James Harris,

The Central Utah Water Conservancy District (CUWCD) would like to comment on the Draft 2016 Integrated Report, recently released by the Division of Water Quality (UDWQ). Our comments specifically concern the listing of Sixth Water Creek and tributaries except Fifth Water and First Water Creeks and tributaries from confluence with Diamond Fork Creek to headwaters as being impaired for dissolved selenium. The selenium that is present in Sixth Water Creek is naturally occurring, the source being ground water that seeps into the Strawberry Tunnel (tunnel make) and flows through the Strawberry Tunnel Outlet into Sixth Water Creek. The flow of tunnel make is approximately 5-7 cubic feet per second (cfs). Strawberry Reservoir water deliveries made through the Strawberry Tunnel typically provide an additional 20-25 cfs, and dilute the naturally-occurring selenium to levels that do not exceed the water quality standard.

The sample from Strawberry Tunnel Outlet that was collected on October 6, 2009 was collected during a temporary tunnel shut down and consisted solely of tunnel make. This flow condition is rare and does not represent normal operating conditions. Flows are delivered via the Strawberry Tunnel to meet the minimum streamflows required under the Central Utah Completion Act (CUPCA, PL 102-575, as amended). The tunnel is only shut down for brief timeframes (eg., 2 days) for maintenance per a 5-7 year period, as committed to in the 1999 Diamond Fork System Final Supplement to the Final Environmental Impact Statement. A plot of flow releases through the Strawberry Tunnel for the 2008-2014 assessment period is shown in Figure 1. As evident in the plot, it is very rare for flow releases through the tunnel to drop below 18 cfs. A percentile analysis indicates that flow exceeds 18 cfs more than 99% of the time. Therefore, we believe the October 6, 2009 sample should be considered non-representative and an “extreme event” under the UDWQ’s 303(d) assessment methods.

Other than the October 6, 2009 sample, there is only one exceedance of the chronic selenium standard of 4.6 ug/L in the dataset from May 2008 to November 2014. Because of these considerations, CUWCD believes that Sixth Water Creek should not be included on the 303(d) list as being impaired for dissolved selenium.CUWCD, in cooperation with the Utah Reclamation Mitigation and Conservation Commission, Utah State University, and many other stakeholders, is currently conducting an in-stream flow study for the Diamond Fork Creek watershed. As part of this study, dissolved selenium is being monitored at Strawberry Tunnel Outlet and at two additional downstream sites on Sixth Water Creek. This data will help ensure that Sixth Water Creek will continue to meet its designated beneficial uses. For further information and data from Sixth Water Creek please contact Michael Rau. miker@cuwcd.com, 801-221-0192 x210.

Thanks

Michael Rau
Water Quality Manager
Central Utah Water Conservancy District

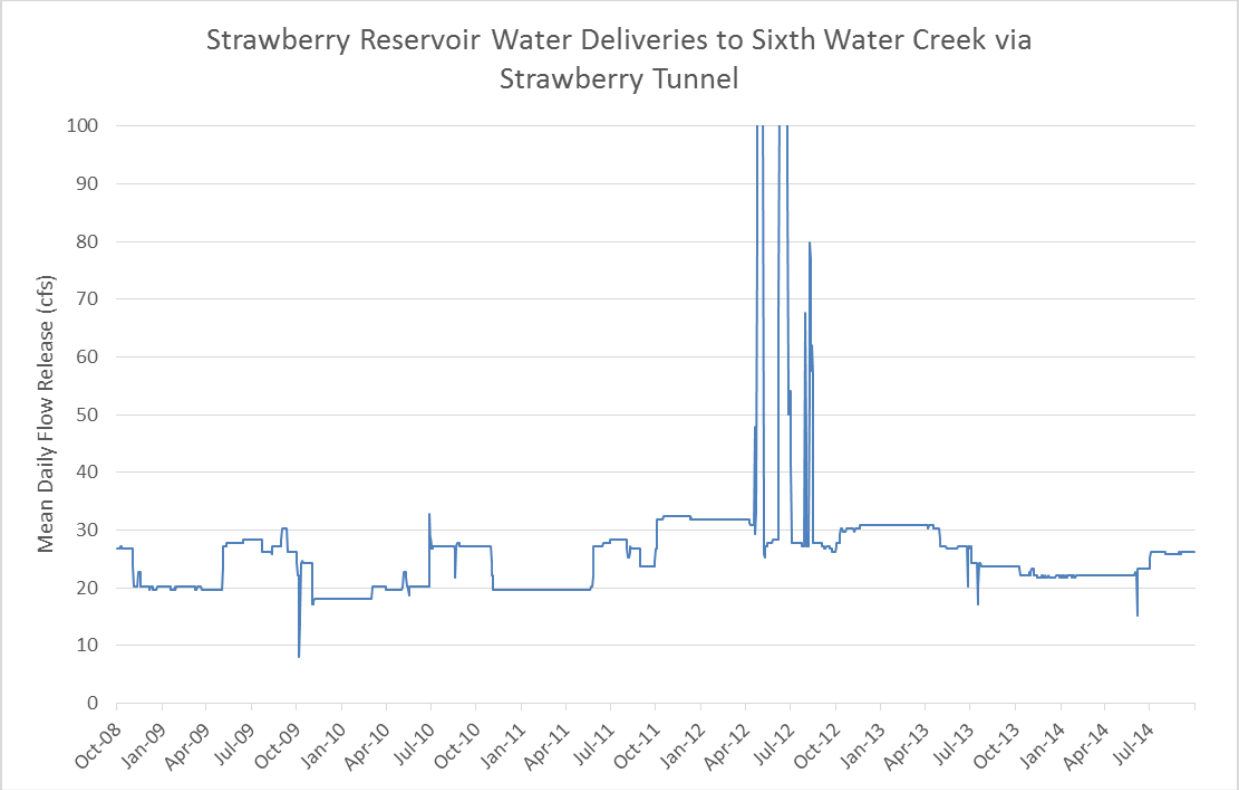

Figure 1. Flow releases from Strawberry Reservoir to Sixth Water Creek via Strawberry Tunnel, 2008-2014.

James Harris,

The Central Utah Water Conservancy District (CUWCD) would like to comment on the Draft 2016 Integrated Report, recently released by the Division of Water Quality (UDWQ). Our comments specifically concern the listing of Jordanelle Reservoir as being impaired for pH. We believe that the low pH values that have been recorded as field data in Jordanelle Reservoir are not accurate. The water quality sonde that is used to measure pH seems to read artificially low at times, especially at significant water depth. Though we do not understand the cause of the inaccuracy, when the field data is compared with corresponding lab values from the same samples, there is a clear discrepancy. See Table 1 for a comparison of such data from 2013.

CUWCD has investigated this issue further by taking pH readings at various depths in Jordanelle Reservoir, and subsequently taking readings from samples from the same depths, immediately after they were collected and brought to the surface. The pH values that were measured in situ were progressively lower as depth increased, with the lowest measured value being 4.98. All samples that were brought to the surface measured between 7.3 and 7.5. This shows a discrepancy very similar to what we see with the lab data shown in Table 1.

Based on the information we have, we believe that Jordanelle Reservoir should not be listed as impaired for pH. We are working with the sonde manufacturer to understand and remedy the issue. We have also implemented additional QA/QC steps so that we can catch and investigate potentially erroneous field data before it is uploaded to the AWQMS database.

For further information and data from Jordanelle Reservoir please contact Michael Rau. miker@cuwcd.com, 801-221-0192 x210.

Thanks

Michael Rau
Water Quality Manager
Central Utah Water Conservancy District

Activity ID	Date	Time	Site ID	Site Name	Field pH	Lab pH
CUWJPRESJR061913-5914010-0619-29-F	6/19/2013	9:47:00 AM	5914010	JORDANELLE RES AB DAM 01	6.3	7.8
CUWJPRESJR061913-5914010-0619-26-F	6/19/2013	9:32:00 AM	5914010	JORDANELLE RES AB DAM 01	6.66	7.9
CUWJPRESJR061913-5914010-0619-27-F	6/19/2013	9:34:00 AM	5914010	JORDANELLE RES AB DAM 01	6.69	8
CUWJPRESJR061913-5914010-0619-28-F	6/19/2013	9:38:00 AM	5914010	JORDANELLE RES AB DAM 01	6.7	7.9
CUWJPRESJR071713-5914010-0717-29-F	7/17/2013	9:13:00 AM	5914010	JORDANELLE RES AB DAM 01	5.74	7.8
CUWJPRESJR071713-5914010-0717-28-F	7/17/2013	9:02:00 AM	5914010	JORDANELLE RES AB DAM 01	6.38	7.8
CUWJPRESJR071713-5914010-0717-27-F	7/17/2013	8:58:00 AM	5914010	JORDANELLE RES AB DAM 01	6.5	7.7
CUWJPRESJR071713-5914010-0717-26-F	7/17/2013	8:54:00 AM	5914010	JORDANELLE RES AB DAM 01	6.63	7.6
CUWJPRESJR071713-5914030-0717-29-F	7/17/2013	11:22:00 AM	5914030	JORDANELLE RES NORTH ARM 03	6.86	8.3
CUWJPRESJR071713-5914010-0717-24-F	7/17/2013	8:50:00 AM	5914010	JORDANELLE RES AB DAM 01	6.9	7.4
CUWJPRESJR071713-5914040-0717-29-F	7/17/2013	10:29:00 AM	5914040	JORDANELLE RES PROVO ARM 04	6.92	8.2
CUWJPRESJRQ081313-5914010-0813-29-F	8/13/2013	9:43:00 AM	5914010	JORDANELLE RES AB DAM 01	5.98	7.7
CUWJPRESJRQ081313-5914010-0813-27-F	8/13/2013	9:21:00 AM	5914010	JORDANELLE RES AB DAM 01	6.45	7.7
CUWJPRESJRQ081313-5914010-0813-28-F	8/13/2013	9:26:00 AM	5914010	JORDANELLE RES AB DAM 01	6.48	7.7
CUWJPRESJRQ081313-5914010-0813-26-F	8/13/2013	9:17:00 AM	5914010	JORDANELLE RES AB DAM 01	6.73	7.5
CUWJPRESJR100113-5914010-1001-29-F	10/1/2013	9:09:00 AM	5914010	JORDANELLE RES AB DAM 01	6.23	7.6
CUWJPRESJR100113-5914010-1001-28-F	10/1/2013	9:00:00 AM	5914010	JORDANELLE RES AB DAM 01	6.74	7.7

Table 1: Comparison of field vs. lab pH measurements for selected samples in 2013