



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
www.epa.gov/region08

AUG - 9 2016

Ref: 8EPR-EP

James Harris, Monitoring and Reporting Manager
Utah Division of Water Quality
Department of Environmental Quality
195 North 1950 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870

Re: EPA Comments to Utah Division of Water Quality on its Public Notice Draft of the Utah
2016 Integrated Report

Dear Mr. Harris:

The Environmental Protection Agency Region 8 (EPA) has reviewed Utah's Draft 2016 Integrated Report and appreciates the opportunity to provide comments. We commend the Department of Environmental Quality (DEQ) for completing this draft Clean Water Act (CWA) Section 305(b) Water Quality Report to Congress and the CWA Section 303(d) list of impaired or threatened waters. Our detailed comments are provided in the enclosure to this letter.

We appreciate your work to produce this document and we would like to acknowledge Utah's improvements in both its assessment methodology and assessment processes. If you have questions about these comments, the most knowledgeable person on my staff is Karl Hermann and he may be reached at (303) 312-6628.

Sincerely,

A handwritten signature in blue ink that reads "Sandra Spence".

Sandra Spence
Chief, Water Quality Unit
Ecosystems Protection Program

cc: Erica Gaddis, Assistant Director
Utah Division of Water Quality

Karl Hermann, Monitoring Coordinator
EPA Region 8 Water Quality Unit

REGION 8 COMMENTS ON UTAH DEQ'S DRAFT 2016 INTEGRATED REPORT

I. 303(d) Listing for Provo Bay

In 2016, the previous Utah Lake Assessment Unit (UT16020201-004_00) was sub-divided into two new assessment units, Utah Lake other than Provo Bay (UT16020201-004_01) and Provo Bay (UT16020201-004_02).

Past 303(d) listings (PCBs in Fish Tissue, Total Dissolved Solids, and Total Phosphorus) for the combined waterbody (UT16020201-004_00) were applied only to the new Utah Lake assessment unit (UT16020201-004_01) and not to the new Provo Bay assessment unit (UT16020201-004_02). In addition, without providing any explanation, UDWQ excluded Provo Bay from the 303(d) listing for harmful algal blooms (HABs) that was applied to the rest of Utah Lake.

Comment: The new Provo Bay assessment unit (UT16020201-004_02) should also be listed for the same parameters as Utah Lake unless rationales for delisting or non-listing are provided. There are no de-listing justifications provided for previously existing causes of impairment in Provo Bay. Therefore, the listings previously assigned to UT16020201-004_00 should also be assigned to the new Provo Bay assessment unit (UT16020201-004_02).

The draft Integrated Report does not include a rationale for excluding Provo Bay from the HABs listing. Since the Utah Lake HABs assessment indicates impairment of the recreational use throughout the lake, the new Provo Bay assessment unit (UT16020201-004_02) should be listed as impaired for HABs or a rationale for its exclusion should be provided.

II. 303(d) Listing for Farmington Bay

Farmington Bay has federally approved designated uses that must be protected, and an approved narrative water quality standard that describes circumstances under which those uses would be considered threatened or impaired. UDEQ has developed an assessment method with which HABs data may be assessed against the narrative water quality standard to determine if designated uses are protected. This section provides a summary of the designated uses, narrative standard, HABs data that are available, and HABs assessment method that may be used for Farmington Bay.

Designated Uses for Farmington Bay

The Farmington Bay portion of Great Salt Lake is categorized as Class 5D in the Utah Use Designations (UAC R317-2-6.5.d). The use designations for Class 5D are: "Beneficial Uses -- Protected for infrequent primary and secondary contact recreation, waterfowl, shore birds and other water-oriented wildlife including their necessary food chain". This classification is applied to: "All open waters at or below approximately 4,208-foot elevation east of Antelope Island and south of the Antelope Island Causeway, excluding salt evaporation ponds," which includes Farmington Bay.

Applicable Narrative Water Quality Standard

The Utah narrative water quality standard (UAC R317-2-7.2) applicable to the Farmington Bay portion of Great Salt Lake states:

“It shall be unlawful, and a violation of these rules, for any person to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste; or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures; or determined by biological assessments in Subsection R317-2-7.3.”

(Emphasis added)

The ongoing recreational use of Farmington Bay is documented in Chapter 4 (p. 7). As the recreational use of Farmington Bay provides the opportunity for human exposure to HABs and algal toxins if they are present, HABs data for Farmington Bay must be evaluated to determine the degree of human health risk posed by recreation in this water. Additionally, the presence of HABs and their associated algal toxins at levels that pose an unacceptable risk to human health would constitute nonattainment of this narrative water quality standard that makes discharge of any substance that may cause conditions which produce undesirable human health effects unlawful.

HABs Assessment Method

UDEQ’s HABs assessment method (see Chapter 2) addresses both drinking water and recreational use attainment. Hence, the assessment method may be applied to evaluate attainment of the recreational use of Class 5D waters, including “infrequent primary and secondary contact recreation”. For the 2016 listing cycle, the State updated the HABs assessment method to provide more information on the indicators used to identify lakes and reservoirs impaired for HABs including cyanobacteria cell counts and supplemental indicators such as cyanotoxins, chlorophyll-a, phycocyanin, and harmful algal bloom–related beach closures.

The HABs assessment methodology establishes a number of thresholds with which to assess a water body for impairment of the narrative standard. It states that “the beneficial use is not supported if cyanobacteria cell counts exceed 100,000 cells/ml for more than one sampling event or other narrative indicators (e.g. phycocyanin, chlorophyll *a*, harmful algal bloom–related beach closure) suggest recreational uses are not being attained” (Chapter 2, page 60). The methodology also indicates that for chlorophyll *a*, concentrations greater than 50 $\mu\text{g/l}$ pose a high human health risk.

HABs Data for Farmington Bay

For the 2016 IR, UDEQ assembled and reviewed the available HABs data for Farmington Bay. These data include cyanobacteria cell counts, algal toxin values (Nodularin), and chlorophyll *a*

levels (see Chapter 6). The data spanned 2012 to 2014 and passed the credible data review the State applies to determine which data will be used in assessments. Therefore, the available HABs data are suitable for use in assessing attainment of the narrative water quality standard in Farmington Bay for the recreation use and must be assembled and evaluated per 40 C.F.R. § 130.7(b)(v).

The draft IR (Chapter 6) includes an analysis of the available HABs data for Farmington Bay, applying the thresholds and exceedance frequencies established in the State’s assessment methodology. On page 15, a summary table shows numerous exceedances of the thresholds established in the HABs assessment methodology:

Parameter	Cyanobacteria	Nodularin	Chlorophyll <i>a</i>
Threshold	100,000 cells/mL	20 µg/L	50 µg/L
Number of samples	68	105	159
Exceedances	36	27	94
Percent exceedance	53	26	59

These data indicate that the recreational use in Farmington Bay is not being attained and provide convincing support for a finding of impairment caused by HABs. Despite this, Farmington Bay is excluded from the draft 303(d) list.

Comment: EPA’s regulations at 40 C.F.R. § 130.7(b)(v) require states to “assemble and evaluate all existing and readily available water quality-related data and information” when developing their 303(d) listings. Chapter 6 of the draft IR contains a variety of water quality-related data and information pertaining to HABs in Farmington Bay. Accordingly, this data must be evaluated, and should be assessed against Utah’s narrative water quality standard using the assessment method provided in Chapter 2 to determine if HABs in Farmington Bay pose a risk for recreation. Based on the data analysis provided by UDEQ in Chapter 6, Farmington Bay’s recreational use should be listed as impaired for HABs.

III. New 303(d) listing of Utah Lake as Impaired for Harmful Algal Blooms (HABs)

UDWQ analyzed the existing and readily available HABS data for Utah Lake using the State’s HABS assessment methodology (see above for details). The available data indicate the waterbody is impaired based on five exceedances of the cyanobacterial cell count threshold of 100,000 µg/L. See the table below for a summary of all exceedances. In addition, results from the supplemental indicators (i.e., chlorophyll-a; recreational use advisories; dog deaths) provide additional information

suggesting that the recreational use in Utah Lake is not being attained.

Events of July 2016 also support the State’s decision to list Utah Lake as impaired due to HABs. On July 15th, the State closed Utah Lake for recreation due to multiple exceedances of the State’s cyanobacteria cell count threshold. Data collected during the bloom showed multiple samples exceeding the cyanobacteria cell count of 100,000 cells/mL (even exceeding 1 million cells/mL).

Parameter	Cyanobacteria	Nodularin	Chlorophyll <i>a</i>
Threshold	100,000 cells/mL	20 µg/L	50 µg/L
Number of samples	18	12	173
Exceedances	5	1	33
Percent exceedance	28	8.3	19

Comment: Based on a comparison to the HABS methodology and information from the multiple lines of evidence considered in the state’s assessment, EPA agrees that Utah Lake is impaired.

IV. General Errors Noted In Draft Document

In Chapter 6, on pages 5, 6, 14, and 15, information on Figure 4 and Table 2 include ‘WHO and EPA’ in referring to indicators and threshold values. EPA has not yet finalized their guidance for HABS threshold values and indicators. EPA requests that the State change this to refer only to the World Health Organization (WHO).