

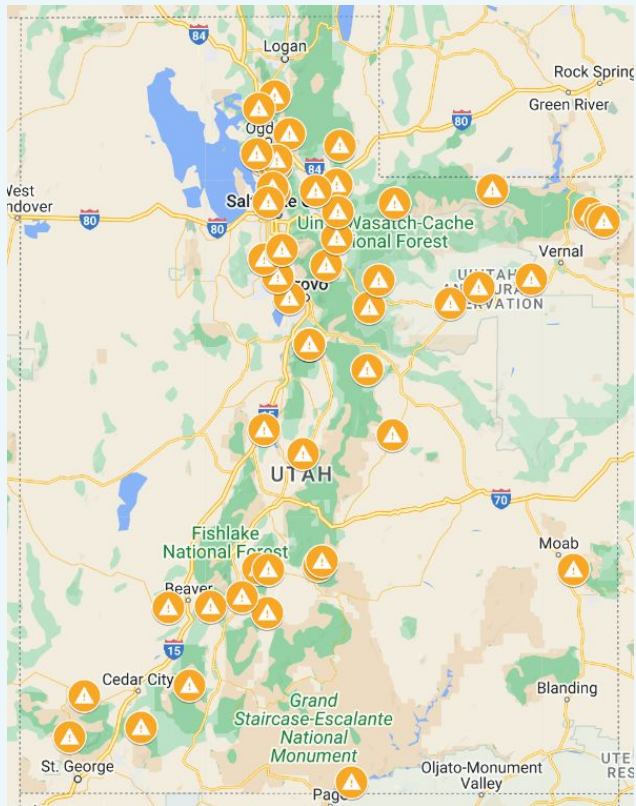
Cyanobacteria in Utah: coordinating environmental and health science

Dr. Hannah Bonner | CyanoSymposium | 18 March 2026

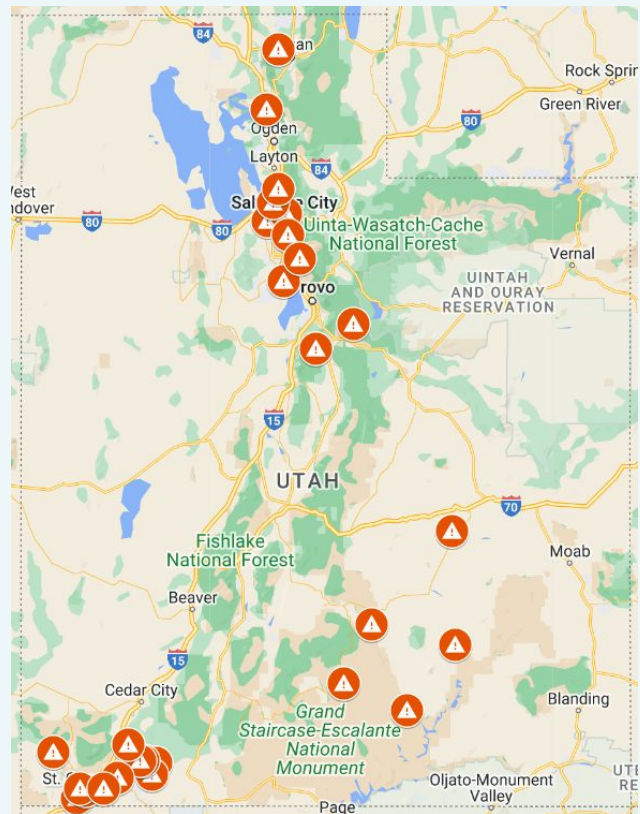




Planktonic cyanobacteria



Benthic cyanobacteria





Planktonic cyanobacteria



Looks good!



Health Watch



Warning Advisory



Danger Advisory

Health Watch		Warning Advisory	Danger Advisory
<p>This is not a formal advisory level. Rather, a HEALTH WATCH indicates evidence that a bloom may exist or become more severe. Increased monitoring and surveillance are strongly recommended.</p> <p>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 <p>Consider cautioning users depending on specifics of the event and waterbody. UDWQ may share a HEALTH WATCH on habs.utah.gov immediately after receiving data on a suspected or confirmed HAB</p>	Toxigenic cyanobacteria cell density (cells/mL) ^{1,2,3}	100,000 ^A	See footnote B
	Microcystins (µg/L) ^{1,2,3}	8	2,000
	Cylindrospermopsin (µg/L) ³	15	See footnote B
	Anatoxin-a (µg/L) ^{3,4,5}	15	90
	Saxitoxins (µg/L) ^{3,4,6}	8	75
Health risks ^{1,2,3}	Potential for long-term illness	Potential for acute poisoning	Potential for long-term illness
Recommended actions	Short-term effects (e.g., skin and eye irritation, nausea, vomiting, diarrhea)	Short-term effects (e.g., skin and eye irritation, nausea, vomiting, diarrhea)	Short-term effects (e.g., skin and eye irritation, nausea, vomiting, diarrhea)
	Issue WARNING advisory to avoid primary contact recreation	Issue DANGER advisory to avoid primary contact recreation	Issue DANGER advisory to avoid primary contact recreation
	Post WARNING signs	Post DANGER signs	Post DANGER signs
	Sampling recommended at least weekly	Consider CLOSURE	Consider CLOSURE
		Sampling recommended at least weekly	Sampling recommended at least weekly



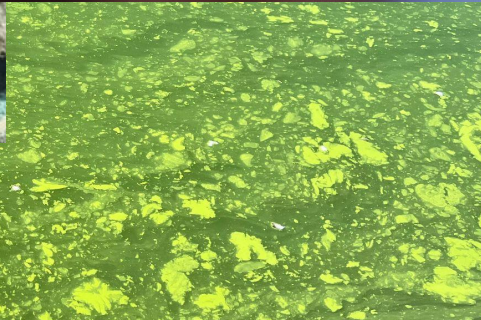
Benthic cyanobacteria

✓ Looks good!

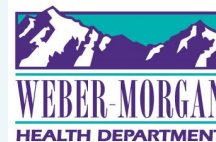
! Check first

! Warning Advisory

	Post Educational Signs	Issue Warning Advisory
Benthic cyanobacteria mats	Present ^A	Present ^A
High recreational risk ^{1,2}	Not present	Present ^B
Benthic mat coverage (%) ^{1,2}	< 20%	≥ 20% ^{C,D}
Recommended actions	<p>This is not a formal advisory level, but rather an education-focused response to anticipated recreational risk</p> <p>Post educational signage</p> <p>Follow-up monitoring is highly recommended</p>	<p>Issue WARNING advisory. Recreators should avoid activities that could lead to ingestion of mat material</p> <p>Post WARNING advisory signage</p> <p>Follow-up monitoring is highly recommended. Consider toxin testing</p>



Recreational water quality: a team effort



Recreational water quality: a team effort



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habs.utah.gov

Statewide workgroup

Your kids and harmful algae

Your Utah family water adventure guide



Utah Department of Environmental Quality WATER QUALITY

Your dog and harmful algae

Your Utah canine water adventure guide



Utah Department of Health & Human Services

Utah Department of Environmental Quality WATER QUALITY

Understanding Cyanobacteria (Harmful Algal Blooms)

Entendiendo cianobacterias (florecimientos algales peligrosos)


Algae occurs naturally in some water bodies. Occasionally, large accumulations of cyanobacteria can result in harmful algae blooms. These blooms may be harmful to pets and people.

Alga ocurre naturalmente en el agua. Ocasionalmente se junta mucha cianobacteria y se florece el algal. Estas floraciones pueden ser matas para mascotas y personas.

Avoid:

- Appearance of spilled paint, antifreeze, grass clippings
- Surface scum or film
- Discolored or streaking water
- Green globs below the surface

Report a bloom, or learn more at: habs.utah.gov



Check first!

Tenga cuidado!

Harmful algae mats may be in this water

Estas algas pueden tener algas peligrosas

Dogs and children are most at risk. Los niños y perros corren el mayor riesgo



Learn more / Aprenda más HABS.utah.gov

Report a bloom / Reporte un floramiento 1.800.222.1222



Select a Waterbody

WARNING ADVISORY



Deer Creek Reservoir

Waterbody
Deer Creek Reservoir

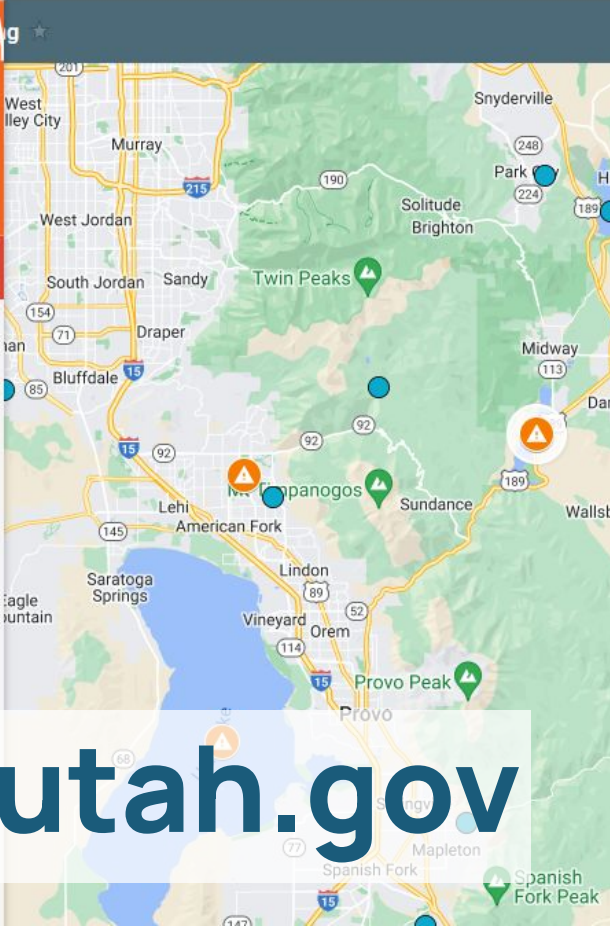
Health advisory
⚠️ A Warning Advisory has been issued for the Rainbow Bay and Island Park areas of Deer Creek Reservoir. A HAB is present. A Health Watch is in effect for the rest of the reservoir

Monitored for
HABS & waterborne pathogens

Local health department
Wasatch County

For more information
<https://highwater.utah.gov/panels/deer-creek-reservoir-hab-monitoring-2022>

Lat
40.11670



HABs.utah.gov

What are the Health Effects of Harmful Algae?

HABs can cause skin irritation, gastrointestinal illnesses, and in some cases permanent organ damage or death. You can be exposed to the harmful effects of cyanobacteria by:



Getting them on your skin while swimming or wading.



Drinking contaminated water.



Inhaling airborne toxins while boating, jet-skiing or water-skiing.

In the event you or your pet comes into contact with a HAB, rinse off with clean, fresh water as soon as possible. Remove yourself from the source of exposure and contact the Utah Poison Control Center (UPCC) at (800) 222-1222. UPCC physicians, pharmacists, and nurses trained in toxicology can answer your questions and advise you on the need for further medical or veterinary treatment.

People or animals who are exposed to cyanotoxins may experience the following symptoms:

101,923 unique users in 2025 (3% of the population!)

#1 visited DEQ page during summer months

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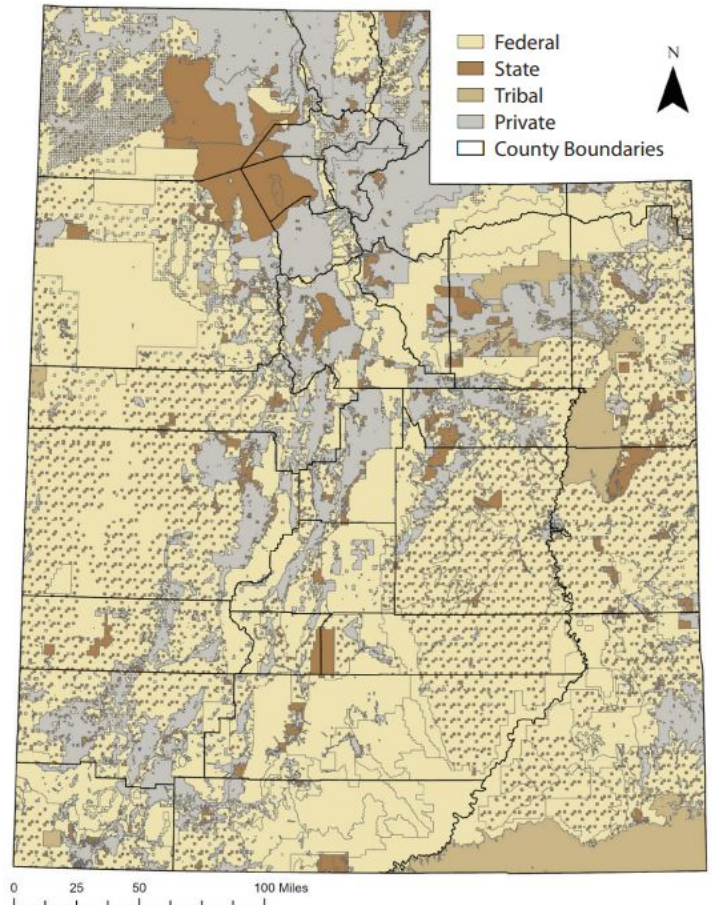
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Land Ownership by Type in Utah, 2024



Sources: Utah Geospatial Resource Center. (2024). Utah Land Ownership

Weber-Morgan Health Department's Post



UPDATE: July 3 2025

Windsurfer Beach at Pineview has been added to the WARNING ADVISORY list for active algal blooms. Please note the warnings to stay in the boat and clean fish thoroughly while keeping you and your pets safe by avoiding swimming, coming into contact with green scum and ingesting the water.

The WARNING ADVISORY issued June 26 for Anderson Cove is still in effect.

You can check this and all other recreational waterbodies in Utah at:
<https://deq.utah.gov/wate.../recreational-water-quality-home>

NOT SAFE:

- do not drink the water
- swimming
- jet/water skiing
- wading
- dogs

BE CAREFUL:

- paddling
- eating fish
- boating OK

Full details HABs.utah.gov

WARNING

Harmful algae in water!
CUIDADO: ¡Hay algas peligrosas en el agua!



62

61 comments 311 shares

Like

Comment

Share

Regional coordination

Caution



Toxic Cyanobacteria in the Virgin River and the streams of Zion National Park

Do not submerge your head in or filter drinking water from still or moving water.

[more >](#)





Our Utah water quality wrapped is here.

Let's dive in.



This is Ember and she loves the water.



**HARMFUL ALGAL BLOOMS
CAN MAKE YOU
AND YOUR PETS
SICK!**

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Call (801) 982- 2235 to report all suspected harmful algae-associated illnesses.



Harmful algae and animal exposure Diagnostic toolkit for veterinarians

This resource provides diagnostic guidance for veterinarians diagnosing and treating animals with harmful algae-associated illnesses.

Provide care as soon as possible since animals can become seriously ill or die suddenly after exposure.

Advise animal owners to keep their animals away from a waterbody if they suspect that there is harmful algae. You cannot tell if a bloom is toxic just by looking at it.



ons, visit HABs.utah.gov.

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and treatment 7

Harmful algae can make your dog sick!

There are 2 types of harmful algae growth in Utah waterbodies



TYPE 2

Harmful algal blooms (HABs)

TYPE 1

Harmful algae mats



Feathery or mucous-like



Thick scum floating on water



Dried mats



Blue-green water



Spilled paint



Grass clippings or fuzzy nodules



Blue-green residue on shore



Harmful algae can be deadly for dogs!



Before visiting a waterbody, check conditions at HABs.utah.gov.



Note that rapid kits or self-tests kits **do not** use methods approved by the EPA and may not accurately detect toxins.

Remember these

ASPCA Animal Poison Control Center*
855-764-7661
Pet Poison Control Helpline**
801-536-4123
*There is often a \$90-100 fee for these calls.

Make a report:
DEQ Environmental Incident Line
801-536-4123
Utah Poison Control Center
800-222-1222

If your dog displays any symptoms, **seek emergency veterinarian care!**



Key practice points:

- Symptoms and signs of cyanotoxin exposure depend on how people are exposed, how long they were exposed, and the types of toxins they were exposed to.
- There is no treatment for illnesses caused by cyanobacterial blooms, but you can help relieve patients' symptoms by providing supportive medical care.
- Provide health education and counseling to patients on risk reduction.

What are cyanobacteria (aka harmful algae)?

Cyanobacteria, also known as harmful algal blooms (HABs), harmful algae mats, or blue-green algae, are microscopic organisms naturally found in reservoirs, lakes, rivers, streams, and wetlands. Cyanobacteria produce **cyanotoxins** which are harmful to people and animals. Toxins can be categorized by the organs they target:

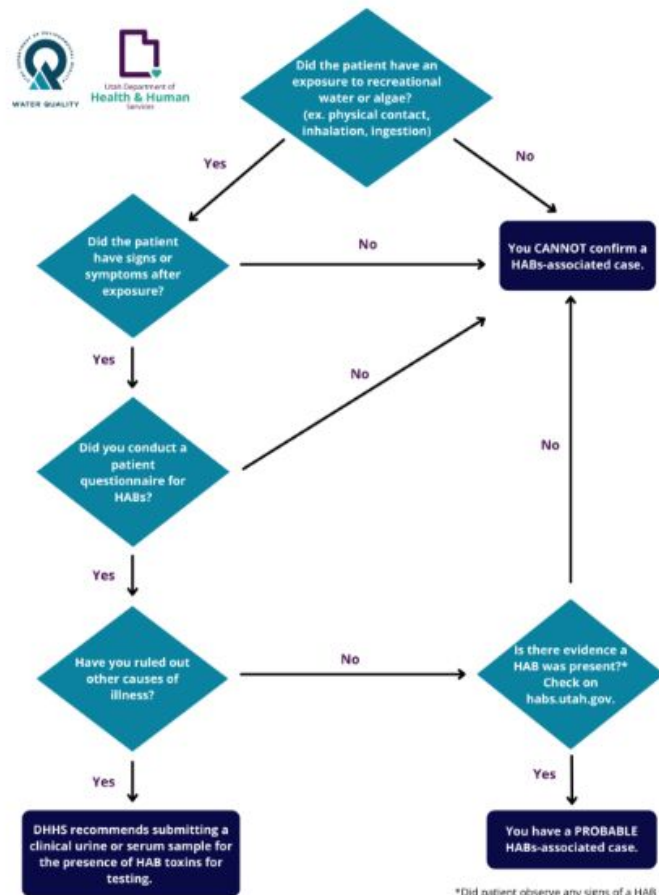
- Hepatotoxins
- Neurotoxins
- Dermatotoxins



Commonly produce two kinds of cyanotoxins:
 • Hepatotoxins that inhibit protein phosphatases
 • Neurotoxins that bind to nicotinic acetylcholine receptors

Harmful algae growth in Utah:

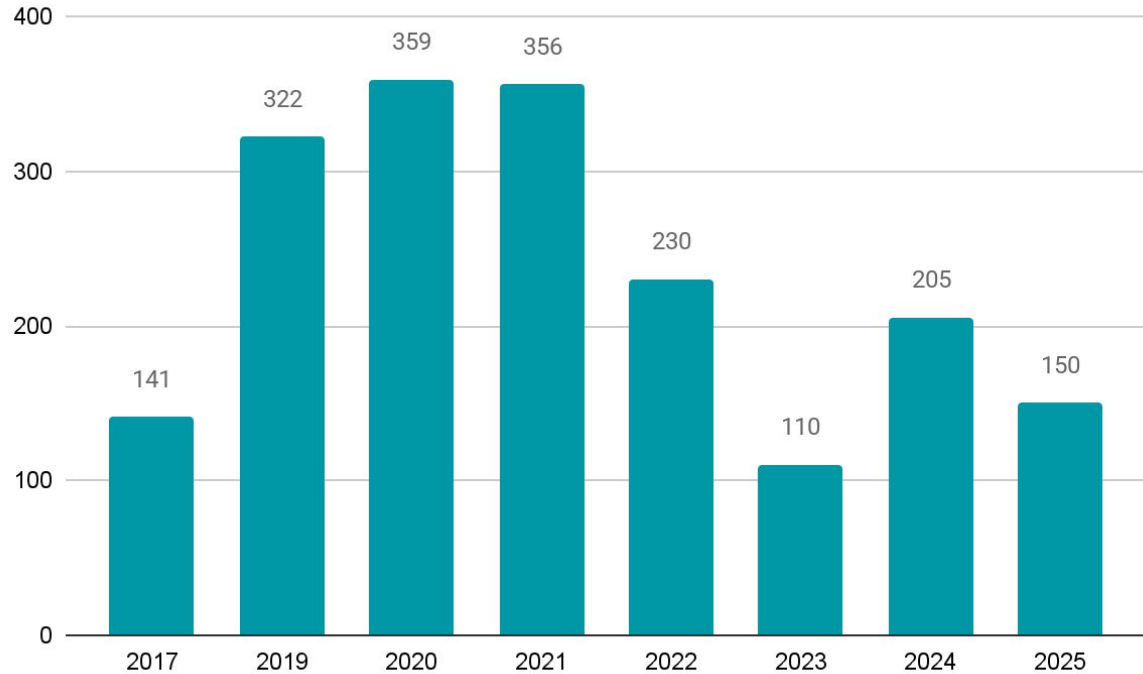
HABs are rapid growths of cyanobacteria that form green or blue-green scum in lakes or reservoirs. The texture of blooms may resemble paint, foam, floating mats, or grass clippings. Harmful algal blooms can produce hepatotoxins. See Appendix B for example images.



*Did patient observe any signs of a HAB such as scum, blue or blue-green water?

UPCC human illness cases

Illness reported
to Utah Poison Control Center



Deer Creek, July-August



Deer Creek, July-August

HAB cell density

- Threshold for advisory: 100,000 cells/mL
- Measured 7/25: **3,371 cells/mL**

Microcystins

- Threshold for advisory: 8 ug/L
- Measured 7/25: **None**

Deer Creek, July-August

Utah Poison Control Center report (*July 29*)

- 29 YOF was kiteboarding on Deer Creek; within 2 hours had swelling in left eye; within 16 hours had chest pain, edema, and trouble swallowing
- 51 YOF was paddleboarding on Deer Creek; she removed algae from her board with her hands; after a few hours she had abdominal pain and sores on her hands

 [Report a Bloom](https://www.reportabloom.com) **(801) 536-4123**

Angler reports harmful algal bloom sighting at Deer Creek

Deer Creek, July-August

HEALTH WATCH

Harmful algae in water!

AVISO: ¡Hay algas peligrosas en el agua!

X = not safe / *No es seguro* **!** = avoid algae / *Evite las algas* **✓** = OK



Drinking the water
Beber el agua



Paddling
Remar



Wading
Caminar en el agua



Dogs
Perros



Swimming
Nadar



Jet/water skiing
Esquí acuático



Eating fish
Comer pescado



Boating
Paseo en barco

LEARN MORE AT:
HABs.utah.gov
Aprende más en



FEELING SICK?

Get help at:

¿Enfermo? Llame al

1-800-222-1222

Utah Poison Control Center
Centro de control de venenos

Location / *Ubicación:*

Date posted / *Fecha:*

Posted by / *Publicado por:*

 Report a problem

- 29 YOF with swelling and trouble
- 51 YOF with abdominal pain

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Deer Creek

Deer Creek, July-August

HAB cell density

- Threshold for advisory: 100,000 cells/mL
- Measured 7/25: **3,371 cells/mL**
- Reported illness 7/29
- Measured 8/8: **2,287,199 cells/mL**

Microcystins

- Threshold for advisory: 8 ug/L
- Measured 7/25: **None**
- Reported illness 7/29
- Measured 8/8: **558 ug/L**

Deer WARNING

Harmful algae in water!

CUIDADO: ¡Hay algas peligrosas en el agua!

X = not safe / No es seguro ⚠ = avoid algae / Evite las algas ✓ = OK



Drinking the water
Beber el agua



Swimming
Nadar



Wading
Caminar en el agua



Dogs
Perros



Jet/water skiing
Esquí acuático



Paddling
Remar



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Location / Ubicación:

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HAB cell dens

- Threshold
- cells/mL
- Measure
- Reported
- Measure

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29
ug/L

Deer Creek, July-August

Deer Creek and Echo Reservoirs flagged for harmful algal blooms



<https://deq.utah.gov/.../deer-creek-reservoir...> you can look up the water quality for any of our lakes/reservoirs which is super nice. I like to look them up the same day we are headed out, especially if we have the pups.

DEQ.UTAH.GOV

Deer Creek Reservoir Recreational Water Quality Monitoring - Utah Department of Environmental Quality

29w Lil



Wasatch County Health Department

August 20, 2024 · 🌐

We have issued a Health Watch for Deer Creek Reservoir with a Warning Advisory for the Charleston Day Use Area: Harmful algae in water!



Deer Creek State Park ✓

August 29, 2025 · 🌐

Deer Creek has been updated to a Health Warning. This is for the entire reservoir. @wasatchcountyhealthdepartment Visit habs.utah.gov for more information.

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Questions?

hannah.bonner@byu.edu