



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

Southeast Utah Group

Arches and Canyonlands National Parks

Hovenweep and Natural Bridges National Monuments

2282 S. West Resource Boulevard

Moab, Utah 84532-3298

N3617 (SEUG-RSS)

July 11, 2014

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

Dear Mr. Harris,

Thank you for the opportunity to review and comment on the draft 2014 Integrated Report (2014 IR) on the condition of rivers, streams, lakes, and wetlands in the State of Utah. Our comments pertain to waters located in Arches National Park, Canyonlands National Park, and Natural Bridges National Monument. The data that were used by the Utah Division of Water Quality (UDWQ) for assessing the condition of these waters were collected by National Park Service Southeast Utah Group (NPS SEUG) staff, most recently in cooperation with the NPS Northern Colorado Plateau Network (NCPN) of the NPS Inventory & Monitoring Program. Specific comments follow.

1. In Chapter 5 of the draft 2014 IR, UDWQ proposes to include five sites in Arches, Canyonlands, and Natural Bridges on the 303(d) list of impaired waters (Table 1). All of these sites are associated with small, groundwater-fed systems that occur in dry wash settings. In all cases, the extent of perennial surface water is less than one mile in length, and surface water often is stagnant for much of the year. Their limited spatial extents, isolated hydrologic settings, and exposure to environmental extremes naturally result in water quality conditions that are highly variable and not reasonably assessed on the basis of water quality standards designed for flowing streams and rivers. In particular, evaporation of groundwater-fed pools lacking surface water inputs would be expected to naturally elevate total dissolved solids (TDS) and dissolved metal concentrations, as well as naturally increase water temperatures and decrease dissolved oxygen concentrations. After considering these and other factors, in 2010 NPS SEUG began to shift the emphasis of its monitoring efforts for small spring-fed systems from water quality to spring flow. We ask that UDWQ consider removing these sites from the 303(d) list in the final 2014

IR. Further information about these sites can be found in several NPS reports^{1,2,3} that are available online⁴.

Table 1. List of five groundwater-fed sites that are proposed for inclusion on the 303(d) list of impaired waters.

Park unit	Assessment unit ID	Assessment unit description	Site ID	Site name	Basis for proposed listing (parameter)
Arches	UT14030005-007	Salt Wash	5995220	SALT WASH AT WOLFE RANCH RD XING SW-3	TDS
Canyonlands	UT14030005-016	Salt Creek-Canyonlands	5995160	SALT CREEK NR PEEKABOO SPRING SC-12	Cd
Canyonlands	UT14030005-016	Salt Creek-Canyonlands	5995120	LITTLE SPRING CANYON CREEK LS2	Se
Arches	UT14030005-018	Courthouse Wash	5995245	UPPER COURTHOUSE WASH @ NPS BNDY	As, DO
Natural Bridges	UT14070001-004	White Canyon	5995310	ARMSTRONG CANYON CK AT KACHINA NATURAL BRIDGE KB-1	DO

- In Chapter 2 (p. 21), the draft 2014 IR indicates that “For each parameter, if ≥ 10 samples are available for a monitoring location within the most recent 5-years, then the AU is considered to be supporting its designated use(s) if $< 10\%$ of the samples exceed the numeric criterion. . . . In circumstances where insufficient observations exist in the 5 year dataset to make a determination, 10 years of data is evaluated following the same assessment rule.” Based on assessment datasets provided by the UDWQ, this rule does not appear to have been correctly applied for one proposed listing parameter at two sites in Canyonlands (Table 2). In both cases, exceedance values for the parameter are less than 10 percent. Based on the assessment rule, the assessment units would be considered to be meeting their designated uses and therefore should not be included on the 303(d) list.

Table 2. Two sites in Canyonlands National Park for which the proposed 303(d) listing parameter has an exceedance rate of less than 10 percent.

Assessment unit ID	Assessment unit description	Site ID	Site name	Basis for proposed listing (parameter)	No. of exceedances	No. of samples	Exceedance rate (pct)
UT14030005-016	Salt Creek-Canyonlands	5995160	SALT CREEK NR PEEKABOO SPRING SC-12	Cd	1	14	7.1
UT14030005-003	Colorado River-3	4952400	COLORADO R AB CNFL / GREEN R	Fe	1	61	1.6

- In three cases (Table 3), UDWQ appears to have based 303(d) assessments of the aluminum (Al) standard on 10 years of data even though sufficient data are available for the recent 5-year period. In addition, the Al standard is pH-dependent. Although NPS

¹ Thoma, D., et al. 2008. Water quality monitoring in the Northern Colorado Plateau Network, 2005–2007. Natural Resource Technical Report NPS/NCPN/NRTR—2008/117. National Park Service, Fort Collins, CO.

² Van Grinsven, M., et al. 2010. Water quality in the Northern Colorado Plateau Network, 2006–2009. Natural Resource Technical Report NPS/NCPN/NRTR—2010/358. National Park Service, Fort Collins, CO.

³ Hackbarth, C., and R. Weissinger. 2013. Water quality in the Northern Colorado Plateau Network, water years 2010–2012. Natural Resource Technical Report NPS/NCPN/NRTR—2013/831. National Park Service, Fort Collins, CO.

⁴ <http://science.nature.nps.gov/im/units/ncpn/publications.cfm?tab=0&MonitorWaterQuality=open#MonitorWaterQuality>

does not regularly collect pH at these sites, a review of existing data indicates that pH within the Green and Colorado Rivers is regularly above 7.00. Accordingly, the AI standard should be assessed on the basis of the acute 750 µg/L criterion rather than the chronic 87 µg/L criterion that appears to have been used by UDWQ in preparing the draft 2014 IR. For the chronic criterion, the 5-year exceedance rate was less than 10 percent for all three sites, and no exceedances of the acute criterion occurred at any of the listed sites in the last 10 years. Therefore these sites should not be included on the 303(d) list on the basis of the AI standard.

Table 3. Three sites in Canyonlands National Park for which the proposed 303(d) listing appears to be based on an incorrect interpretation of the AI standard.

Assessment unit ID	Assessment unit description	Site ID	Site name	Basis for proposed listing (parameter)	5-yr no. of exceedances for chronic criterion	5-yr no. of samples	5-yr exceedance rate (pct)
UT14030005-003	Colorado River-3	4952400	COLORADO R AB CNFL / GREEN R	AI	3	33	9.1
UT14060008-002	Green River-5	4930010	GREEN R AB CNFL / COLORADO R	AI	3	35	8.6
UT14060008-002	Green River-5	4930150	GREEN R AT MINERAL BOTTOMS	AI	1	11	9.1

We recognize and appreciate the efforts undertaken by UDWQ and its cooperators to document and protect the quality of waters in the state. We also appreciate the long history of UDWQ cooperation and analytical support for NPS water monitoring. If you have an questions regarding these comments, please contact Dr. Mark Miller, Chief of Resource Stewardship and Science, at 435-719-2130 or memiller@nps.gov.

Sincerely,



Kate Cannon
Superintendent

cc: Jim Dougan, Superintendent, Natural Bridges National Monument
Rebecca Weissinger, Hydrologist, NPS Northern Colorado Plateau Network
Pete Penoyer, Hydrologist, NPS Water Resources Division