



draft Meeting Summary **Utah Water Quality Standards Workgroup June 8, 2020**

Updates. Chris Bittner

The last revisions to the standards, including site-specific ammonia for the Jordan River, site-specific TDS for Silver Creek and the headwaters numeric nutrient criteria, were approved by USEPA and are now in effect for the Clean Water Act. Meeting participants were asked to introduce themselves along with their affiliations. Mr. Bittner explained that the process for this meeting would be first a presentation summarizing the proposed changes, then an opportunity for workgroup members to comment, followed by comments from the other interested parties present.

Jordan River Cold Water UAA. Chris Bittner

The Use Attainability Analysis (UAA) was made available for review prior to the meeting. The findings of the UAA were reviewed and discussed. Mr. Salt, who did not attend, submitted comments prior to the meeting and these comments were shared with the group prior to the meeting. DWQ's preliminary conclusion was that these comments would not change the UAA. The workgroup discussed that this proposed change is a downgrade in the use and should be considered carefully. However, the downgrade is appropriate and necessary when natural conditions prevent the attainment of the use, as with this segment of the Jordan River.

Although not relevant to the natural conditions rationale for the UAA, the thermal impacts of the two POTW effluents on river temperature were discussed. In July and August, the effluent temperatures may be cooler than the Jordan River. Effluent temperatures are predominately a function of influent temperatures and the proposed change in use will not result in any changes for effluent temperatures. Mr. Meyers expressed support for the proposal and a brief discussion of the workgroup's role ensued regarding making recommendations by vote. Mr. Bittner explained that DWQ considers feedback from all workgroup members prior to moving forward with rulemaking. DWQ anticipates recommending initiating rulemaking for the Jordan River proposed change to the Board at the June meeting. This proposal will be presented as having been reviewed by the Standards Workgroup and no substantive concerns were identified.

Kanab Creek Use and Value Assessment, TDS (total dissolved solids)

The Use and Value Assessment was made available for review prior to the meeting. The findings of the Use and Value Assessment were discussed. Written comments were received from Best Friends Animal Sanctuary and these were distributed to workgroup members prior to the meeting. Workgroup members did not identify any substantive concerns with the proposed change. In response to a question from Ms. Kirschner, Mr. Bittner explained that criteria based on ambient conditions are not always based on the 90th percentile but several current site-specific TDS criteria are based on the 90th percentile.

Mr. Bloch asked for a description of the rulemaking process. Mr. Bittner explained that DWQ would evaluate the workgroup meeting comments and potentially revise the proposal and supporting documents prior to recommending rulemaking to the Water Quality Board. The rulemaking process includes publication in the Utah Bulletin, public notices, a hearing, and a 45-day comment period (30 days is minimum). DWQ will consider the

comments received and will return to the Board with a recommendation to adopt the change or revise the proposal. The soonest that the comment period could start for this action is July 15.

Mr. Bittner anticipates addressing some of the written comments from Best Friends with editorial changes. Concerns identified by Kanab-area stakeholders at the meeting were discussed:

1. Protection of downstream uses. The concern is that the increase in the TDS criteria in upper Kanab Creek will result in increases in TDS in lower Kanab Creek. The Use and Value Assessment shows that water from upper Kanab Creek infrequently reaches lower Kanab Creek when flows are low. When flows are high, TDS concentrations are low, reducing potential impacts downstream. Mr. Parrish suggested evaluating the TDS data from the US89 sample location to see if TDS concentrations have changed after the Coal Hollow Mine began discharging. He also asked if there were any irrigation return flows below SW-2 which could be adding additional TDS to Kanab Creek.
2. Questions were asked regarding agreement between TDS concentrations reported between in Table 8 and Figure 19 for the non-irrigation season and the proposed site-specific criteria.
3. Mr. Bittner stated that the discussion of splitting the lower Kanab Creek assessment unit is outside the scope of the Use and Value Assessment and will be removed. Assessment units are used for the preparation of the *Integrated Report*.

Mr. Bittner said that DWQ would review these issues prior to proposing to the Board. If necessary, DWQ may delay proposing to the Board until the August meeting.

Addendum: After the meeting, DWQ decided to delay proposing the alternative TDS criteria to the Water Quality Board at the June meeting. DWQ will evaluate the oral and written comments received and revise the Kanab Creek Use and Value Assessment as appropriate. These revisions are not anticipated to change the proposed criteria. The public comment period for the proposed alternative TDS criteria for Kanab Creek (and the Jordan River use change) will begin no sooner than September 15, 2020.

2nd Addendum: On August 3, 2020, DWQ distributed a redline version (v. 1.4) of the Use and Value Assessment to the meeting participants. The document was revised in response to comments received during the workgroup meeting.

2020 Triennial Review

Mr. Bittner explained that 2020 was a Triennial Review year. The public hearing for the Triennial Review hearing will be combined with the proposed rulemaking. Public comments received will be discussed with the Standards Workgroup at a future meeting. The Triennial Review will ultimately result in prioritizing DWQ efforts for future and ongoing revisions to Utah's standards.

Next Meeting: September 21, 2020 1:00 PM

Meeting Sign-In Sheet (note: more people may have attended than self-identified)**Meeting** **Water Quality Standards Workgroup****Meeting Date:** **June 8, 2020****Chair:** **C Bittner****Place/Room:** **Remote via internet**

Name	Affiliation	Attendance
Chris Bittner	DEQ/DWQ	
Ben Holcomb	DEQ/DWQ	
George Parrish	USEPA R8	
Lisa Kirschner	PBL/RTKC	
Jay Olson	Utah Dept of Food and Agriculture	
Leland Myers	WFWQC	
Joe Crawford	CUWCD	
Brad Rasmussen	Aqua Engineering	
Chris Cline	USFWS	
Brian Somers	Utah Mining Association	
Marian Rice	SLC Public Utilities	
Steve Bloch	SUWA	
Jodi Gardberg	DWQ	
Amy Dickey	DWQ	
Rebekah Downard	DWQ	
Helene Jorgenson	Kanab Soil/Water District	
Bart Battista	Best Friends Animal Sanctuary	
Susana Young		
Lee Rawlings	SVWRF	

Name	Affiliation	Attendance
John Hays	JBWRF	
Dave Baird		
Sandy Katz	Kanab Resident	
Jim Walls		
Michelle Galaria		
Noel Poe	Grand Staircase Escalante Partners	
Shannon McBride		
Tom Dillon		
Joelyn S.		
Donna Huntsman		
Bella		
Don		
Kirk Nichols	Alton Coal	
Laura Fertig		
Sandy Wingert	DWQ	

Comments In Response To DWQ Jordan River Cold Water UAA And Conclusions Submitted by Jeff Salt, Great Salt Lakekeeper

Great Salt Lakekeeper these submits these comments in response to the Utah Department of Water Quality's Cold Water Use Attainability Analysis for the Jordan River and the Division's conclusions for justifying the lowering of the aquatic life use classifications from 3A to 3B in assessment units 5-7 Great Salt Lakekeeper objects to conclusions 2 and 3 of the UAA and the final recommendation to lower the classifications to 3B.

First, Great Salt Lakekeeper especially objects to conclusion 2 of the UAA that states water conditions are primarily the result of natural conditions. It should be noted that fish species such as trout can utilize warm water as long as they have a cold water retreat. It should also be noted that throughout the study area between the Jordan Narrows and Little Cottonwood Creek, the natural flows from the river, several tributaries and accretions from springs have been severely modified and reduced due to irrigation diversions, dewatering and groundwater extractions. This is not a natural condition. Also, throughout the study area, the Jordan River generally lacks natural vegetation that would provide shading and cooling. This is also not a natural condition. The lack of shading is primarily due to the removal of appropriate riparian canopy resulting from historic channelization and modifications of the natural river bed, historic agricultural practices, residential development, construction of trails, lack of enforcement of setback rules and flood control management. The other major anthropogenic contributor to warm water temperature in the study area is the discharge of treated water from POTWs.

It may be possible to restore and support 3A aquatic use of the river through segments 5 - 7 if: 1) water rights were dedicated to increasing flows in the river channel, its tributaries and groundwater recharge zones; 2) shading was enhanced by restoring appropriate riparian canopy; 3) temperatures of discharges from POTWs were reduced; and, 4) ambient temperature of the river flowing from Utah County was reduced by effecting changes to management of the Jordan River and Utah Lake (i.e. riparian canopy restoration and shading, reduction of algae and organic matter, changes in management of Utah Lake levels).

However, Great Salt Lakekeeper recognizes that the Division, the State of Utah, Utah County, Salt Lake County, local municipalities, Utah Lake Commission, Jordan River Commission, POTWs, water users, and riparian landowners lack the political will and economic incentives necessary to implement measures that could restore and maintain cold water aquatic uses in the study area.

In conclusion, Great Salt Lakekeeper believes that 3A cold water aquatic uses can be restored and maintained, but will not happen because the stakeholders involved will not pay the high cost or take the necessary actions to correct the historic, human-caused modifications that have dramatically changed the Jordan River environment.

Best Friends Animal Society's comments

The following memorandum provides comments to the Kanab Creek – Use and value Assessment and Revised Criteria for Total Dissolved Solids, Utah Department of Environmental Quality, Version 1.3, March 9, 2020. Generally, the document lacks specificity regarding the processes that contribute to TDS loading in the Upper Kanab Creek Watershed and the need for changes to the TDS criteria. Based on the comments below, we recommend that additional supporting analyses should be performed to address the impact to lower watershed resources due to changing TDS criteria in the upper watershed during both the irrigation and non-irrigation seasons. Specific analyses may include, but not be limited to: nutrient analyses, piper diagrams, groundwater investigation, and agricultural practices in the Alton area.

1. Executive Summary, 3rd Paragraph

“Interactions between surface and groundwater and Tropic Shale-derived soils and alluvium causes the dissolution of soluble salts present in these materials, increasing TD of those waters. As a result, TDS concentrations in Kanab Creek naturally increase in a downstream direction in upper Kanab Creek”

This statement is unsupported by Table 7 which shows the median TDS value decreasing from 1,044 mg/L to 836 mg/L at SW-2. While the population of samples is different at each of these locations, there does not appear to be a general increase in TDS between SW-1 and SW-3 as also shown in Figure 19. Water quality changes appear to occur due to flow contributions at SW-2 from Robinson Creek and/or Simpson Hollow.

2. Executive Summary, 4th Paragraph

“Geologic and hydrologic data from Kanab Creek and its tributaries near Alton, Utah, indicate that elevated TDS concentrations in these waters are primarily a result of natural and unalterable (agricultural irrigation use) conditions”

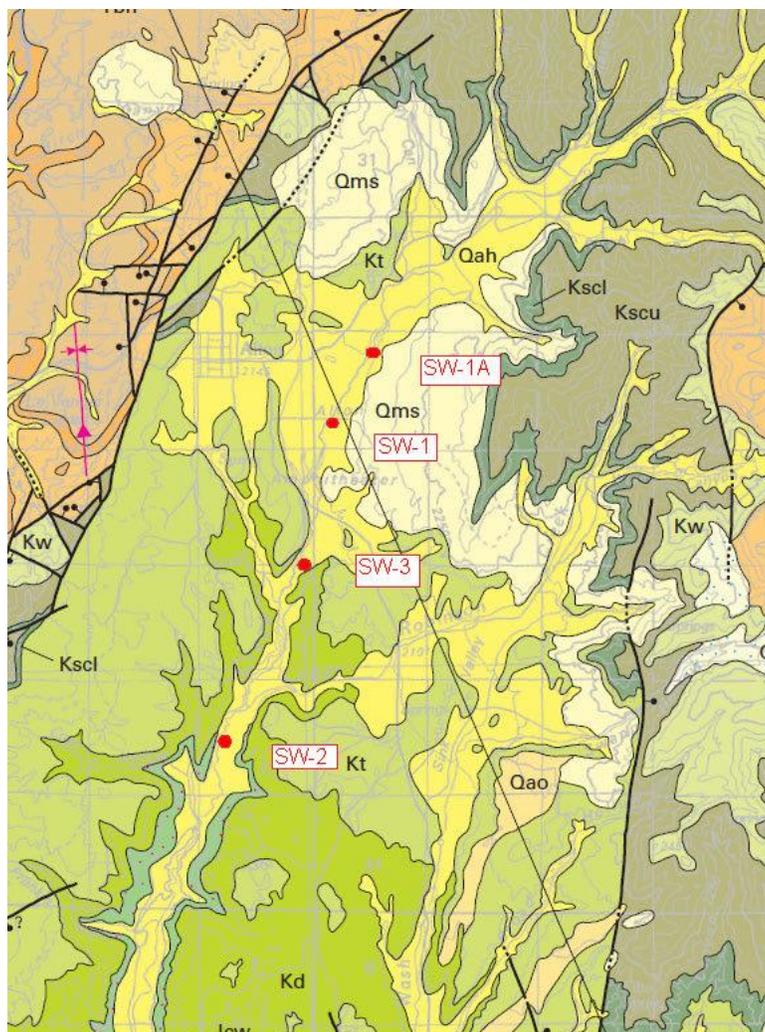
Similar to Comment #1, the document does not provide evidence to support this conclusion. One factor not addressed in the document is depth to groundwater in the alluvium overlying the Tropic Shale in the Alton Valley. A discussion of whether Kanab Creek is a losing or gaining stream in the vicinity of Alton is discussed on Page 5, indicating “a small amount of recharge and/or localized shallow alluvial aquifer reenters the creek through this reach and the section of Kanab Creek in proximity to Alton is usually perennial...., with median flow during the irrigation season of 0.45 cfs.

As an example, the document identifies 873.4 acres of agricultural water use in the Alton area. Based on an application rate of 4 acre-feet per acre (AFA) and a return flow rate of 25%, agricultural contribution to the groundwater may be approximately 873 AFY (equivalent to 1.2 cubic feet per second). Based on the hydrogeologic properties of the Tropic Shale, it is likely that the greatest contribution to creek flow immediately upstream of SW-3 is from agricultural return flow.

3. Geology, 2nd Paragraph

“As a result, the entire headwaters are underlain by the tropic shale or by the alluvium derived largely from that formation (Gregory, 1951).”

The Geologic Map of the Kanab 30' x 60' Quadrangle, Utah and Arizona (USGS, Sable and Hereford, 2004) indicates that the upper formation of the Alton Valley is Holocene Alluvium (Qah) consisting of sand, silt, clay, and gravel of several cut-and-fill deposits. It is likely that following erosion of Tropic shale in the Alton area, coarser grained sediments from upstream formations (Straight Cliff Formation and others) filled the Alton Amphitheater. While the Tropic shale underlies the Holocene alluvium in the Alton Valley, it is more likely the alluvial sediments were derived from upstream sources.



Legend

- Qah – Alluvium (Holocene)
- Qms – Landslide (Holocene and Pleistocene)
- Kscu – Straight Cliffs Formation, upper unit, (Upper Cretaceous)
- Kscl – Straight Cliffs Formation (Upper Cretaceous)
- Kt – Tropic Shale (Upper Cretaceous)
- Kd – Dakota (Upper and Lower Cretaceous)

Geologic Map of the Kanab 30' x 60'

Quadrangle, Utah and Arizona, Sable and Hereford, 2004

4. Results and Recommendations, Page 22

“This increase in TDS concentration [between SW-2 and SW-3] is likely both natural and somewhat exacerbated by agricultural irrigation use through longer contact times between the water and soils and alluvium derived from marine Tropic Shale and the Dakota formations. However, given the limited amount

of water available for irrigation and the small amount of overall irrigated acreage in the area, any agricultural irrigation return flow contributions to the increased TDS concentrations are likely a relatively small percentage of the TDS loading to Kanab Creek.

The statement is not supported by the irrigated acreage, alluvial sediments, and stream conditions (gaining/losing) in the Alton area. Additional data such as groundwater levels in the Holocene alluvium, nutrient data, and piper diagrams of specific cations and anions would be helpful to support this statement. Additionally, data has not been provided to suggest the large increase in TDS concentration between SW-3- and SW-2 is not due to the contribution of Robinson Creek and/or Simpson Hollow.

5. Protection of Downstream and Existing Users, Page 25

“On a larger scale, upper and lower Kanab Creek watersheds are not connected as a continuous water body except under flood low conditions.”

While we agree that there is not continuous or live stream flow between the upper and lower Kanab Creek watersheds during low-flow periods, no data have been provided to suggest that increased salt loading in the upper watershed will not negatively affect water quality in the lower watershed. The report should address whether degrading non-irrigation period water quality criteria to 1,700 mg/L, and irrigation period water quality to 1,900 mg/L, will negatively impact the lower watershed. For example, is there assimilative capacity in Kanab Creek for additional salts based on 1,700 mg/L or 1,900 mg/L discharges from Coal Hollow detention basins?

6. Assessment Unit Split, Page 25

The report’s reasoning to split the “Kanab Creek – 1” Assessment Unit (AU) into two separate units is based on a man-made diversion, and subsequent change in hydrology, immediately above the town of Kanab. The flow and water quality data from the Kanab Creek above State Line station should be introduced and documented to support the recommendation.

The recommendation to split the Kanab Creek-1 AU appears arbitrary since the data and the discussion in the report suggests splitting “Kanab Creek -2” AU into two *de-facto* AUs. The report is unclear as to whether additional salt loading in the upper watershed, due to degraded water quality limits, potentially impacts the report’s recommendation to split Kanab Creek-1 AU into two units. Further discussion addressing the water quality relationship between the upper and lower watersheds is recommended.