

Update: Recreational water quality monitoring programs

**WQ & Health Advisory Panel
December 2022 Meeting**

Waterborne pathogens: Advisory guidance

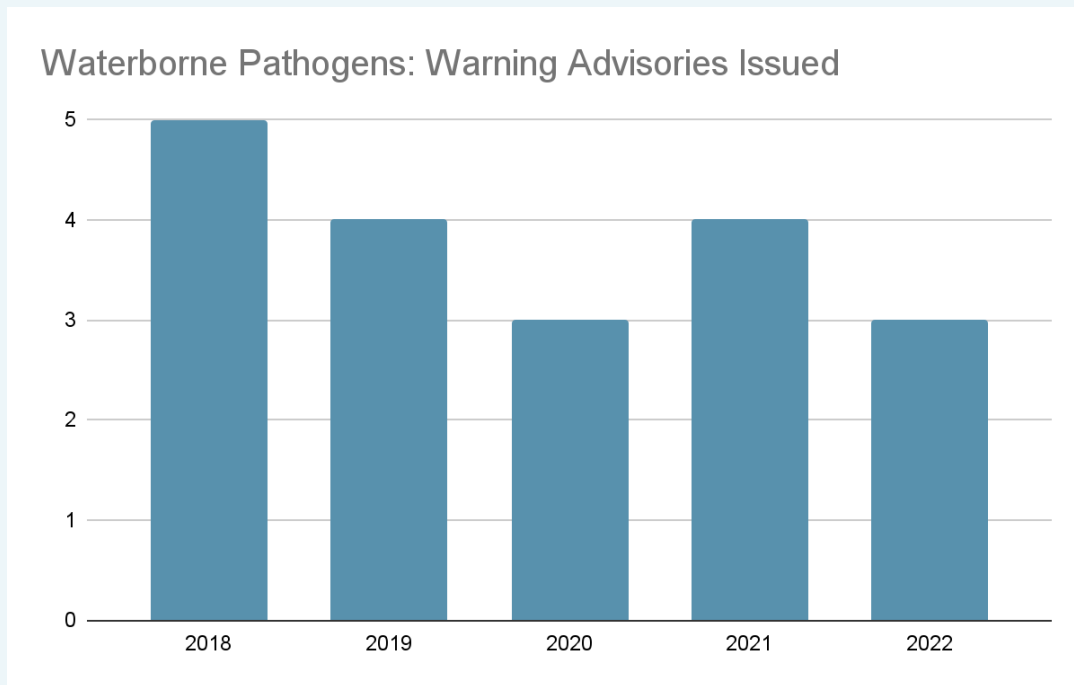
Table 3: UDOH/UDWQ Recommended Waterborne Pathogen Advisory Thresholds

Health Watch		Warning Advisory
<p>This is not a formal advisory level. Rather, these are indicators that fecal contamination and/or waterborne pathogens may exist or may become more severe. Increased monitoring and surveillance are strongly recommended. Indicators may include:</p> <ul style="list-style-type: none"> • Reports of animal or human illness • Reports of observed fecal contamination sources such as restroom or septic leakage, sewer overflow, livestock or waterfowl fecal matter, and others • Levels of <i>E. coli</i> above 235 cfu/100mL but no formal advisory <p>Consider cautioning users of the waterbody depending on specifics of the event and waterbody.</p>	<p><i>E. coli</i> (cfu/100mL)¹</p>	<p>235</p>
	<p>Health Risks¹</p>	<p>Nausea, vomiting, diarrhea, eye, skin, or respiratory infection, and other short term health effects</p>
	<p>Recommended Actions</p>	<p>Issue WARNING advisory</p>
		<p>Post WARNING signs</p> <p>Sampling recommended at least weekly</p>

Guidance sources

¹ U.S. EPA 2012. EPA's Recreational Water Quality Criteria. U.S. Environmental Protection Agency: Washington, DC. OFFICE OF WATER 820-F-12-058.

Waterborne pathogens



New waterbodies in 2022

- Burt Spring Pond
- East Canyon Reservoir (Big Rock Campground area)
- Willis Creek



Photo: East Canyon

Waterborne pathogens

- No guidance modifications anticipated in 2023
- Still under development: EPA Recreational Water Quality Criteria for Coliphage
- Technology to explore: qPCR for rapid *E. coli* enumeration



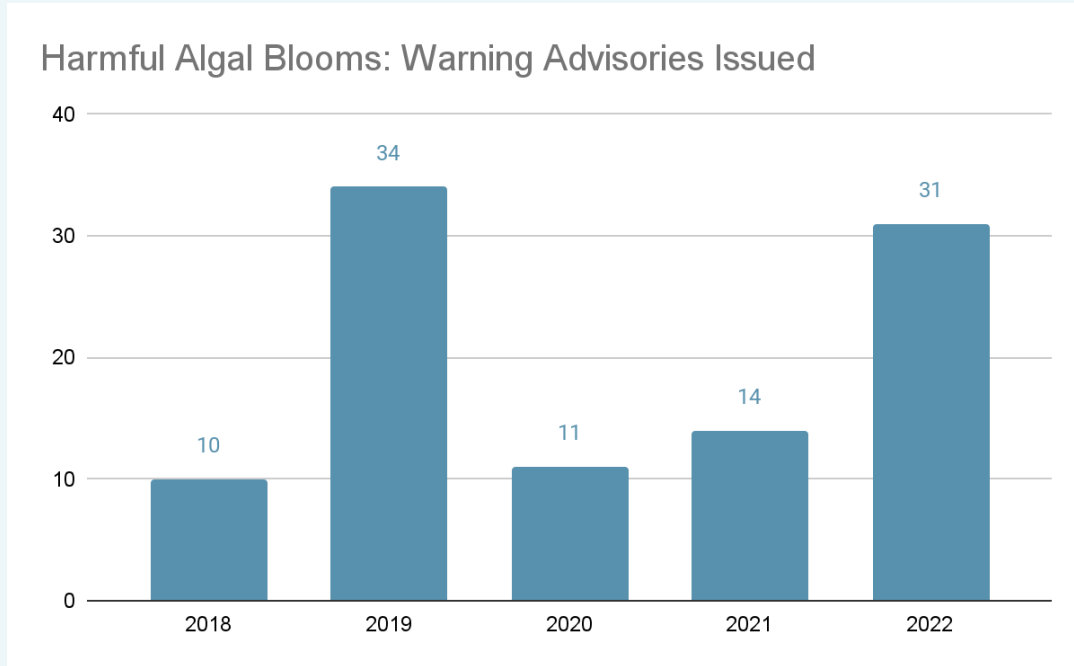
Photo: Blackridge Pond

Harmful algal blooms: Guidance

Table 1: UDOH/UDEQ Recommended HAB Advisory Thresholds

Observed / Potential Bloom		Warning Advisory	Danger Advisory
<p>This is not a formal advisory level. Rather, these are indicators that a bloom may exist or may become more severe. Increased monitoring and surveillance are strongly recommended. Indicators may include:</p> <ul style="list-style-type: none"> • Visual reports • Reports of animal or human illness • Detection of cyanotoxins or toxigenic cyanobacterial cell density below thresholds • Detectable levels should be defined using appropriate QA/QC procedures <p>Consider cautioning users of the waterbody depending on specifics of the event and waterbody.</p>	<p>Toxigenic Cyanobacteria Cell Density (cells/mL)^{1, 2, 3}</p>	<p>100,000^A</p>	<p>See footnote B</p>
	<p>Microcystins (µg/L)^{1, 2, 3}</p>	<p>8</p>	<p>2,000</p>
	<p>Cylindrospermopsin (µg/L)³</p>	<p>15</p>	<p>See footnote B</p>
	<p>Anatoxin-a (µg/L)^{3, 4, 5}</p>	<p>15</p>	<p>90</p>
	<p>Health Risks^{1, 2, 3}</p>	<p>Potential for long-term illness Short-term effects (e.g., skin and eye irritation, nausea, vomiting, diarrhea)</p>	<p>Potential for acute poisoning Potential for long-term illness Short-term effects (e.g., skin and eye irritation, nausea, vomiting, diarrhea)</p>
	<p>Recommended Actions</p>	<p>Issue WARNING advisory to avoid primary contact recreation</p> <p>Post WARNING signs</p> <p>Sampling recommended at least weekly</p>	<p>Issue DANGER advisory to stay away from the waterbody</p> <p>Post DANGER signs</p> <p>Consider CLOSURE</p> <p>Sampling recommended at least weekly</p>

Harmful algal blooms



New waterbodies in 2022

- Baker Reservoir
- Bountiful Pond
- Clinton Pond
- Green River
- Highland Glen Pond
- Willard Bay
- Willard Pond
- Kolob Reservoir
- Steinaker Reservoir
- Calf Creek



Photo: Highland Glen Pond

Harmful algal blooms

- Adopt EPA microcystin and cylindrospermopsin standards into rule
 - Released in 2019
 - Current part of guidance
 - 8 ppb microcystins
 - 15 ppb cylindrospermopsin

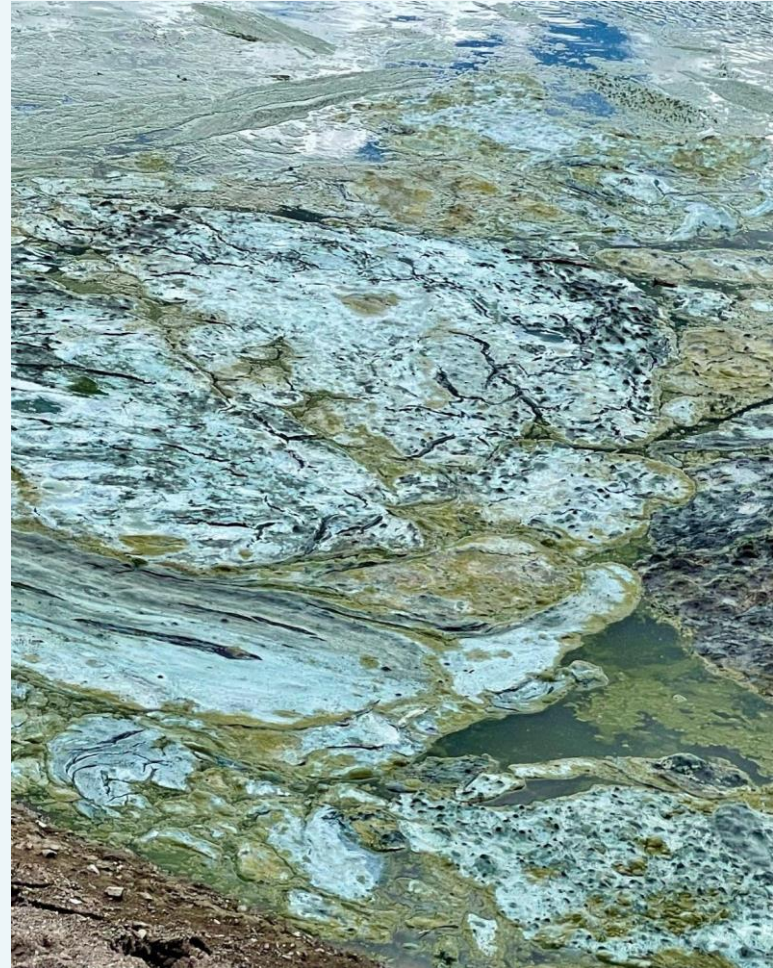


Photo: Panguitch Lake

Harmful algal blooms

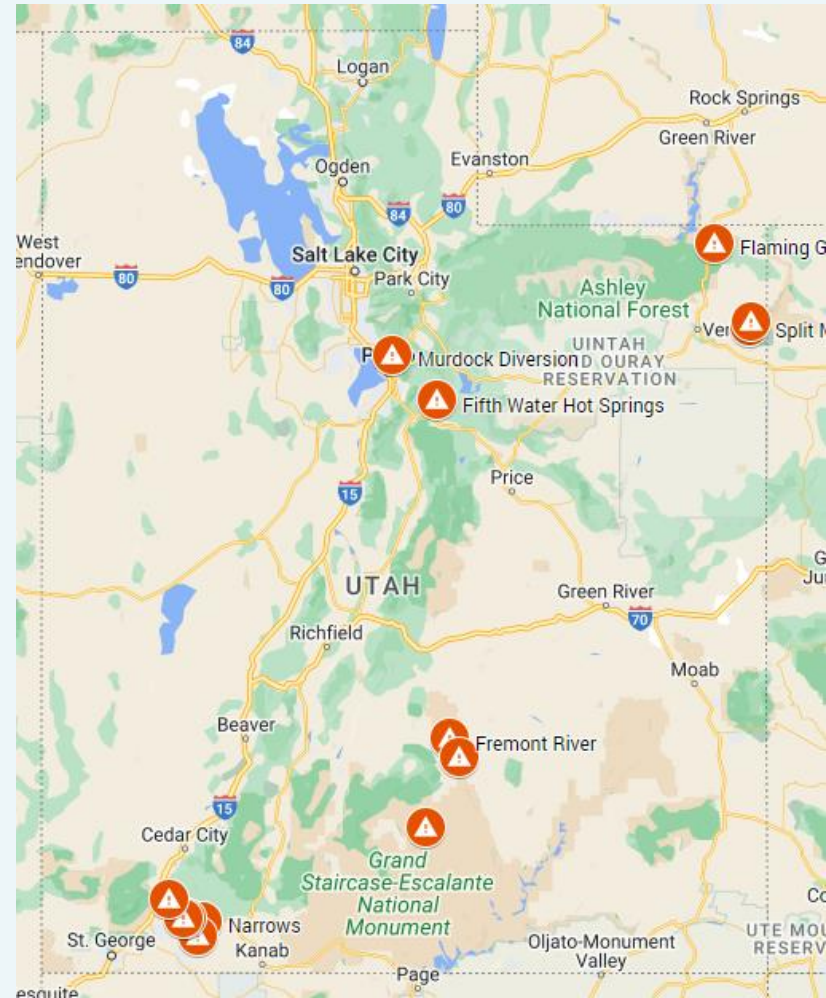
- Addition of guidance for saxitoxin
 - Trace amounts detected in East Canyon, Pinecreek, & Deer Creek in 2022
 - Guideline in other states
 - Upcoming lit review



Photo: Deer Creek

Harmful algal blooms

- Custom monitoring methodology for benthic blooms
 - Identified in 6 new recreational rivers in 2022
 - Planktonic sampling methods don't work
 - Collaborating with EPA on sampling study



Harmful algal blooms

- Animal specific guidance
 - Several states have developed a unique value for pets/livestock
 - Would trigger alert shared with UDAF/municipality
 - Would this be helpful?



Contact

hbonner@utah.gov

385-258-6057