

## **United States Department of the Interior**

NATIONAL PARK SERVICE Zion National Park Springdale, UT 84767



IN REPLY REFER TO: N3617

July 1, 2014

Mr. Jim Harris Water Quality Monitoring Section Manager Utah Division of Water Quality PO Box 144870 Salt Lake City, UT 84114-4870

Jim,

We have reviewed the Utah Division of Water Quality 2014 Integrated Report on the status of water quality, and offer some comments and observations on the listings that pertain to Zion National Park.

The North Fork of the Virgin River as assessed at four sites in close proximity upstream of the park (assessment unit ID UT15010008-013) is not supporting the protected uses for E. coli. Our data supports this conclusion and we also support the continued efforts on the part of UDWQ to implement a project to correct this problem. One of the sites (4951265) is also listed for aluminum. We believe that this is in error caused by the failure to link field and laboratory data for the sample date 7/24/2008. The National Park Service collects field parameters and water quality samples at NPS sampling locations, and then submits the water quality samples to the state of Utah for laboratory analysis. Field data are submitted separately, and in some cases, laboratory samples have not been correctly paired with field data. When the field pH of 8.38 was not entered into the database for the sample on that date, the assessment screening incorrectly applied the chronic standard for aluminum when the acute standard should have been applied for waters with a pH greater than 7.0. With the correct pH and standard applied there is no exceedence. The applicable datasheet with a field pH of 8.38 on 7/24/2008 is attached.

We were unaware of a temperature problem at this site 4951265 prior to this listing, and look forward to working with the UDWQ staff to evaluate it. Runoff from the irrigated fields upstream is probably a contributing factor, so there may be an improvement concurrent with improving the irrigation system on those fields.

The North Fork of the Virgin is also listed for E. coli in the reach downstream of Deep Creek (assessment unit UT15010008-015) based on data from site number 4951199 at the Temple of Sinawava. This may be in error depending on how the analysis was conducted. Our data for this site from 2009 through 2013 shows a geometric mean of 35.8 MPN/100 ml for 57 samples. This is well below the 2A chronic standard. We found that 12 of the 57 individual samples, or 12.3% exceeded the chronic standard. E. coli levels at this site are probably elevated by the downstream

persistence of contamination from the pastures upstream of the park, and from water play engaged in by visitors in the more immediate vicinity.

The elevated pH on North Creek (assessment unit UT15010008-014) has been noticeable in our data following the Kolob Fire that occurred in 2007. We expected some recovery as the nutrient flush from the fire progressed through the system and algal growth subsided. Our field observations are that while the algal growth has indeed diminished, we still see some summer samples with a pH exceeding the 9.0 threshold. Our data probably captures the daily peak in pH because samples are usually collected around mid-day when photosynthesis is at its peak.

Thank you for your continued diligence in protecting the waters of Utah. Please contact our hydrologist Dave Sharrow at 970-240-5431 with any questions regarding this matter.

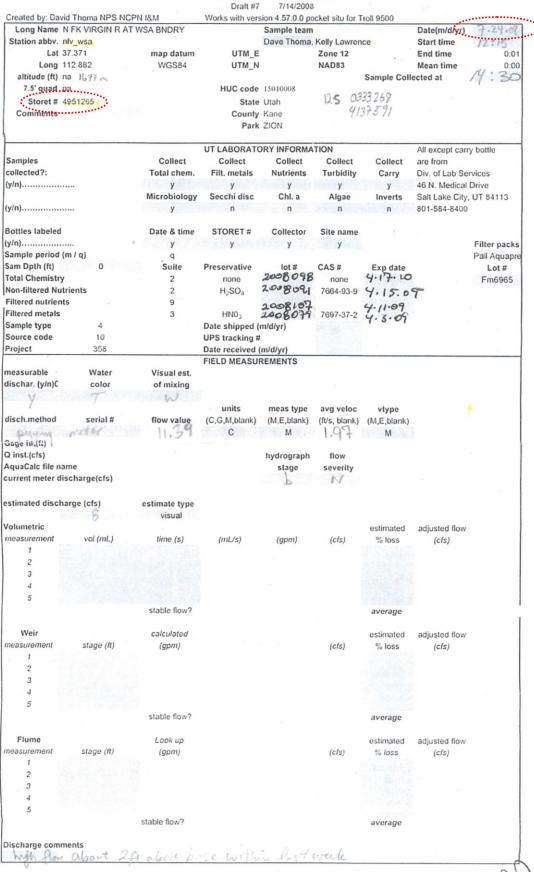
Sincerely,

Cindy Hurch

Cindy J. Purcell Acting Superintendent

enclosure (field data sheet for 7/24/2008)

cc: Rebecca Weissinger, NCPN hydrologist, Moab, UT



NCPN I&M WATER QUALITY FIELD FORM

1

