



Harmful Algal Blooms at the Ohio Department of Health

Ohio Department of Health
Bureau of Environmental Health
246 N. High Street
Columbus, Ohio 43215
Phone: (614) 466-1390
Fax: (614) 466-4556

What are Harmful Algal Blooms?

- Blue-green algae → Cyanobacteria
- Not all species produce toxins
- Species that produce toxins can cause Harmful Algal Blooms (HABs)
 - Neurotoxins, hepatotoxins, dermal toxins



Summer 2010

- Human and animal illness reports
 - Dog deaths
- Consultation with CDC
 - Human and animal illness report forms
 - Case definitions
- Working group (ODH, OEPA, ODNR)
 - *State of Ohio HAB Response Strategy for Recreational Waters*



Program Funding

- The epidemiologist conducting HAB surveillance is funded 100% by Public Health Emergency Preparedness (PHEP) funds.
- CSTE fellow was placed with ODH to assist with waterborne diseases and HAB response activities.



Program Activities

- Expanding/updating information on the ODH website (fact sheets)
- Collaborating with state and local partners (i.e. OEPA, ODNR, ODA)
- Continuing to monitor and conduct surveillance on HAB events and human/animal illness reports (i.e. providing toolkits for investigations to local health)



ODH HABs website

The screenshot shows the homepage of the Ohio Department of Health's Harmful Algal Blooms (HABs) website. The browser address bar shows the URL: <http://www.ohio.gov/odhprograms/eh/HABs/algalblooms.aspx>. The page features a navigation menu with links for Forms, Rules, Local Health Departments, About Us, Data & Statistics, and Our Programs. A search bar is located at the top left. The main content area is titled "Harmful Algal Blooms (HABs)" and includes a sub-section "What are HABs?" with a photograph of a lake covered in green algae. Below the photo, there is text explaining that cyanobacteria, often called blue-green algae, are bacteria found in Ohio lakes, ponds, and streams. A sidebar on the left contains links for "Harmful Algal Blooms (HABs)" and "HAB Documents - Resources". At the bottom, there are sections for "HAB FAQs:" and "What do HABs look like?".

The screenshot shows a detailed page from the ODH HABs website titled "What types of health problems can people and pets experience from exposure to high numbers of Blue-Green Algae and HABs?". The page provides information on the health risks associated with exposure to HABs, including skin contact, breathing water droplets, and swallowing water. It also includes sections for "How can I protect myself, family and pets from exposure to HABs?" and "How do you treat people or animals that have been exposed to HAB toxins?". A "Reporting HAB illness:" section provides instructions on how to report suspected human or animal illnesses to the local health district or directly to ODH. The page footer includes the Ohio Department of Health logo, contact information (Phone: (614) 466-3543, Address: 246 N. High St., Columbus, Ohio 43215), and a list of officials: John R. Kasich, Governor; Lance D. Hines, Interim Director; and links for Bookmarks, Privacy Statement, and Contact Us 24/7.



ODH HABs Resource Page



The screenshot shows a web browser window displaying the Ohio Department of Health's HABs Resource Page. The browser's address bar shows the URL: www.odh.ohio.gov/odhprograms/eh/HABs/HABDocumentsResources.aspx. The page features the Ohio Department of Health logo and navigation menus. A search bar is located at the top right. The main content area is titled "One-Stop Shop for Algae Information in Ohio" and lists various resources, including links to the Ohioalgaainfo.com website, a list of ODH HAB Resources (such as Blue-Green Algae/Cyanobacteria HABs, HAB Provider Reference, and HABs Campground Operators), and Centers for Disease Control & Prevention (CDC) resources (such as Facts about Cyanobacteria). A footer section provides contact information for the Ohio Department of Health, including the phone number (614) 466-3543 and the address 246 N. High St., Columbus, Ohio 43215. It also includes a disclaimer: "Personal health questions? Call your local health department or your local health care provider. For emergencies, dial 911."

sources

www.odh.ohio.gov/odhprograms/eh/HABs/HABDocumentsResources.aspx

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Harmful Algal Blooms (HABs)

HAB Documents - Resources

One-Stop Shop for Algae Information in Ohio

- Ohioalgaainfo.com

ODH HAB Resources:

- [Blue-Green Algae/Cyanobacteria HABs](#)
- [HAB Provider Reference](#)
- [HABs Campground Operators - Privately Owned Waters](#)
- [Pond Water - Drinking Water Treatment of Blue-Green Algae](#)
- [Photos of Algae Blooms](#)
- [Harmful Algal Bloom Video](#)
- [HAB Human Illness Report Form](#)
- [HAB Animal Illness Report Form](#)
- [HABs Disease in Animals](#)
- [Harmful Algal Blooms \(HABs\) 2010 Presentation \(part 1\)](#)
- [Harmful Algal Blooms \(HABs\) 2010 Presentation \(part 2\)](#)

Centers for Disease Control & Prevention (CDC)

- [Facts about Cyanobacteria](#)

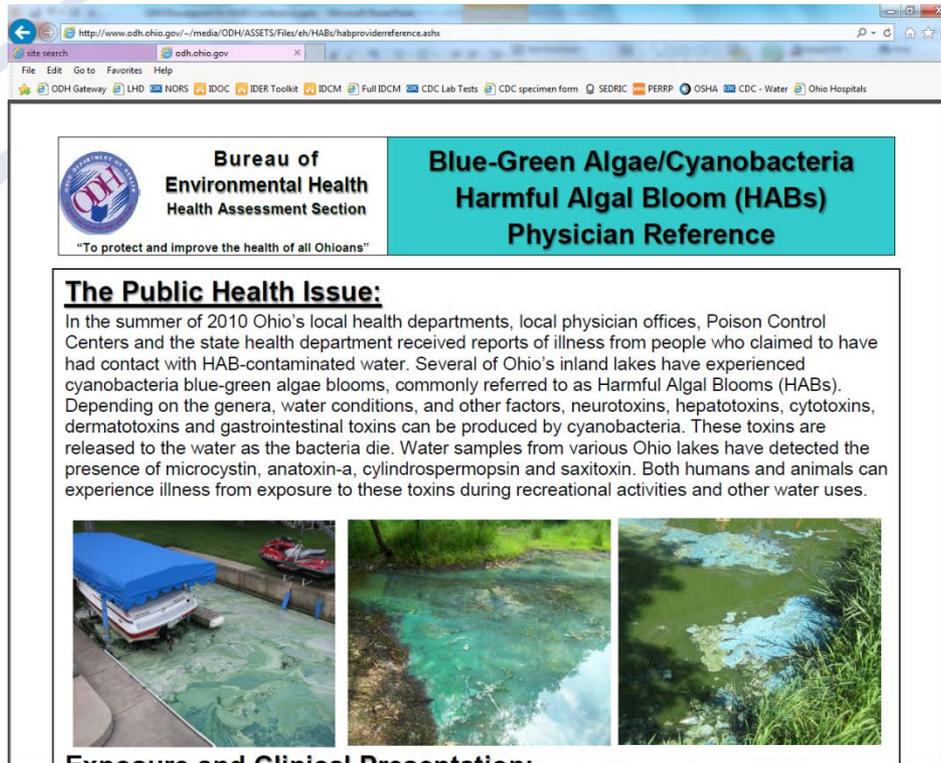
Ohio Department of Health
Phone: (614) 466-3543 - Contact Us
Address: 246 N. High St., Columbus, Ohio 43215

Personal health questions? Call your local health department or your local health care provider. For emergencies, dial 911.

John R. Kasich, Governor | Lance D. Himes, Interim Director | [Bookmark](#) | [Privacy Statement](#) | [Contact Us](#)



ODH HABs Provider Fact Sheet



The screenshot shows a web browser window with the URL <http://www.odh.ohio.gov/~media/ODH/ASSETS/Files/eh/HABs/habproviderreference.ashx>. The page header includes the ODH logo and the text "Bureau of Environmental Health Health Assessment Section" with the motto "To protect and improve the health of all Ohioans". The main title is "Blue-Green Algae/Cyanobacteria Harmful Algal Bloom (HABs) Physician Reference".

The Public Health Issue:

In the summer of 2010 Ohio's local health departments, local physician offices, Poison Control Centers and the state health department received reports of illness from people who claimed to have had contact with HAB-contaminated water. Several of Ohio's inland lakes have experienced cyanobacteria blue-green algae blooms, commonly referred to as Harmful Algal Blooms (HABs). Depending on the genera, water conditions, and other factors, neurotoxins, hepatotoxins, cytotoxins, dermatotoxins and gastrointestinal toxins can be produced by cyanobacteria. These toxins are released to the water as the bacteria die. Water samples from various Ohio lakes have detected the presence of microcystin, anatoxin-a, cylindrospermopsin and saxitoxin. Both humans and animals can experience illness from exposure to these toxins during recreational activities and other water uses.



Exposure and Clinical Presentation:



Ohio EPA Ohio Algae Information



Ohio.gov State Agencies | Online Services



Ohio.gov State Agencies | Online Services

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Ohio Algae Information for Recreational Waters

Algal blooms have become more noticeable in Ohio's lakes, streams and rivers during the last few years.



Although most blooms are green algae and not harmful, there are some that are actually a type of cyanobacteria that have the ability to produce toxins – called harmful algal blooms (HABs).

Remember, you can still boat, fish and recreate in Ohio's lakes, streams and rivers. Just be aware that HABs exist. **→ WHEN IN DOUBT, STAY OUT!** We hope the information here will give you a better idea of what HABs can look like and provide you with the information you need to safely enjoy Ohio's waterways.

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What is a harmful algal bloom?

A harmful algal bloom (HAB) is a large growth of bacteria that can produce toxins. These toxins may affect the liver, nervous system and/or skin.

What causes HABs to form?

Some factors that can contribute to HABs include sunlight, low-water or low-flow conditions, lake water, warmer temperatures, and excess nutrients (phosphorus or nitrogen). The primary sources of nutrient pollution are runoff of fertilizers, animal manure, sewage treatment plant discharges, storm



QUICK LINKS

FIND ADVISORY MAP

The map identifies state park beaches and public drinking water systems with active harmful algal bloom warnings.

Response Strategy
State of Ohio Harmful Algal Bloom Response Strategy for Recreational Waters

Ohio EPA
Division of Drinking and Coastal Waters
Alert public water system operators with prevailing, identifying and responding to HABs

Ohio Department of Health
Identify types of health problems people and pets may experience from exposure to HABs

Ohio Department of Natural Resources
Keeping state park lake beach goes informed

Monitoring Network
Great Lakes St. Marys and Cuyahoga Lake

ALGAL TOXIN RESULTS

From 1 to 600: Ohio state park beaches and water

Please click on a map marker to view details about the advisory in the table below. Click reset map, located in the legend, to list all advisories.

SELECT A MAP
Harmful Algal Bloom Advisories

ZOOM TO:
 County Zip Code City

Zoom

MAP LEGEND

Type of Advisory

- Recreational Public Health
- No Contact
- Drinking Water: Do Not Drink
- Drinking Water: Do Not Use

reset map

About This Map
Harmful Algal Bloom Advisories are issued at Ohio State Park Beaches or at Public Water Systems where Harmful Algal Blooms have been identified. This map is updated Monday through Friday and displays only active advisories. [read more...](#)

Harmful Algal Bloom Advisory Levels

- **The Recreational Public Health Advisory** - A Recreational Public Health Advisory sign will be posted at beaches when toxin levels exceed the recommended threshold, warning individuals who are elderly or very young and people with compromised immune systems that swimming or wading is not recommended.
- **A No Contact Advisory** - A No Contact Advisory sign will be posted when toxin levels exceed the recommended threshold and there are one or more probable cases of human illness or pet deaths attributable to HABs. This sign will warn people that unsafe toxins are present in the water and to avoid any contact.
- **Drinking Water Advisory - Do Not Drink** If microcystin, anatoxin-a, cylindrospermopsin or saxitoxin is found above drinking water thresholds in the finished water of a public water system, the water system will issue a public notice for a Do Not Drink Advisory. The public water system may end a Do Not Drink Advisory when algal toxin levels are below the drinking water thresholds in two



Public Health Actions

- ODH and local health responded to a HAB event impacting a municipal water system
- Local health in a major city had to deal with a nuisance algae bloom impacting the smell and taste of their water system
- ODH is collaborating with local health department on a CASPER planned for August 2014



Ottawa County Microcystin Event

CURRENT WEATHER
48°
Mostly cloudy

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Carroll Township's scare with toxin a 'wake-up call'

Water plant shut over lethal microcystin from algae

BY TOM HENRY
BLADE STAFF WRITER

OAK HARBOR, Ohio — They got lucky.

The 2,000 residents of Ottawa County's Carroll Township who were told to avoid their tap water last weekend can thank one person — not any one of America's thousands of state and federal health...

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Algae Bloom in Columbus Water

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Toxic algae in Hoover Reservoir cost city \$723,000



ERIC ALBRECHT | DISPATCH

Water runs over Hoover Dam and empties into Big Walnut Creek. The reservoir's mysterious late-season algae blooms caused water in some areas to smell and taste bad.



CASPER to be implemented August 2014

- Lake Erie
- Household–level survey
- Examining the public health impact of recreational exposure to a HAB event in Lake Erie





Legionnaire's Disease at the Ohio Department of Health

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Columbus, Ohio 43215
Phone: (614) 466-1390
Fax: (614) 466-4556

What is Legionnaire's disease (LD)?

- Severe pneumonia cause by infection with *Legionella spp.*
 - *Legionella pneumophila* most pathogenic
- *Legionella spp.* proliferate in man-made water systems
 - Warm temperatures, low flow, lack of disinfection, etc.
- Illness occurs after inhalation of aerosolized water
 - Older adults, immune compromised, and smoker susceptible
 - Incubation period 2 to 10 days



Legionnaire's Disease Outbreak Associated with a Cooling Tower at Long-term Care Facility -- Ohio, 2013

- 39 cases confirmed
- Age range 53-99 years
- Median age 87 years
- 27 (69%) female

LEGIONNAIRES' DISEASE

Reynoldsburg outbreak now largest in Ohio's history

By Pamela Willis

Thursday August 8, 2013 7:41 PM

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The outbreak of Legionnaires' disease at Reynoldsburg's Wesley Ridge Retirement Community has claimed another victim, bringing the death count to six residents.

As of Tuesday, Aug. 6, Mitzi Kline, from Franklin County Public Health, said there are 39 confirmed cases of Legionnaires' disease and six deaths due to contamination of the water system at Wesley Ridge.

"This is the largest Legionella outbreak in Ohio history," Kline said.

She said the six who died were all residents at Wesley Ridge. Eight visitors and one Wesley Ridge employee also contracted the disease.

Kline said 32 people were ill enough to be hospitalized and those who contracted the disease ranged in age from 63 to 99.

"The additional death reported today is not a new case," said Margaret Carmany, CEO of Methodist ElderCare, which operates Wesley Ridge.

"The verification and reporting process through the board of health takes time and the case count is affected by the incubation period as well," Carmany said.

"In addition, it is important to note that the population of Wesley Ridge is medically fragile and sadly, these six residents died with Legionella but not necessarily because of it.

"We are terribly saddened by this loss and our thoughts and prayers go out to their families and friends," she added.

The Centers for Disease Control have conducted tests of the retirement center's water system since July 9, when the outbreak began.

At a glance

As of Tuesday, Aug. 6, Mitzi Kline, from Franklin County Public Health, said there are 39 confirmed cases of Legionnaires' disease and six deaths due to contamination of the water system at the Wesley Ridge Retirement Community.



Legionella Workgroup

- **Goal:** To create Guidelines for the Surveillance, Investigation, and Control of Legionellosis in Ohio
- Many groups and stakeholders involved
 - ODH, CDC, OEPA, ODNR, OHA, Long-term Care Assoc., Ohio Local Public Health, Dept. of Commerce, Ohio Environmental Health Assoc., SME in Legionella remediation



Sub-Committees

- Three sub-committees were developed to focus on different areas of prevention.
 - Guidance for Hospitals and Long Term Services and Supports (i.e. Guidance for physicians, outbreaks)
 - Cooling Towers/Fountains (i.e. Siting and Design, code implications)
 - Water Distribution Systems & Treatment (i.e. Treatment at facilities, temperature requirements))



Questions?

Ohio Department of Health

Mary Clifton, Program Administrator, Recreational Programs

Leigh Nelson, CSTE Waterborne Fellow

Brandi Bennett, Waterborne Disease Coordinator

Mary DiOrio, State Epidemiologist

