

Communicating the Risks of HABs: Indiana State Department of Health

Background and Health Department Activities

The Indiana State Department of Health (ISDH) is a freestanding agency that has a decentralized relationship with local health departments. ISDH participates in the state's multiagency workgroup that advises the public on harmful algal blooms (HABs), along with representatives from the Indiana Department of Natural Resources (DNR), the Indiana State Board of Animal Health, and the Indiana Department of Environmental Management (IDEM). The workgroup develops advisories, conducts bloom surveillance, and [posts](#) updates on the health department's website. ISDH's environmental health staff answer most incoming questions related to HABs and the website serves as the most effective means of disseminating information to the public.

During the algal bloom season from May to August, IDEM collects weekly samples from 12 sites throughout the state to test for anatoxin-a, microcystin, and cylindrospermopsin (if cyanobacterial species that produce it are present). IDEM's video, "Sampling Blue-Green Algae," [explains](#) how IDEM staff sample the state-operated swimming beaches. Sample results are classified into four alert levels based on cyanobacterial cell counts, cell biomass, or cyanotoxin levels: low, advisory, caution, and beach closed. The health department's epidemiology division uses GIS data to post this information to an interactive map in real time.

Development of Health Advisories

DNR implemented a recreational advisory protocol in 2013 (surveillance sampling began in 2010) before CDC and the U.S. Environmental Protection Agency (EPA) developed most of their current resources on HABs. At the time, Indiana relied on information and examples from Ohio and Minnesota to craft its HABs protocols. Now, Indiana utilizes federal resources from EPA, CDC, and the World Health Organization (WHO) to inform its current advisories. Following draft EPA guidelines for recreational waters, DNR issued a recreational advisory for microcystin at 4 µg/l and prohibited swimming at 20 µg/l (consistent with WHO guidelines). DNR also follows EPA's recommendations for cylindrospermopsin at a level of 8 µg/l. Based on Ohio's recommended threshold for anatoxin-a, DNR uses 80 µg/l for its advisory level (EPA and WHO have not set levels for anatoxin-a).

For cyanotoxin exposure for dogs, Indiana looks to California's Office of Environmental Health Hazard Assessment, which developed action levels for microcystin, anatoxin-a, and cylindrospermopsin. DNR issues a warning to dog owners at the Fort Harrison State Park Dog Park Lake whenever it detects any cyanotoxins, and dogs are prohibited from swimming at the values of 0.8 µg/l microcystin, 1.0 µg/l of cylindrospermopsin, and any anatoxin-a detection. In addition, swimming areas remain on high alert until the cell counts fall below 100,000. This information can be found on the state's HABs [website](#) during the recreation season.

ISDH created informational brochures and other guidance documents with more information on these recreational and pet advisories. In addition, ISDH created reporting forms for the public to document blooms and human or animal illnesses. When the state receives a reported illness, it sends the data to CDC's One Health Harmful Algal Bloom System ([OHHABS](#)) reporting system. ISDH conducts outreach and trainings for clinicians on how to identify patients who may have been exposed to HABs.

Since the drinking water program is housed in IDEM, the health department did not take the lead in developing a drinking water advisory. IDEM has not established a drinking water advisory for the state, but since October 2016 the department has been sampling surface water public water supply intakes and finished water on a bimonthly basis for total cyanobacteria and cyanotoxins. To date, there has been a 100 percent removal efficiency of cyanotoxins with conventional drinking water treatment.

Rollout and Dissemination of Advisory and Relevant Resources

ISDH issues a press release each May when HABs season begins. The weekly surveillance data and advisories are put on the department’s website and DNR also posts physical signs at public swimming areas. There are four levels of alerts for cyanotoxins as described above. All materials are available in English. Each agency involved in the HABs working group has information on its website that is targeted to different audiences and topics. The information from ISDH is designed with recreational water users in mind. There are also communications about pet safety and animal safety. The state’s board of animal health [oversees](#) animal safety and provides information specific to animals, including clinical signs of cyanobacterial toxins poisoning and what to do if poisoning is suspected. DNR [provides](#) resources on swimming and boating. IDEM [conducts](#) the sampling and provides weekly detailed results on its website and numerous resources for the public, as well as links to the other agencies involved with the HABs working group.

Key Messages for the Public

- Recreational water users can come into contact with a bloom at any time of year, but especially during the warmer months.
- You cannot tell if the bloom is toxic from just looking at it.
- When in doubt, stay out. This warning applies to swimming, wading, and fishing.
- If you come into contact with a bloom, clean yourself off as soon as you can. Shower and wash your hands after swimming or wading in lakes, rivers, and ponds.
- Do not allow animals to swim in or drink from water that has a known HAB. Rinse off animals that have been in ponds, rivers, or lakes.

Gaps and Challenges

The clinical community requires training on how to identify exposure to HABs. Public health partners should present at national or regional conferences on the impact of HABs on freshwater systems to further engage healthcare providers. States may also benefit from having access to updated materials from federal partners that target clinicians.

Indiana HABs Quick Facts	
Advisory	Recreational and pet
Collaborators	ISDH, IDEM, DNR, and State Board of Animal Health
Languages for Materials	English
GIS Mapping	http://in.gov/isdh/25974.htm
Website	http://www.in.gov/isdh/25974.htm

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