VETERINARIAN REFERENCE FOR HARMFUL CYANOBACTERIAL BLOOMS

Identifying Illness · Clinical Signs · Diagnosis · Treatment · Reporting

HCBs may be brown, green, or blue-green in color.

Harmful cyanobacterial bloom (HCB) basics:

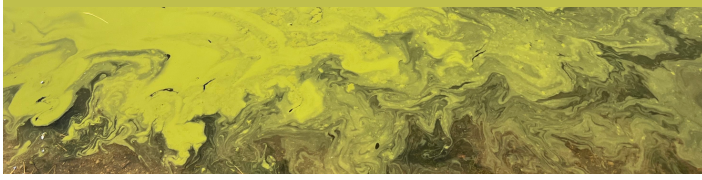
- HCBs are dense accumulations of cyanobacteria or "blue-green algae"
- HCBs can produce toxins that can be lethal to animals and cause illness in humans
- Animals can be exposed to toxins by eating bloom material, drinking or swimming in water with a HCB, or licking their fur after contact with a HCB

Symptoms in animals can occur minutes to days after exposure to a HCB.

How can owners protect animals?

- You cannot tell if a HCB is toxic by looking at it
- Be aware of HCBs in Wyoming waters and keep animals away from any water with signs of a HCB
- Do not let animals drink, swim in, or eat near discolored or scummy water
- Keep animals from licking fur, eating dead fish or animals found near a HCB, or eating HCB material
- If an animal appears sick after contact with a HCB, immediately rinse them off with clean water and seek veterinary care

HCBs may occur floating in or on the water and can look like spilled-paint, grass clippings, clumps, or scums.



HCBs may occur attached to plants, rocks, or other material and look like films, mats, or gelatinous balls.

R. Hendrick, NPS

Total microcystins is the most common cyanotoxin found in Wyoming's waterbodies. Anatoxin-a has been found in waterbodies with mat-forming blooms.

Why should I report HCB-related animal illness and death?

- Reporting a HCB-related illness or death will help prevent additional animal and human exposures and improve understanding of the incidence and impact of HCBs in Wyoming

ASPCA Poison Control Hotline
(888) 426-4435

Report Blooms and HCB-related Illnesses
WyoSpills.org
307-777-7501

See Current HCB Advisories
WyoHCBs.org

When in doubt, STAY OUT!

Wyoming Department of Health

Wyoming Livestock Board

Wyoming Department of Environmental Quality

Treatment for HCB toxicity in animals:

- There are currently no clinically available tests or designated treatments; medical care is supportive
- Activated charcoal may be useful within the first hour, and atropine has efficacy with saxitoxin exposure
- There is some evidence that treatment with cholestyramine may be helpful for dogs exposed to microcystins
- The American Society for the Prevention of Cruelty to Animals (ASPCA) provides some information on treatment at www.aspcapro.org/resource/blue-green-algae-and-other-water-toxinstreatments
- ASPCA Animal Poison Control Center (888-426-4435) or Pet Poison Helpline (855-764- 7661) can provide specific case consultation

Exposure history, clinical signs, and diagnosis:

Exposure History	Clinical Signs	Time to Symptom Onset	Differential Diagnosis	Possible Laboratory Diagnostics and Findings	Interventions and Supportive Care
History of **access** to a **waterbody** (lake, reservoir, pond, river, stream) in the previous 48 hours **Swallowing** water with cyanobacteria or cyanotoxins, **ingesting** HCB material, or licking cyanobacteria off fur or hair	**Hepatotoxins (microcystins)** · Vomiting, diarrhea · Lethargy, depression · Anorexia · Jaundice, abdominal tenderness · Dark urine, melena · Petechia and ecchymoses · Ataxia, collapse · Seizures	Minutes to days	· NSAID overdose · Rodenticide toxicity · Xylitol ingestion · Leptospirosis · Mushroom toxicity · Sago palm toxicity · Other hepatotoxin poisoning · Other hepatopathy	· Elevated liver enzymes (e.g., ALP, AST, GGT) · Hyperkalemia · Hypoglycemia · Prolonged clotting time · Elevated bile acids · Proteinuria · Presence of toxin in clinical specimens from stomach contents	· Remove access to contaminated water · Clean fur · Emesis induction · Supportive therapy
	Nephrotoxins, Hepatotoxins (cylindrospermopsin) · Similar to microcystin toxicity · Polyuria/Polydipsia · Anuria · Hematuria	Minutes to days	· NSAID overdose · Rodenticide toxicity · Xylitol ingestion · Leptospirosis · Ethylene glycol toxicity · Grape/raisin ingestion · Other nephropathy or hepatopathy	· Elevated liver enzymes (e.g., ALT and ALP) · Hyperkalemia · Hypoglycemia · Prolonged clotting time · Thrombocytopenia · Hyperbilirubinemia · Presence of toxin in clinical specimens from stomach contents	· Remove access to contaminated water · Clean fur · Emesis induction · Supportive therapy
	Neurotoxins (anatoxins) · Ataxia · Progression of muscle twitches, seizures, paralysis · Hypersalivation · Lacrimation · Respiratory paralysis/arrest · Sudden death	Minutes to hours	· Pesticide poisoning · Myasthenia gravis · Other toxin poisoning	· Presence of toxin in clinical specimens from stomach contents	· Remove access to contaminated water · Clean fur · Emesis induction · Supportive therapy · Mechanical ventilation
Skin contact with water with cyanobacteria or cyanotoxins	**Dermal Toxins** · Rash, hives · Allergic reaction	Minutes to hours	· Other dermal allergens	· Blue-green staining of fur or hair	· Remove algae and clean fur

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