NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE
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Acting Health Commissioner

2025 Veterinary Advisory #6

Harmful Algal Blooms are a Potential Source of Toxins to Dogs

- **Algal blooms are caused by overgrowths of algae and cyanobacteria; harmful algal blooms (HABs), produce toxins that are harmful to the liver, skin, and the central nervous system.**
    - **The most commonly observed signs of HAB-associated illness included gastrointestinal, generalized, and neurologic signs.**
- **To date this year, HABs have been reported in Brooklyn's Prospect Park Lake and Manhattan's Central Park Lake. In past years, HABs have been identified in numerous areas across New York City, including Manhattan (Morningside Pond, Turtle Pond, and Harlem Meer), and Staten Island (Brooks Lake, Clove Lake and Willowbrook Pond).**
- **Veterinarians should warn owners to keep dogs away from water with HABs.**
- **HAB-associated illness in dogs is reported most often in summer months, peaking in August and September according to national surveillance data from 2022.**
- **Report suspected HAB poisoning in animals by calling the New York City Health Department at 347-396-2600 and ask to speak with someone in the Zoonotic and Vector-borne Disease Unit.**

Please share with your colleagues in veterinary medicine and your staff.

June 3, 2025

Dear Colleagues,

Through routine surveillance and water sampling, the New York State Department of Environmental Conservation (DEC) has identified the presence of harmful algal blooms (HABs) in bodies of freshwater across New York City every year during warm summer months. Veterinarians should be aware of signs of cyanobacterial toxicosis in dogs. To date this year, HABs have been reported in Brooklyn's Prospect Park Lake and Manhattan's Central Park Lake. In past years, HABs have been identified in numerous areas across New York City, including Manhattan (Morningside Pond, Turtle Pond, and Harlem Meer), and Staten Island (Brooks Lake, Clove Lake and Willowbrook Pond). Visit the DEC website for information and updates on HABs, and for an interactive map displaying the locations of current freshwater HABs for which DEC staff determined that conditions fit HABs criteria based on visual observations, digital photographs, and/or water sampling results.

Background
HABs can develop when naturally occurring algae, such as cyanobacteria and dinoflagellates, grow quickly into blooms and produce toxins that can harm people, animals, and aquatic life. These blooms can sometimes cover large portions of water bodies including salt, fresh, and brackish waters. HABs can look like floating mats, scums, or discolored water. Colors can include shades of green, blue-green, yellow, brown, or red. As HABs die, they emit an odor of rotting plants.

HABs are caused by a combination of environmental factors, including:

- **Nutrient pollution**: Excessive nutrients, such as nitrogen and phosphorous from urban runoff and wastewater discharge, can fuel algae growth.
- **Water temperature**: Warmer water temperatures can enhance the growth of some algae. Climate change may bring warmer temperatures and increase carbon dioxide levels in both air and water, intensifying the magnitude and duration of HABs due to accelerated algae growth.

- **Light availability**: Sunlight supports algae growth through photosynthesis.
- **Stagnant water**: Lack of water flow creates stable conditions for nutrients to accumulate, temperature to increase, and algae colonies to grow.

HABs regularly occur in waterbodies across New York. A statewide HAB-associated illness surveillance system piloted in 2015 found 51 human and three canine suspect cases. All three dogs had gastrointestinal symptoms and two were hospitalized. All dogs survived and the owners reported possible ingestion of water or algae.[1] National surveillance data from the CDC in 2022 reported 95 human illnesses and at least 56 HAB events causing 102,071 animal illnesses. Most were aquatic animals, but 20 cases involved dogs. The most commonly observed signs these dogs were vomiting, lethargy, and ataxia. The median time to illness onset was 1.25 hours and median duration of illness was 2 hours. Most illness occurred during August and September.[2]

Toxicity and Clinical Illness

Cyanobacteria can produce hepatotoxins and neurotoxins, as well as irritants that can cause a dermatologic allergic reaction. Clinical manifestation depends on the route of exposure (consumption or contact). Dogs are especially susceptible because they are more likely to drink and swim in water. They may also ingest cyanobacterial toxins when grooming themselves after being in HABs. A tentative diagnosis is based primarily on history (recent contact with cyanobacteria) and signs of toxicosis.

Common signs of HAB toxicosis can include:

HEPATOTOXINS AND NEPHROTOXINS

- Excess drooling, vomiting, diarrhea, foaming at mouth
- Jaundice, hepatomegaly
- Bleeding abnormalities, blood in urine or dark urine
- Malaise
- Stumbling
- Loss of appetite
- Photosensitization in recovering animals
- Abdominal tenderness

NEUROTOXINS

- Progression of muscle twitches
- For saxitoxin, high doses may lead to respiratory paralysis and death if artificial ventilation is not provided

DERMAL TOXINS

- Skin rashes, hives

Prevention

Advise owners to look for posted warning signs around bodies of water. If a HAB has been identified suspected HAB in a body of water, owners can reduce the risk of cyanobacterial toxicosis in dogs by doing the following:

- Keep dogs on a leash when near the shoreline to keep them from wading, swimming, or drinking the water.
- If a dog goes in the water, remove immediately and do not allow the dog to lick its fur or paws.
- Use a towel or cloth to remove algal debris and wash the dog thoroughly with soap and clean water using rubber gloves.
- Dog owners should immediately wash their hands afterwards with soap and clean water.
- Monitor the animal closely for any signs of illness.

Treatment

While no therapies have been investigated in detail, activated charcoal slurry is likely to be of benefit in addition to palliative care tailored to the individual patient according to the Merck Veterinary Manual. Additionally, cholestyramine has been used to treat microcystin toxicosis with varying success.[3] Veterinarians can call the ASPCA Animal Poison Control Center at 1-888-426-4435 for assistance, and refer to the ASPCA treatment page. Because there is a strong dose dependent curve, dogs that survive the initial exposure are

more likely to survive illness from neurotoxins. This is less clear with hepatotoxins as secondary effects (e.g., fibrosis) can result in more long-term sequelae.

Reporting Suspected HABs to NYS DEC
To report a suspected HAB, visit the NYS DEC website to submit the online Suspicious Algae Bloom Report Form. You may also send an email to HABsInfo@dec.ny.gov.

Reporting HAB Poisoning in Animals
To report suspected HAB poisoning in a dog or other animal, please call the New York City Health Department at 347-396-2600 and ask to speak with someone in the Zoonotic and Vector-borne Disease Unit.

Resources
Health promotion webpages and materials are available from CDC and the AVMA:

- Informational poster for animal owners (also available in Spanish)
- Veterinary HAB Reference Card for Cyanobacterial Blooms
- Preventing Pet and Livestock Illnesses Caused by Harmful Algal Blooms
- AVMA HAB resources and tools

As always, we greatly appreciate your partnership.

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References

1. Figgatt M, Hyde J, Dziewulski D, et al. Harmful Algal Bloom–Associated Illnesses in Humans and Dogs Identified Through a Pilot Surveillance System — New York, 2015. MMWR Morb Mortal Wkly Rep 2017;66:1182–1184. DOI: http://dx.doi.org/10.15585/mmwr.mm6643a5.
2. Centers for Disease Control and Prevention. Summary Report – One Health Harmful Algal Bloom System (OHHABS), United States, 2022. Centers for Disease Control and Prevention. https://www.cdc.gov/ohhabs/data/summary-report-united-states-2022.html. Published September 23, 2024. Accessed May 29, 2025.
3. Rankin KA, Alroy KA, Kudela RM, Oates SC, Murray MJ, Miller MA. Treatment of cyanobacterial (microcystin) toxicosis using oral cholestyramine: case report of a dog from Montana. Toxins (Basel). 2013 Jun;5(6):1051-63. doi: 10.3390/toxins5061051. PMID: 23888515; PMCID: PMC3717769.

Visit our webpage for information and resources for veterinarians: Zoonotic and Vector-borne Diseases: Information for Providers
If you do not receive these alerts via email and would like to be added to the distribution list, email zivdu@health.nyc.gov
Report animal diseases to the NYC Health Department:

- Online through a secure web-based reporting platform
- Call 347-396-2600
- Fax the Animal Disease Case Report form to 347-396-2753

Report upon suspicion: Anthrax, brucellosis, glanders, influenza (novel with pandemic potential), mpox, plague, Q fever, SARS, tularemia.
For rabies, call the Animal Bite Unit at 646-364-1799 to report suspect rabid animals or for assistance with pets exposed to rabies.
Report upon laboratory diagnosis: Arboviral encephalitides, carbapenem-resistant organisms, leptospirosis, psittacosis, Rocky Mountain spotted fever, salmonellosis, tuberculosis
Report within 24 hours any outbreak or suspected outbreak of any disease, condition, or syndrome, of known or unknown etiology, which may pose a danger to public health.