.1	67.7	67.8	66.8	64.8
160000	65.7	66.0	66.4	65.6	66.2	68.2	67.4	66.2	67.9	68.5	68.5	68.1	67.7	68.1	66.5	64.7
170000	66.1	66.0	65.9	65.4	66.0	68.0	67.3	65.9	67.7	68.0	68.1	68.0	67.6	68.3	66.3	64.6
180000	65.6	65.6	65.3	65.1	65.8	68.6	67.0	65.5	66.9	67.6	67.8	67.9	67.4	68.4	66.1	64.5
190000	65.0	65.2	64.9	64.8	65.5	68.9	66.7	65.1	66.3	67.3	67.3	67.9	67.2	68.2	65.8	64.4
200000	64.5	64.6	64.8	64.7	65.2	68.6	66.4	64.9	66.1	67.1	66.9	67.9	66.8	67.7	65.7	64.2
210000	64.0	64.2	64.7	64.4	65.0	68.2	66.3	64.7	65.9	66.7	66.7	67.7	66.6	67.4	65.5	64.0
220000	63.8	63.8	64.6	64.3	64.7	67.7	66.0	64.7	65.9	66.6	66.6	67.6	66.4	67.2	65.4	64.0
230000	63.6	63.6	64.6	64.1	64.7	67.8	65.8	65.0	65.8	66.7	66.6	67.4	66.4	67.0	65.3	63.9
Daily Max	66.1	66.0	66.4	66.0	66.2	68.9	67.4	66.2	68.1	68.5	68.5	68.1	67.7	68.4	67.0	65.2
Daily Min	62.3	62.8	63.5	64.1	64.1	64.5	65.4	64.7	65.1	65.7	66.3	66.2	66.4	66.1	65.3	63.6
Average	63.6	64.0	64.5	64.8	65.1	66.3	66.3	65.4	66.1	66.7	67.0	67.1	67.1	67.0	66.3	64.3

Monthly average temp (F): 64.5
License Maximum Monthly Average: 63°F
** Monthly Average Temperature Deviates From License Maximum Average Temperature

Note: The McClure penstock and powerhouse were out of service during the 2009 monitoring season.

Dead River Below McClure Dam - September 2009 Temperature Monitoring Data

Time HHMMSS	9/17/2009	9/18/2009	9/19/2009	9/20/2009	9/21/2009	9/22/2009	9/23/2009	9/24/2009	9/25/2009	9/26/2009	9/27/2009	9/28/2009	9/29/2009	9/30/2009
0	63.8	64.6	63.2	63.9	62.6	63.4	64.3	64.0	64.4	63.1	63.7	63.1	60.9	59.1
10000	63.8	64.6	63.0	63.7	62.5	63.4	64.1	63.7	64.3	63.2	63.5	63.0	60.8	59.0
20000	63.7	64.6	62.9	63.5	62.5	63.4	64.1	63.5	64.1	63.2	63.4	63.0	60.7	59.0
30000	63.6	64.5	62.9	63.3	62.5	63.4	64.1	63.4	63.9	63.2	63.3	63.0	60.6	58.9
40000	63.5	64.4	62.8	63.1	62.6	63.4	64.1	63.3	63.9	63.3	63.2	62.9	60.5	58.8
50000	63.4	64.3	62.7	63.0	62.7	63.4	64.1	63.2	63.8	63.3	63.2	62.9	60.4	58.8
60000	63.3	64.3	62.7	63.0	62.8	63.4	64.0	63.1	63.7	63.3	63.2	62.8	60.3	58.7
70000	63.3	64.1	62.6	62.9	63.0	63.4	63.9	63.0	63.7	63.3	63.2	62.7	60.2	58.6
80000	63.3	64.1	62.6	62.9	63.1	63.3	63.8	62.9	63.6	63.3	63.1	62.6	60.1	58.6
90000	63.4	64.0	62.7	62.9	63.1	63.4	63.7	62.9	63.6	63.4	63.1	62.5	60.0	58.6
100000	63.5	64.0	62.9	63.0	63.2	63.5	63.7	63.0	63.6	63.5	63.2	62.4	59.9	58.6
110000	63.7	63.9	63.2	63.3	63.3	63.8	63.8	63.2	63.7	63.7	63.3	62.3	59.9	58.7
120000	64.3	63.9	63.4	63.7	63.5	64.2	64.0	63.4	63.7	63.9	63.5	62.3	59.9	58.6
130000	64.6	64.0	63.8	64.1	63.6	64.6	64.4	63.8	63.7	64.1	63.8	62.2	59.8	58.7
140000	64.9	64.1	64.3	64.5	63.9	64.8	64.7	64.3	64.0	64.3	64.0	62.1	59.8	59.0
150000	65.4	64.2	65.0	64.6	64.6	65.1	65.1	64.9	64.0	64.4	64.1	62.1	59.8	59.3
160000	65.7	64.3	65.4	64.2	65.2	65.2	65.2	65.4	63.9	64.4	64.1	61.9	59.7	59.6
170000	65.8	64.3	65.2	64.0	65.4	65.1	65.0	65.6	63.9	64.3	64.1	61.8	59.6	59.5
180000	65.7	64.2	65.0	63.8	64.9	65.0	65.0	65.7	63.8	64.4	64.1	61.6	59.6	59.4
190000	65.5	64.0	64.9	63.6	64.5	64.8	65.0	65.4	63.4	64.3	63.9	61.5	59.4	59.1
200000	65.2	64.0	64.7	63.3	64.1	64.6	64.9	65.3	63.2	64.2	63.8	61.3	59.3	58.9
210000	65.1	63.8	64.4	63.0	63.8	64.6	64.7	65.0	63.1	64.1	63.5	61.1	59.3	58.7
220000	64.9	63.6	64.2	62.8	63.6	64.5	64.4	64.8	63.1	64.0	63.4	61.0	59.2	58.5
230000	64.8	63.4	64.1	62.7	63.5	64.6	64.2	64.6	63.1	63.8	63.2	61.0	59.2	58.4
Daily Max	65.8	64.6	65.4	64.6	65.4	65.2	65.2	65.7	64.4	64.4	64.1	63.1	60.9	59.6
Daily Min	63.3	63.4	62.6	62.7	62.5	63.3	63.7	62.9	63.1	63.1	63.1	61.0	59.2	58.4
Average	64.3	64.1	63.7	63.4	63.5	64.1	64.3	64.1	63.7	63.8	63.5	62.2	59.9	58.9

Dead River Below McClure Dam - October 2009 Temperature Monitoring Data

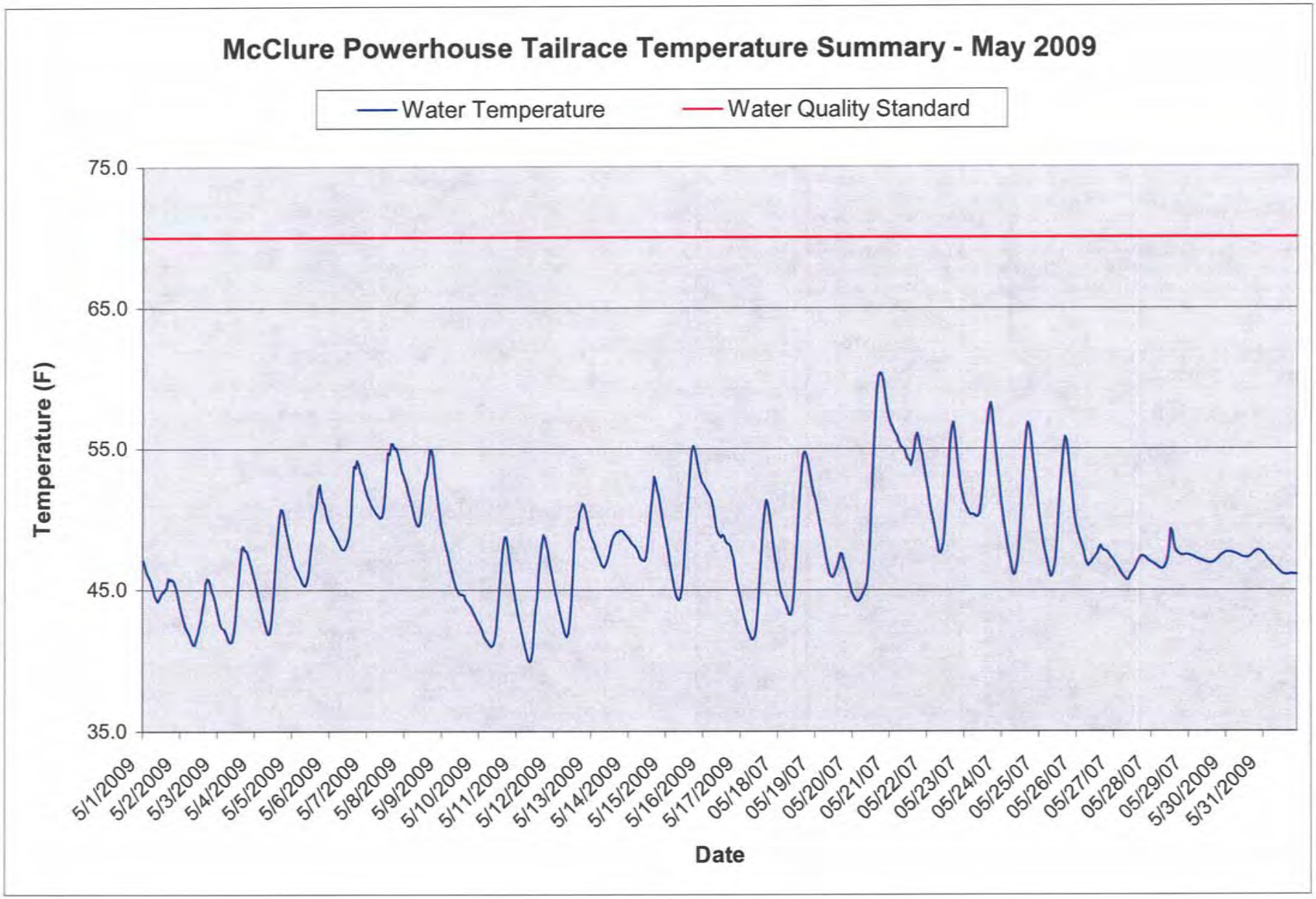
Time HHMMSS	10/1/2009	10/2/2009	10/3/2009	10/4/2009	10/5/2009	10/6/2009	10/7/2009	10/8/2009	10/9/2009	10/10/2009	10/11/2009	10/12/2009	10/13/2009	10/14/2009	10/15/2009	10/16/2009
0	58.3	57.5	56.6	56.5	56.0	55.7	55.0	54.4	53.7	52.9	51.2	50.3	49.6	48.8	48.3	47.6
10000	58.1	57.3	56.6	56.4	56.0	55.7	55.0	54.4	53.6	52.8	51.1	50.3	49.6	48.7	48.2	47.5
20000	58.0	57.1	56.6	56.4	56.0	55.6	55.0	54.3	53.5	52.6	51.0	50.3	49.4	48.6	48.1	47.4
30000	57.9	57.1	56.6	56.3	55.9	55.6	55.0	54.3	53.5	52.6	51.0	50.3	49.4	48.6	48.1	47.4
40000	57.8	57.1	56.5	56.3	55.9	55.6	54.9	54.2	53.4	52.6	50.9	50.2	49.3	48.5	48.0	47.4
50000	57.7	57.1	56.5	56.3	55.9	55.6	54.8	54.2	53.4	52.5	50.9	50.2	49.3	48.4	48.0	47.3
60000	57.6	57.0	56.5	56.3	55.8	55.6	54.7	54.1	53.3	52.4	50.9	50.1	49.1	48.3	47.9	47.4
70000	57.5	57.0	56.5	56.2	55.8	55.6	54.5	54.0	53.2	52.4	50.9	50.1	49.3	48.3	47.9	47.4
80000	57.5	57.0	56.4	56.2	55.7	55.5	54.4	54.0	53.2	52.3	50.8	50.1	49.1	48.2	47.8	47.4
90000	57.5	57.1	56.4	56.2	55.7	55.5	54.4	54.0	53.2	52.3	50.8	50.1	49.2	48.1	47.8	47.3
100000	57.6	57.1	56.5	56.2	55.8	55.6	54.4	54.1	53.2	52.4	50.8	50.1	49.2	48.2	47.8	47.4
110000	57.8	57.2	56.5	56.4	55.9	55.6	54.5	54.2	53.3	52.5	50.8	50.1	49.4	48.4	47.8	47.5
120000	58.0	57.2	56.6	56.4	56.0	55.6	54.7	54.2	53.5	52.3	51.1	50.2	49.4	48.6	47.9	47.6
130000	58.2	57.2	56.6	56.5	56.1	55.5	54.9	54.3	53.6	52.3	51.1	50.1	49.4	48.7	47.9	47.7
140000	58.4	57.1	56.7	56.5	56.2	55.5	55.0	54.4	53.6	52.1	51.1	50.1	49.6	49.0	47.9	47.8
150000	58.3	57.1	56.6	56.6	56.3	55.5	55.1	54.5	53.7	52.2	51.1	50.1	49.6	49.0	48.0	48.0
160000	58.3	57.0	56.7	56.6	56.4	55.4	55.1	54.5	53.8	52.2	51.0	50.2	49.7	48.9	48.0	48.2
170000	58.2	56.9	56.8	56.7	56.3	55.3	55.1	54.4	53.6	52.1	51.0	50.1	49.5	48.8	47.9	48.0
180000	58.0	56.9	56.7	56.5	56.2	55.3	55.0	54.3	53.5	51.9	50.9	50.1	49.4	48.6	47.8	48.1
190000	57.8	56.8	56.7	56.3	56.2	55.3	54.8	54.2	53.3	51.8	50.8	49.9	49.3	48.6	47.8	47.9
200000	57.8	56.8	56.6	56.2	56.0	55.2	54.6	54.1	53.1	51.6	50.6	49.9	49.1	48.5	47.7	47.8
210000	57.7	56.7	56.6	56.2	55.9	55.2	54.5	53.9	53.1	51.5	50.5	49.8	49.0	48.4	47.7	47.8
220000	57.7	56.6	56.6	56.1	55.8	55.1	54.5	53.8	53.1	51.4	50.4	49.8	48.9	48.3	47.7	47.7
230000	57.6	56.6	56.5	56.0	55.7	55.1	54.5	53.7	53.0	51.3	50.3	49.7	48.8	48.3	47.6	47.6
Daily Max	58.4	57.5	56.8	56.7	56.4	55.7	55.1	54.5	53.8	52.9	51.2	50.3	49.7	49.0	48.3	48.2
Daily Min	57.5	56.6	56.4	56.0	55.7	55.1	54.4	53.7	53.0	51.3	50.3	49.7	48.8	48.1	47.6	47.3
Average	57.9	57.0	56.6	56.3	56.0	55.5	54.8	54.2	53.4	52.2	50.9	50.1	49.3	48.5	47.9	47.6

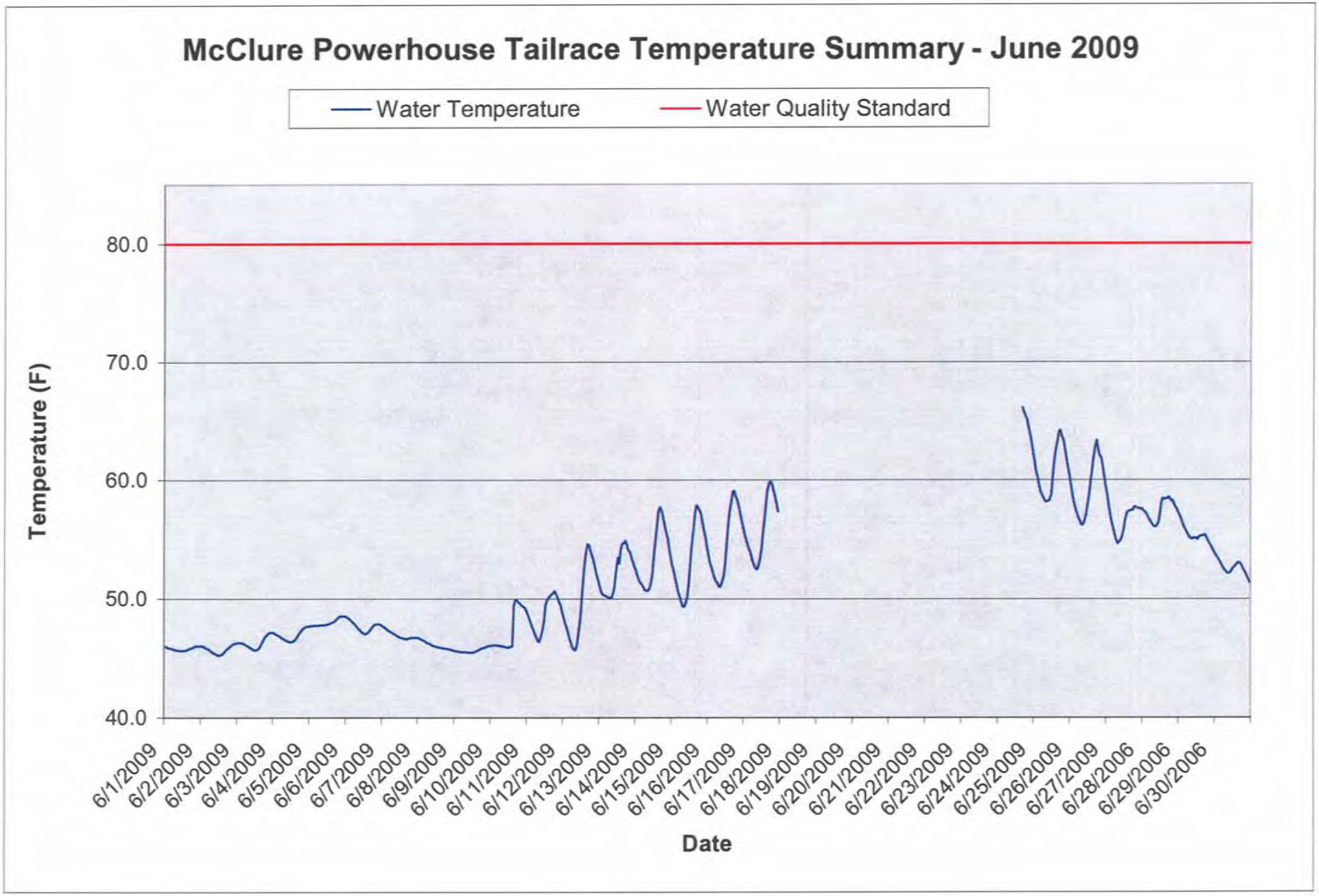
Monthly average temp (F): 49.7
License Maximum Monthly Average: 56°F

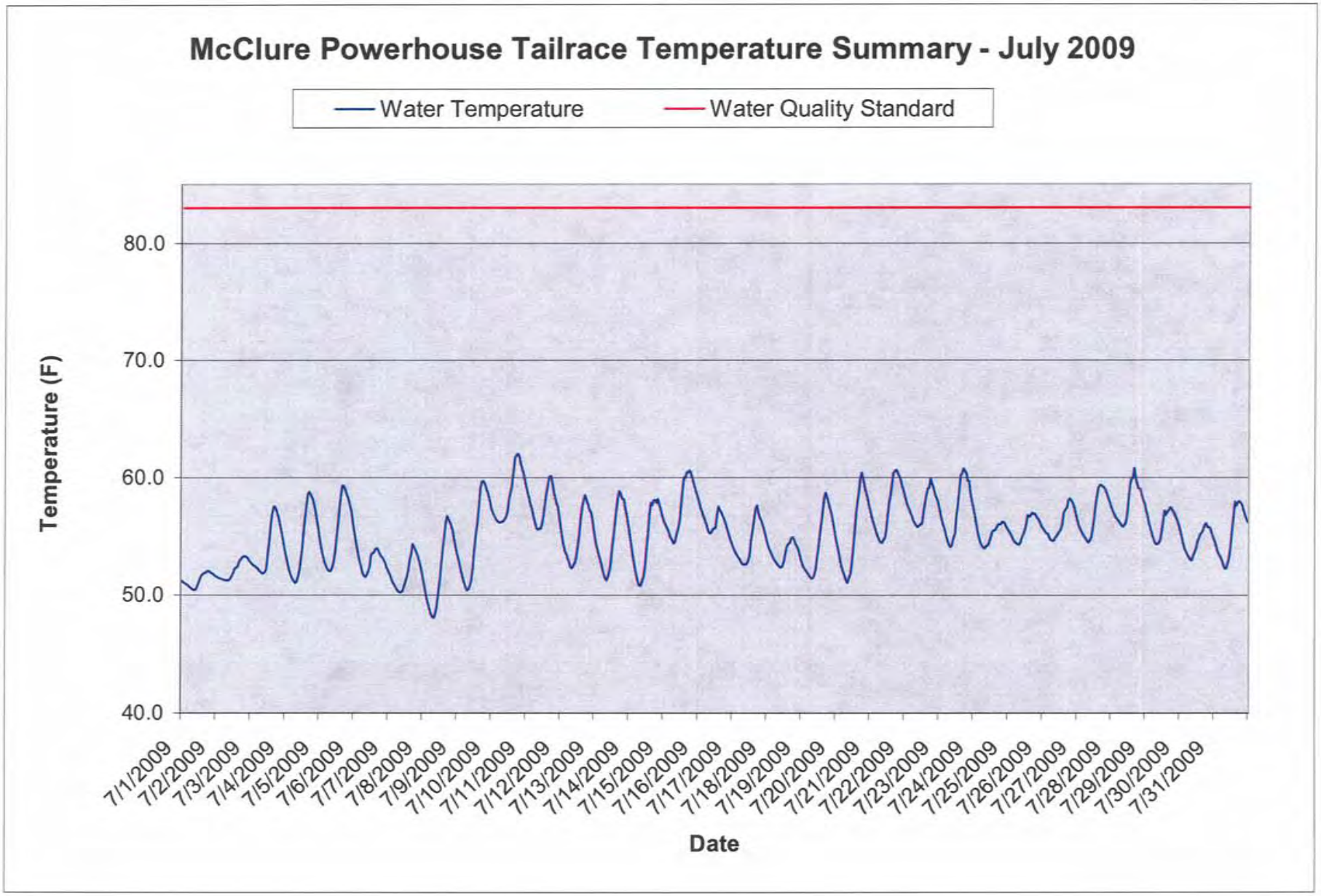
Note: The McClure penstock and powerhouse were out of service during the 2009 monitoring season.

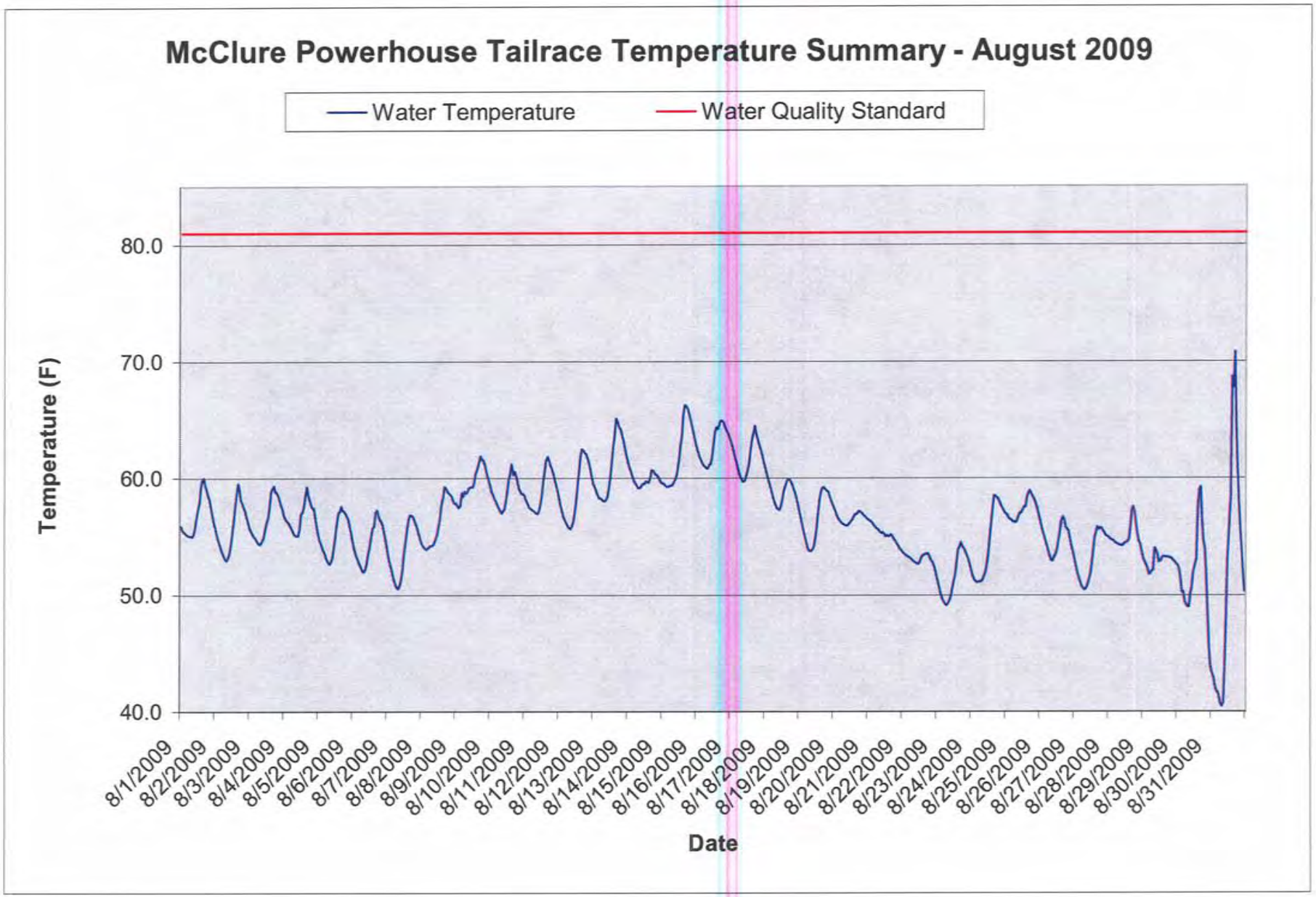
Dead River Below McClure Dam - October 2009 Temperature Monitoring Data

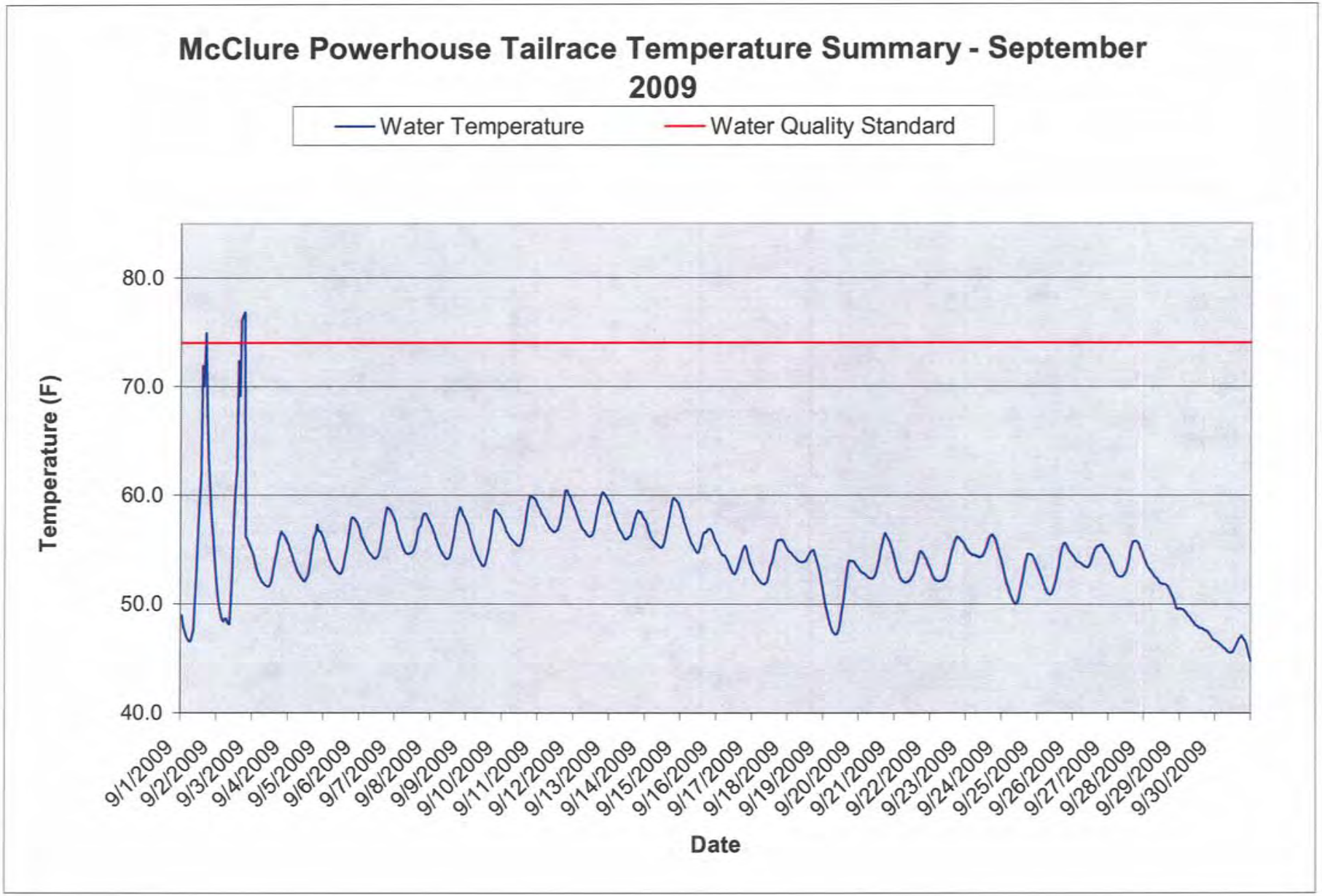
Time HHMMSS	10/17/2009	10/18/2009	10/19/2009	10/20/2009	10/21/2009	10/22/2009	10/23/2009	10/24/2009	10/25/2009	10/26/2009	10/27/2009	10/28/2009	10/29/2009	10/30/2009	10/31/2009
0	47.6	47.0	46.9	47.4	46.9	46.5	46.1	45.8	45.2	45.1	45.0	44.6	44.7	45.0	45.4
10000	47.6	47.0	46.9	47.3	46.9	46.4	46.1	45.8	45.2	45.1	45.0	44.5	44.7	45.0	45.4
20000	47.5	46.9	46.9	47.3	46.9	46.4	46.1	45.6	45.1	45.1	45.0	44.5	44.7	45.0	45.3
30000	47.4	46.9	46.8	47.2	46.9	46.3	46.0	45.6	45.1	45.1	45.0	44.5	44.8	45.1	45.3
40000	47.4	46.8	46.8	47.2	46.9	46.3	46.0	45.6	45.1	45.1	44.9	44.5	44.7	45.1	45.2
50000	47.4	46.8	46.8	47.2	46.9	46.3	46.0	45.6	45.0	45.1	44.9	44.5	44.7	45.1	45.1
60000	47.3	46.7	46.7	47.1	46.9	46.3	46.0	45.5	45.1	45.1	44.9	44.5	44.7	45.1	45.1
70000	47.2	46.7	46.7	47.1	46.9	46.3	46.0	45.5	45.1	45.0	44.9	44.5	44.8	45.1	45.0
80000	47.1	46.7	46.7	47.1	46.9	46.3	46.0	45.5	45.1	45.0	44.9	44.5	44.8	45.2	45.0
90000	47.1	46.7	46.7	47.1	47.0	46.3	46.0	45.4	45.1	45.1	44.7	44.4	44.9	45.2	45.0
100000	47.2	46.8	46.7	47.0	46.9	46.3	46.0	45.4	45.2	45.1	44.7	44.5	44.9	45.2	44.9
110000	47.3	46.9	46.9	47.1	46.9	46.3	45.9	45.5	45.2	45.1	44.8	44.7	44.9	45.4	44.9
120000	47.5	47.0	47.1	47.1	46.9	46.3	45.8	45.5	45.4	45.2	44.9	44.7	45.0	45.4	44.9
130000	47.6	47.2	47.4	47.1	46.9	46.3	45.9	45.6	45.4	45.3	45.0	44.8	45.0	45.5	45.0
140000	47.7	47.3	47.6	47.2	46.8	46.3	46.0	45.7	45.4	45.3	45.1	44.8	45.0	45.6	45.0
150000	47.6	47.4	47.8	47.2	46.8	46.4	45.9	45.7	45.4	45.3	45.0	44.9	45.0	45.8	45.0
160000	47.7	47.4	47.9	47.2	46.8	46.4	45.9	45.8	45.4	45.3	45.0	44.9	45.0	45.9	45.0
170000	47.6	47.4	48.0	47.2	46.7	46.3	45.9	45.7	45.3	45.4	44.9	44.9	45.0	45.8	44.9
180000	47.5	47.4	47.8	47.1	46.7	46.3	45.8	45.6	45.2	45.3	44.9	44.8	44.9	45.8	44.9
190000	47.4	47.2	47.8	47.0	46.6	46.1	45.8	45.5	45.1	45.2	44.8	44.7	44.9	45.6	44.8
200000	47.4	47.1	47.7	47.0	46.6	46.1	45.8	45.4	45.2	45.1	44.6	44.6	44.9	45.6	44.8
210000	47.3	47.0	47.7	47.0	46.6	46.1	45.8	45.4	45.1	45.1	44.6	44.6	44.9	45.6	44.8
220000	47.2	47.0	47.6	46.9	46.6	46.1	45.8	45.3	45.1	45.1	44.6	44.6	45.0	45.4	44.7
230000	47.0	47.0	47.5	46.9	46.5	46.1	45.8	45.2	45.1	45.1	44.6	44.7	45.0	45.4	44.7
Daily Max	47.7	47.4	48.0	47.4	47.0	46.5	46.1	45.8	45.4	45.4	45.1	44.9	45.0	45.9	45.4
Daily Min	47.0	46.7	46.7	46.9	46.5	46.1	45.8	45.2	45.0	45.0	44.6	44.4	44.7	45.0	44.7
Average	47.4	47.0	47.2	47.1	46.8	46.3	45.9	45.5	45.2	45.2	44.9	44.6	44.9	45.4	45.0

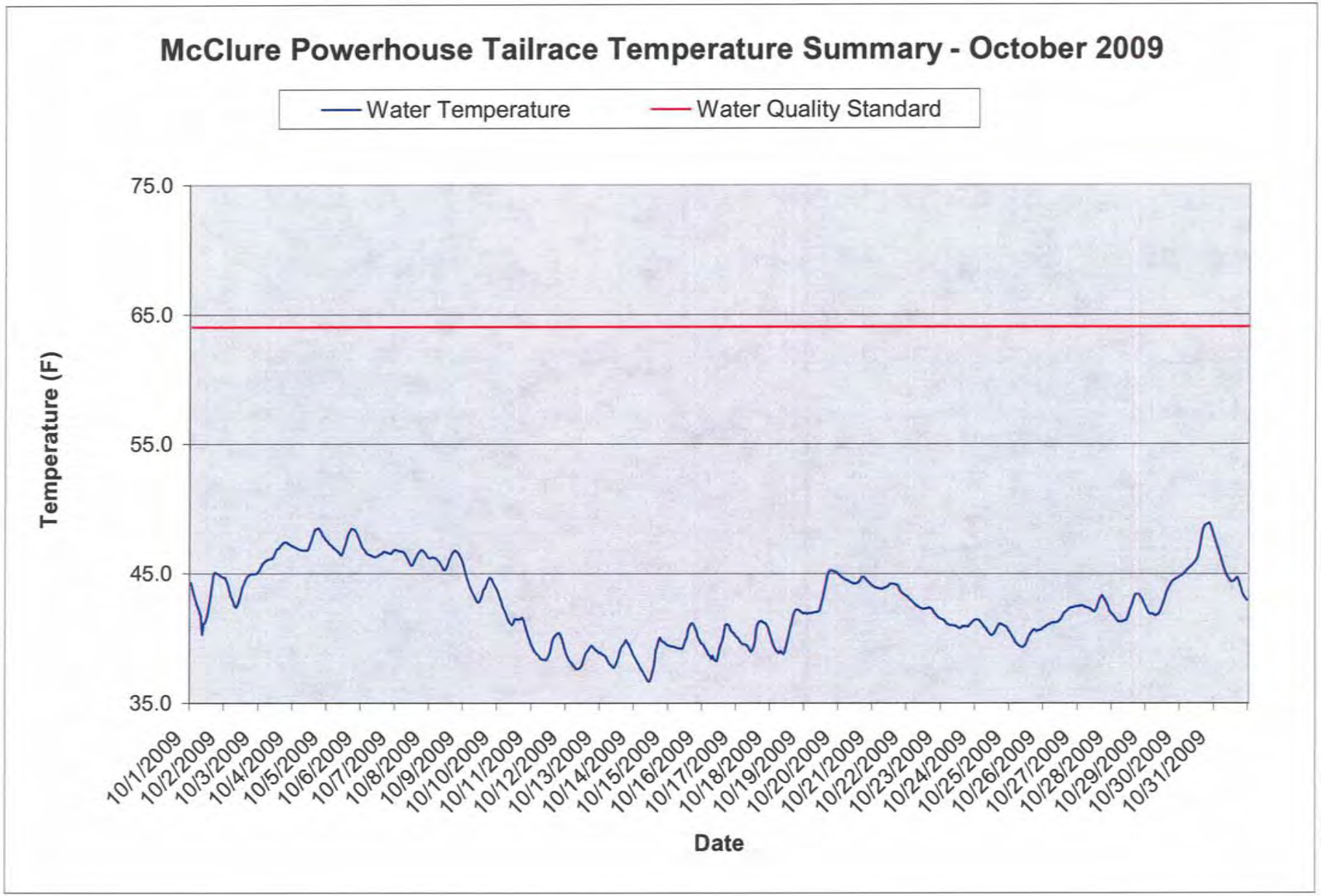












McClure Powerhouse Tailrace - May 2009 Temperature Monitoring Data

Time HHMMSS	5/1/2009	5/2/2009	5/3/2009	5/4/2009	5/5/2009	5/6/2009	5/7/2009	5/8/2009	5/9/2009	5/10/2009	5/11/2009	5/12/2009	5/13/2009	5/14/2009	5/15/2009	5/16/2009
0	47.1	43.6	43.1	45.4	47.1	49.4	51.6	52.7	49.2	42.5	43.6	45.2	48.7	48.6	48.4	52.4
10000	46.6	43.1	42.6	44.9	46.7	49.2	51.3	52.4	49.2	42.3	43.1	44.7	48.4	48.4	47.8	52.2
20000	46.2	42.7	42.4	44.4	46.4	49.0	51.0	51.9	48.7	42.0	42.5	44.2	48.1	48.3	47.1	52.0
30000	46.0	42.4	42.2	44.0	46.2	48.8	50.8	51.5	48.2	41.6	42.0	43.7	47.8	48.1	46.4	51.8
40000	45.8	42.1	42.2	43.5	46.0	48.6	50.6	51.1	47.8	41.5	41.5	43.2	47.5	48.0	45.8	51.6
50000	45.5	41.9	41.9	43.1	45.7	48.3	50.5	50.6	47.3	41.3	41.0	42.7	47.2	47.8	45.1	51.3
60000	45.1	41.6	41.6	42.5	45.5	48.1	50.3	50.2	46.8	41.2	40.5	42.2	46.9	47.6	44.7	50.8
70000	44.7	41.4	41.3	42.1	45.3	47.9	50.2	49.8	46.3	41.0	40.1	41.8	46.7	47.3	44.4	50.0
80000	44.3	41.1	41.3	41.8	45.3	47.8	50.1	49.5	45.8	41.0	39.9	41.6	46.6	47.1	44.3	49.4
90000	44.2	41.1	41.3	41.9	45.6	47.9	50.1	49.5	45.4	41.1	40.0	41.9	46.7	47.1	44.5	49.0
100000	44.3	41.5	41.9	42.6	46.1	48.1	50.5	49.8	45.1	41.6	40.7	42.7	47.1	47.0	45.1	48.8
110000	44.5	41.9	42.8	43.9	47.2	48.3	51.6	50.8	44.9	42.5	42.1	44.1	47.5	47.3	46.5	48.7
120000	44.8	42.4	44.1	45.4	48.2	48.8	53.3	52.0	44.7	43.9	43.6	46.2	48.1	48.2	48.4	48.9
130000	44.8	42.8	45.5	47.2	49.1	49.8	54.7	52.7	44.7	45.4	44.4	48.8	48.5	49.4	50.2	48.8
140000	45.0	43.7	46.8	48.8	50.3	52.1	54.6	53.0	44.6	46.9	46.1	49.4	48.7	50.8	52.0	48.5
150000	45.2	44.3	47.9	49.9	50.9	53.7	55.4	54.1	44.6	48.0	47.3	49.3	48.9	51.9	53.4	48.3
160000	45.8	45.5	48.1	50.7	52.1	53.6	55.3	55.0	44.3	48.7	48.3	50.4	49.1	53.0	54.8	48.2
170000	45.7	45.8	47.8	50.6	52.4	54.1	55.0	54.9	44.1	48.7	48.9	50.6	49.1	52.6	55.2	48.1
180000	45.7	45.7	47.7	50.2	51.7	53.9	55.1	54.3	44.0	48.1	48.6	51.1	49.2	52.0	55.0	47.7
190000	45.6	45.3	47.5	49.5	51.2	53.4	54.7	53.2	43.8	47.3	48.1	50.9	49.2	51.7	54.4	47.3
200000	45.5	44.9	47.1	49.0	51.0	53.1	54.4	52.3	43.6	46.4	47.6	50.6	49.1	50.9	53.8	46.5
210000	45.1	44.6	46.7	48.5	50.5	52.6	53.8	51.3	43.4	45.6	46.9	50.1	49.0	50.2	53.2	45.8
220000	44.7	44.2	46.3	48.0	50.1	52.3	53.3	50.5	43.2	45.0	46.3	49.4	48.8	49.6	52.9	45.2
230000	44.1	43.7	45.8	47.5	49.7	51.9	53.1	49.7	42.9	44.3	45.8	49.0	48.7	49.1	52.6	44.7
Daily Max	47.1	45.8	48.1	50.7	52.4	54.1	55.4	55.0	49.2	48.7	48.9	51.1	49.2	53.0	55.2	52.4
Daily Min	44.1	41.1	41.3	41.8	45.3	47.8	50.1	49.5	42.9	41.0	39.9	41.6	46.6	47.0	44.3	44.7
Average	45.3	43.2	44.4	46.1	48.3	50.4	52.5	51.8	45.5	44.1	44.1	46.4	48.1	49.2	49.4	49.0

Monthly average temp (F): 48.2
License Maximum Monthly Average: 70°F

Note: The McClure penstock and powerhouse were out of service during the 2009 monitoring season.

McClure Powerhouse Tailrace - May 2009 Temperature Monitoring Data

Time HHMMSS	5/17/2009	5/18/2009	5/19/2009	5/20/2009	5/21/2009	5/22/2009	5/23/2009	5/24/2009	5/25/2009	5/26/2009	5/27/2009	5/28/2009	5/29/2009	5/30/2009	5/31/2009
0	44.2	45.8	51.3	44.6	56.8	52.0	51.0	50.5	49.9	49.2	47.0	46.9	47.5	47.7	47.5
10000	43.7	45.2	50.7	44.4	56.6	51.3	50.7	49.6	49.1	48.8	46.8	46.9	47.4	47.7	47.4
20000	43.1	44.7	50.1	44.3	56.3	50.6	50.5	48.9	48.5	48.5	46.6	46.8	47.4	47.7	47.2
30000	42.7	44.4	49.5	44.2	56.0	50.1	50.3	48.3	47.9	48.2	46.5	46.7	47.3	47.7	47.1
40000	42.3	44.2	48.9	44.3	55.9	49.6	50.3	47.7	47.4	47.8	46.3	46.6	47.3	47.6	47.0
50000	42.0	43.9	48.3	44.4	55.6	48.9	50.3	47.1	46.8	47.3	46.1	46.6	47.2	47.6	46.9
60000	41.7	43.6	47.7	44.6	55.3	48.3	50.3	46.5	46.4	46.9	45.9	46.5	47.2	47.6	46.8
70000	41.5	43.2	47.1	44.9	55.1	47.7	50.2	46.1	45.9	46.7	45.8	46.5	47.1	47.5	46.7
80000	41.5	43.2	46.6	45.1	55.0	47.6	50.2	46.1	46.1	46.9	45.7	46.6	47.1	47.4	46.5
90000	41.8	43.6	46.2	45.4	54.9	47.9	50.4	46.7	46.4	46.9	45.7	46.8	47.0	47.4	46.4
100000	42.4	44.6	45.9	46.7	54.5	48.4	51.0	47.4	47.1	47.2	46.0	47.1	47.0	47.3	46.3
110000	43.8	46.4	45.9	48.8	54.2	49.8	52.1	49.0	48.6	47.3	46.2	47.9	47.0	47.3	46.2
120000	45.7	48.4	46.1	51.7	54.1	51.7	53.9	51.0	50.6	47.4	46.3	49.3	46.9	47.3	46.1
130000	47.6	50.4	46.3	54.6	53.8	53.5	55.5	53.1	52.4	47.6	46.5	49.1	46.9	47.3	46.1
140000	49.2	52.3	46.7	57.0	54.3	55.3	56.8	54.9	53.8	48.0	46.7	48.4	46.9	47.3	46.1
150000	50.5	53.7	47.1	59.1	54.8	56.4	57.8	56.3	55.2	48.1	47.0	47.9	46.9	47.4	46.1
160000	51.4	54.6	47.6	60.1	55.8	56.9	58.2	56.9	55.8	47.9	47.2	47.7	47.0	47.5	46.1
170000	51.2	54.8	47.5	60.4	56.1	56.2	57.7	56.6	55.6	47.8	47.4	47.6	47.1	47.6	46.1
180000	50.5	54.5	47.0	60.3	55.7	55.3	56.5	55.8	54.7	47.8	47.4	47.5	47.2	47.7	46.1
190000	49.7	54.0	46.7	59.9	55.0	54.0	55.3	54.6	53.5	47.7	47.4	47.5	47.3	47.8	46.1
200000	48.8	53.4	46.3	59.2	54.7	53.0	54.3	53.7	52.5	47.6	47.3	47.5	47.4	47.8	46.1
210000	47.9	52.7	45.8	58.2	54.1	52.3	53.3	52.8	51.4	47.4	47.2	47.5	47.5	47.8	46.1
220000	47.2	52.1	45.3	57.6	53.3	51.8	52.3	51.7	50.5	47.3	47.1	47.5	47.6	47.7	46.1
230000	46.4	51.6	44.9	57.1	52.7	51.3	51.2	50.7	49.7	47.1	47.0	47.5	47.6	47.6	46.0
Daily Max	51.4	54.8	51.3	60.4	56.8	56.9	58.2	56.9	55.8	49.2	47.4	49.3	47.6	47.8	47.5
Daily Min	41.5	43.2	44.9	44.2	52.7	47.6	50.2	46.1	45.9	46.7	45.7	46.5	46.9	47.3	46.0
Average	45.7	48.5	47.3	51.5	55.0	51.7	52.9	50.9	50.2	47.6	46.6	47.4	47.2	47.6	46.5

McClure Powerhouse Tailrace - June 2009 Temperature Monitoring Data

Time HHMMSS	06/01/09	06/02/09	06/03/09	06/04/09	06/05/09	06/06/09	06/07/09	06/08/09	06/09/09	06/10/09	06/11/09	06/12/09	06/13/09	06/14/09	06/15/09	06/16/09
0	46.0	46.0	46.3	47.1	47.7	48.5	47.7	46.7	45.6	46.1	48.7	48.5	51.0	52.4	52.9	53.7
10000	45.9	46.0	46.3	47.0	47.7	48.4	47.6	46.6	45.6	46.1	48.4	48.0	50.6	51.9	52.3	53.1
20000	45.9	45.9	46.3	47.0	47.7	48.3	47.5	46.6	45.6	46.1	48.0	47.6	50.4	51.6	51.7	52.6
30000	45.8	45.8	46.3	46.9	47.7	48.2	47.4	46.5	45.5	46.1	47.7	47.1	50.3	51.4	51.2	52.2
40000	45.8	45.8	46.2	46.8	47.8	48.1	47.3	46.4	45.5	46.1	47.4	46.7	50.2	51.2	50.6	51.8
50000	45.8	45.7	46.1	46.7	47.8	47.9	47.2	46.3	45.5	46.1	47.1	46.3	50.2	51.0	50.2	51.5
60000	45.7	45.6	46.1	46.6	47.8	47.8	47.2	46.3	45.5	46.0	46.7	45.9	50.1	50.7	49.7	51.3
70000	45.7	45.5	46.0	46.6	47.8	47.6	47.1	46.2	45.5	46.0	46.4	45.7	50.1	50.7	49.4	51.0
80000	45.7	45.4	45.9	46.5	47.8	47.5	47.0	46.1	45.5	46.0	46.4	45.7	50.1	50.7	49.3	51.0
90000	45.6	45.3	45.8	46.4	47.8	47.3	46.9	46.1	45.5	45.9	46.7	46.1	50.5	50.9	49.7	51.4
100000	45.6	45.3	45.7	46.4	47.8	47.2	46.8	46.0	45.5	45.9	47.4	47.0	51.1	51.4	50.2	51.9
110000	45.6	45.2	45.7	46.4	47.8	47.1	46.8	46.0	45.5	45.9	48.0	48.2	52.3	52.1	51.3	53.0
120000	45.6	45.2	45.7	46.4	47.9	47.0	46.7	45.9	45.5	45.9	49.4	49.7	53.5	53.5	52.9	54.5
130000	45.6	45.3	45.7	46.4	47.9	47.0	46.7	45.9	45.5	46.0	49.8	51.3	53.0	55.1	54.4	56.0
140000	45.7	45.4	45.8	46.5	48.0	47.1	46.6	45.9	45.6	46.0	50.1	52.8	54.1	56.3	55.9	57.3
150000	45.7	45.5	46.0	46.7	48.0	47.2	46.6	45.9	45.6	49.3	50.3	54.1	54.6	57.4	57.2	58.2
160000	45.8	45.6	46.2	46.9	48.1	47.4	46.6	45.8	45.7	49.9	50.4	54.6	54.7	57.7	57.8	59.1
170000	45.8	45.8	46.5	47.1	48.2	47.6	46.6	45.8	45.8	49.8	50.5	54.5	54.9	57.3	57.8	59.1
180000	45.9	45.9	46.7	47.3	48.3	47.7	46.7	45.8	45.8	49.7	50.6	54.1	54.6	56.8	57.4	58.7
190000	45.9	46.0	46.9	47.4	48.4	47.8	46.7	45.8	45.9	49.6	50.4	53.6	54.1	56.2	57.1	58.3
200000	46.0	46.1	47.0	47.6	48.5	47.9	46.7	45.7	45.9	49.5	50.1	53.2	53.9	55.7	56.5	57.8
210000	46.0	46.2	47.1	47.6	48.5	47.9	46.7	45.7	46.0	49.4	49.8	52.6	53.5	55.1	55.8	57.2
220000	46.0	46.2	47.1	47.7	48.5	47.8	46.7	45.7	46.0	49.3	49.4	52.1	53.1	54.2	55.1	56.6
230000	46.0	46.3	47.1	47.7	48.5	47.8	46.7	45.6	46.0	49.1	48.9	51.5	52.8	53.5	54.4	56.0
Daily Max	46.0	46.3	47.1	47.7	48.5	48.5	47.7	46.7	46.0	49.9	50.6	54.6	54.9	57.7	57.8	59.1
Daily Min	45.6	45.2	45.7	46.4	47.7	47.0	46.6	45.6	45.5	45.9	46.4	45.7	50.1	50.7	49.3	51.0
Average	45.8	45.7	46.3	46.9	48.0	47.7	46.9	46.1	45.6	47.3	48.7	49.9	52.2	53.5	53.4	54.7

Monthly average temp (F): 51.3
License Maximum Monthly Average: 80 F

Note: The McClure penstock and powerhouse were out of service during the 2009 monitoring season.

McClure Powerhouse Tailrace - June 2009 Temperature Monitoring Data

Time HHMMSS	06/17/09	06/18/09	06/19/09	06/20/09	06/21/09	06/22/09	06/23/09	06/24/09	06/25/09	06/26/09	06/27/09	06/28/09	06/29/09	06/30/09
0	55.4								61.6	59.6	58.7	57.4	57.1	53.7
10000	55.0								60.8	58.9	57.9	57.3	56.7	53.5
20000	54.6								60.2	58.2	57.2	57.1	56.4	53.3
30000	54.1								59.5	57.6	56.5	56.9	56.0	53.0
40000	53.7								59.1	57.2	55.9	56.7	55.8	52.8
50000	53.3								58.7	56.9	55.3	56.4	55.5	52.6
60000	52.9								58.5	56.6	55.0	56.2	55.3	52.4
70000	52.6								58.2	56.3	54.7	56.1	55.1	52.2
80000	52.5								58.2	56.3	54.8	56.1	55.1	52.2
90000	52.8								58.2	56.6	55.0	56.1	55.1	52.2
100000	53.2								58.3	57.0	55.3	56.5	55.1	52.3
110000	54.2								58.8	57.7	55.8	57.2	55.1	52.5
120000	55.6								60.2	58.8	56.6	58.2	55.0	52.7
130000	56.7								61.5	59.9	57.3	58.5	55.3	52.8
140000	58.0								62.5	60.8	57.4	58.4	55.3	53.0
150000	59.1								63.2	61.8	57.4	58.4	55.3	53.1
160000	59.8								64.0	62.9	57.5	58.4	55.4	53.0
170000	59.9								64.2	63.3	57.5	58.6	55.4	52.8
180000	59.7							65.3	63.7	62.6	57.8	58.3	55.1	52.6
190000	59.2							65.1	63.3	62.1	57.7	58.3	54.8	52.4
200000	58.6							64.5	62.7	61.8	57.6	58.1	54.6	52.2
210000	58.0							63.9	61.9	61.2	57.6	57.8	54.4	51.9
220000	57.4							63.1	61.2	60.4	57.6	57.6	54.1	51.6
230000								62.3	60.4	59.6	57.6	57.3	53.9	51.4
Daily Max	59.9	0.0	0.0	0.0	0.0	0.0	0.0	65.3	64.2	63.3	58.7	58.6	57.1	53.7
Daily Min	52.5	0.0	0.0	0.0	0.0	0.0	0.0	62.3	58.2	56.3	54.7	56.1	53.9	51.4
Average	55.9							64.0	60.8	59.3	56.7	57.4	55.3	52.6

No data - Equipment Power Failure.

McClure Powerhouse Tailrace - July 2009 Temperature Monitoring Data

Time HHMMSS	07/01/09	07/02/09	07/03/09	07/04/09	07/05/09	07/06/09	07/07/09	07/08/09	07/09/09	07/10/09	07/11/09	07/12/09	07/13/09	07/14/09	07/15/09	07/16/09
0	51.2	51.6	52.8	53.8	54.9	55.6	52.0	51.5	53.6	57.3	59.2	55.8	54.9	55.4	56.4	58.2
10000	51.1	51.5	52.7	53.2	54.2	54.9	51.8	50.8	53.0	57.0	58.7	55.0	54.2	54.5	56.1	57.7
20000	51.0	51.4	52.6	52.7	53.6	54.2	51.5	50.2	52.4	56.6	58.2	54.3	53.8	53.7	55.8	57.3
30000	50.9	51.4	52.4	52.2	53.1	53.5	51.1	49.6	51.9	56.4	57.7	53.8	53.3	53.0	55.6	56.9
40000	50.8	51.4	52.4	51.7	52.7	53.0	50.9	49.2	51.4	56.3	57.2	53.5	52.9	52.3	55.2	56.7
50000	50.7	51.3	52.3	51.4	52.4	52.5	50.7	48.7	51.0	56.2	56.6	53.2	52.4	51.7	54.9	56.3
60000	50.6	51.3	52.1	51.2	52.2	52.0	50.5	48.4	50.6	56.2	56.2	52.7	51.9	51.2	54.7	56.0
70000	50.5	51.3	52.0	51.0	52.0	51.7	50.3	48.1	50.4	56.3	55.7	52.4	51.4	50.9	54.4	55.5
80000	50.5	51.3	51.9	51.2	52.1	51.5	50.3	48.1	50.5	56.3	55.6	52.3	51.3	50.8	54.6	55.3
90000	50.4	51.3	51.9	51.5	52.4	51.8	50.3	48.4	50.8	56.5	55.7	52.6	51.6	51.2	55.1	55.3
100000	50.5	51.4	52.0	52.1	52.9	52.0	50.4	49.0	51.3	56.7	55.7	52.8	52.0	51.6	55.5	55.5
110000	50.8	51.7	52.2	53.0	53.8	52.4	50.8	50.1	52.3	57.1	56.0	53.3	52.8	52.6	56.3	55.7
120000	51.1	51.9	53.4	54.0	55.0	53.5	51.2	51.4	53.8	58.1	56.8	54.2	54.1	54.0	57.6	55.7
130000	51.5	52.3	54.5	55.4	56.2	53.6	51.6	52.8	55.0	58.7	57.8	55.1	55.0	55.2	58.9	56.8
140000	51.8	52.3	55.8	56.6	57.5	53.7	52.1	54.1	56.3	59.3	58.7	56.5	56.2	56.8	60.0	57.5
150000	51.8	52.5	56.9	57.7	58.5	53.9	53.0	55.1	57.7	60.7	59.3	57.5	57.3	57.9	60.0	57.2
160000	51.9	52.9	57.6	58.6	59.3	54.0	53.5	56.2	59.1	61.7	60.0	58.1	58.2	57.7	60.4	57.1
170000	51.9	53.0	57.5	58.8	59.3	53.9	54.4	56.7	59.6	61.9	60.1	58.5	58.9	58.1	60.4	56.8
180000	52.1	53.2	57.1	58.5	59.0	53.6	54.1	56.5	59.7	62.0	59.5	58.1	58.6	58.1	60.6	56.5
190000	52.0	53.3	56.8	58.2	58.6	53.3	53.9	56.2	59.5	61.8	58.8	57.7	58.2	57.9	60.4	56.2
200000	51.9	53.3	56.3	57.8	58.2	53.2	53.6	55.9	59.1	61.2	58.3	57.3	58.1	58.2	60.0	55.8
210000	51.9	53.2	55.7	57.2	57.7	52.9	53.3	55.5	58.8	60.7	57.8	57.1	57.4	57.7	59.5	55.4
220000	51.8	53.2	55.1	56.5	57.2	52.6	52.8	54.8	58.4	60.4	57.5	56.5	56.8	57.2	59.1	55.0
230000	51.7	53.0	54.4	55.8	56.4	52.3	52.2	54.2	57.8	59.8	56.7	55.7	56.1	56.7	58.6	54.6
Daily Max	52.1	53.3	57.6	58.8	59.3	55.6	54.4	56.7	59.7	62.0	60.1	58.5	58.9	58.2	60.6	58.2
Daily Min	50.4	51.3	51.9	51.0	52.0	51.5	50.3	48.1	50.4	56.2	55.6	52.3	51.3	50.8	54.4	54.6
Average	51.3	52.1	54.1	54.6	55.4	53.1	51.9	52.1	54.8	58.5	57.7	55.2	54.9	54.8	57.5	56.3

Monthly average temp (F): 55.2
License Maximum Monthly Average: 83°F

Note: The McClure penstock and powerhouse were out of service during the 2009 monitoring season.

McClure Powerhouse Tailrace - July 2009 Temperature Monitoring Data

Time HHMMSS	07/17/09	07/18/09	07/19/09	07/20/09	07/21/09	07/22/09	07/23/09	07/24/09	07/25/09	07/26/09	07/27/09	07/28/09	07/29/09	07/30/09	07/31/09
0	54.3	54.6	53.0	54.8	57.1	58.4	57.4	57.3	55.6	55.8	56.6	57.5	57.3	55.5	54.5
10000	53.9	54.2	52.6	54.2	56.6	58.0	56.8	56.7	55.5	55.6	56.1	57.2	56.9	54.9	54.1
20000	53.6	53.9	52.3	53.6	56.2	57.6	56.3	56.0	55.2	55.4	55.8	56.9	56.2	54.4	53.7
30000	53.4	53.6	52.2	53.1	55.8	57.3	55.9	55.3	54.9	55.3	55.5	56.7	55.8	54.0	53.4
40000	53.2	53.3	52.0	52.5	55.4	57.0	55.5	54.9	54.7	55.2	55.3	56.5	55.4	53.7	53.2
50000	53.0	53.1	51.8	52.1	55.1	56.7	55.1	54.4	54.5	54.9	55.0	56.4	55.0	53.5	53.0
60000	52.8	52.9	51.6	51.6	54.7	56.4	54.6	54.2	54.4	54.7	54.8	56.2	54.6	53.3	52.6
70000	52.7	52.7	51.4	51.2	54.5	56.1	54.3	54.1	54.4	54.6	54.6	55.9	54.4	53.1	52.3
80000	52.6	52.5	51.5	51.1	54.5	55.9	54.1	54.0	54.3	54.7	54.5	55.9	54.4	53.0	52.3
90000	52.6	52.4	51.7	51.5	54.8	55.8	54.2	54.2	54.6	54.9	54.7	56.0	54.5	53.3	52.6
100000	52.7	52.4	52.2	51.7	54.9	55.9	54.8	54.2	55.0	55.1	54.9	56.2	54.8	53.7	53.1
110000	52.9	52.5	53.3	52.6	55.6	56.0	55.3	54.4	55.2	55.3	55.6	56.9	55.4	54.1	54.0
120000	53.3	52.9	54.1	53.9	56.8	56.1	56.8	54.8	55.5	55.4	56.5	58.1	56.3	54.6	55.6
130000	54.5	53.6	55.2	55.3	57.9	57.1	57.7	55.4	56.1	55.6	57.6	59.4	57.2	54.9	56.7
140000	55.6	54.1	56.2	56.8	58.5	57.8	58.9	55.5	56.8	56.1	58.4	59.9	56.9	55.2	57.9
150000	56.5	54.3	57.3	57.9	59.5	58.6	60.2	55.5	56.7	57.0	59.1	60.0	57.1	55.3	57.6
160000	57.3	54.5	58.3	58.8	60.4	59.1	60.3	55.7	56.9	57.2	59.4	60.8	57.3	55.6	57.8
170000	57.6	54.9	58.7	59.9	60.5	59.1	60.7	56.0	57.0	57.5	59.4	59.9	57.5	56.0	58.0
180000	57.0	54.9	58.2	60.4	60.6	59.9	60.6	56.0	56.9	58.0	59.2	59.5	57.4	56.1	57.9
190000	56.6	54.7	57.7	59.7	60.4	59.5	60.4	56.0	56.9	58.2	59.1	59.1	57.2	55.8	57.7
200000	56.4	54.4	57.3	59.1	60.1	59.2	59.7	56.2	56.7	58.0	58.9	59.0	57.0	55.8	57.3
210000	56.0	54.2	56.9	58.7	59.7	58.7	59.7	56.2	56.5	57.9	58.6	58.6	56.7	55.7	56.9
220000	55.6	53.9	56.2	58.2	59.3	58.3	58.6	56.1	56.3	57.5	58.2	58.1	56.3	55.3	56.6
230000	55.1	53.4	55.5	57.6	58.8	57.9	58.0	55.8	56.0	57.1	57.9	57.8	55.9	54.9	56.2
Daily Max	57.6	54.9	58.7	60.4	60.6	59.9	60.7	57.3	57.0	58.2	59.4	60.8	57.5	56.1	58.0
Daily Min	52.6	52.4	51.4	51.1	54.5	55.8	54.1	54.0	54.3	54.6	54.5	55.9	54.4	53.0	52.3
Average	54.6	53.7	54.5	55.3	57.4	57.6	57.3	55.4	55.7	56.1	56.9	57.8	56.1	54.6	55.2

McClure Powerhouse Tailrace - August 2009 Temperature Monitoring Data

Time HHMMSS	8/1/2009	8/2/2009	8/3/2009	8/4/2009	8/5/2009	8/6/2009	8/7/2009	8/8/2009	8/9/2009	8/10/2009	8/11/2009	8/12/2009	8/13/2009	8/14/2009	8/15/2009	8/16/2009	8/17/2009
0	55.9	55.7	55.8	56.9	55.2	54.7	54.1	54.4	57.8	59.4	58.5	58.4	59.5	61.5	59.6	62.7	63.2
10000	55.5	55.1	55.5	56.5	54.7	54.1	53.4	54.2	57.7	58.9	58.1	57.7	59.3	61.1	59.5	62.3	62.8
20000	55.4	54.7	55.2	56.3	54.3	53.5	52.8	54.1	57.5	58.6	57.8	57.3	58.9	60.7	59.4	61.9	62.3
30000	55.3	54.3	55.0	56.2	54.0	53.1	52.2	53.9	57.6	58.3	57.6	56.8	58.6	60.3	59.3	61.6	61.8
40000	55.2	54.0	54.9	56.0	53.7	52.9	51.6	54.0	58.7	58.0	57.4	56.4	58.3	59.9	59.3	61.3	61.4
50000	55.1	53.6	54.6	55.8	53.3	52.6	51.2	54.1	58.4	57.7	57.3	56.1	58.3	59.6	59.3	61.1	60.9
60000	55.0	53.3	54.5	55.5	53.0	52.3	50.9	54.2	58.9	57.4	57.2	55.9	58.1	59.4	59.4	60.9	60.4
70000	55.1	53.0	54.4	55.2	52.7	52.0	50.6	54.2	58.7	57.2	57.1	55.7	58.0	59.2	59.4	60.8	60.0
80000	55.0	52.9	54.4	55.1	52.6	52.0	50.5	54.2	58.8	57.0	57.0	55.7	58.0	59.1	59.6	60.8	59.7
90000	55.2	53.2	54.7	55.1	52.8	52.2	50.8	54.4	59.1	57.2	57.0	55.9	58.2	59.2	59.8	61.1	59.7
100000	55.7	53.5	54.9	55.1	53.2	52.7	51.3	54.8	59.2	57.4	57.2	56.2	58.4	59.4	60.0	61.2	59.8
110000	56.5	54.1	55.6	55.6	54.0	53.5	52.2	55.1	59.3	58.0	57.7	56.9	59.2	59.5	60.7	61.8	60.2
120000	57.4	55.1	56.2	56.9	54.9	54.0	53.5	55.8	59.3	58.9	58.4	57.9	60.1	59.5	61.6	62.8	60.7
130000	57.9	56.5	56.7	57.2	56.0	54.9	54.4	56.5	59.7	59.9	59.5	59.2	61.3	59.7	62.7	63.8	61.3
140000	59.3	57.7	57.7	57.7	57.0	55.8	55.4	57.6	60.4	60.3	60.4	60.4	62.7	59.7	63.6	64.3	62.4
150000	59.8	58.7	58.9	58.5	57.1	55.9	56.5	58.4	60.7	61.2	61.4	61.6	63.6	59.6	65.4	64.2	63.3
160000	60.0	59.5	59.1	59.3	57.6	57.1	56.8	59.2	61.3	60.3	61.8	62.5	65.1	60.0	66.2	64.5	63.8
170000	59.4	58.9	59.3	58.5	57.2	57.3	56.8	59.1	61.9	60.6	61.5	62.3	64.8	60.7	66.2	64.9	64.5
180000	59.0	58.0	58.8	58.2	57.1	56.8	56.7	58.9	61.6	60.2	61.1	62.1	64.3	60.6	65.9	64.9	63.8
190000	58.5	57.9	58.8	57.7	57.0	56.4	56.4	58.7	61.5	59.7	60.8	62.0	64.2	60.4	65.4	64.7	63.2
200000	58.2	57.5	58.5	57.4	56.8	56.3	56.1	58.6	61.2	59.1	60.4	61.7	63.6	60.3	64.9	64.3	62.7
210000	57.6	57.2	58.2	57.4	56.5	56.0	55.8	58.5	60.7	58.9	59.9	61.2	63.2	60.2	64.3	64.1	62.4
220000	56.9	56.7	57.7	56.6	55.9	55.4	55.3	58.1	60.2	58.6	59.4	60.7	62.6	60.0	63.8	63.8	61.9
230000	56.3	56.3	57.4	55.9	55.4	54.8	54.9	57.9	59.8	58.7	58.9	60.0	62.0	59.7	63.3	63.5	61.4
Daily Max	60.0	59.5	59.3	59.3	57.6	57.3	56.8	59.2	61.9	61.2	61.8	62.5	65.1	61.5	66.2	64.9	64.5
Daily Min	55.0	52.9	54.4	55.1	52.6	52.0	50.5	53.9	57.5	57.0	57.0	55.7	58.0	59.1	59.3	60.8	59.7
Average	56.9	55.7	56.5	56.7	55.1	54.4	53.8	56.2	59.6	58.8	58.9	58.8	60.8	60.0	62.0	62.8	61.8

Monthly average temp (F): 56.5
License Monthly Maximum Average 81

Note: The McClure penstock and powerhouse were out of service during the 2009 monitoring season.

McClure Powerhouse Tailrace - August 2009 Temperature Monitoring Data

Time HHMMSS	8/18/2009	8/19/2009	8/20/2009	8/21/2009	8/22/2009	8/23/2009	8/24/2009	8/25/2009	8/26/2009	8/27/2009	8/28/2009	8/29/2009	8/30/2009	8/31/2009
0	61.0	57.1	57.5	56.4	53.7	51.5	52.1	56.9	56.4	53.1	54.9	53.1	52.5	43.4
10000	60.5	56.6	57.2	56.4	53.5	51.0	51.7	56.9	55.9	52.5	54.8	52.8	52.1	42.9
20000	60.0	56.0	56.9	56.3	53.4	50.5	51.4	56.6	55.4	52.0	54.7	52.5	51.3	42.2
30000	59.6	55.5	56.6	56.2	53.4	50.0	51.2	56.5	55.0	51.5	54.6	52.2	50.2	41.7
40000	59.2	55.0	56.4	56.0	53.3	49.7	51.1	56.4	54.6	51.1	54.6	51.8	50.3	41.6
50000	58.7	54.5	56.2	55.9	53.2	49.4	51.1	56.3	54.2	50.8	54.4	51.9	49.4	41.2
60000	58.3	54.0	56.1	55.7	53.1	49.2	51.1	56.3	53.8	50.6	54.4	52.1	49.2	40.6
70000	57.8	53.8	56.0	55.6	53.0	49.1	51.1	56.2	53.3	50.4	54.3	52.1	49.0	40.4
80000	57.5	53.7	56.0	55.4	52.9	49.2	51.2	56.3	53.0	50.5	54.3	54.0	49.0	40.7
90000	57.3	53.9	55.9	55.3	52.7	49.6	51.5	56.7	52.9	50.7	54.2	53.8	50.1	43.7
100000	57.3	54.1	56.0	55.4	52.7	50.0	51.9	57.0	53.2	51.1	54.2	53.5	50.6	48.0
110000	57.5	54.8	56.2	55.2	52.6	50.6	52.6	57.0	53.5	51.7	54.4	52.8	51.9	53.2
120000	58.1	55.7	56.3	55.0	52.8	51.2	53.6	57.3	54.0	52.5	54.5	52.9	52.6	55.3
130000	58.8	57.0	56.4	55.1	53.1	51.8	54.9	57.5	54.8	53.8	54.6	53.2	53.1	58.3
140000	59.2	58.0	56.7	55.0	53.3	52.9	56.2	57.6	55.5	54.9	54.8	53.3	57.3	68.7
150000	59.6	58.8	56.9	55.1	53.4	53.9	57.4	58.3	56.4	55.3	55.8	53.3	59.0	67.7
160000	59.9	59.1	56.9	55.2	53.5	54.1	58.5	58.7	56.7	55.8	57.3	53.3	59.3	70.8
170000	59.9	59.2	57.1	55.0	53.6	54.5	58.4	58.9	56.4	55.6	57.5	53.2	56.5	64.6
180000	59.7	59.1	57.2	54.8	53.5	54.1	58.3	58.6	55.9	55.8	57.1	53.2	54.7	60.7
190000	59.4	58.9	57.1	54.6	53.3	54.0	58.2	58.4	55.6	55.7	56.1	53.2	53.9	58.0
200000	59.0	58.8	57.0	54.4	53.0	53.8	58.0	58.3	55.5	55.5	55.2	53.1	51.9	55.8
210000	58.7	58.4	56.8	54.2	52.8	53.4	57.7	57.9	54.9	55.3	54.6	53.0	48.7	53.9
220000	58.3	58.1	56.7	54.0	52.5	53.0	57.4	57.4	54.3	55.1	54.3	52.8	45.8	52.0
230000	57.7	57.8	56.6	53.8	52.1	52.6	57.1	56.9	53.6	55.0	53.7	52.7	43.9	50.3
Daily Max	61.0	59.2	57.5	56.4	53.7	54.5	58.5	58.9	56.7	55.8	57.5	54.0	59.3	70.8
Daily Min	57.3	53.7	55.9	53.8	52.1	49.1	51.1	56.2	52.9	50.4	53.7	51.8	43.9	40.4
Average	58.9	56.6	56.6	55.2	53.1	51.6	54.3	57.3	54.8	53.2	55.0	52.9	51.8	51.5

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

McClure Powerhouse Tailrace - September 2009 Temperature Monitoring Data

Time HHMMSS	9/1/2009	9/2/2009	9/3/2009	9/4/2009	9/5/2009	9/6/2009	9/7/2009	9/8/2009	9/9/2009	9/10/2009	9/11/2009	9/12/2009	9/13/2009	9/14/2009	9/15/2009	9/16/2009
0	48.9	51.0	54.5	55.4	55.7	56.8	57.5	57.2	57.3	57.5	58.9	58.9	59.2	57.6	58.5	55.5
10000	47.9	49.9	54.0	55.0	55.2	56.2	56.8	56.8	56.9	57.1	58.6	58.4	58.8	57.3	58.1	55.2
20000	47.5	49.1	53.4	54.5	54.9	55.9	56.3	56.4	56.3	56.7	58.3	58.0	58.4	56.8	57.5	54.9
30000	47.0	48.5	52.9	54.0	54.5	55.5	55.9	56.0	55.8	56.5	58.1	57.7	58.0	56.4	57.1	54.6
40000	46.7	48.4	52.6	53.7	54.0	55.3	55.5	55.6	55.3	56.2	57.8	57.4	57.6	56.1	56.6	54.5
50000	46.5	48.6	52.2	53.3	53.7	55.0	55.1	55.3	55.0	56.0	57.5	57.0	57.3	55.9	56.3	54.5
60000	46.6	48.6	52.0	53.0	53.4	54.7	54.8	55.0	54.6	55.9	57.3	56.8	56.9	55.7	55.9	54.2
70000	47.0	48.2	51.9	52.7	53.2	54.5	54.6	54.7	54.3	55.7	57.1	56.7	56.7	55.6	55.6	54.0
80000	47.6	48.1	51.7	52.4	53.0	54.4	54.6	54.4	54.0	55.6	56.9	56.5	56.4	55.5	55.3	53.7
90000	50.1	50.1	51.6	52.3	52.9	54.2	54.6	54.3	53.7	55.5	56.7	56.3	56.1	55.3	55.0	53.4
100000	52.7	53.0	51.5	52.1	52.8	54.1	54.6	54.1	53.5	55.4	56.6	56.2	55.9	55.2	54.8	53.1
110000	57.1	57.3	51.6	52.1	52.8	54.2	54.7	54.1	53.4	55.3	56.6	56.2	55.9	55.2	54.7	52.8
120000	59.6	60.1	51.9	52.3	53.0	54.4	54.9	54.2	53.6	55.5	56.7	56.3	56.0	55.4	54.8	52.7
130000	61.8	62.5	52.5	52.6	53.5	54.8	55.3	54.7	54.1	55.9	56.9	56.6	56.2	55.8	55.3	52.9
140000	71.9	72.3	53.3	53.4	54.3	55.5	55.8	55.3	54.9	56.6	57.4	57.3	56.2	56.4	56.0	53.2
150000	70.0	69.1	54.1	54.3	55.1	56.2	56.8	56.0	55.7	57.3	57.9	58.0	56.8	57.2	56.4	53.7
160000	74.9	76.0	54.8	55.1	56.0	57.1	57.1	56.9	56.5	58.3	58.6	58.8	57.3	58.0	56.6	54.2
170000	67.7	76.4	55.7	56.1	56.8	58.0	57.3	58.0	57.5	59.4	59.5	59.5	57.8	58.8	56.6	54.8
180000	63.3	76.8	56.2	56.5	57.8	58.8	58.0	58.4	58.5	59.9	60.4	60.0	58.2	59.5	56.8	55.1
190000	60.7	56.1	56.6	57.3	58.0	58.8	58.3	58.9	58.7	59.8	60.4	60.3	58.6	59.7	56.9	55.3
200000	58.2	55.9	56.4	56.7	57.8	58.7	58.3	58.7	58.4	59.8	60.0	60.1	58.4	59.6	56.8	55.1
210000	56.2	55.6	56.3	56.7	57.7	58.5	58.1	58.2	58.2	59.7	59.9	59.9	58.4	59.5	56.5	54.3
220000	54.3	55.3	56.0	56.5	57.5	58.2	57.7	58.0	58.1	59.5	59.5	59.7	58.1	59.3	56.2	53.9
230000	52.5	54.9	55.7	56.1	57.2	57.9	57.5	57.7	57.8	59.1	59.2	59.5	57.8	58.9	55.8	53.5
Daily Max	74.9	76.8	56.6	57.3	58.0	58.8	58.3	58.9	58.7	59.9	60.4	60.3	59.2	59.7	58.5	55.5
Daily Min	46.5	48.1	51.5	52.1	52.8	54.1	54.6	54.1	53.4	55.3	56.6	56.2	55.9	55.2	54.7	52.7
Average	55.7	57.2	53.7	54.3	55.0	56.2	56.2	56.2	55.9	57.3	58.2	58.0	57.4	57.1	56.3	54.1

Monthly average temp (F): 54.3

License Monthly Maximum Average 74

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

Note: The McClure penstock and powerhouse were out of service during the 2009 monitoring season.

McClure Powerhouse Tailrace - September 2009 Temperature Monitoring Data

Time HHMMSS	9/17/2009	9/18/2009	9/19/2009	9/20/2009	9/21/2009	9/22/2009	9/23/2009	9/24/2009	9/25/2009	9/26/2009	9/27/2009	9/28/2009	9/29/2009	9/30/2009
0	53.2	54.9	50.6	53.1	53.9	53.0	55.1	53.6	53.3	54.3	54.2	54.0	49.5	46.5
10000	52.8	54.8	49.9	52.9	53.3	52.6	54.8	53.1	52.9	54.1	53.9	53.6	49.5	46.4
20000	52.6	54.7	49.2	52.8	52.8	52.4	54.6	52.4	52.5	53.9	53.5	53.3	49.4	46.3
30000	52.4	54.5	48.6	52.8	52.4	52.2	54.6	51.9	52.1	53.9	53.2	53.2	49.2	46.2
40000	52.2	54.3	48.1	52.7	52.2	52.1	54.4	51.4	51.8	53.8	52.9	53.0	49.1	46.1
50000	52.1	54.1	47.7	52.5	52.1	52.1	54.5	51.0	51.4	53.7	52.7	52.8	48.9	46.0
60000	51.9	54.1	47.4	52.4	52.0	52.1	54.4	50.7	51.1	53.5	52.5	52.6	48.7	45.8
70000	51.8	53.9	47.2	52.4	51.9	52.1	54.4	50.4	50.9	53.5	52.5	52.4	48.5	45.7
80000	51.8	53.9	47.2	52.3	52.0	52.2	54.3	50.1	50.8	53.4	52.5	52.3	48.4	45.6
90000	51.9	53.8	47.3	52.3	52.1	52.2	54.3	50.0	50.9	53.4	52.5	52.0	48.2	45.5
100000	52.1	53.9	47.6	52.5	52.1	52.5	54.3	50.1	51.1	53.4	52.7	51.9	48.0	45.5
110000	52.5	53.9	48.3	52.9	52.4	53.0	54.4	50.5	51.5	53.7	53.0	51.9	47.9	45.6
120000	53.4	54.0	49.3	53.5	52.7	53.6	54.8	51.1	52.2	54.1	53.4	51.8	47.8	45.8
130000	53.8	54.3	50.2	54.0	53.0	54.2	55.1	51.8	52.8	54.5	54.0	51.8	47.8	46.2
140000	54.3	54.5	51.4	54.8	53.5	54.8	55.6	52.6	53.5	55.0	54.8	51.7	47.8	46.5
150000	55.0	54.8	52.4	55.5	54.0	55.3	56.0	53.5	54.4	55.2	55.3	51.6	47.7	46.8
160000	55.6	54.9	53.5	56.1	54.5	55.8	56.3	54.1	55.0	55.3	55.7	51.4	47.6	46.9
170000	55.9	55.0	54.0	56.5	54.8	56.1	56.4	54.6	55.5	55.3	55.8	51.2	47.5	47.1
180000	55.9	54.4	53.9	56.2	54.7	56.2	56.2	54.6	55.6	55.5	55.8	50.8	47.4	46.8
190000	55.9	54.1	54.0	56.0	54.5	56.0	56.0	54.6	55.5	55.4	55.7	50.5	47.3	46.6
200000	55.9	53.5	53.9	55.7	54.3	55.9	55.6	54.5	55.2	55.1	55.4	50.0	47.0	46.3
210000	55.7	52.9	53.7	55.3	54.0	55.7	55.1	54.2	54.9	54.9	55.1	49.6	46.8	45.8
220000	55.4	52.1	53.5	54.9	53.7	55.6	54.6	54.0	54.7	54.7	54.6	49.5	46.7	45.3
230000	55.1	51.4	53.3	54.4	53.3	55.3	54.2	53.7	54.5	54.5	54.3	49.6	46.6	44.8
Daily Max	55.9	55.0	54.0	56.5	54.8	56.2	56.4	54.6	55.6	55.5	55.8	54.0	49.5	47.1
Daily Min	51.8	51.4	47.2	52.3	51.9	52.1	54.2	50.0	50.8	53.4	52.5	49.5	46.6	44.8
Average	53.7	54.0	50.5	53.9	53.2	53.9	55.0	52.4	53.1	54.3	54.0	51.8	48.1	46.1

McClure Powerhouse Tailrace - October 2009 Temperature Monitoring Data

Time HHMMSS	10/1/2009	10/2/2009	10/3/2009	10/4/2009	10/5/2009	10/6/2009	10/7/2009	10/8/2009	10/9/2009	10/10/2009	10/11/2009	10/12/2009	10/13/2009	10/14/2009	10/15/2009	10/16/2009
0	44.3	44.7	45.2	47.1	47.5	47.2	46.8	46.2	45.4	43.5	39.4	38.8	38.9	38.5	39.4	39.5
10000	43.8	44.4	45.4	47.0	47.3	46.9	46.8	46.1	45.0	43.2	39.1	38.6	38.8	38.4	39.4	39.5
20000	43.4	44.1	45.6	47.0	47.2	46.8	46.7	46.2	44.6	42.9	39.0	38.3	38.7	38.2	39.4	39.2
30000	43.0	43.7	45.8	46.9	47.1	46.7	46.7	46.2	44.3	42.5	38.8	38.1	38.6	38.0	39.4	39.0
40000	42.7	43.3	45.9	46.9	47.0	46.5	46.7	46.2	44.0	42.2	38.7	38.0	38.6	37.8	39.3	38.7
50000	42.4	43.1	46.0	46.8	46.9	46.4	46.7	46.1	43.7	42.0	38.6	37.9	38.3	37.6	39.3	38.6
60000	42.1	42.7	46.0	46.8	46.8	46.4	46.6	45.9	43.5	41.8	38.4	37.7	38.1	37.4	39.3	38.4
70000	41.8	42.5	46.1	46.8	46.7	46.4	46.5	45.8	43.3	41.5	38.4	37.6	38.0	37.2	39.2	38.6
80000	40.3	42.4	46.1	46.8	46.6	46.3	46.3	45.6	43.1	41.2	38.4	37.6	37.9	37.0	39.2	38.4
90000	41.1	42.5	46.1	46.8	46.5	46.3	46.0	45.4	42.8	41.1	38.3	37.6	37.8	36.8	39.2	38.2
100000	41.2	42.8	46.2	46.8	46.4	46.2	45.7	45.2	42.7	41.0	38.3	37.7	37.8	36.7	39.2	38.2
110000	41.5	43.2	46.5	46.9	46.6	46.3	45.6	45.3	42.8	41.1	38.5	37.9	38.0	36.7	39.5	38.7
120000	41.9	43.7	46.8	47.3	46.9	46.3	45.6	45.5	43.0	41.5	38.7	38.2	38.2	36.9	39.8	39.2
130000	42.5	44.0	46.9	47.6	47.3	46.5	45.9	45.7	43.3	41.4	39.1	38.6	38.5	37.5	40.0	39.5
140000	43.2	44.4	46.9	47.9	47.7	46.5	46.1	46.1	43.7	41.5	39.7	38.9	39.0	37.9	40.7	39.8
150000	44.0	44.6	47.1	48.3	48.1	46.6	46.3	46.3	43.8	41.5	40.0	39.0	39.3	39.0	40.9	40.3
160000	44.8	44.8	47.2	48.4	48.3	46.7	46.6	46.6	44.1	41.5	40.2	39.1	39.4	39.4	41.1	41.0
170000	45.1	44.9	47.4	48.5	48.5	46.6	46.7	46.7	44.4	41.6	40.3	39.3	39.6	39.8	41.2	41.1
180000	45.0	44.9	47.4	48.5	48.4	46.6	46.8	46.8	44.7	41.4	40.4	39.4	39.9	40.0	41.0	41.1
190000	45.0	44.9	47.4	48.3	48.4	46.6	46.8	46.7	44.6	41.0	40.4	39.3	39.7	39.9	40.8	40.9
200000	44.8	44.9	47.4	48.2	48.3	46.5	46.7	46.6	44.4	40.6	40.3	39.2	39.5	39.7	40.5	40.6
210000	44.8	45.0	47.3	47.9	48.0	46.5	46.5	46.4	44.1	40.2	40.0	39.1	39.3	39.7	40.0	40.5
220000	44.7	45.0	47.2	47.8	47.8	46.7	46.3	46.2	43.9	39.9	39.6	39.0	39.0	39.6	39.8	40.4
230000	44.7	45.1	47.1	47.6	47.5	46.8	46.2	45.8	43.8	39.6	39.2	38.9	38.8	39.5	39.6	40.2
Daily Max	45.1	45.1	47.4	48.5	48.5	47.2	46.8	46.8	45.4	43.5	40.4	39.4	39.9	40.0	41.2	41.1
Daily Min	40.3	42.4	45.2	46.8	46.4	46.2	45.6	45.2	42.7	39.6	38.3	37.6	37.8	36.7	39.2	38.2
Average	43.2	44.0	46.5	47.4	47.4	46.6	46.4	46.1	43.9	41.5	39.2	38.5	38.7	38.3	39.9	39.6

Monthly average temp (F): 42.7
License Maximum Monthly Average: 64

Note: The McClure penstock and powerhouse were out of service during the 2009 monitoring season.

McClure Powerhouse Tailrace - October 2009 Temperature Monitoring Data

Time HHMMSS	10/17/2009	10/18/2009	10/19/2009	10/20/2009	10/21/2009	10/22/2009	10/23/2009	10/24/2009	10/25/2009	10/26/2009	10/27/2009	10/28/2009	10/29/2009	10/30/2009	10/31/2009
0	40.1	40.1	42.0	44.9	44.0	43.2	41.5	41.4	40.5	40.8	42.5	41.9	42.2	44.8	47.7
10000	40.0	39.7	41.9	44.8	43.9	43.1	41.4	41.5	40.2	40.9	42.5	41.7	42.0	44.9	47.3
20000	39.8	39.4	41.9	44.7	43.9	43.0	41.4	41.4	40.1	41.0	42.5	41.6	41.9	45.0	47.0
30000	39.7	39.2	41.9	44.6	43.8	42.9	41.2	41.3	40.0	41.1	42.5	41.4	41.9	45.1	46.7
40000	39.6	39.1	41.9	44.5	43.8	42.7	41.1	41.2	39.7	41.1	42.5	41.3	41.9	45.2	46.3
50000	39.6	38.9	41.9	44.5	43.8	42.7	41.1	41.1	39.6	41.1	42.4	41.3	41.8	45.3	45.9
60000	39.5	38.9	42.0	44.5	43.8	42.6	41.0	40.9	39.5	41.2	42.4	41.3	41.8	45.4	45.5
70000	39.5	39.0	42.0	44.4	43.8	42.5	41.0	40.8	39.4	41.2	42.3	41.3	41.8	45.6	45.2
80000	39.3	38.9	42.0	44.3	43.9	42.4	41.0	40.6	39.3	41.2	42.3	41.4	41.8	45.6	44.9
90000	39.1	38.8	42.1	44.3	43.9	42.4	41.0	40.5	39.3	41.2	42.2	41.4	42.0	45.8	44.7
100000	38.9	39.0	42.1	44.2	44.0	42.3	40.9	40.3	39.4	41.3	42.1	41.4	42.2	45.9	44.6
110000	39.1	39.4	42.5	44.2	44.0	42.3	40.9	40.2	39.5	41.4	42.1	41.7	42.5	46.1	44.4
120000	39.3	40.0	42.9	44.2	44.2	42.3	40.8	40.2	39.7	41.5	42.1	42.1	42.8	46.4	44.4
130000	39.7	40.6	43.4	44.3	44.2	42.3	40.8	40.4	40.0	41.7	42.4	42.4	43.1	46.8	44.4
140000	40.8	41.0	43.9	44.4	44.2	42.3	40.8	40.5	40.2	41.9	42.7	42.7	43.5	47.5	44.5
150000	41.1	41.5	44.5	44.5	44.2	42.4	40.9	40.8	40.4	42.0	43.0	43.1	43.8	48.2	44.6
160000	41.3	41.9	45.0	44.7	44.1	42.4	40.9	41.0	40.6	42.1	43.2	43.3	44.0	48.6	44.7
170000	41.3	42.1	45.2	44.7	44.1	42.3	40.9	41.1	40.7	42.2	43.3	43.4	44.3	48.7	44.5
180000	41.3	42.2	45.2	44.7	43.8	42.1	40.9	41.1	40.6	42.3	43.1	43.4	44.4	48.8	44.0
190000	41.2	42.2	45.2	44.5	43.6	42.0	40.9	41.1	40.6	42.4	42.9	43.4	44.5	48.8	43.7
200000	41.2	42.1	45.2	44.4	43.5	41.8	41.0	41.0	40.6	42.4	42.7	43.2	44.6	48.9	43.4
210000	41.0	42.1	45.1	44.3	43.4	41.7	41.1	40.9	40.6	42.4	42.5	43.0	44.6	48.7	43.2
220000	40.8	41.9	45.1	44.2	43.3	41.6	41.3	40.8	40.6	42.4	42.2	42.7	44.7	48.4	43.1
230000	40.4	41.9	45.0	44.1	43.3	41.5	41.4	40.6	40.8	42.5	42.0	42.5	44.8	48.0	42.9
Daily Max	41.3	42.2	45.2	44.9	44.2	43.2	41.5	41.5	40.8	42.5	43.3	43.4	44.8	48.9	47.7
Daily Min	38.9	38.8	41.9	44.1	43.3	41.5	40.8	40.2	39.3	40.8	42.0	41.3	41.8	44.8	42.9
Average	40.1	40.4	43.3	44.4	43.9	42.4	41.1	40.9	40.1	41.6	42.5	42.2	43.0	46.8	44.9

Appendix C

Dissolved Oxygen Profile Data

Dead River Storage Basin
2009 Dissolved Oxygen and Temperature Profile Data

6/10/2009
Time: 18:00 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	9.1	14.0	57.2
1.0	9.1	14.0	57.2
1.5	9.1	14.0	57.2
2.0	9.0	14.1	57.4
2.5	9.0	14.1	57.4
3.0	9.0	14.1	57.4
3.5	9.0	14.1	57.4
4.0	9.0	14.1	57.4
4.5	8.9	14.1	57.4
5.0	8.9	14.1	57.4
5.5	8.9	14.1	57.4
6.0	8.8	13.9	57.0
6.5	8.8	13.9	57.0
7.0	8.8	13.8	56.8
7.5	8.7	13.9	57.0
8.0	8.7	13.9	57.0
8.5	8.7	13.9	57.0
9.0	8.7	13.8	56.8
9.5	8.7	13.8	56.8
10.0	8.7	13.8	56.8
10.5	8.7	13.8	56.8
11.0	8.5	13.8	56.8
11.5	7.3	13.1	55.6
12.0	6.8	12.5	54.5

6/24/2009
Time: 18:40 EDT
Weather: Partly Cloudy, 84°F, no wind
Secchi Disk - 7'

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.9	25.2	77.4
2	8.9	25.0	77.0
3	8.8	24.2	75.6
4	8.8	24.1	75.4
5	8.8	24.1	75.4
6	8.8	24.1	75.4
7	8.8	24.0	75.2
8	8.5	23.7	74.7
9	8.4	23.3	73.9
10	8.2	22.6	72.7
11	7.8	21.4	70.5
12	7.8	20.8	69.4
13	7.7	20.6	69.1
14	7.6	19.7	67.5
15	7.5	19.1	66.4
16	7.5	18.8	65.8
17	7.5	18.5	65.3
18	7.4	18.0	64.4
19	7.4	17.6	63.7
20	7.3	17.1	62.8
21	7.2	16.4	61.5
22	7.3	15.8	60.4
23	7.2	15.6	60.1
24	7.2	15.4	59.7
25	7.2	15.0	59.0
26	7.0	14.8	58.6
27	7.0	14.5	58.1
28	7.0	14.3	57.7
29	7.0	14.2	57.6
30	7.0	14.1	57.4
31	6.9	14.0	57.2
32	6.9	13.8	56.8
33	6.9	13.8	56.8

7/8/2009
Time: 18:25 EDT
Weather: Partly Cloudy, 72°F, light wind
Secchi Disk - 6' 6"

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.7	19.2	66.6
2	8.7	19.1	66.4
3	8.6	19.1	66.4
4	8.6	19.1	66.4
5	8.3	18.7	65.7
6	8.3	18.6	65.5
7	8.3	18.5	65.3
8	8.3	18.4	65.1
9	8.3	18.4	65.1
10	8.3	18.4	65.1
11	8.1	18.3	64.9
12	8.0	18.2	64.8
13	8.0	18.2	64.8
14	8.0	18.2	64.8
15	8.0	18.1	64.6
16	8.0	18.1	64.6
17	7.9	18.1	64.6
18	7.9	18.1	64.6
19	7.8	18.0	64.4
20	7.8	18.0	64.4
21	7.9	17.9	64.2
22	7.9	17.9	64.2
23	7.9	17.9	64.2
24	7.9	17.9	64.2
25	7.9	17.9	64.2
26	7.8	17.9	64.2
27	7.8	17.9	64.2
28	7.6	17.7	63.9
29	7.6	17.6	63.7
30	7.1	17.4	63.3
31	6.7	17.2	63.0
32	6.7	17.1	62.8

Dead River Storage Basin
2009 Dissolved Oxygen and Temperature Profile Data

7/22/2009
Time: 17:00 EDT
Weather: Sunny, 72°F
Secchi Disk - 8'

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.5	19.4	66.9
2	8.5	19.2	66.6
3	8.4	19.1	66.4
4	8.4	19.1	66.4
5	8.4	19.0	66.2
6	8.4	19.0	66.2
7	8.4	19.0	66.2
8	8.4	18.9	66.0
9	8.3	18.9	66.0
10	8.3	18.9	66.0
11	8.2	18.8	65.8
12	8.1	18.6	65.5
13	8.0	18.5	65.3
14	8.0	18.5	65.3
15	8.0	18.5	65.3
16	8.0	18.5	65.3
17	8.0	18.5	65.3
18	8.0	18.4	65.1
19	8.0	18.4	65.1
20	8.0	18.4	65.1
21	8.0	18.4	65.1
22	8.0	18.4	65.1
23	8.0	18.4	65.1
24	8.0	18.3	64.9
25	8.0	18.3	64.9
26	8.0	18.3	64.9
27	8.0	18.3	64.9
28	8.0	18.3	64.9
29	8.0	18.3	64.9
30	7.9	18.3	64.9
31	7.8	18.2	64.8
32	6.7	17.8	64.0
33	6.2	17.6	63.7
34	6.0	17.2	63.0
35	6.0	17.1	62.8
36	4.8	16.6	61.9
37	3.6	15.4	59.7

8/5/2009
Time: 14:45 EDT
Weather: Partly sunny, 70°F,
5-10 mph winds
Secchi Disk - 7' 10"

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.22	20.2	68.4
2	8.26	20.2	68.4
3	8.28	20.1	68.2
4	8.28	20.1	68.2
5	8.28	20	68.0
6	8.27	20	68.0
7	8.26	20	68.0
8	8.26	20	68.0
9	8.25	20	68.0
10	8.24	20	68.0
11	8.23	19.9	67.8
12	8.22	19.9	67.8
13	8.22	19.9	67.8
14	8.22	19.9	67.8
15	8.21	19.9	67.8
16	8.22	19.9	67.8
17	8.2	19.9	67.8
18	8.18	19.9	67.8
19	8.17	19.9	67.8
20	8.17	19.8	67.6
21	8.16	19.8	67.6
22	8.15	19.8	67.6
23	8.15	19.8	67.6
24	8.14	19.8	67.6
25	8.13	19.8	67.6
26	8.14	19.8	67.6
27	8.14	19.8	67.6
28	8.14	19.9	67.8
29	8.13	19.9	67.8
30	8.06	19.8	67.6
31	8.01	19.8	67.6
32	8.06	19.9	67.8
33	8.04	19.9	67.8
34	8.02	19.8	67.6
35	7.95	19.8	67.6

8/19/2009
Time: 19:45 EDT
Weather: Overcast, 70°F
Secchi Disk - 7' 6"

Depth (meters)	DO mg/l	Temp °C	Temp °F
0.5	8.56	21.7	71.1
1.0	8.14	21.7	71.1
1.5	8.12	21.7	71.1
2.0	8.02	21.7	71.1
2.5	7.98	21.7	71.1
3.0	7.94	21.7	71.1
3.5	7.92	21.7	71.1
4.0	7.81	21.6	70.9
4.5	7.77	21.6	70.9
5.0	7.57	21.4	70.5
5.5	7.51	21.4	70.5
6.0	7.43	21.3	70.3
6.5	7.06	21.1	70.0
7.0	6.83	20.8	69.4
7.5	6.62	20.5	68.9
8.0	6.54	20.4	68.7
8.5	5.94	19.9	67.8
9.0	5.79	19.6	67.3
9.5	5.76	19.5	67.1
10.0	5.73	19.4	66.9
10.5	5.71	19.3	66.7
11.0	5.69	19.4	66.9

Dead River Storage Basin
2009 Dissolved Oxygen and Temperature Profile Data

9/2/2009
Time: 19:30 EDT
Weather: Clear, 72°F, light winds
Secchi Disk - 7.5 ft

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.6	19.9	67.8
2	8.5	19.5	67.1
3	8.4	19.4	66.9
4	8.4	19.4	66.9
5	8.4	19.3	66.7
6	8.2	19.3	66.7
7	7.8	19.0	66.2
8	7.4	18.6	65.5
9	7.3	18.4	65.1
10	7.3	18.3	64.9
11	7.1	18.3	64.9
12	6.8	18.2	64.8
13	6.8	18.1	64.6
14	6.8	18.1	64.6
15	6.7	18.1	64.6
16	6.7	18.1	64.6
17	6.7	18.1	64.6
18	6.7	18.0	64.4
19	6.7	18.0	64.4
20	6.7	18.0	64.4
21	6.7	18.0	64.4
22	6.7	18.0	64.4
23	6.7	18.0	64.4
24	6.7	18.0	64.4
25	6.7	18.0	64.4
26	6.5	18.0	64.4
27	6.5	18.0	64.4
28	6.5	18.0	64.4
29	6.4	17.9	64.2
30	6.4	17.9	64.2
31	6.4	17.9	64.2
32	6.4	17.9	64.2
33	6.4	18.0	64.4
34	6.4	18.0	64.4
35	6.4	18.0	64.4
36	6.4	17.9	64.2

9/16/2009
Time: 17:05 EDT
Weather: Clear, 66°F, light winds
Secchi Disk - 7.0 ft

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.0	20.3	68.5
2	8.0	20.1	68.2
3	7.9	20.0	68.0
4	7.9	20.0	68.0
5	7.9	20.0	68.0
6	7.8	20.0	68.0
7	7.8	20.0	68.0
8	7.8	19.9	67.8
9	7.7	19.9	67.8
10	7.7	20.0	68.0
11	7.7	19.9	67.8
12	6.9	19.7	67.5
13	5.7	18.9	66.0
14	5.5	18.6	65.5
15	5.5	18.4	65.1
16	5.4	18.4	65.1
17	5.4	18.3	64.9
18	4.9	18.0	64.4
19	4.7	17.7	63.9
20	4.7	17.7	63.9
21	4.6	17.6	63.7
22	4.6	17.6	63.7
23	4.5	17.5	63.5
24	4.5	17.4	63.3
25	4.5	17.4	63.3
26	4.5	17.4	63.3
27	4.4	17.4	63.3
28	4.4	17.4	63.3
29	4.0	17.2	63.0
30	3.8	17.1	62.8
31	3.6	17.1	62.8
32	3.5	17.1	62.8
33	3.5	17.0	62.6
34	3.4	17.0	62.6

9/30/2009
Time: 17:55 EDT
Weather: Clear, 50°F, light winds
Secchi Disk - Not Taken

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.15	16.3	61.3
2	8.14	16.4	61.5
3	8.13	16.4	61.5
4	8.12	16.4	61.5
5	8.12	16.4	61.5
6	8.11	16.4	61.5
7	8.11	16.4	61.5
8	7.66	16	60.8
9	7.61	16	60.8
10	7.6	16	60.8
11	7.59	16	60.8
12	7.59	16	60.8
13	7.58	16	60.8
14	7.56	16	60.8
15	7.55	16	60.8
16	7.54	16	60.8
17	7.55	16	60.8
18	7.57	15.9	60.6
19	7.58	15.9	60.6
20	7.58	15.9	60.6
21	7.58	15.9	60.6
22	7.57	15.9	60.6
23	7.57	15.9	60.6
24	7.58	15.8	60.4
25	7.56	15.9	60.6
26	7.56	15.9	60.6
27	7.56	15.9	60.6
28	7.55	15.9	60.6
29	7.55	15.9	60.6
30	7.54	15.9	60.6
31	7.54	15.9	60.6
32	7.54	15.8	60.4
33	7.52	15.9	60.6
34	7.51	15.9	60.6

McClure Storage Basin
2009 Dissolved Oxygen and Temperature Profile Data

6/10/2009
Time: 17:30 EDT
Weather: Cloudy, 60°F, windy
Secchi Disk - 7.0 ft

Depth (meters)	DO mg/l	Temp °C	Temp °F
0.5	8.8	14.1	57.4
1.0	8.8	13.9	57.0
1.5	8.8	13.9	57.0
2.0	8.8	13.8	56.8
2.5	8.7	13.7	56.7
3.0	8.7	13.6	56.5
3.5	8.7	13.6	56.5
4.0	8.7	13.6	56.5
4.5	8.2	13.4	56.1
5.0	8.1	13.1	55.6
5.5	7.9	12.8	55.0
6.0	7.8	12.5	54.5
6.5	7.7	12.2	54.0
7.0	7.3	11.4	52.5
7.5	7.3	10.5	50.9
8.0	7.4	10.0	50.0
8.5	7.2	9.8	49.6

6/24/2009
Time: 18:00 EDT
Weather: Partly Cloudy, 84°F, no wind
Secchi Disk - 6.5 ft

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.0	27.5	81.5
2	8.0	27.4	81.3
3	8.1	27.0	80.6
4	7.8	23.0	73.4
5	7.7	21.0	69.8
6	7.7	20.0	68.0
7	7.6	19.1	66.4
8	7.7	18.4	65.1
9	7.7	18.0	64.4
10	7.5	17.8	64.0
11	7.6	17.3	63.1
12	7.6	16.8	62.2
13	7.4	16.4	61.5
14	7.4	15.8	60.4
15	7.5	15.3	59.5
16	7.5	15.1	59.2
17	7.3	14.9	58.8
18	7.3	14.5	58.1
19	7.2	14.1	57.4
20	7.1	13.9	57.0
21	7.0	13.6	56.5
22	6.7	13.3	55.9
23	6.7	13.0	55.4
24	6.2	12.8	55.0
25	5.7	12.3	54.1
26	5.4	11.8	53.2
27	5.7	10.9	51.6
28	5.9	10.4	50.7
29	6.3	10.2	50.4
30	6.8	9.7	49.5
31	6.4	9.5	49.1
32	6.4	9.3	48.7
33	6.4	9.4	48.9
34	6.4	9.4	48.9

7/8/2009
Time: 17:45 EDT
Weather: Partly Cloudy, 72°F, light wind
Secchi Disk - 7.5 ft

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.2	20.0	68.0
2	8.2	19.1	66.4
3	8.2	18.9	66.0
4	8.3	18.7	65.7
5	8.1	18.7	65.7
6	8.1	18.5	65.3
7	8.2	18.4	65.1
8	8.2	18.3	64.9
9	8.2	18.2	64.8
10	8.2	18.1	64.6
11	8.2	18.1	64.6
12	7.7	18.0	64.4
13	7.5	17.8	64.0
14	7.3	17.4	63.3
15	7.1	17.0	62.6
16	7.0	16.7	62.1
17	7.0	16.5	61.7
18	7.0	16.3	61.3
19	6.6	16.0	60.8
20	6.3	15.4	59.7
21	5.9	15.1	59.2
22	5.7	14.4	57.9
23	5.4	13.5	56.3
24	4.7	12.8	55.0
25	4.1	12.2	54.0
26	4.1	11.6	52.9
27	4.3	11.3	52.3
28	5.4	10.6	51.1
29	6.1	10.0	50.0

McClure Storage Basin
2009 Dissolved Oxygen and Temperature Profile Data

7/22/2009
Time: 17:40 EDT
Weather: Mostly Cloudy, 72°F
Secchi Disk - 7.5 ft

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.2	19.9	67.8
2	8.1	19.3	66.7
3	7.9	19.2	66.6
4	7.9	19.1	66.4
5	7.7	18.9	66.0
6	7.6	18.8	65.8
7	7.5	18.7	65.7
8	7.5	18.6	65.5
9	7.4	18.5	65.3
10	7.4	18.5	65.3
11	7.3	18.4	65.1
12	7.3	18.4	65.1
13	7.3	18.4	65.1
14	7.2	18.3	64.9
15	7.1	18.2	64.8
16	6.9	18.2	64.8
17	6.9	18.1	64.6
18	6.7	18.1	64.6
19	6.5	17.9	64.2
20	5.4	17.6	63.7
21	5.1	17.0	62.6
22	4.9	16.5	61.7
23	4.0	15.5	59.9
24	3.0	14.1	57.4
25	2.8	13.1	55.6
26	3.2	12.2	54.0
27	4.2	11.2	52.2
28	4.7	10.6	51.1

8/5/2009
Time: 15:30 EDT
Weather: Partly sunny, 70°F, 5-10 mph winds
Secchi Disk - 6.75 ft

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.4	20.4	68.7
2	8.3	20.5	68.9
3	8.3	20.5	68.9
4	8.3	20.6	69.1
5	8.3	20.6	69.1
6	8.2	20.5	68.9
7	8.1	20.4	68.7
8	8.1	20.4	68.7
9	8.1	20.3	68.5
10	8.1	20.3	68.5
11	8.1	20.3	68.5
12	8.1	20.3	68.5
13	8.0	20.2	68.4
14	8.0	20.2	68.4
15	8.0	20.2	68.4
16	8.0	20.2	68.4
17	8.0	20.2	68.4
18	8.0	20.2	68.4
19	8.0	20.1	68.2
20	7.9	20.1	68.2
21	5.7	18.9	66.0
22	4.4	17.8	64.0
23	2.2	16.0	60.8
24	1.6	14.6	58.3
25	2.0	13.2	55.8
26	3.4	11.6	52.9
27	3.6	11.3	52.3
28	3.9	10.9	51.6

8/19/2009
Time: 16:00 EDT
Weather: overcast, 72°F
Secchi Disk - 6.0 ft

Depth (meters)	DO mg/l	Temp °C	Temp °F
0.5	7.6	21.2	70.2
1.0	7.3	20.9	69.6
1.5	7.2	20.8	69.4
2.0	7.2	20.7	69.3
2.5	6.9	20.7	69.3
3.0	6.7	20.4	68.7
3.5	6.4	20.2	68.4
4.0	6.4	19.9	67.8
4.5	6.1	19.6	67.3
5.0	5.7	19.2	66.6
5.5	4.7	18.4	65.1
6.0	2.8	17.3	63.1
6.5	0.7	15.1	59.2
7.0	1.9	13.1	55.6
7.5	3.0	11.5	52.7

McClure Storage Basin
2009 Dissolved Oxygen and Temperature Profile Data

9/2/2009
Time: 18:50 EDT
Weather: Clear, 72°F, light winds
Secchi Disk - 6.75 ft

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.0	19.6	67.3
2	8.0	19.5	67.1
3	7.8	19.1	66.4
4	7.7	18.7	65.7
5	7.6	18.5	65.3
6	7.6	18.4	65.1
7	7.5	18.3	64.9
8	7.5	18.2	64.8
9	7.5	18.1	64.6
10	7.4	18.1	64.6
11	7.2	18.1	64.6
12	6.9	17.9	64.2
13	6.7	17.8	64.0
14	6.7	17.7	63.9
15	6.6	17.6	63.7
16	6.3	17.5	63.5
17	6.2	17.4	63.3
18	6.1	17.3	63.1
19	6.0	17.2	63.0
20	6.2	17.2	63.0
21	6.1	17.2	63.0
22	5.9	17.2	63.0
23	5.6	17.0	62.6
24	4.9	16.8	62.2
25	1.2	15.9	60.6
26	0.2	15.3	59.5
27	0.9	14.1	57.4
28	2.0	12.7	54.9
29	2.3	11.7	53.1
30	2.3	11.5	52.7

9/16/2009
Time: 16:20 EDT
Weather: Clear, 66°F, light winds
Secchi Disk - 7.75 ft

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	7.6	19.6	67.3
2	7.2	19.1	66.4
3	7.2	19.0	66.2
4	7.1	19.0	66.2
5	7.1	19.0	66.2
6	7.1	19.0	66.2
7	7.1	19.0	66.2
8	6.3	18.7	65.7
9	6.3	18.7	65.7
10	6.3	18.6	65.5
11	6.3	18.5	65.3
12	6.3	18.4	65.1
13	6.3	18.4	65.1
14	6.1	18.3	64.9
15	5.8	18.2	64.8
16	5.8	18.1	64.6
17	5.7	17.9	64.2
18	5.3	17.7	63.9
19	5.0	17.7	63.9
20	4.8	17.5	63.5
21	4.5	17.3	63.1
22	4.3	17.2	63.0
23	4.2	17.1	62.8
24	3.7	16.6	61.9
25	0.8	15.5	59.9
26	0.2	14.7	58.5
27	0.8	13.8	56.8
28	1.3	13.0	55.4

9/30/2009
Time: 16:20 EDT
Weather: Clear, 47°F, light winds
Secchi Disk - Not Taken

Depth (ft)	DO mg/l	Temp °C	Temp °F
1	8.2	15.6	60.1
2	7.7	15.8	60.4
3	7.6	15.8	60.4
4	7.6	15.9	60.6
5	7.6	15.9	60.6
6	7.6	15.9	60.6
7	7.5	15.9	60.6
8	7.6	15.9	60.6
9	7.6	15.9	60.6
10	7.6	15.9	60.6
11	7.6	15.9	60.6
12	7.6	15.9	60.6
13	7.6	15.9	60.6
14	7.6	15.9	60.6
15	7.5	15.9	60.6
16	7.4	15.8	60.4
17	7.4	15.7	60.3
18	7.3	15.7	60.3
19	7.3	15.7	60.3
20	7.3	15.7	60.3
21	7.3	15.7	60.3
22	7.3	15.7	60.3
23	7.3	15.7	60.3
24	7.2	15.6	60.1
25	7.1	15.6	60.1
26	6.7	15.6	60.1
27	3.9	14.6	58.3

Appendix D

Quality Assurance Log Sheets

Field Notes for Datasonde Deployment

Date/Time: 4/29/09 Analyst: MWM

Location: Silver Lake - CR 440 Bridge Datasonde Serial #: 43705

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 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			
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: Deployed for 2009 Monitoring Season - Temperature only from 5/1 → 5/31/09

removed 12:10 5/19/09

Field Notes for Datasonde Deployment

Date/Time: 5/14/09 Analyst: SAS

Location: Silver Lake - CR 440 Bridge Datasonde Serial #: 43728

Calibration Information Datasonde Battery [volts]: 11.8

End Volts: 10.0

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 -

File start - 5/14/09 @ 10:00 EST

File end - 5/27/09 @ 23:00

Field Notes for Datasonde Deployment

Date/Time: 5/26/09 12:40 EST Analyst: MWM

Location: Dead River @ AAO Bridge Datasonde Serial #: 43732

Calibration Information Datasonde Battery [volts]: 12.4

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	5.55	7.04 @ 14.1°C
10.00 Std	16.02	10.13 @ 13.7°C

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.290	Std	0.287	0.296	Before 0.0033 After 0.0000

Barometric Pressure (mm Hg) 729.6

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	99.7	100.0
mg/L D.O.	9.57	9.63
Temp – °C	15.26	15.17

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

Hach HQ30d L.D.O. meter

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

100% sat
101.2% slope
@ 19.3°C
971 hPa

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	101.3	104.3	
mg/L D.O.	9.59	9.88	OK - Deploy
Temp – °C	15.95	15.8	

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 @ Cataract AAO Test.TXT - OK

Setup 5/26/09 thru 6/10/09 @ 18:00

Field Notes for Datasonde Deployment

Date/Time: 6/10/09 18:51 Analyst: MWH

Location: Dead River @ 41O Bridge Datasonde Serial #: 43728

Calibration Information Datasonde Battery [volts]: _____

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.94	7.03 @ 18:15
10.00 Std	10.30	10.07 @ 13.3°C

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.290	Std	0.287	0.290	Before _____ After _____

Barometric Pressure (mm Hg) 720.8

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	94.9	99.9
mg/L D.O.	8.06	8.92
Temp – °C	18.39	18.20

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	_____	_____	No test program - Computer issues
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 from 6/10 @ 20:00 → 6/25

_____

_____

_____

Field Notes for Datasonde Post Calibration

Date/Time: 6/10/09 19:05 Analyst: MWM

Location: AAO Bridge Datasonde Serial #: 43732

Ending Datasonde Battery [volts]: 10.8

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7.40 @ 17.6°
10.00 Std.	10.47 @ 17.8°C

Conductivity (mS/cm): 0.290 Std. Conc. 0.286 Observed

— Zero Observed, In Air

Barometric Pressure (mm Hg) 720.0

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	100.8	100.0
mg/L D.O.	10.20	9.93
Temp – °C	13.14°	13.17°

Notes:

lots of microbiological growth on Sonde.

AAO616.TXT - downloaded in log on 6/12/09

lowest D.O - 6.65 on 6/4/09 @ 22:00

Field Notes for Datasonde Deployment

Date/Time: June 24, 2009 13:00 EST Analyst: TP

Location: Silver Lake Bridge Datasonde Serial #: 42482

Calibration Information Datasonde Battery [volts]: ~ 11.8v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.96	7.00
10.00 Std	9.94	10.00

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.790	Std	0.784	0.790	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 719.2 mm Hg

DS Test Pipe HQ30D

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	100.9%	103.5%
mg/L D.O.	7.98 mg/L	8.21 mg/L
Temp – °C	24.3°C	24.4°C

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

	Before Calibration	After Calibration
% Saturation	104.7%	100.0%
mg/L D.O.	8.50 mg/L	8.11 mg/L
Temp – °C	24.4°C	24.4

slope = 96.5%

Test Program Readings Calibration

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	96.0%	100.1%	S: 13:15 E: 13:30
mg/L D.O.	7.13 mg/L	7.43 mg/L	
Temp – °C	28.42°C	28.44	

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: Test file: 5BT62409.txt

file start @ 15:00 on 6/24/09

Field Notes for Datasonde Post Calibration

Date/Time: June 24, 2009 14:05 ET Analyst: TR

Location: Silver Bridge Datasonde Serial #: 43728

Ending Datasonde Battery [volts]: 0.0

Calibration Information

pH (s.u.):	Observed
7.00 Std.	6.97
10.00 Std.	9.84

Conductivity (mS/cm): 0.290 Std. Conc. 0.292 Observed

0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 719.2 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	100.5%	100.1%
mg/L D.O.	7.71 mg/L	7.65 mg/L
Temp – °C	26.08	26.18 °C

Notes:

Power loss on 6/21/09 @ 15:00

No data from that time

Field Notes for Datasonde Deployment

Date/Time: July 8, 2009 11:55 Analyst: AP

Location: AAO Bridge Datasonde Serial #: 43730

Calibration Information Datasonde Battery [volts]: 12.44

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.02	7.00
10.00 Std	9.95	10.00

New pH ref. sol. on 7/7/09

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) 724.5 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	97.0%	100.0%
mg/L D.O.	8.02 mg/L	8.30 mg/L
Temp – °C	22.12°C	22.11°C

YSI calibration (See field notes for YSI Model HQ30D calibration information)

	Before Calibration	After Calibration
% Saturation	99.1%	100.0%
mg/L D.O.	8.62 mg/L	8.70 mg/L
Temp – °C	21.0°C	21.0°C

slope = 97.9%

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	96.1%	97.3%	5: 12:25 E: 12:37
mg/L D.O.	9.20 mg/L	9.28 mg/L	
Temp – °C	15.14°C	15.4°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	X
mg/L D.O.	
Temp – °C	

Check Status - 7/8/09 @ 17:00

Battery Life @ Start: 100 %

Battery Life @ End: 23 %

Notes: Test file: AAT7080 9.txt

Field Notes for Datasonde Post Calibration

Date/Time: July 8, 2009 Analyst: AP

Location: AAO Bridge Datasonde Serial #: 42482

Ending Datasonde Battery [volts]: 11.4v

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7.07
10.00 Std.	10.11

Conductivity (mS/cm): 0.322 Std. Conc. 0.319 Observed

0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 724.5 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	100.9%	99.9%
mg/L D.O.	8.00 mg/L	7.92 mg/L
Temp – °C	24.63°C	24.52°C

Notes:

File name: AA070809.txt

File is complete, No missing data

Field Notes for Datasonde Deployment

Date/Time: 7/22/09 11:30 EST Analyst: MWH

Location: AAO Bridge Datasonde Serial #: 43729

Calibration Information Datasonde Battery [volts]: 12.0

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.09	7.02 @ 19.2°
10.00 Std	—	—

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.296	Std	0.295	0.296	Before — After —

Barometric Pressure (mm Hg) 730

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	105.6	100.0
mg/L D.O.	9.22	8.78
Temp – °C	19.74	19.67

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	100.9	100.6	
mg/L D.O.	8.77	8.72	Deploy
Temp – °C	20.18	20.6	

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 @ Cataract

Setup from 16:00 on 7/22 thru 8/6 @ 2300

Field Notes for Datasonde Post Calibration

Date/Time: 7/22/09 15:15 EST Analyst: MWM

Location: AAO Bridge Datasonde Serial #: 43730

Ending Datasonde Battery [volts]: 10.1

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7.19 @ 22.1°C
10.00 Std.	—

Conductivity (mS/cm): 0.296 Std. Conc. 0.291 Observed

Zero Observed, In Air

Barometric Pressure (mm Hg) 722

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	96.4	101.3
mg/L D.O.	7.61	8.09
Temp – °C	24.11	24.15

Notes:

AAO bridge 7/8/09 - All D.O over 7.0 mg/L

Field Notes for Datasonde Deployment

Date/Time: 8/5/09 13:06 EST Analyst: MWM

Location: AAO Bridge Datasonde Serial #: 43731

Calibration Information Datasonde Battery [volts]: 11.7

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.16	7.01 @ 22.9°
10.00 Std	10.09	10.01 @ 23.7

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.301	Std	0.300	0.301	Before .0030 After .0000

Barometric Pressure (mm Hg) 727

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	100.1	101.1
mg/L D.O.	7.78	7.94
Temp – °C	25.36	25.25

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

	Before Calibration	After Calibration	
% Saturation	93.8	92.5	OK - Deploy
mg/L D.O.	8.23	8.13	
Temp – °C	19.49	19.6	

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: Calibrated @ Hoist Powerhouse.

13:20 - 13:30 Test

Field Notes for Datasonde Post Calibration

Date/Time: 8/5/09 18:40 Analyst: MWH

Location: AHO Bridge Datasonde Serial #: 43729

Ending Datasonde Battery [volts]: 10.0

Calibration Information

pH (s.u.):	Observed	
7.00 Std.	7.05	@ 22.8
10.00 Std.	9.90	

Conductivity (mS/cm): 0.301 Std. Conc. 0.295 Observed

— Zero Observed, In Air

Barometric Pressure (mm Hg) 722

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	105.4	100.0
mg/L D.O.	9.28	8.69
Temp – °C	19.67	19.67

Notes:

Heavy biofouling on probe.

AHO - 7/22 - 8/5 All DO ↑ 7.5 mg/L

Field Notes for Datasonde Deployment

Date/Time: Aug. 19, 2009 14:10 EDT Analyst: HP

Location: Silver Lake AHO Bridge Datasonde Serial #: 43730

Calibration Information Datasonde Battery [volts]: 12.5v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.05	7.00 @ 25.87°C
10.00 Std	10.02	10.00

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.296	Std	0.300	0.296	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 718.5 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	102.4%	100.0%
mg/L D.O.	7.95 mg/L	7.71 mg/L
Temp – °C	25.55°C	25.60°C

YSI calibration (See field notes for YSI Model Hach HQ30d calibration information)

	Before Calibration	After Calibration
% Saturation	101.3%	100.0%
mg/L D.O.	8.49 mg/L	8.38 mg/L
Temp – °C	22.9 °C	22.9°C

Slope = 96.0%

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	100.7%	98.3%	5: 14:25 E: 14:37
mg/L D.O.	8.92 mg/L	8.69 mg/L	
Temp – °C	18.43°C	18.5°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 - 9/10/09 @ 17:00

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: _____

Field Notes for Datasonde Post Calibration

Date/Time: Aug. 19, 2009 15:30 Analyst: HP

Location: AAO Bridge Datasonde Serial #: 43731

Ending Datasonde Battery [volts]: 9.7V

Calibration Information

pH (s.u.):	Observed	
7.00 Std.	6.96	@ 25.8°C
10.00 Std.	10.04	

Conductivity (mS/cm): 0.296 Std. Conc. 0.301 Observed

0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 717.0 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	100.2%	99.9%
mg/L D.O.	8.16 mg/L	8.03 mg/L
Temp – °C	23.22°C	23.25°C

Notes:

low DO in second half of file, sonde was in some thick black sediment.

Field Notes for Datasonde Deployment

Date/Time: Sept. 2, 2009 13:50 EDT Analyst: AP

Location: AAO Bridge Datasonde Serial #: 42483

Calibration Information Datasonde Battery [volts]: 12.7v (Li Batteries)

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.99	7.02 @ 23.23°C
10.00 Std	10.03	10.03

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.293 Std	0.304	0.293	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 727.4 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	94.0%	100.0%
mg/L D.O.	7.69 mg/L	8.30 mg/L
Temp – °C	22.59°C	22.58°C

YSI calibration (See field notes for YSI Model Hach HQ30d calibration information)

slope = 96.8%

	Before Calibration	After Calibration
% Saturation	100.5%	100.0%
mg/L D.O.	8.82 mg/L	8.81 mg/L
Temp – °C	20.2°C	20.2°C

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	99.2%	97.2%	D: 14:10 E: 14:22
mg/L D.O.	9.44 mg/L	9.27 mg/L	
Temp – °C	~~16~~ 15.59°C	15.70°C	Test file ran @ AAO Bridge

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 – 9/17/09 @ 17:00

Battery Life @ Start: 100%

Battery Life @ End: 64%

Notes: Clear, light wind, 72°F

AAO Bridge Test

Field Notes for Datasonde Post Calibration

Date/Time: Sept. 2, 2009 15:25 Analyst: HP

Location: AHO Bridge Datasonde Serial #: 43730

Ending Datasonde Battery [volts]: Water in Battery Compartment

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7.09
10.00 Std.	10.05

Conductivity (mS/cm): 0.293 Std. Conc. 0.296 Observed

0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 727.4 mmHg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	108.0%	100.1%
mg/L D.O.	8.92 mg/L	8.37 mg/L
Temp – °C	21.98°C	22.00°C

Notes:

Water in battery compartment of sonde, Data looks OK except towards end of file, Data has high degree of variability

Field Notes for Datasonde Deployment

Date/Time: 9/16/09 11:40 EST Analyst: MWH

Location: AAO Bridge Datasonde Serial #: 42485

Calibration Information Datasonde Battery [volts]: 12.3

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.70	7.04 @ 16.8°C
10.00 Std	10.14	10.10 @ 16.9°C

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.309	Std	0.304	0.309	Before 0.0069 After .0000

Barometric Pressure (mm Hg) 730.5

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	101.2	100.2
mg/L D.O.	8.89	8.88
Temp – °C	19.34	~~29.~~ 19.26

YSI calibration (See field notes for YSI Model Hach HQ30 calibration information)
Calibrated in lab on 9/15/09

	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	96.2	96.4	
mg/L D.O.	9.15	9.10	OK - Deploy
Temp – °C	15.85	16.4	

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: 1155-1210 - Test

* Stream work being conducted upstream of monitoring location. Water has higher suspended solids/Turbidity

Field Notes for Datasonde Post Calibration

Date/Time: 9/16/09 12:30 EST Analyst: MWH

Location: AAO Bridge Datasonde Serial #: 42483

Ending Datasonde Battery [volts]: 12.36

Calibration Information

pH (s.u.):	Observed
7.00 Std.	6.88 @ 16.8°C
10.00 Std.	9.91 @ 16.6°C

Conductivity (mS/cm): 0.309 Std. Conc. 0.299 Observed

— Zero Observed, In Air

Barometric Pressure (mm Hg) 731.5

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	~~105~~ 101.0	98.7
mg/L D.O.	9.68	9.51
Temp – °C	15.27	15.31

Notes:

AAO Bridge 09/02/09 - All D.O ↑ 8 mg/L

Work being conducted up-stream of monitor. Pumps being used to transfer H_2O back into river

Field Notes for Datasonde Deployment

Date/Time: 9/30/09 16:05 Analyst: MWM

Location: AAO Bridge Datasonde Serial #: 42483

Calibration Information Datasonde Battery [volts]: 13.3

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

N/A

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.309	Std	0.303		Before 0.002 After 0.000

Barometric Pressure (mm Hg) 725.5

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	107.2	100.2
mg/L D.O.	10.38	9.59
Temp – °C	15.0	15.3

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	92.3	92.7	
mg/L D.O.	9.82	9.73	ok- Deploy
Temp – °C	10.49	11.3	

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: 11.9 V

Battery Life @ End: 19% left

Notes: D.O. Monitoring ends 9/30/09. Temp only starting 10/1/09 – End 10/14

4903
4902

Field Notes for Datasonde Post Calibration

Date/Time: 9/30/09 16:20 Analyst: MWM

Location: AAO Bridge Datasonde Serial #: 42485

Ending Datasonde Battery [volts]: 10.4

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7.20 @ 18.9°C
10.00 Std.	10.11 @ 19.7°C

Conductivity (mS/cm): 0.309 Std. Conc. 0.303 Observed

.0000 Zero Observed, In Air

Barometric Pressure (mm Hg) 725.5

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	100.2	99.1
mg/L D.O.	10.46	10.24
Temp – °C	11.74	11.81

Notes:

Water level in River ~ 1 foot higher than 2 weeks ago (9/16/09

All D.O ↑ 7.0

last reading @ 16:00 10.46°

92.5% sat

9.93 mg/L

Field Notes for Datasonde Deployment

Date/Time: Oct. 15, 2009 12:10 EDT Analyst: TR

Location: McClure, Hoist and AAO 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)

Temp Only

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		

one minute warm up time for probes

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: McClure: S/N 42485 12.1V 61% left

Hoist: S/N 43732 12.4V 61% left

WSTI: S/N 43728 11.9V 57% left

AAO: S/N 43729 12.3V 61% left

Field Notes for Datasonde Post Calibration

Date/Time: Oct. 15, 2009 Analyst: TR

Location: McClure, Hoist & AAO Datasonde Serial #: _____

Ending Datasonde Battery [volts]: _____

Calibration Information

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

Temp Only

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:

McClure: S/N 43730 File ok

H5+I: S/N 43703 File: ok

AAO Bridge: S/N 42483 File: ok

Hoist: S/N 42482 File:

Field Notes for Datasonde Post Calibration

Date/Time: Dead River Hydros 11/2/09 Analyst: MWH

Location: _____ Datasonde Serial #: _____

Ending Datasonde Battery [volts]: _____

Calibration Information

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

Temperature only

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:

AAO Bridge – Ref'd @ 11:56 EST on 11/2/09 # 43729

Hoist – Ref'd @ 12:50 EST – # 43732

LSTI – Retr'd @ 13:15 EST # 43728

McClure – Retr'd @ 13:53 EST # 42486

Field Notes for Datasonde Deployment

Date/Time: 4/29/09 Analyst: MWM

Location: Hoist powerhouse Tailrace Datasonde Serial #: 43727

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: Temperature only - Deployed for 2009 Monitoring Season

removed 1:20 5/14/09

Field Notes for Datasonde Deployment

Date/Time: 5/4/09 Analyst: SAS

Location: Hoist Powerhouse tailrace Datasonde Serial #: 43703

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
_____ 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

Start - 5/4/09 @ 10:00 EST

End - 5/27/09 @ 23:00 EST

Field Notes for Datasonde Deployment

Date/Time: 5/26/09 12:50 EST Analyst: MWH

Location: Hoist powerhouse Datasonde Serial #: 42485

Calibration Information Datasonde Battery [volts]: 11.8 Ea

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.09	7.04 @ 13.7°C
10.00 Std	10.28	10.13 @ 13.7°C

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.290	Std	0.275	0.290	Before 0.0010 After .0000

Barometric Pressure (mm Hg) 728.0

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	112.3	100.0
mg/L D.O.	9.40	9.57
Temp – °C	15.50	15.43

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	101.6	104.2	
mg/L D.O.	9.59	9.88	OK - Deploy
Temp – °C	16.05	15.8	

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 @ Cataract HTest.TXT - OK

Set up 5/26/09 @ 15:50 thru 6/10/09

Field Notes for Datasonde Deployment

Date/Time: 6/10/09 Analyst: MWH

Location: Hoist Tailrace Datasonde Serial #: 93703

Calibration Information Datasonde Battery [volts]: _____

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.92	7.03 @ 18.3°C
10.00 Std	10.08	10.04 @ 18.5°C

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.290	Std	0.286	0.290	Before – After –

Barometric Pressure (mm Hg) 721.5

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	108.9	100.9
mg/L D.O.	8.13	8.52
Temp – °C	21.17	21.07

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			– No Test program –
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: No test program - computer problems - can not download data.

Field Notes for Datasonde Post Calibration

Date/Time: 6/10/09 15:30 Analyst: MWM

Location: Hoist Tailrace Datasonde Serial #: 42485

Ending Datasonde Battery [volts]: 10.7

Calibration Information

pH (s.u.):	Observed
7.00 Std.	6.96 @ 18.3°
10.00 Std.	10.06 @ 18.60°

Conductivity (mS/cm): 6.290 Std. Conc. 6.329 Observed

_____ Zero Observed, In Air

Barometric Pressure (mm Hg) 720.9

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	103.3	100.4
mg/L D.O.	9.74	9.36
Temp – °C	16.08	16.15

Notes:

* No data download - computer issues.

HSTOG10.TXT - downloaded in lab on 6/12/09

All D.O above 9 mg/L

Field Notes for Datasonde Deployment

Date/Time: June 24, 2009 12:20 EST Analyst: ~~TA~~

Location: Hoist Datasonde Serial #: 43705

Calibration Information Datasonde Battery [volts]: 11.9v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.90	7.00
10.00 Std	9.95	10.00

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.290	Std	0.285	0.290	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 719.2 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	98.5%	100.0%
mg/L D.O.	7.18 mg/L	7.24 mg/L
Temp – °C	29.27°C	29.25°C

YSI calibration (See field notes for YSI Model HQ30D calibration information)

	Before Calibration	After Calibration
% Saturation	104.7%	100.0%
mg/L D.O.	8.50 mg/L	8.11 mg/L
Temp – °C	24.4°C	24.4°C

Slope = 96.5%

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	104.0%	102.4%	
mg/L D.O.	8.34 mg/L	8.24 mg/L	5: 12:35 E: 12:47
Temp – °C	23.51°C	23.7°C	

Re-calibration required if outside 0.5 mg/l limit

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

YSI Reading at Tube

Time

% Saturation

mg/L D.O.

Temp – °C

7/9/09 @ 17:00

Check Status

Battery Life @ Start:

Battery Life @ End:

Notes: Test File: HTT62409.txt

Start @ 15:00 on 6/24/09

Field Notes for Datasonde Post Calibration

Date/Time: June 24, 2009 (7:20 Analyst: JP

Location: Hoist Datasonde Serial #: 43703

Ending Datasonde Battery [volts]: 7.6 v

Calibration Information

pH (s.u.):	Observed
7.00 Std.	6.75
10.00 Std.	9.80

> change pH reference solution (pH slow to stabilize)

Conductivity (mS/cm): 0.290 Std. Conc. 0.289 Observed

0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 721.7 mmHg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	103.4%	100.3%
mg/L D.O.	7.36 mg/L	7.29 mg/L
Temp – °C	29.17°C	29.14°C

Notes:

File name: HTC624 09.txt

Power loss @ 12:00 on 6/21/09

Field Notes for Datasonde Deployment

Date/Time: July 8, 2009 13:00 EDT Analyst: TR

Location: ~~L5+I Trestle~~ Hoist Tailwater Datasonde Serial #: 42486

Calibration Information Datasonde Battery [volts]: 11.6v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.99	7.00
10.00 Std	9.93	10.00

Back from repair

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.322	Std	0.315	0.322	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 724.5 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	96.2%	100.0%
mg/L D.O.	8.34 mg/L	8.47 mg/L
Temp – °C	21.09°C	21.12°C

YSI calibration (See field notes for YSI Model HQ30D calibration information)

	Before Calibration	After Calibration
% Saturation	99.1%	100.0%
mg/L D.O.	8.62 mg/L	8.70 mg/L
Temp – °C	21.0°C	21.0°C

Slope = 97.9%

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	98.3%	97.3%	S: 13:16 E: 13:28
mg/L D.O.	9.29 mg/L	9.28 mg/L	
Temp – °C	15.77°C	15.4°C	

Re-calibration required if outside 0.5 mg/l limit

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

YSI Reading at Tube

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

Check Status - 7/24/09 @ 17:00

Battery Life @ Start:

Battery Life @ End:

Notes: Test file: L5T70809.Ext

File start: 16.00 on 7/8/09

Field Notes for Datasonde Post Calibration

Date/Time: July 8, 2009 17:00 Analyst: HP

Location: Hoist Tailwater Datasonde Serial #: 43705

Ending Datasonde Battery [volts]: 10.5V

Calibration Information

pH (s.u.):	Observed
7.00 Std.	6.95
10.00 Std.	10.09

Conductivity (mS/cm): 0.322 Std. Conc. 0.319 Observed
0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 727.2 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	100.2%	100.0%
mg/L D.O.	7.65 mg/L	7.75 mg/L
Temp – °C	26.02°C	25.98°C

Notes:

File name: HT070809.exe

Complete set of data

Field Notes for Datasonde Deployment

Date/Time: 7/22/09 11:22 EST Analyst: MWH

Location: Hoist Tailrace Datasonde Serial #: 43705

Calibration Information Datasonde Battery [volts]: 12.3

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.39	7.02 @ 19.3° C
10.00 Std	—	—

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.296	Std	0.296	0.296	Before — After —

Barometric Pressure (mm Hg) 729

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	101.8	100.0
mg/L D.O.	8.89	8.72
Temp – °C	19.97	19.94

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	101.0		
mg/L D.O.	8.71		OK - Deploy
Temp – °C	20.49		

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 @ Cataract Installed batteries @ cataract

Set up 7/22 @ 17:00 → 8/6 @ 23:00

Field Notes for Datasonde Post Calibration

Date/Time: 7/22/09 4:32 pm EST Analyst: MWH

Location: Hoist Datasonde Serial #: 42486

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:

* Replaced batteries - would not connect

* Water in battery compartment. No post cal.

Hoist 7/8/09 - power loss @ 11:00 on 7/16

All D.O. prior looks good.

Field Notes for Datasonde Deployment

Date/Time: 12:50 8/5/09 Analyst: MWM

Location: Haist Tailrace Datasonde Serial #: 43727

Calibration Information Datasonde Battery [volts]: 11.7

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.03	7.01 @ 22.5°C
10.00 Std	9.97	10.03 @ 23.1°C

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.301	Std	0.296		Before .0026 After .0000

Barometric Pressure (mm Hg) 727

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	101.0	99.9
mg/L D.O.	8.22	8.11
Temp – °C	23.35	23.50

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	91.7	92.5	
mg/L D.O.	8.06	8.13	OK - Deploy
Temp – °C	19.44	19.6	

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: Test - 13:00 - 13:10 Deployed 8/5/09 @ 15:00 to Cal'd @ Haist Powerhouse. 8/19 @ 23:00

Field Notes for Datasonde Post Calibration

Date/Time: 8/5/09 14:15 Analyst: MWH

Location: Hoist Tail Datasonde Serial #: 43705

Ending Datasonde Battery [volts]: 10.0

Calibration Information

pH (s.u.):	Observed
7.00 Std.	6.63 @ 22.6°
10.00 Std.	9.68 @ 23.1°

Conductivity (mS/cm): 0.301 Std. Conc. 0.299 Observed

— Zero Observed, In Air

Barometric Pressure (mm Hg) 725

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	101.2	100.3
mg/L D.O.	8.55	8.43
Temp – °C	21.53	21.53

Notes:

All D.O from 7/22 - 8/5 over 7 mg/L

Field Notes for Datasonde Deployment

Date/Time: Aug. 19, 2009 14:45 EDT Analyst: HP

Location: Hoist Tailwater Datasonde Serial #: ~~42486~~ 43732

Calibration Information Datasonde Battery [volts]: ~~11.44~~ 12.5v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.86	7.00 @ 26.0°C
10.00 Std	10.05	10.00

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.296 Std	0.310	0.296	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 718.5 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	94.0%	100.1%
mg/L D.O.	7.30 mg/L	7.70 mg/L
Temp – °C	25.62°C	25.65°C

YSI calibration (See field notes for YSI Model Hach HQ30d calibration information)

slope = 96%

	Before Calibration	After Calibration
% Saturation	101.3%	100.0%
mg/L D.O.	8.49 mg/L	8.38 mg/L
Temp – °C	22.9°C	22.9°C

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	98.7%	99.0%	S: 15:00 E: 15:10
mg/L D.O.	8.68 mg/L	8.68 mg/L	
Temp – °C	18.78°C	18.6°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 – 9/10/09 @ 17:00

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Start: 8/19/09 @ 18:00

Test file ran at AAO Bridge

Field Notes for Datasonde Post Calibration

Date/Time: Aug. 19, 2009 18:45 EDT Analyst: AR

Location: Hoist Tailwater Datasonde Serial #: 43727

Ending Datasonde Battery [volts]: 8.4 v

Calibration Information

pH (s.u.):	Observed	
7.00 Std.	6.89	@ 26.1°C
10.00 Std.	9.88	

Conductivity (mS/cm): 0.296 Std. Conc. 0.300 Observed

0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) ~~70~~ 720.5 mmHg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	99.0%	100.0%
mg/L D.O.	7.92 mg/L	7.94 mg/L
Temp – °C	24.23°C	24.18°C

Notes:

File looks good.

Field Notes for Datasonde Deployment

Date/Time: Sept. 2, 2009 14:30 Analyst: TR

Location: Hoist Tailwater Datasonde Serial #: 43727

Calibration Information Datasonde Battery [volts]: 12.14

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.86	7.02 @ 23.46°C
10.00 Std	10.05	10.02

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.293 Std		0.293	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 727.8 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	99.0%	100.1%
mg/L D.O.	8.26 mg/L	8.32 mg/L
Temp – °C	22.68°C	22.70°C

YSI calibration (See field notes for YSI Model Hach HQ30d calibration information)

slope = 96.8%

	Before Calibration	After Calibration
% Saturation	100.5%	100.0%
mg/L D.O.	8.82 mg/L	8.81 mg/L
Temp – °C	20.2°C	20.2

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	99.0%	98.3%	S: 14:50 E: 15:02
mg/L D.O.	9.31 mg/L	9.23 mg/L	
Temp – °C	16.20°C	16.3°C	Test file ran at AHO Bridge

Re-calibration required if outside 0.5 mg/l limit

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

YSI Reading at Tube

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

Check Status – 9/17/09 @ 17:00

Battery Life @ Start: 89%

Battery Life @ End: 54%

Notes: Clear, light wind, 79°F

Hoist Tailwater Test

Field Notes for Datasonde Post Calibration

Date/Time: Sept. 2, 2009 Analyst: TR

Location: Hoist Tailwater Datasonde Serial #: 43732

Ending Datasonde Battery [volts]: 10.8v

Calibration Information

pH (s.u.):	Observed	
7.00 Std.	6.96	@ 24.38°C
10.00 Std.	9.96	

Conductivity (mS/cm): 0.293 Std. Conc. 0.294 Observed

0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 729.6 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	101.0%	100.0%
mg/L D.O.	8.13 mg/L	8.07 mg/L
Temp – °C	23.24°C	23.18°C

Notes:

File looks good, no issues.

Field Notes for Datasonde Deployment

Date/Time: 9/16/09 11:50 EST Analyst: MWM

Location: Hoist powerhouse tailrace Datasonde Serial #: 43729

Calibration Information Datasonde Battery [volts]: 12.6

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.79	7.04 @ 16.4°C
10.00 Std	10.17	10.10 @ 16.5°C

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.309	Std	0.304	0.309	Before .0005 After .0000

Barometric Pressure (mm Hg) 732

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	96.0	100.3
mg/L D.O.	8.52	8.92
Temp – °C	19.21	19.15

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	98.0	96.9	
mg/L D.O.	9.34	9.12	Ok- Deploy
Temp – °C	15.81	16.5	

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	12:30
% Saturation	96.9
mg/L D.O.	9.12
Temp – °C	16.5

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: 12:05 - 12:20 - Calibrated @ AAO Bridge

Set up to run 9/16 @ 16:00 → 10/1

Field Notes for Datasonde Post Calibration

Date/Time: 9/14 3:20 EST Analyst: MWM

Location: Aoist Datasonde Serial #: 43727

Ending Datasonde Battery [volts]: 9.7

Calibration Information

pH (s.u.):	Observed	
7.00 Std.	6.91	@ 18.3°
10.00 Std.	9.81	@ 18.98°

Conductivity (mS/cm): 0.309 Std. Conc. 0.301 Observed

\- Zero Observed, In Air

Barometric Pressure (mm Hg) 732

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	103.3	100.3
mg/L D.O.	9.37	9.15
Temp – °C	17.95	17.95

Notes:

9/13 - Readings of 6.99-6.96 9/14 - Low DO of 6.8

Field Notes for Datasonde Deployment

Date/Time: 10/1/09 9:05 EST Analyst: MWM

Location: Hoist 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
_____ 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: Deploy for temp only.

Set up through 10/16

Field Notes for Datasonde Post Calibration

Date/Time: 10/1/09 9:43 EST Analyst: MWH

Location: Hoist Datasonde Serial #: 43729

Ending Datasonde Battery [volts]: 10.0

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) No post cal.

D.O. Sensor failed!

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

Notes:

do readings ↓ 7 on 9/16

D.O. Sensor failure on 9/24 @ 22:00

Field Notes for Datasonde Deployment

Date/Time: 4/29/09 Analyst: MWM

Location: LSTI trestle Datasonde Serial #: 42485

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: Temp only - Deployed for 2009 monitoring season removed 2:05 5/15/09

Field Notes for Datasonde Deployment

Date/Time: 5/14/09 Analyst: SAS

Location: LSLI Trestle Datasonde Serial #: 42484

Calibration Information Datasonde Battery [volts]: 12.5

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

End Volts: 10.1

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

Zero Conductivity Calibration 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: Temp. only - LSI0526.TXT

Start 5/14/09 @ 10:00

End 5/27/09 @ 23:00

Field Notes for Datasonde Deployment

Date/Time: 5/26/09 13:00 EST Analyst: MWH

Location: McClure bypass (LSI) Datasonde Serial #: 42483

Calibration Information Datasonde Battery [volts]: 12.3

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.91	7.03 @ 13.5°C
10.00 Std		

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.290	Std	0.280	0.290	Before 0.0013 After 0.0000

Barometric Pressure (mm Hg) 728.5

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	95.0	100.1
mg/L D.O.	9.39	9.77
Temp – °C	14.56	14.48

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	100.8	104.2	
mg/L D.O.	9.53	9.88	OK - Deploy
Temp – °C	15.97	15.4	

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 @ Cataract. LSITST.TXT - OK

Set up 5/26/09 @ 17:00 → 6/10/09

Field Notes for Datasonde Deployment

Date/Time: 6/10/09 Analyst: MW M

Location: LS+I Trestle Datasonde Serial #: _____

Calibration Information Datasonde Battery [volts]: _____

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.82	7.03@ 18.4°
10.00 Std	9.89	10.07@ 18.54°C

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.290	Std	0.287	0.290	Before — After —

Barometric Pressure (mm Hg) 725.6

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	95.3	99.4
mg/L D.O.	8.32	8.66
Temp – °C	20.64	19.74

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	_____	_____	No test program - unable to
mg/L D.O.	_____	_____	
Temp – °C	_____	_____	download from sondes.

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: Data file - set up from 6/10 @ 16:00 → 6/25

Field Notes for Datasonde Post Calibration

Date/Time: 6/10/09 16:40 Analyst: MWH

Location: LSFI Trestle Datasonde Serial #: 42483

Ending Datasonde Battery [volts]: 9.6

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7.08 @ 17.86°
10.00 Std.	10.20 @ 18.70°

Conductivity (mS/cm): 0.290 Std. Conc. 0.355 Observed

_____ Zero Observed, In Air

Barometric Pressure (mm Hg) 726.4

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	103.0	100.1
mg/L D.O.	9.96	9.66
Temp – °C	14.92	14.89°

Notes:

* No data download - computer issues.

LSI0610.TXT - downloaded on 6/12 in lab

All D.O. above 9.0 mg/L

Field Notes for Datasonde Deployment

Date/Time: June 24, 2009 12:45 ET Analyst: HR

Location: L5+I Datasonde Serial #: 43729

Calibration Information Datasonde Battery [volts]: 10.8v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.02	7.00
10.00 Std	9.93	10.00

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.290 Std	0.301	0.290	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 719.2 mm Hg

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

YSI calibration (See field notes for YSI Model HQ30D calibration information)

	Before Calibration	After Calibration
% Saturation	104.7%	100.0%
mg/L D.O.	8.50 mg/L	8.11 mg/L
Temp – °C	24.4°C	24.40°C

slope = 96.5%

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	97.9%	102.9%	
mg/L D.O.	7.98 mg/L	8.22 mg/L	B: 12:55 E: 13:10
Temp – °C	23.78°C	23.85°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 7/9/09 @ 17:00

Battery Life @ Start:

Battery Life @ End:

Notes: Test file L5T62409.6x6

file start @ 16:00 on 6/24/09

Field Notes for Datasonde Post Calibration

Date/Time: June 24, 2009 (7:10 EDT Analyst: JP

Location: L5+I Datasonde Serial #: 43727

Ending Datasonde Battery [volts]: 9.74

Calibration Information

pH (s.u.):	Observed
7.00 Std.	6.95
10.00 Std.	9.92

Conductivity (mS/cm): 0.790 Std. Conc. 0.284 Observed
0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 721.7 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	100.8%	100.7%
mg/L D.O.	7.47 mg/L	7.41 mg/L
Temp – °C	28.44°C	28.50°C

Notes:

File name: LS062409.txt

readings look good.

Field Notes for Datasonde Deployment

Date/Time: July 8, 2009 12:45 Analyst: HP

Location: ~~Hoist Tailwater~~ LG+I Datasonde Serial #: 43728

Calibration Information Datasonde Battery [volts]: 12.3v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.84	7.00
10.00 Std	9.97	10.00

New pH ref. bd. on 7/7/09

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.322 Std	0.317	0.322	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 724.5 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	101.1%	99.5%
mg/L D.O.	8.31 mg/L	8.22 mg/L
Temp – °C	22.26°C	22.30°C

YSI calibration (See field notes for YSI Model HQ30D calibration information)

	Before Calibration	After Calibration
% Saturation	99.1%	100.0%
mg/L D.O.	8.62 mg/L	8.70 mg/L
Temp – °C	21.0°C	21.0°C

slope = 97.9%

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	97.1%	97.3%	S: 13:00 E: 13:10
mg/L D.O.	9.19 mg/L	9.28 mg/L	
Temp – °C	15.72°C	15.4°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 - 7/24/09 @ 17:00

Battery Life @ Start: 100%

Battery Life @ End: 23%

Notes: Test File: HTT70809.txt

file start: ~~16:00~~ on 7/8/09 15:00

Field Notes for Datasonde Post Calibration

Date/Time: July 8, 2009 17:15 EDT Analyst: TP

Location: L5+I Trestle Datasonde Serial #: 43729

Ending Datasonde Battery [volts]: 0.0V

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7.03
10.00 Std.	10.06

Conductivity (mS/cm): 0.322 Std. Conc. 0.318 Observed
0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 727.2 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	93.5%	100.0%
mg/L D.O.	7.72 mg/L	8.18 mg/L
Temp – °C	22.94 °C	22.93 °C

Notes:

File name L5070809.txt

Last reading before power loss was at 21:00 on 7/4/09.

Field Notes for Datasonde Deployment

Date/Time: 7/22/09 11:45 EST Analyst: MWA

Location: LS+I Datasonde Serial #: 42482

Calibration Information Datasonde Battery [volts]: 11.8

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.10	7.02 @ 19.4°C
10.00 Std	—	—

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.296	Std	0.297	0.296	Before — After —

Barometric Pressure (mm Hg) 729

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	97.0	99.7
mg/L D.O.	8.17	8.47
Temp – °C	21.43	21.28°

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	100.6	100.9	
mg/L D.O.	8.66	8.72	OK - Deploy
Temp – °C	20.32	20.6	

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 @ Cataract

Set up from 7/22 @ 19:00 to 8/6 @ 23:00

Field Notes for Datasonde Post Calibration

Date/Time: 7/22/09 17:30 EST Analyst: MWM

Location: LS+I Datasonde Serial #: 43728

Ending Datasonde Battery [volts]: 10.1

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7.17 @ 24.6°
10.00 Std.	—

Conductivity (mS/cm): 0.294 Std. Conc. 0.294 Observed

Zero Observed, In Air

Barometric Pressure (mm Hg) 728

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	102.1	99.7
mg/L D.O.	8.71	8.55
Temp – °C	20.74	20.71

Notes:

LS+I 7/8/09 - OK All Do above 8.0 mg/L

Field Notes for Datasonde Deployment

Date/Time: 8/5/09 12:35 EST Analyst: MWH

Location: McClure @ LSTI Datasonde Serial #: 43703

Calibration Information Datasonde Battery [volts]: 11.6

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.17	7.01 @ 22.7°
10.00 Std	10.16	10.03 @ 23.3

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.301	Std	0.299	0.301	Before 0.0041 After

Barometric Pressure (mm Hg) 726

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	94.6	100.5
mg/L D.O.	7.80	8.16
Temp – °C	23.37	23.43

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	92.1	19.6	
mg/L D.O.	8.08	8.12	OK - Deploy
Temp – °C	19.46	92.3	

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: Test - 12:50 - 13:06

Field Notes for Datasonde Post Calibration

Date/Time: 8/5/08 16:22 EST Analyst: MWM

Location: LS+I Datasonde Serial #: 42482

Ending Datasonde Battery [volts]: 9.5

Calibration Information

pH (s.u.):	Observed	
7.00 Std.	7.05	@ 23.0°C
10.00 Std.	10.00	@ 23.2°C

Conductivity (mS/cm): 0.301 Std. Conc. 0.297 Observed

_____ Zero Observed, In Air

Barometric Pressure (mm Hg) 728.5

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	100.0	99.9
mg/L D.O.	8.41	8.40
Temp – °C	21.8	21.8

Notes:

LS+I 7/22 - 8/5 All D.O. over 8 mg/L

Field Notes for Datasonde Deployment

Date/Time: Aug. 19, 2009 15:05 Analyst: AP

Location: L5+I Trestle Datasonde Serial #: 42485

Calibration Information Datasonde Battery [volts]: 12.1 V

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.65	7.00 @ 26.1°C
10.00 Std	10.10	10.00

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.296	Std	0.297	0.296	Before 0.000 After 0.000

Barometric Pressure (mm Hg) ~~768.5~~ 717.0 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	95.8%	100.0%
mg/L D.O.	7.57 mg/L	8.74 mg/L
Temp – °C	25.87°C	25.92°C

YSI calibration (See field notes for YSI Model Hach HQ30d calibration information)

	Before Calibration	After Calibration
% Saturation	101.3%	100.0%
mg/L D.O.	8.49 mg/L	8.38 mg/L
Temp – °C	22.9°C	22.9°C

Slope = 96.0%

Wrong BP: 816.999

Correct BP: 717.0 mm

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	97.5%	98.9%	5:15:20 E: 15:35
mg/L D.O.	9.74 mg/L	8.66 mg/L	
Temp – °C	18.96	19.0	

BP was entered wrong, when corrected with new cal. Datasonde was ok

Re-calibration required if outside 0.5 mg/l limit

	Before Cal.	After Cal.	Datasonde	YSI
% Saturation	101.0%	100.2%	Deploy	
mg/L D.O.	9.56 mg/L	8.27 mg/L		
Temp – °C	21.79°C	21.85°C	No Re-Test	

YSI Reading at Tube

Time
% Saturation
mg/L D.O.
Temp – °C

Check Status – 9/10/09 @ 17:00

Battery Life @ Start:
Battery Life @ End:

Notes: Test file ran at AAB Bridge

Field Notes for Datasonde Post Calibration

Date/Time: Aug. 19, 2009 18:30 EDT Analyst: JD

Location: L5+I Trestle Datasonde Serial #: 43703

Ending Datasonde Battery [volts]: 9.7V

Calibration Information

pH (s.u.):	Observed	
7.00 Std.	6.96	@ 26.10°C
10.00 Std.	9.82	

Conductivity (mS/cm): 0.296 Std. Conc. 0.301 Observed

0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 720.5 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	85.7%	100.0%
mg/L D.O.	6.94 mg/L	8.05 mg/L
Temp – °C	23.51°C	23.50°C

~~Data~~ Data Not corrected for post calibration drift.

Notes:

File looks good.

Calibration correction would result in readings above 10 mg/L which would not happen due to water temps being ~ 20°C

Field Notes for Datasonde Deployment

Date/Time: Sept. 2, 2009 14:55 Analyst: HR

Location: LS+I Trestle Datasonde Serial #: 43728

Calibration Information Datasonde Battery [volts]: 12.5 v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.00	7.00 @ 23.57°C
10.00 Std	9.98	10.02

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.293	Std	0.294	0.293	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 727.8 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	101.1%	100.2%
mg/L D.O.	7.91 mg/L	8.05 mg/L
Temp – °C	24.51°C	24.52°C

YSI calibration (See field notes for YSI Model Hach HQ30d calibration information)

Slope = 96.8%

	Before Calibration	After Calibration
% Saturation	100.5%	100.0%
mg/L D.O.	8.82 mg/L	8.81 mg/L
Temp – °C	20.2°C	20.2°C

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	96.4%	98.7	S: 15:10 E: 15:25
mg/L D.O.	9.00 mg/L	9.20 mg/L	
Temp – °C	16.54°C	16.7°C	Test file ran at AHO Bridge

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 – 9/17/09 @ 17:00

Battery Life @ Start: 100%

Battery Life @ End: 65%

Notes: Clear, light wind, 73°F

~~Point~~

LS+I Trestle test 09/02/09

Field Notes for Datasonde Post Calibration

Date/Time: Sept. 2, 2009 18:30 EDT Analyst: JR

Location: L5+I Trestle Datasonde Serial #: 42485

Ending Datasonde Battery [volts]: 10.6v

Calibration Information

pH (s.u.):	Observed	
7.00 Std.	7.03	@ 24.34°C
10.00 Std.	10.05	

Conductivity (mS/cm): 0.293 Std. Conc. 0.292 Observed
0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 729.0 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	96.4%	100.3%
mg/L D.O.	7.93 mg/L	8.39 mg/L
Temp – °C	22.05°C	21.98°C

Notes:

File looks good, all D.O. readings above 8 mg/L.

Field Notes for Datasonde Deployment

Date/Time: 9-16-09 12:05 Analyst: MWM

Location: LS+I 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
0.3094	Std	0.301	0.309	Before .0009 After .0000

Barometric Pressure (mm Hg) 731.5

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	97.1	99.9
mg/L D.O.	8.60	8.89
Temp – °C	19.15	19.09

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	97.4	96.9	
mg/L D.O.	9.23	9.12	ok. Deploy
Temp – °C	16.08	16.5	

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	12:30
% Saturation	96.9
mg/L D.O.	9.12
Temp – °C	16.5

Check Status

Battery Life @ Start: _____

Battery Life @ End: _____

Notes: Calibrated @ Alto Bridge

12:15 - 12:30

Field Notes for Datasonde Post Calibration

Date/Time: 9/16/09 16:00 Analyst: MWH

Location: LSTF Datasonde Serial #: 43728

Ending Datasonde Battery [volts]: 10.8

Calibration Information

pH (s.u.):	Observed
7.00 Std.	6.96 @ 18.6°
10.00 Std.	9.92 @ 19.1°

Conductivity (mS/cm): 0.359 Std. Conc. 0.337 Observed

\- Zero Observed, In Air

Barometric Pressure (mm Hg) 735

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	103.1	100.1
mg/L D.O.	9.46	9.27
Temp – °C	17.37	17.44

Notes:

All D.O over 8 mg/L

Field Notes for Datasonde Deployment

Date/Time: 10/1/09 8:35 EST Analyst: MWH

Location: L5+2 Datasonde Serial #: 43703

Calibration Information Datasonde Battery [volts]: 12.2

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: Deploy for temperature only - Set up through 10/16

Field Notes for Datasonde Post Calibration

Date/Time: 10/1/09 ~~8:35~~ 9:00 EST Analyst: MWH

Location: LSII Datasonde Serial #: 43705

Ending Datasonde Battery [volts]: 9.9

Calibration Information

pH (s.u.):	Observed
7.00 Std.	5.71 @ 2.14°C
10.00 Std.	8.84 @ 1.98°C

Conductivity (mS/cm): 0.309 Std. Conc. 0.316 Observed

\- Zero Observed, In Air

Barometric Pressure (mm Hg) 735

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	94.6	100.0
mg/L D.O.	10.75	11.43
Temp – °C	8.17°	8.01

Notes:

All D.O. OK - All ↑ 9 mg/L

Field Notes for Datasonde Deployment

Date/Time: 4/29/09 Analyst: MCW

Location: McClure Powerhouse Tailrace Datasonde Serial #: 43730

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: Temp only - May 1 → May 31

Deployed for 2009 Monitoring season.

Removed 3:18 5/14/09

Field Notes for Datasonde Deployment

Date/Time: 5/14/09 Analyst: SAS

Location: McClure Powerhouse Tailrace Datasonde Serial #: 43731

Calibration Information Datasonde Battery [volts]: 12.5

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

End volts: 10.2

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

Zero Conductivity Calibration 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: Temp only

Start - 5/14/09 @ 10:00 Removed 5/26/09 @ 15:30

End 5/27/09 @ 23:00 ↳ McClure, TxT - Temp only

Field Notes for Datasonde Deployment

Date/Time: 5/26/09 13:10 Analyst: MWM

Location: McClure Tail Datasonde Serial #: ~~43727~~ 43729

Calibration Information Datasonde Battery [volts]: ~~12.7~~ 12.4

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.23	7.05 @ 13.2°
10.00 Std	10.19	10.13 @ 13.3°

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.290	Std	0.288	0.290	Before 0.0026 After .0000

Barometric Pressure (mm Hg) 728.0

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	~~100.8~~ ~~102.3~~ 102.1	99.9
mg/L D.O.	~~9.42~~ ~~10.3~~ 9.62	9.75
Temp – °C	~~13.8~~ 13.4 14.53	14.48

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	101.5	104.2	
mg/L D.O.	9.62	9.87	OK - Deploy
Temp – °C	15.84	15.8	

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 @ Cataract MCTEST.TXT - OK

Deployed 5/26/09 @ 15:30 thru 6/10/09

Field Notes for Datasonde Deployment

Date/Time: 6/10/09 14:10 Analyst: [illegible]

Location: McClure Tail Datasonde Serial #: 43730

Calibration Information Datasonde Battery [volts]: _____

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.09	7.03 @ 18.6°
10.00 Std	10.00	10.07 @ 18.85°

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.290	Std	0.307	0.290	Before – After –

Barometric Pressure (mm Hg) 734.1

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	102.6	99.7
mg/L D.O.	8.77	8.61
Temp – °C	20.89	20.79

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			No test program - can't download files
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 6/10 @ 15:00 → 6/25

Field Notes for Datasonde Post Calibration

Date/Time: 6/10/09 14:35 Analyst: AWM

Location: McClure tail race Datasonde Serial #: 43729

Ending Datasonde Battery [volts]: 10.8

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7.34 @ 17.9°
10.00 Std.	10.32 @ 18.35°

Conductivity (mS/cm): 0.290 Std. Conc. 0.300 Observed

— Zero Observed, In Air

Barometric Pressure (mm Hg) 734.1

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	108.2%	100.0
mg/L D.O.	11.33	10.57
Temp – °C	11.22	11.37

Notes:

* Sonde completely buried in sand ~ 3 or 4" deep

D.O. data not representative

- Can see significant sediment deposition in area of sonde since the previous deployment.

→ M Tail610.TXT - downloaded in Lab on 6/12

Field Notes for Datasonde Deployment

Date/Time: June 24, 2009 12:00 EST Analyst: HP

Location: Melvin Datasonde Serial #: 42483

Calibration Information Datasonde Battery [volts]: 12.0V

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.92	7.00
10.00 Std	10.04	10.00

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.290	Std	0.304	0.290	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 719.2 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	96.0%	100.0%
mg/L D.O.	7.05 mg/L	7.27 mg/L
Temp – °C	28.95°C	28.97°C

YSI calibration (See field notes for YSI Model HQ30D calibration information)

	Before Calibration	After Calibration
% Saturation	104.7%	100.0%
mg/L D.O.	8.50 mg/L	8.11 mg/L
Temp – °C	24.4°C	24.4%

slope = 96.5%

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	103.4%	101.9%	5: 12:20 E: 12:35
mg/L D.O.	8.33 mg/L	8.24 mg/L	
Temp – °C	23.28°C	23.31°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 7/9/09 @ 17:00

Battery Life @ Start:

Battery Life @ End:

Notes: Test File: MCT62409.EXE

Field Notes for Datasonde Post Calibration

Date/Time: June 24, 2009 17:40 Analyst: JD

Location: McClure Tail Datasonde Serial #: 43730

Ending Datasonde Battery [volts]: 0.0 V

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7.04
10.00 Std.	9.99

Conductivity (mS/cm): 0.290 Std. Conc. 0.292 Observed
0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 721.7 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	103.1%	100.0%
mg/L D.O.	7.42 mg/L	7.08 mg/L
Temp – °C	30.71°C	30.66°C

Notes:

File name MC062409.txt

Power loss @ 6/17/09 @ 23:00

Field Notes for Datasonde Deployment

Date/Time: July 8, 2009 12:25 EDT Analyst: HP

Location: McCloud Tailrace Datasonde Serial #: 43703

Calibration Information Datasonde Battery [volts]: 12.3V

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.78	7.00
10.00 Std	9.90	10.00

New ph ref. sol. on 7/7/09

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

0.322 Std 0.318 0.322 Before 0.000 After 0.000

Barometric Pressure (mm Hg) 724.5 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	98.5%	100.0%
mg/L D.O.	8.12 mg/L	8.28 mg/L
Temp – °C	22.24°C	22.22°C

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

	Before Calibration	After Calibration
% Saturation	99.1%	100.0%
mg/L D.O.	8.62 mg/L	8.70 mg/L
Temp – °C	21.0°C	21.0°C

slope = 97.9%

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	96.9%	97.3%	S: 12:42 E: 12:56
mg/L D.O.	9.20 mg/L	9.28 mg/L	
Temp – °C	15.52	15.4°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 – 7/24/09 @ 17:00

Battery Life @ Start: 96%

Battery Life @ End: 20%

Notes: Test File: MTT70809.txt

File start: 15:00 on 7/8/09

Field Notes for Datasonde Post Calibration

Date/Time: July 8, 2009 17:25 EDT Analyst: JR

Location: McClure Tailwater Datasonde Serial #: 42483

Ending Datasonde Battery [volts]: 11.4

Calibration Information

pH (s.u.):	Observed
7.00 Std.	9.96
10.00 Std.	10.08

Conductivity (mS/cm): 0.322 Std. Conc. 0.318 Observed
0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 727.2 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	102.0%	100.0%
mg/L D.O.	8.28 mg/L	8.23 mg/L
Temp – °C	23.88°C	22.78°C

Notes:

File name: MT070809.Ext

complete file, no data loss to power ~~failure~~ failure

Field Notes for Datasonde Deployment

Date/Time: 7/22/09 Analyst: MWH

Location: McClure Tailrace Datasonde Serial #: 42485

Calibration Information Datasonde Battery [volts]: 11.8

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.34	7.02 @ 19.34°
10.00 Std	–	–

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.296	Std	0.294	0.296	Before – After –

Barometric Pressure (mm Hg) 730

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	99.4	100.1
mg/L D.O.	8.86	8.74
Temp – °C	20.00	19.98

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

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

Test Program Readings 12:50 EST

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	100.5	100.8	
mg/L D.O.	8.69	8.74	
Temp – °C	20.42	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 at Cataract Hydro

Set up 7/22 @ 20:00 to 8/6 @ 23:00

Field Notes for Datasonde Post Calibration

Date/Time: 7/22/09 20:25 EST Analyst: MWM

Location: McClure tail Datasonde Serial #: 43703

Ending Datasonde Battery [volts]: 10.0

Calibration Information

pH (s.u.):	Observed
7.00 Std.	7.30 @ 29.4°C
10.00 Std.	~

Conductivity (mS/cm): 0.296 Std. Conc. 0.291 Observed

~ Zero Observed, In Air

Barometric Pressure (mm Hg) 736

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	106.4	97.8
mg/L D.O.	9.60	8.92
Temp – °C	18.22°	18.31

Notes:

McClure tailwater 07082009 - OK All D.O ↑ 5mg/L

Field Notes for Datasonde Deployment

Date/Time: 8/5/09 12:25 EST Analyst: MWM

Location: McClure tailrace Datasonde Serial #: 42483

Calibration Information Datasonde Battery [volts]: 11.9

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	~~7.38~~ 6.97	7.01 @ 22.5°C
10.00 Std	10.05	10.03 @ 23.2°C

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.301	Std	0.291	0.301	Before .0032 After .0000

Barometric Pressure (mm Hg) 727.

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	99.0	100.2
mg/L D.O.	8.08	8.12
Temp – °C	23.63	23.72

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	93.6	92.2	
mg/L D.O.	8.22	8.11	OK - Deploy
Temp – °C	19.44	19.6	

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: Mc tail test 12:35 - 12:45

Calibrated @ Hoist Powerhouse.

Field Notes for Datasonde Post Calibration

Date/Time: 8/5/09 17:20 EST Analyst: MWM

Location: McClure fair Datasonde Serial #: 42485

Ending Datasonde Battery [volts]: 10.0

Calibration Information

pH (s.u.):	Observed
7.00 Std.	6.67 @ 22.9°C
10.00 Std.	9.98 @ 23.1°C

Conductivity (mS/cm): 0.301 Std. Conc. 0.300 Observed

\- Zero Observed, In Air

Barometric Pressure (mm Hg) 738

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	105.5	99.9
mg/L D.O.	9.43	9.00
Temp – °C	18.8	18.9

Notes:

* Forestville basin drawn down ~ 1 foot. Sonde only in about 6" of water.

All D.O ↑ 8 mg/L

Field Notes for Datasonde Deployment

Date/Time: Aug. 19, 2009 14:25 Analyst: TR

Location: McClure Tailwater Datasonde Serial #: 43729

Calibration Information Datasonde Battery [volts]: 12.4v

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.09	7.00
10.00 Std	10.05	10.00

@ 26.18°C

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.296 Std	0.298	0.296	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 718.5 mmHg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	96.0%	101.6%
mg/L D.O.	7.48 mg/L	7.81 mg/L
Temp – °C	25.75°C	25.78°C

YSI calibration (See field notes for YSI Model Hach HQ30d calibration information)

	Before Calibration	After Calibration
% Saturation	101.3%	100.0%
mg/L D.O.	8.49 mg/L	8.38 mg/L
Temp – °C	22.9°C	22.9°C

slope = 96.0%

Test Program Readings

	Datasonde	YSI Meter	**(Must be within 0.5 mg/L D.O.)**
% Saturation	99.5%	98.9%	5: 14:40 E: 14:52
mg/L D.O.	8.80 mg/L	8.70 mg/L	
Temp – °C	18.54°C	18.60°C	

Re-calibration required if outside 0.5 mg/l limit

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

YSI Reading at Tube

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

Check Status - 9/10/09 @ 17:00

Battery Life @ Start:

Battery Life @ End:

Notes: test file ran at AHO Bridge

Field Notes for Datasonde Post Calibration

Date/Time: Aug. 19, 2009 19:00 Analyst: HR

Location: McClure Tailwater Datasonde Serial #: 42483

Ending Datasonde Battery [volts]: 9.7v

Calibration Information

pH (s.u.):	Observed	
7.00 Std.	6.96	@ 26.06°C
10.00 Std.	9.97	

Conductivity (mS/cm): 0.296 Std. Conc. 0.307 Observed

0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 720.5 mmHg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	108.2%	100.1%
mg/L D.O.	8.54 mg/L	7.84 mg/L
Temp – °C	24.92°C	24.93°C

Notes:

File looks good.

Field Notes for Datasonde Deployment

Date/Time: Sept. 2, 2009 14:15 Analyst: HR

Location: McClure Tailwater Datasonde Serial #: ~~4373~~ 42482

Calibration Information Datasonde Battery [volts]: ~~12.4 V~~ 11.8 V

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	7.14	7.02 @ 23.79°C
10.00 Std	10.06	10.02

Conductivity (mS/cm)	Before Cal.	After Cal.	Zero Conductivity Calibration
0.293 Std	0.298	0.293	Before 0.000 After 0.000

Barometric Pressure (mm Hg) 728.1 mm Hg

Dissolved Oxygen	Before Calibration	After Calibration
% Saturation	98.1%	100.0%
mg/L D.O.	8.02 mg/L	8.25 mg/L
Temp – °C	22.68°C	22.70°C

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

	Before Calibration	After Calibration
% Saturation	100.5%	100.0%
mg/L D.O.	8.82 mg/L	8.81 mg/L
Temp – °C	20.2°C	20.2°C

Slope = 96.8%

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	98.3%	97.9%	S: 14:30 E: 14:42
mg/L D.O.	9.31 mg/L	9.25 mg/L	
Temp – °C	15.86°C	15.8°C	

Test file ran at RAO Bridge

Re-calibration required if outside 0.5 mg/l limit

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

YSI Reading at Tube

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

start 17:00 9/17/09 @ 17:00

Check Status -

Battery Life @ Start: 87%

Battery Life @ End: 46%

Notes: Clear, light wind, 72°F

McClure Tailwater Test

Field Notes for Datasonde Post Calibration

Date/Time: Sept. 2, 2009 18:10 EDT Analyst: TR

Location: McClure Tailwater Datasonde Serial #: 43729

Ending Datasonde Battery [volts]: 10.8v

Calibration Information

pH (s.u.):	Observed	
7.00 Std.	7.04	@ 24.44°C
10.00 Std.	9.99	

Conductivity (mS/cm): 0.293 Std. Conc. 0.295 Observed
0.000 Zero Observed, In Air

Barometric Pressure (mm Hg) 730.5 mm Hg

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	104.0%	~~102.0~~ 100.2%
mg/L D.O.	7.97 mg/L	7.85 mg/L
Temp – °C	23.75°C	23.71°C

Notes:

Datasonde was out of water, river water receeded to the point that the datasonde was no longer submerged.

Field Notes for Datasonde Deployment

Date/Time: 9/16/09 12:45 EST Analyst: MWM

Location: McClure Powerhouse Tailrace Datasonde Serial #: 49732

Calibration Information Datasonde Battery [volts]: 12.7

pH (s.u.)	Before Cal.	After Cal.
7.00 Std	6.93	7.04 @ 16.8
10.00 Std	10.19	10.10 @ 16.7°

Conductivity (mS/cm)		Before Cal.	After Cal.	Zero Conductivity Calibration
0.309	Std	0.305	0.309	Before .0005 After .0000

Barometric Pressure (mm Hg) 731.0

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	101.3	99.9
mg/L D.O.	8.93	8.80
Temp – °C	19.61	19.58

Test Program Readings

	Datasonde	YSI Meter	(Must be within 0.5 mg/L D.O.)
% Saturation	97.0	98.6	
mg/L D.O.	9.04	9.15	ok - Deploy
Temp – °C	16.86	17.2	

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 from 9/16 @ 19:00 → 10/1

Field Notes for Datasonde Post Calibration

Date/Time: 9/16/09 18:15 EST Analyst: MWM

Location: McClure Datasonde Serial #: 42492

Ending Datasonde Battery [volts]: 10.1

Calibration Information

pH (s.u.):	Observed	
7.00 Std.	7.10	@ 19.9°
10.00 Std.	10.02	@ 20.4°

Conductivity (mS/cm): 0.309 Std. Conc. 0.308 Observed

— Zero Observed, In Air

Barometric Pressure (mm Hg) 744

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	106.6	100.1
mg/L D.O.	10.34	9.91
Temp – °C	14.80	14.84

Notes:

Sonde partially buried in sand - Forestville basin down ~1.5 to 2'

All D.O. OK

Field Notes for Datasonde Deployment

Date/Time: 10/6/09 7:45 EST Analyst: MW4

Location: McClure tailrace 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: Deploy for temperature only All DO OK

Reservoir back up to normal elevation All over 9 mg/L

Set up through 10/16

Field Notes for Datasonde Post Calibration

Date/Time: 10/1/09 8:00 EST Analyst: MWM

Location: McClure Tail Datasonde Serial #: 43732

Ending Datasonde Battery [volts]: 9.9

Calibration Information

pH (s.u.):	Observed
7.00 Std.	6.26 @ 2.1°
10.00 Std.	9.26 @ 1.9°

Conductivity (mS/cm): 0.309 Std. Conc. 0.317 Observed

_____ Zero Observed, In Air

Barometric Pressure (mm Hg) 743

Dissolved Oxygen	Before Calibrate	After Calibrate
% Saturation	92.9	99.3
mg/L D.O.	11.96	13.00
Temp – °C	3.29	3.2

Notes:

Appendix E

Documentation of Agency Consultation

Upper Peninsula Power Company
500 North Washington Street
P.O. Box 357
Ishpeming, MI 49849-0357
www.uppco.com

November 13, 2009

FERC Project No. 10855

Mr. Gerald Saalfeld
Michigan Department of Environmental Quality
Surface Water Quality Division
P. O. Box 30273
Lansing, MI 48909

Ms. Jessica Mistak
Michigan Department of Natural Resources
Marquette State Fish Hatchery and Station
488 Cherry Creek Road
Marquette, MI 49855

Ms. Christie Deloria-Sheffield
US Fish and Wildlife Service
3090 Wright St.
Marquette, MI 49855

Dear Mr. Saalfeld, Ms. Mistak, 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 2009 for your review and comment.

During the 2009 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. On June 4th and 6th, 2009, dissolved oxygen levels briefly dropped below the water quality standard, with a minimum dissolved oxygen reading of 6.5 mg/l observed at 22:00 on June 4th.

It is not clear what caused the low DO values. UPPCO was not conducting operational changes during this time period and water temperatures were relatively cool. Possible causes include vegetative or sediment build-up around the probe.

Dissolved oxygen monitoring data collected between June 24th and July 8th also showed deviations from the water quality standard of 7.0 mg/l. The low dissolved oxygen readings observed during this period were likely influenced by the warm water temperatures observed. On June 24th, 25th, and 26th, water temperatures were as high as 78°F, the highest temperatures recorded during the monitoring season. Please note that during the 2009 monitoring period, the Silver Lake Storage Basin was being re-filled and was not at the long term normal elevation, which reduced the amount of cold water available to be released into the Dead River. This may have contributed to the high temperatures and low dissolved oxygen concentrations observed during the monitoring season. There were no deviations from the License monthly maximum average temperature to note.

At the Hoist Powerhouse monitoring location, deviations from the D.O. standard were observed in August and September. The likely cause of the deviations is due to 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 August and September when D.O. deviations were observed and that low DO water was present in the hypolimnion of the reservoir at the same time.

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 the reservoir profiles shows water temperatures at or above the License monthly maximum average temperature of 68°F in August and above the License monthly maximum average temperature of 63°F in September. The warm temperatures in the reservoir likely influenced D.O. concentrations, and also caused a deviation from the License monthly maximum average temperature in September. Temperature monitoring data for the month of September shows that daily minimum and average water temperatures of the Dead River were above 63°F every day except for September 28th, 29th, and 30th.

At the two monitoring locations downstream of the McClure Storage Basin, the only deviation from water quality standards to report was a deviation from the License monthly maximum average

temperature in September in the natural river channel where the LS&I railroad crosses the Dead River. The monthly average water temperature recorded in September was 64.5°F. The License monthly maximum average temperature is 63°F.

The cause of the high temperature is due to the McClure Penstock and Powerhouse being out of service during the 2009 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. 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 September have shown that the water temperature on the top 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. 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.

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. Shawn Puzen – Integrys – GB

Response to Comments from the Michigan Department of Environmental Quality

The Michigan Department of Environmental Quality did not respond with comments on the 2009 water quality monitoring report for the Dead River Hydroelectric Project.

Response to Comments from the U.S. Fish & Wildlife Service

The U.S. Fish & Wildlife Service did not respond with comments on the 2009 water quality monitoring report for the Dead River Hydroelectric Project.

Response to Comments from the Michigan Department of Natural Resources

Comment: The DNR has reviewed UPPCO's 11/13/2009 Water Quality Monitoring Report for the Dead River. We note that, as in past years, there are ongoing DO and temperature deviations. We are particularly concerned with ongoing deviations occurring downstream of the Hoist Powerhouse and request additional information to determine how to best mitigate for these deviations.

To summarize actions to date, additional measurements were taken by UPPCO in 2007 to determine the extent of the DO and temperature deviations downstream from Hoist and to determine if there were any operational or physical modifications that could mitigate for the deviations. As reported in the April 30, 2008 Proposed Amendment to the Water Quality Monitoring Plan, no simple solutions were found. Instead, UPPCO hypothesized that deviations would be minimized once Silver Lake was rebuilt, thus providing additional cold water to the Dead River Storage Basin.

Silver Lake Basin was rebuilt in 2008 and was in the process of being refilled during the 2009 water quality monitoring season. Your letter says that there was a reduced amount of cold water available from Silver Lake being released into the Dead River. Please provide additional information on the 2009 Silver Lake release water quantity and temperature to help us better understand the ability of the release from Silver Lake (at full pond) to mitigate chronic water quality deviations at Hoist.

Response: Comment noted. UPPCO provided additional information on the 2009 Silver Lake release as requested to the resource agencies on December 3, 2009. MDNR did not provide additional comments after a review of the additional information. A copy of the December 3rd submittal is attached.

Metcalf, Mark W

From: Jessica Mistak [mistakj@michigan.gov]
Sent: Tuesday, November 24, 2009 10:03 AM
To: Metcalf, Mark W
Cc: Christie_Deloria@fws.gov; Michael Alexander; Chris Freiburger
Subject: Dead River 2009 Water Quality Monitoring

Hi Mark,
The DNR has reviewed UPPCO's 11/13/2009 Water Quality Monitoring Report for the Dead River. We note that, as in past years, there are ongoing DO and temperature deviations. We are particularly concerned with ongoing deviations occurring downstream of the Hoist Powerhouse and request additional information to determine how to best mitigate for these deviations.

To summarize actions to date, additional measurements were taken by UPPCO in 2007 to determine the extent of the DO and temperature deviations downstream from Hoist and to determine if there were any operational or physical modifications that could mitigate for the deviations. As reported in the April 30, 2008 Proposed Amendment to the Water Quality Monitoring Plan, no simple solutions were found. Instead, UPPCO hypothesized that deviations would be minimized once Silver Lake was rebuilt, thus providing additional cold water to the Dead River Storage Basin.

Silver Lake Basin was rebuilt in 2008 and was in the process of being refilled during the 2009 water quality monitoring season. Your letter says that there was a reduced amount of cold water available from Silver Lake being released into the Dead River. Please provide additional information on the 2009 Silver Lake release water quantity and temperature to help us better understand the ability of the release from Silver Lake (at full pond) to mitigate chronic water quality deviations at Hoist.

Thank you,
Jessica

**Please note change in email address to mistakj@michigan.gov

Jessica Mistak, Senior Fisheries Biologist DNR Marquette Fisheries Station
484 Cherry Creek Rd
Marquette, MI 49855
906-249-1611 ext. 308
FAX 906-249-3190

Upper Peninsula Power Company
500 North Washington Street
P.O. Box 357
Ishpeming, MI 49849-0357
www.uppco.com

December 3, 2009

FERC Project No. 10855

Ms. Jessica Mistak
Michigan Department of Natural Resources
Marquette State Fish Hatchery and Station
488 Cherry Creek Road
Marquette, MI 49855

Dear Ms. Mistak:

As requested in your e-mail dated November 24, 2009, Upper Peninsula Power Company (UPPCO) is pleased to provide additional information on the 2009 Silver Lake release water quantity and temperature to help the resource agencies better understand the ability of the release from Silver Lake (at full pond) to mitigate chronic water quality deviations at Hoist.

Pursuant to the Silver Lake Reservoir Reconstruction Project Reservoir Refill Plan and the Vegetative Management Plan, the Silver Lake Storage Basin was partially refilled in 2009. The water elevation during the 2009 water quality monitoring season was restricted to 1466 feet (feet in National Geodetic Vertical Datum [NGVD]). The average reservoir elevation during the monitoring season ranged between 1465.3 and 1464.4 ft NGVD. Reservoir elevation data can be found in Attachment A.

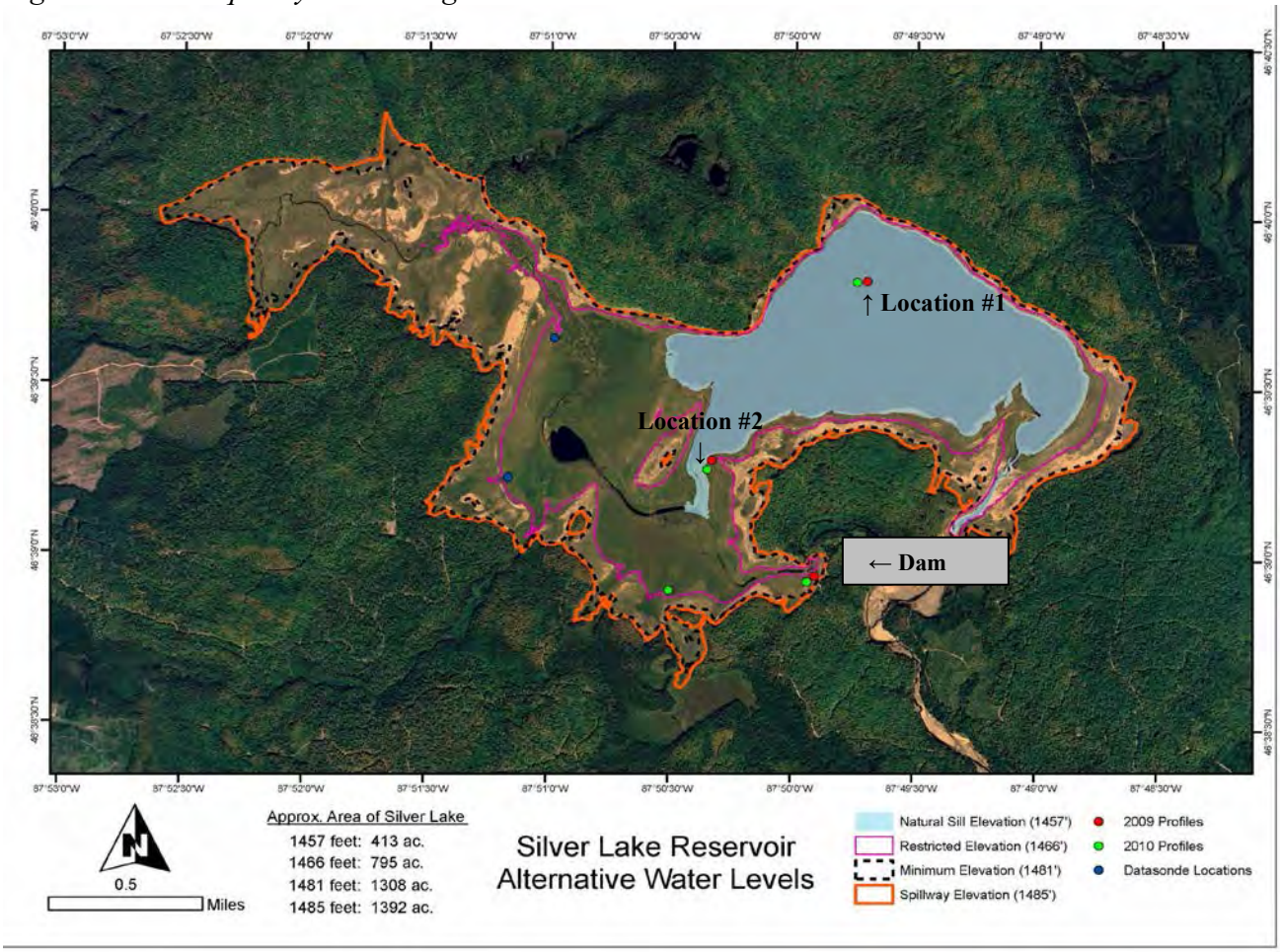
Due to low water inflows, discharge from the reservoir was maintained at or near minimum flows during the months of June through September, 2009. Per Article 403 of the Project License, minimum flow from the basin is to be 15 cfs during the month of June, and 10 cfs from July through September.

As part of the Dead River Recovery Effort, UPPCO conducted dissolved oxygen and temperature profiles once per month in June, July, and August of 2009. The monitoring was conducted at two monitoring locations as agreed upon by UPPCO and the resource agencies (See Figure 1). The profile monitoring data is included in Attachment B. Please note: At the request of Mitch Koetje of the Michigan Department of Environmental Quality (MDEQ), the profiles were not conducted near the outlet of the reservoir in 2009.

The results of the dissolved oxygen and temperature profiles at location #1 show that the reservoir water depth at location #1 was over 40 feet. The water depth at location #2 was between 10 and 11 feet.

At location #1, the reservoir was stratified during the summer of 2009. However; the highest elevation in the water column that stratification was observed occurred in July (approximately 15 feet below surface level).

Figure 1 - Water quality monitoring locations.



The monitoring data collected at location #2 represents the epilimnion of the reservoir during the 2009 water quality monitoring season. Temperature profile data from location #2 indicates that the reservoir did not have a well defined stratification at that location as was observed at location #1. The water temperature measured throughout the water column at location #2 was above 18°C (64°F) in August. The temperature standard downstream of the Silver Lake Basin is 20°C (68°F).

During the months of July and August, the water column at location #2 only varied by roughly 1°C. This profile monitoring data suggests there was limited cold water available near the reservoir outlet in 2009. The temperature of the water being released from the reservoir was likely higher than what would be observed if the reservoir was at full pond level.

A review of the profile information from location #1 shows that the additional water depth within the reservoir will result in the presence of additional cold water. Temperature data collected in July and August shows significantly colder water lower in the water column. In 2010, UPPCO will be attempting to fill the Silver Lake Storage Basin to a minimum elevation of 1481 feet. This will provide an additional 15 feet of water depth to the reservoir near the outlet. It will also increase the amount of cold water available for release downstream. It is anticipated that temperature profiles taken at location #2 in 2010 will show stratification similar to what was observed at location #1 in 2009 due to the increased water storage.

Previous water quality monitoring conducted downstream of the Hoist Powerhouse has shown deviations from temperature and dissolved oxygen water quality standards. UPPCO has evaluated mitigative solutions to address the deviations. Currently, the only solution that would not require extensive physical modifications to the Hoist facility is the release of additional cold water from the Silver Lake Storage basin. Dissolved oxygen profiles conducted in 2009 near the Hoist Powerhouse intake structure show that water temperatures of the Dead River Storage Basin in August were at or above the downstream water quality standard. During this time period, minimum flows were being released from Silver Lake. The presence of additional cold water (storage) in Silver Lake should help to improve downstream temperature and dissolved oxygen as water is released from Silver Lake in excess of the minimum flow requirements.

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. Shawn Puzen, Integrys - GB
Ms. Christie Deloria, USFWS
Mr. Chris Freiburger, MDEQ
Mr. Mike Alexander, MDEQ

Attachment A

Silver Lake Storage Basin

Reservoir Elevation Data

June through September, 2009

Silver Lake Storage Basin
Reservoir Elevation Data

Date	Silver Lake Average Headwater Elevation (feet)	Date	Silver Lake Average Headwater Elevation (feet)	Date	Silver Lake Average Headwater Elevation (feet)	Date	Silver Lake Average Headwater Elevation (feet)
1-Jun-09	1465.3	1-Jul-09	1465.1	1-Aug-09	1465.1	1-Sep-09	1464.9
2-Jun-09	1465.3	2-Jul-09	1465.1	2-Aug-09	1465.1	2-Sep-09	1464.9
3-Jun-09	1465.3	3-Jul-09	1465.1	3-Aug-09	1465.0	3-Sep-09	1464.9
4-Jun-09	1465.3	4-Jul-09	1465.1	4-Aug-09	1465.0	4-Sep-09	1464.9
5-Jun-09	1465.3	5-Jul-09	1465.2	5-Aug-09	1465.0	5-Sep-09	1464.8
6-Jun-09	1465.2	6-Jul-09	1465.1	6-Aug-09	1465.0	6-Sep-09	1464.7
7-Jun-09	1465.2	7-Jul-09	1465.1	7-Aug-09	1465.0	7-Sep-09	1464.8
8-Jun-09	1465.2	8-Jul-09	1465.1	8-Aug-09	1464.9	8-Sep-09	1464.7
9-Jun-09	1465.3	9-Jul-09	1465.1	9-Aug-09	1464.9	9-Sep-09	1464.7
10-Jun-09	1465.3	10-Jul-09	1465.1	10-Aug-09	1464.9	10-Sep-09	1464.8
11-Jun-09	1465.3	11-Jul-09	1465.1	11-Aug-09	1465.0	11-Sep-09	1464.8
12-Jun-09	1465.3	12-Jul-09	1465.0	12-Aug-09	1464.9	12-Sep-09	1464.7
13-Jun-09	1465.3	13-Jul-09	1465.0	13-Aug-09	1464.9	13-Sep-09	1464.7
14-Jun-09	1465.3	14-Jul-09	1465.0	14-Aug-09	1464.9	14-Sep-09	1464.6
15-Jun-09	1465.3	15-Jul-09	1465.0	15-Aug-09	1464.9	15-Sep-09	1464.8
16-Jun-09	1465.3	16-Jul-09	1465.0	16-Aug-09	1464.9	16-Sep-09	1464.9
17-Jun-09	1465.3	17-Jul-09	1465.0	17-Aug-09	1464.9	17-Sep-09	1464.9
18-Jun-09	1465.2	18-Jul-09	1464.9	18-Aug-09	1464.9	18-Sep-09	1464.9
19-Jun-09	1465.3	19-Jul-09	1464.9	19-Aug-09	1464.8	19-Sep-09	1464.8
20-Jun-09	1465.3	20-Jul-09	1464.9	20-Aug-09	1464.8	20-Sep-09	1464.7
21-Jun-09	1465.3	21-Jul-09	1464.8	21-Aug-09	1464.8	21-Sep-09	1464.7
22-Jun-09	1465.2	22-Jul-09	1464.9	22-Aug-09	1464.8	22-Sep-09	1464.6
23-Jun-09	1465.2	23-Jul-09	1465.0	23-Aug-09	1464.8	23-Sep-09	1464.8
24-Jun-09	1465.1	24-Jul-09	1465.0	24-Aug-09	1464.7	24-Sep-09	1464.9
25-Jun-09	1465.1	25-Jul-09	1465.1	25-Aug-09	1464.7	25-Sep-09	1464.7
26-Jun-09	1465.1	26-Jul-09	1465.1	26-Aug-09	1464.6	26-Sep-09	1464.6
27-Jun-09	1465.1	27-Jul-09	1465.1	27-Aug-09	1464.6	27-Sep-09	1464.4
28-Jun-09	1465.1	28-Jul-09	1465.1	28-Aug-09	1464.6	28-Sep-09	1464.6
29-Jun-09	1465.0	29-Jul-09	1465.1	29-Aug-09	1464.6	29-Sep-09	1464.9
30-Jun-09	1465.1	30-Jul-09	1465.1	30-Aug-09	1464.9	30-Sep-09	1465.2
		31-Jul-09	1465.1	31-Aug-09	1465.0		
Maximum	1465.3		1465.2		1465.1		1465.2
Minimum	1465.0		1464.8		1464.6		1464.4

**Elevation data in National Geodetic Vertical Datum

Attachment B

Silver Lake Storage Basin

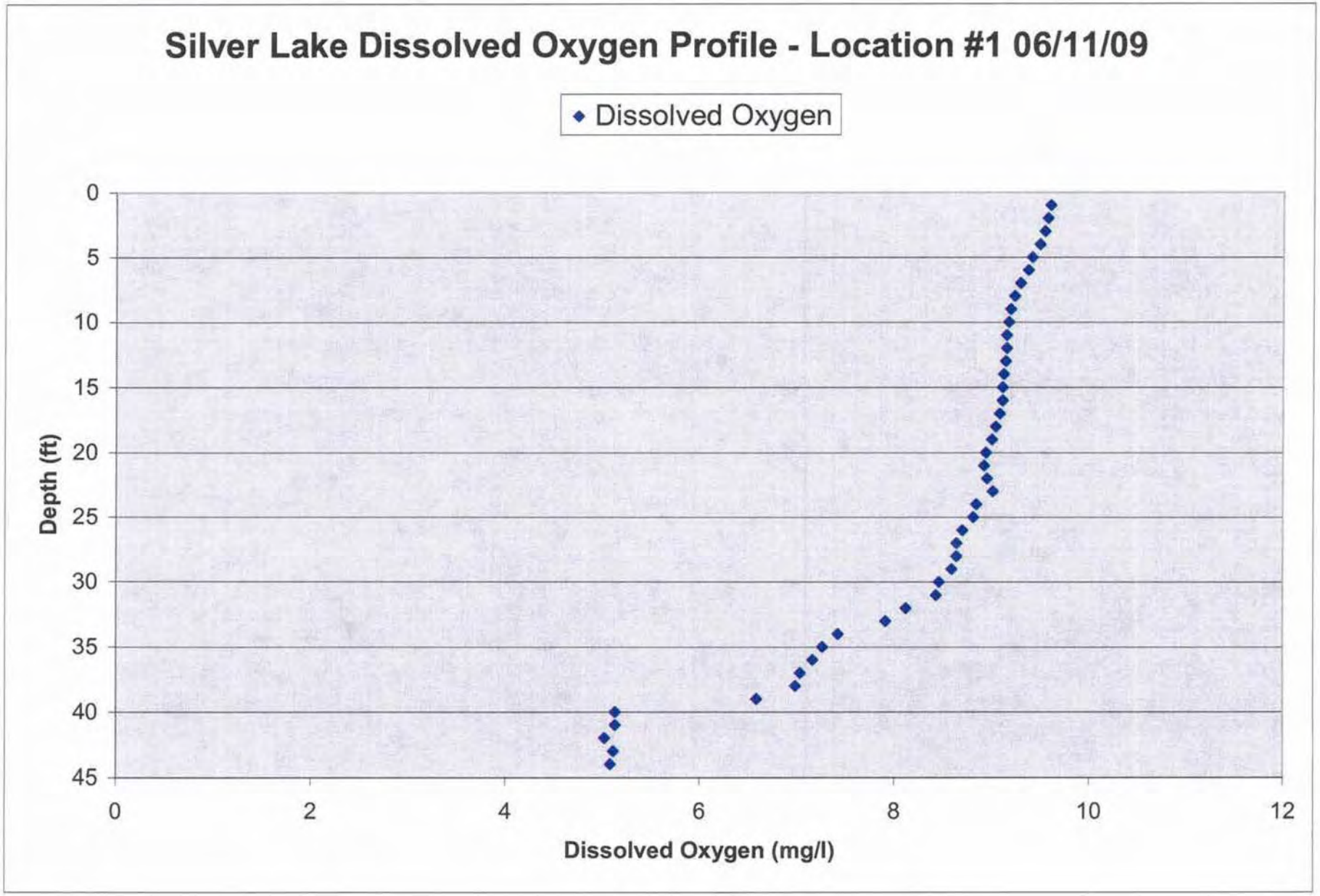
2009 Reservoir Profile Data

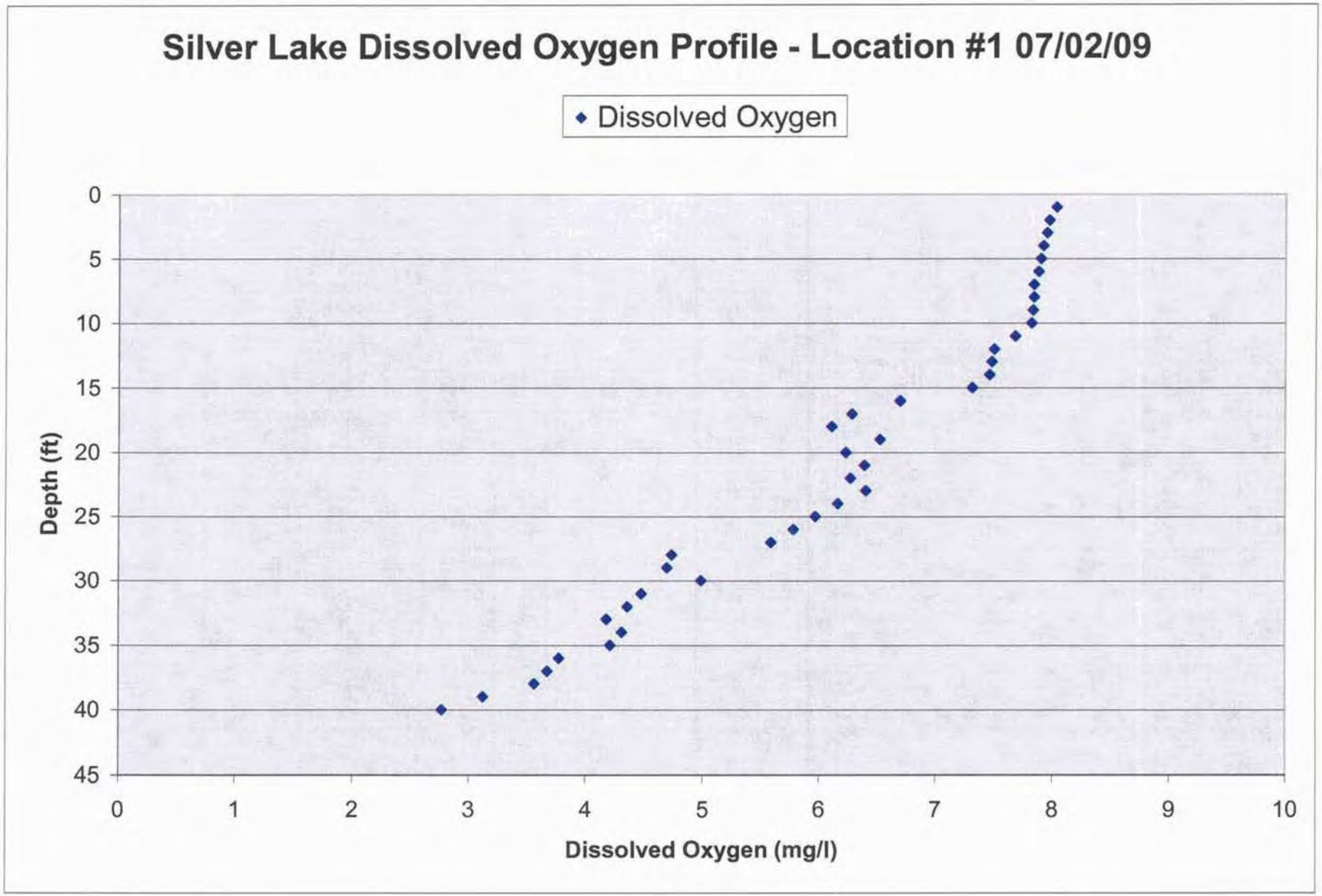
Silver Lake Storage Basin

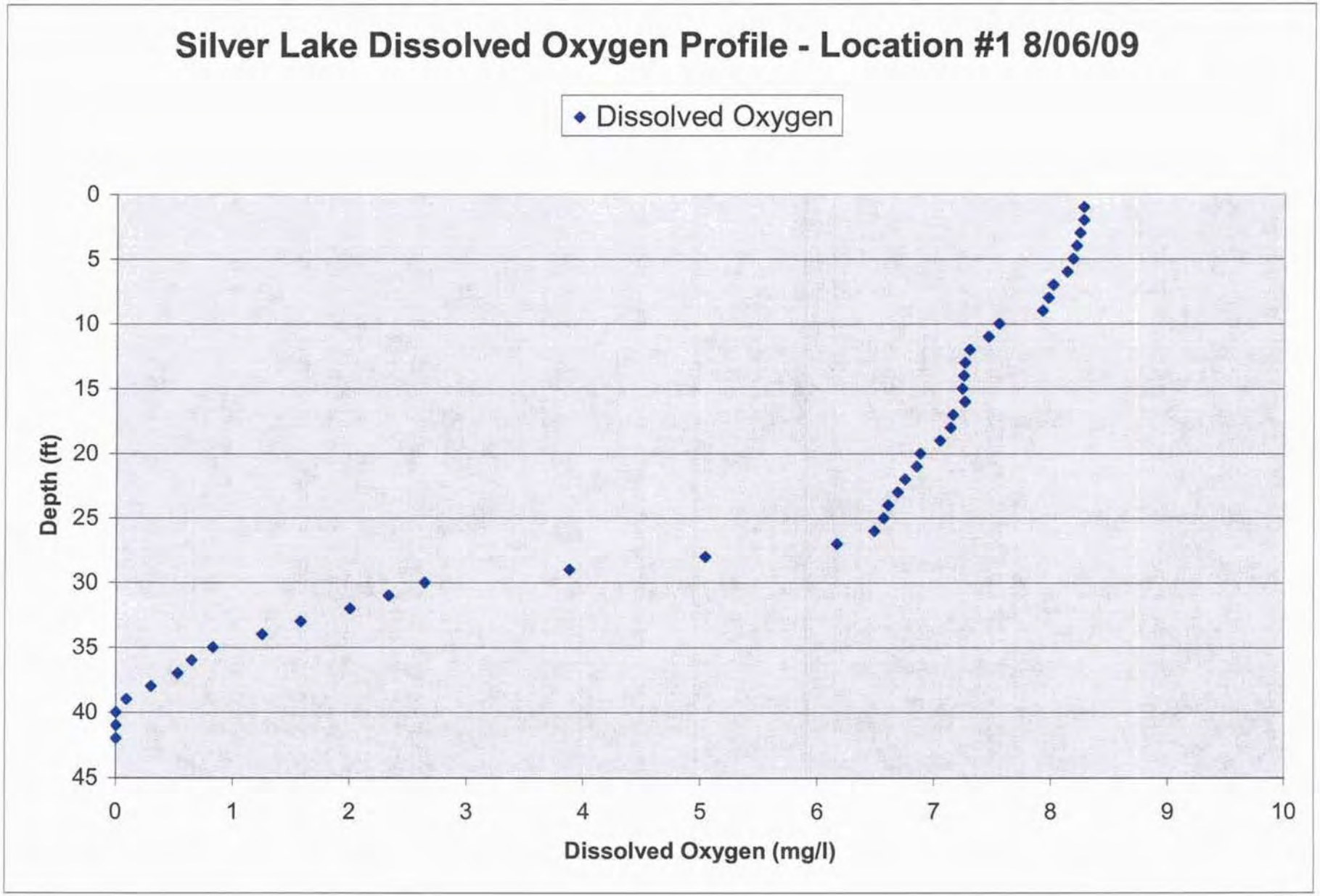
2009 Reservoir Profile Data

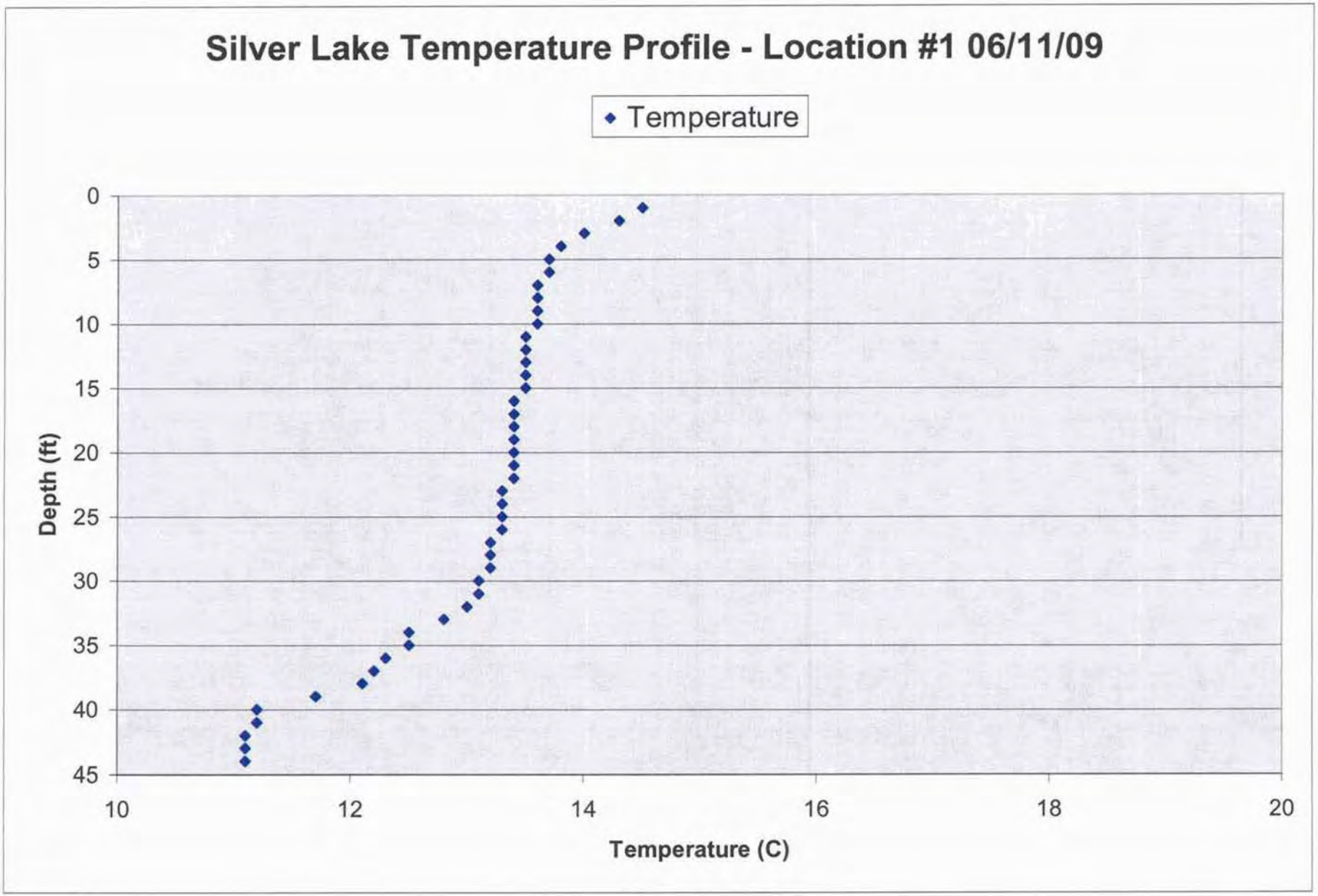
Location #1

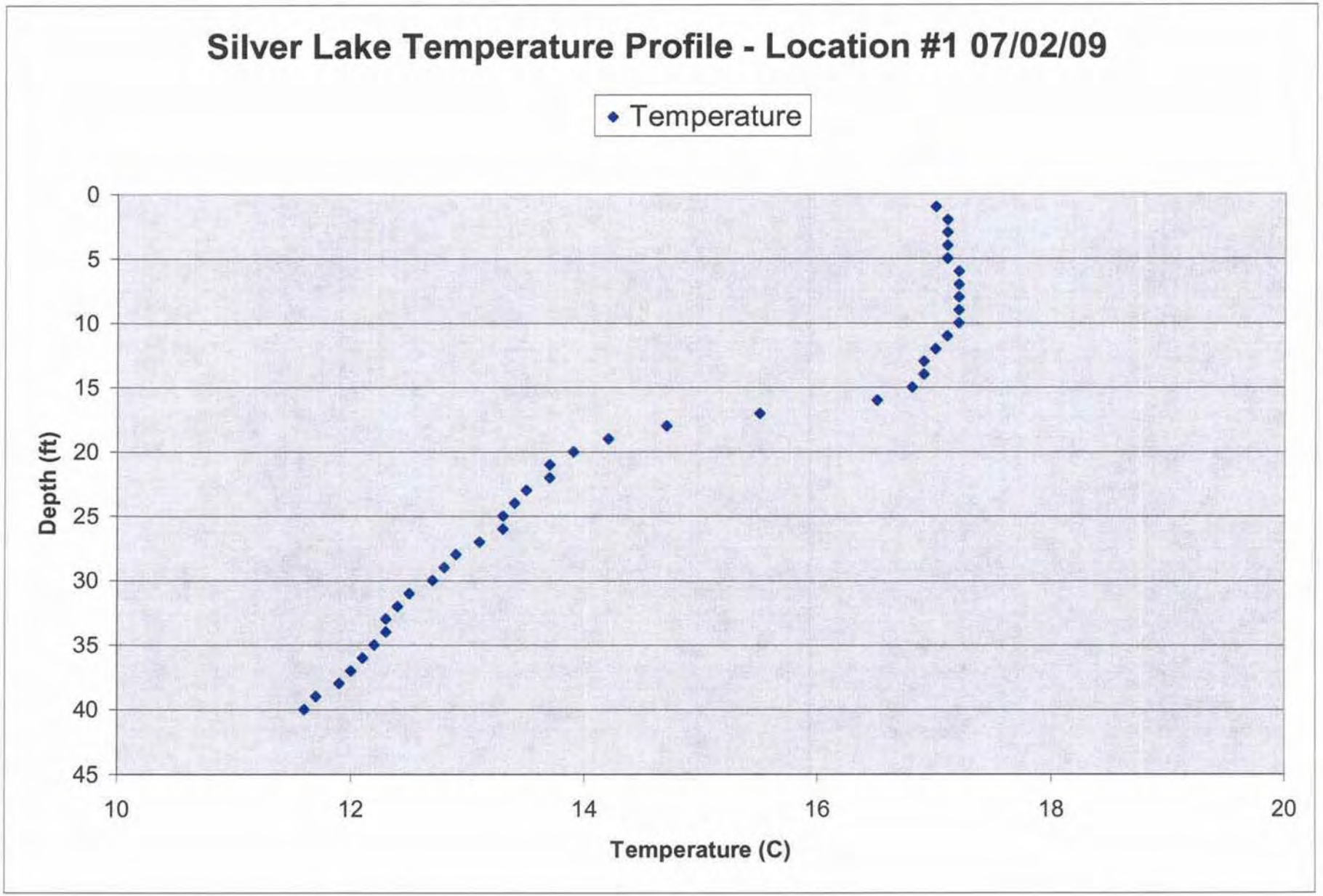
46° 39.763 N, 87° 49.731W

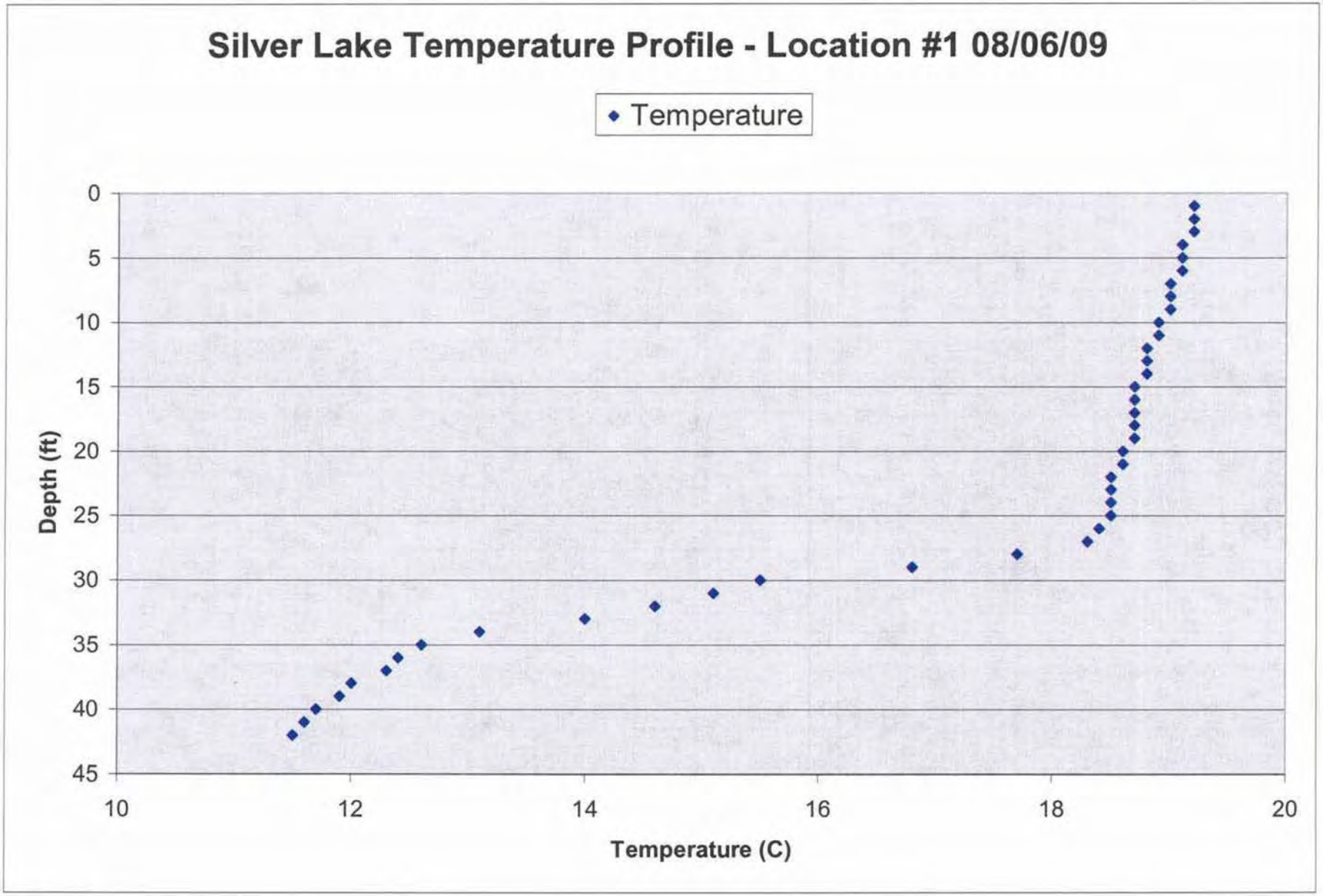

Silver Lake Dissolved Oxygen Profile - Location #1 06/11/09
Dissolved Oxygen
Depth (ft)
0
5
10
15
20
25
30
35
40
45
0
2
4
6
8
10
12
Dissolved Oxygen (mg/l)


Silver Lake Dissolved Oxygen Profile - Location #1 07/02/09
Dissolved Oxygen
Depth (ft)
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6
7
8
9
10
Dissolved Oxygen (mg/l)


Silver Lake Dissolved Oxygen Profile - Location #1 8/06/09
Dissolved Oxygen
Depth (ft)
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6
7
8
9
10
Dissolved Oxygen (mg/l)


Silver Lake Temperature Profile - Location #1 06/11/09
Temperature
Depth (ft)
0
5
10
15
20
25
30
35
40
45
10
12
14
16
18
20
Temperature (C)


Silver Lake Temperature Profile - Location #1 07/02/09
Temperature
Depth (ft)
0
5
10
15
20
25
30
35
40
45
10
12
14
16
18
20
Temperature (C)

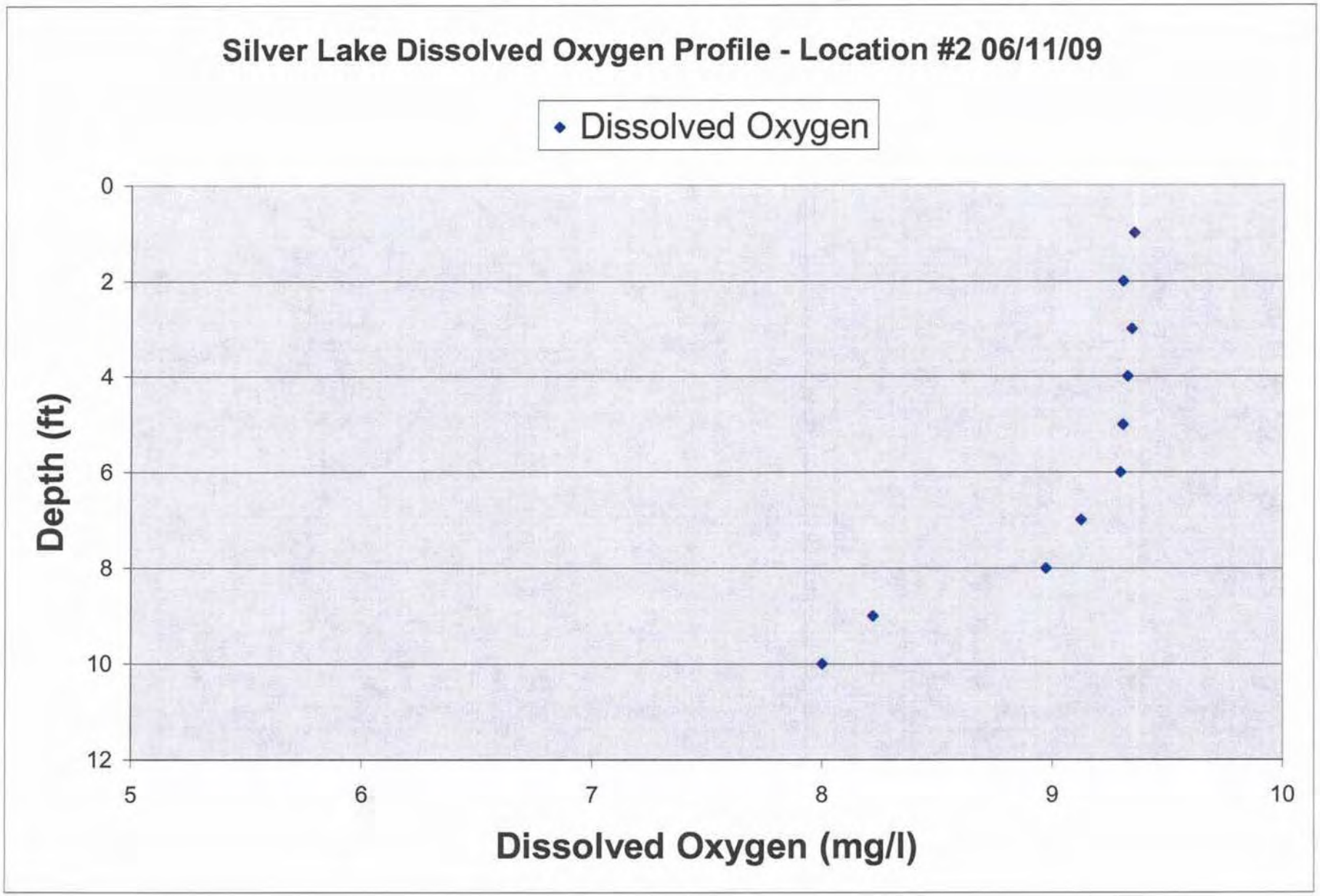

Silver Lake Temperature Profile - Location #1 08/06/09
Temperature
Depth (ft)
0
5
10
15
20
25
30
35
40
45
10
12
14
16
18
20
Temperature (C)

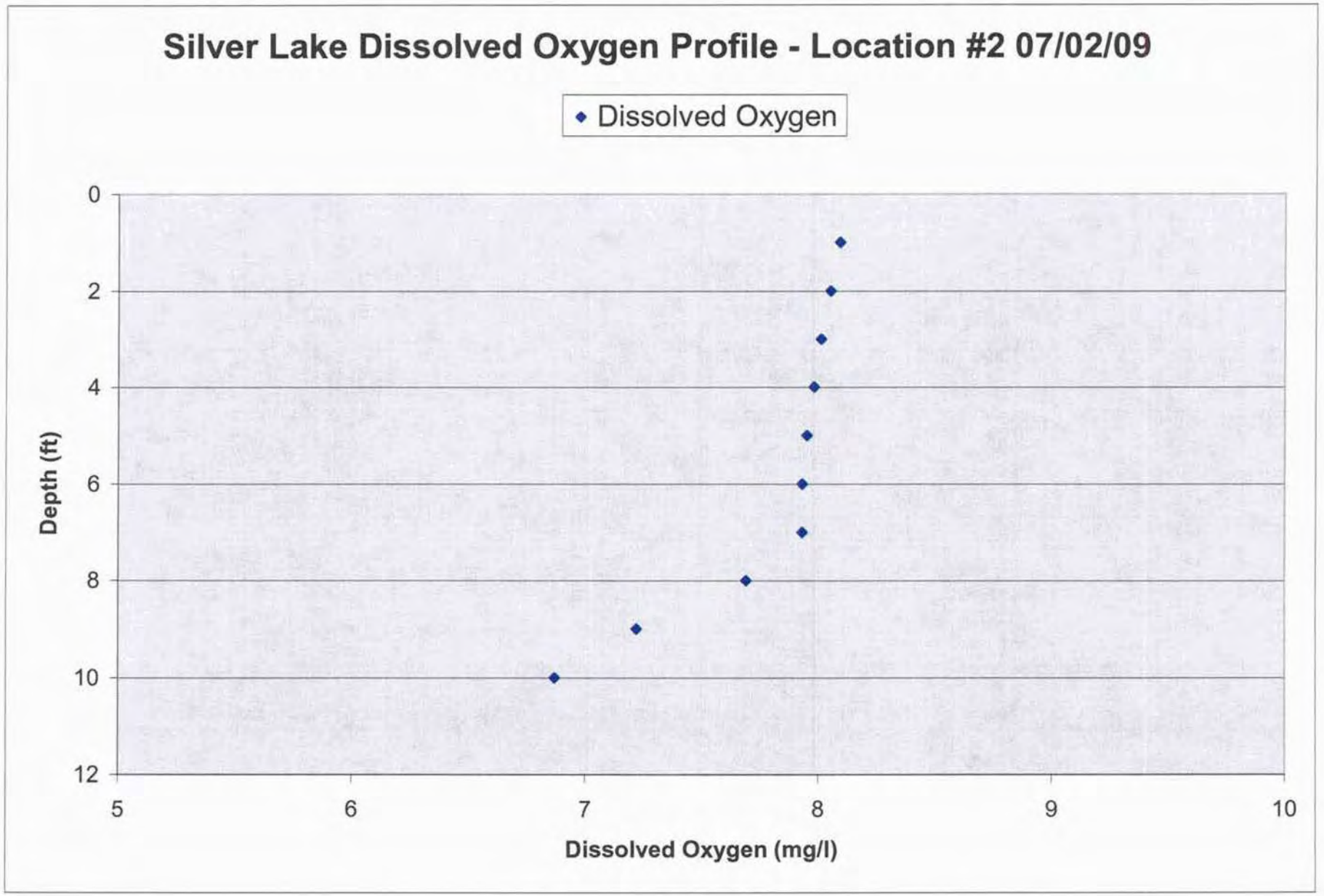
Silver Lake Storage Basin

2009 Reservoir Profile Data

Location #2

46° 39.309 N, 87° 50.389 W


Silver Lake Dissolved Oxygen Profile - Location #2 06/11/09
Dissolved Oxygen
Depth (ft)
0
2
4
6
8
10
12
5
6
7
8
9
10
Dissolved Oxygen (mg/l)


Silver Lake Dissolved Oxygen Profile - Location #2 07/02/09
Dissolved Oxygen
Depth (ft)
0
2
4
6
8
10
12
5
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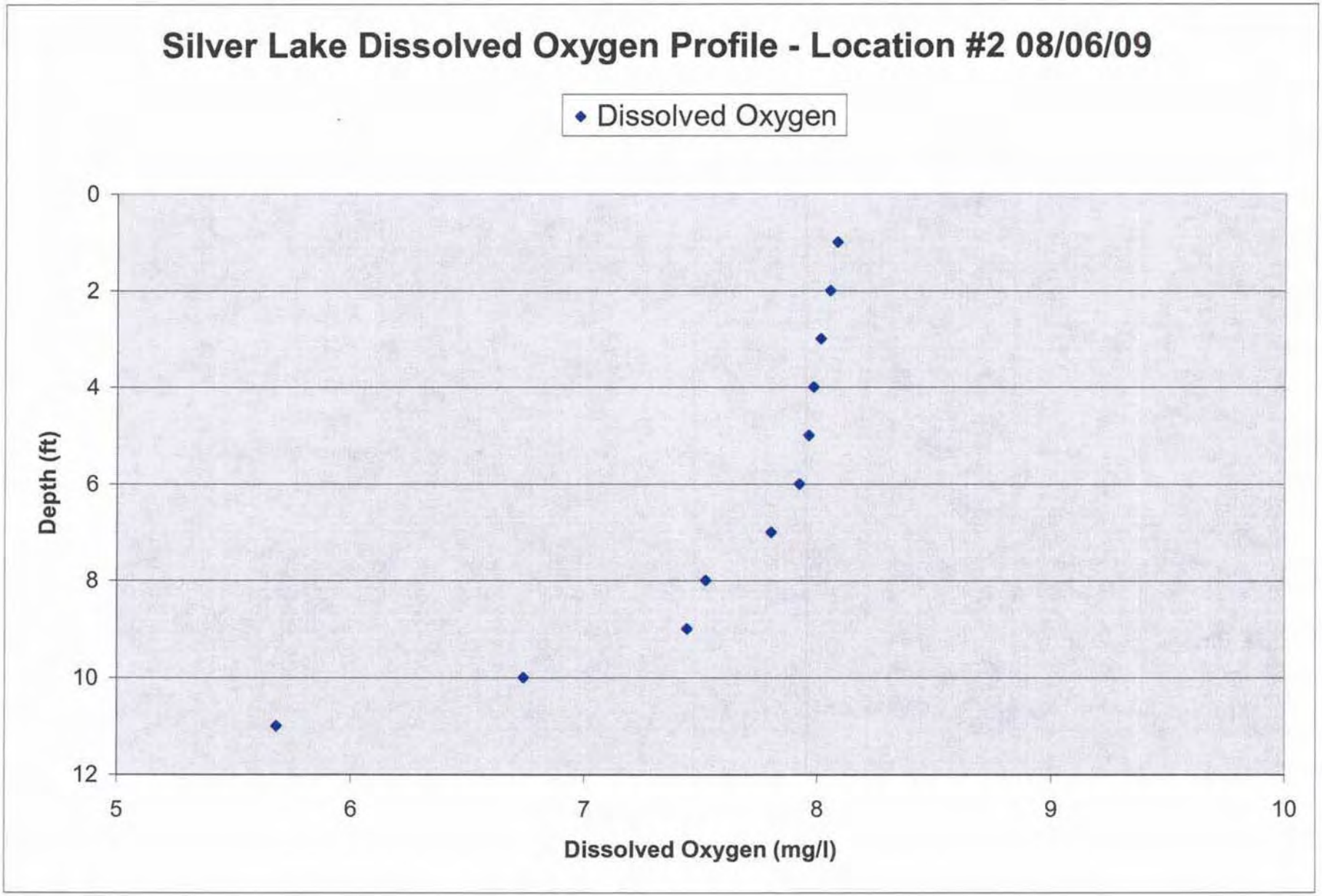
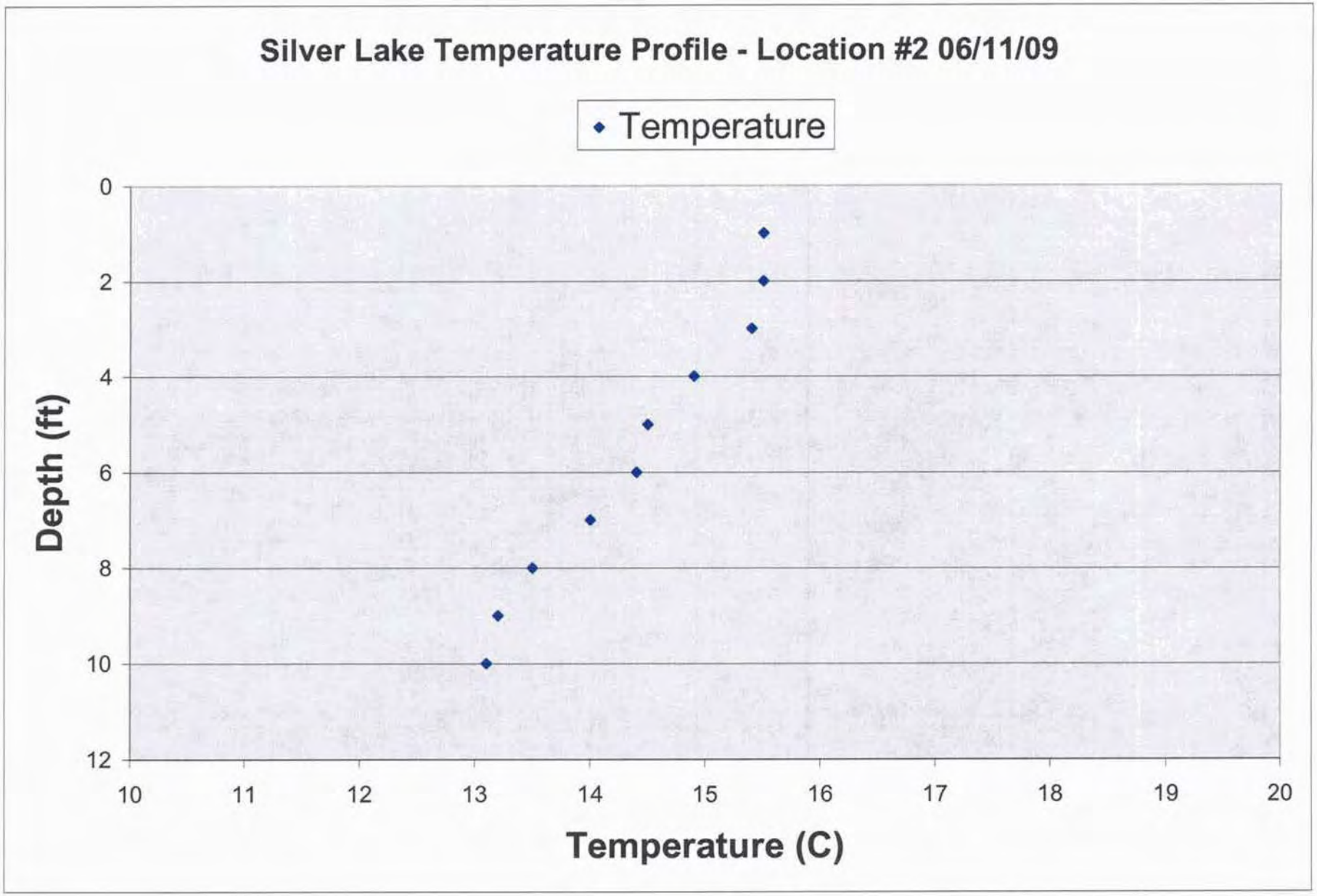
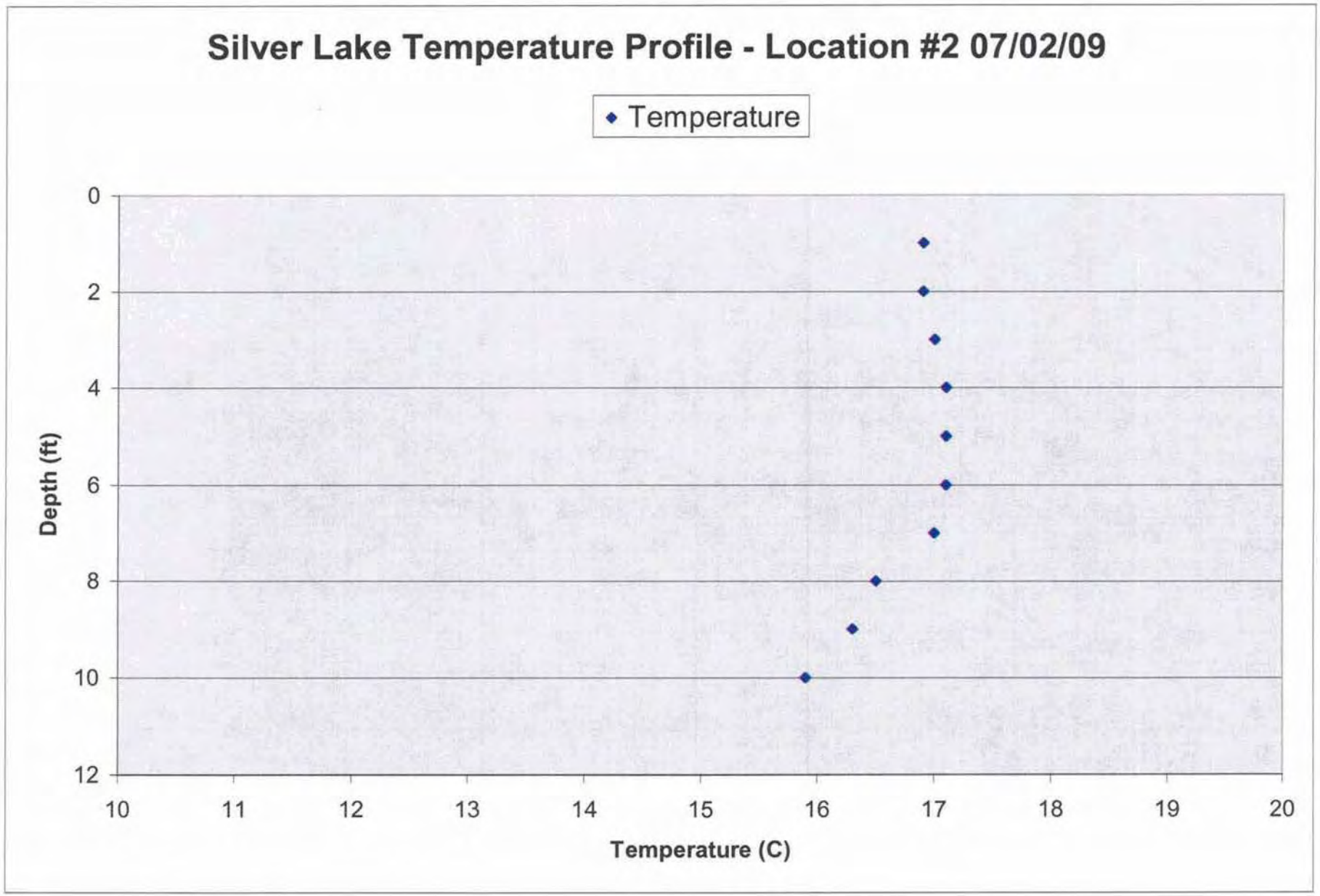
7
8
9
10
Dissolved Oxygen (mg/l)


Silver Lake Dissolved Oxygen Profile - Location #2 08/06/09
Dissolved Oxygen
Depth (ft)
0
2
4
6
8
10
12
5
6
7
8
9
10
Dissolved Oxygen (mg/l)


Silver Lake Temperature Profile - Location #2 06/11/09
Temperature
Depth (ft)
0
2
4
6
8
10
12
10
11
12
13
14
15
16
17
18
19
20
Temperature (C)


Silver Lake Temperature Profile - Location #2 07/02/09
Temperature
Depth (ft)
0
2
4
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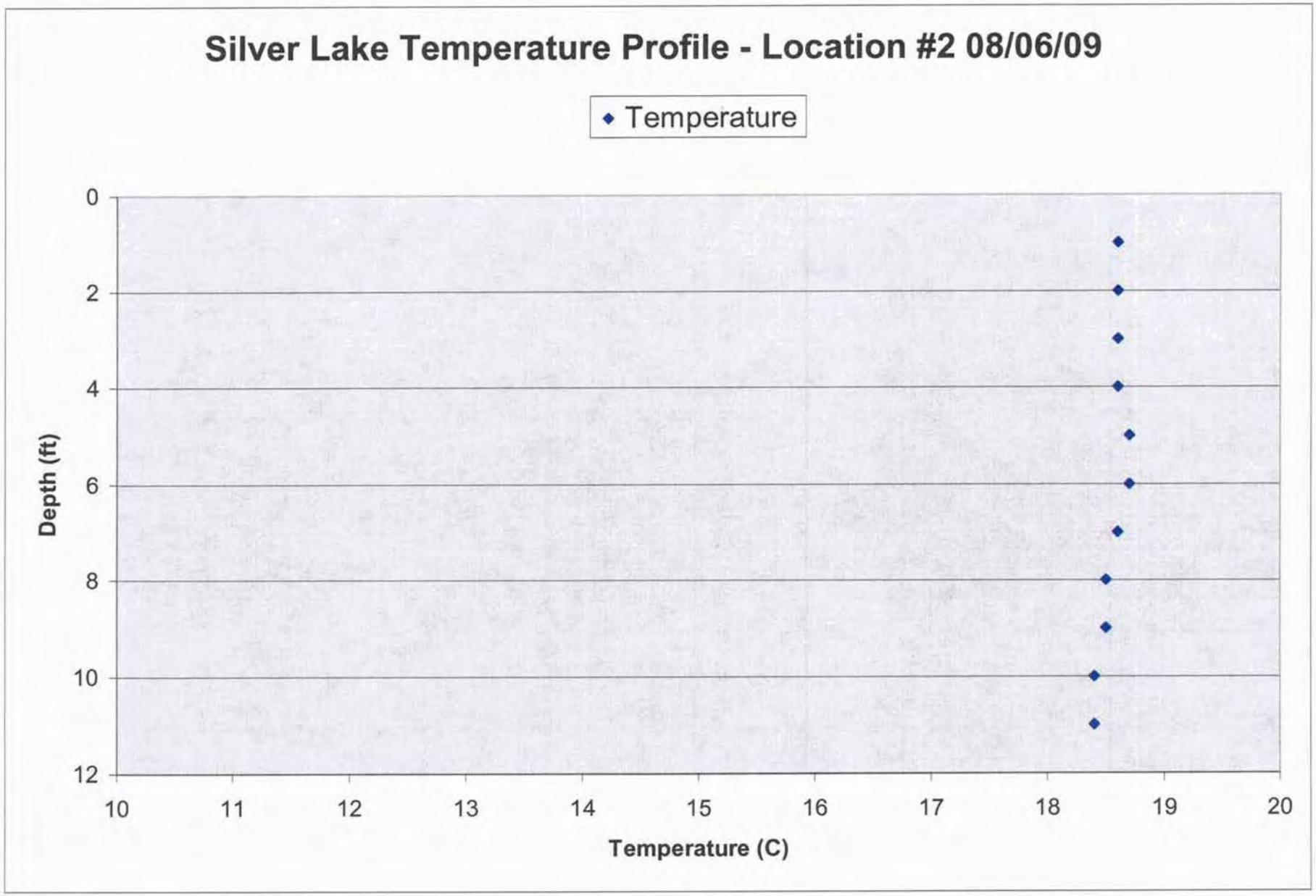
18
19
20
Temperature (C)


Silver Lake Temperature Profile - Location #2 08/06/09
Temperature
Depth (ft)
0
2
4
6
8
10
12
10
11
12
13
14
15
16
17
18
19
20
Temperature (C)

Metcalf, Mark W

From: Jessica Mistak [mistakj@michigan.gov]
Sent: Monday, December 21, 2009 7:31 AM
To: Metcalf, Mark W
Cc: Christie_Deloria@fws.gov; Puzen, Shawn C; Michael Alexander; Chris Freiburger; Meyers, Robert J
Subject: RE: Dead River 2009 Water Quality Monitoring

Mark,
Thank you for the additional information. We have no further comments at this time.
Jessica

>>> "Metcalf, Mark W" <MWMetcalf@integrysgroup.com> 12/03/2009 3:54 PM
>>> >>>
Good afternoon Jessica,

Attached is additional information on the discharge from Silver Lake during the 2009 water quality monitoring season as requested last week.
Please let me know if you have any questions.

Thanks,
Mark

Mark Metcalf
Environmental Consultant - Air & Water
(920) 617-6046

-----Original Message-----
From: Jessica Mistak [mailto:mistakj@michigan.gov]
Sent: Tuesday, November 24, 2009 10:03 AM
To: Metcalf, Mark W
Cc: Christie_Deloria@fws.gov; Michael Alexander; Chris Freiburger
Subject: Dead River 2009 Water Quality Monitoring

Hi Mark,
The DNR has reviewed UPPCO's 11/13/2009 Water Quality Monitoring Report for the Dead River. We note that, as in past years, there are ongoing DO and temperature deviations. We are particularly concerned with ongoing deviations occurring downstream of the Hoist Powerhouse and request additional information to determine how to best mitigate for these deviations.

To summarize actions to date, additional measurements were taken by UPPCO in 2007 to determine the extent of the DO and temperature deviations downstream from Hoist and to determine if there were any operational or physical modifications that could mitigate for the deviations. As reported in the April 30, 2008 Proposed Amendment to the Water Quality Monitoring Plan, no simple solutions were found. Instead, UPPCO hypothesized that deviations would be minimized once Silver Lake was rebuilt, thus providing additional cold water to the Dead River Storage Basin.

Silver Lake Basin was rebuilt in 2008 and was in the process of being refilled during the 2009 water quality monitoring season. Your letter says that there was a reduced amount of cold water available from Silver Lake being released into the Dead River. Please provide additional information on the 2009 Silver Lake release water quantity and temperature to help us better understand the ability of the release from Silver Lake (at full pond) to mitigate chronic water quality deviations at Hoist.

Thank you,
Jessica

**Please note change in email address to mistakj@michigan.gov

Jessica Mistak, Senior Fisheries Biologist DNR Marquette Fisheries Station
484 Cherry Creek Rd
Marquette, MI 49855
906-249-1611 ext. 308
FAX 906-249-3190

Document Content(s)