



Cayuga County Health Department

Frequently Asked Questions

Harmful Algal Blooms (HABs)



Background Information

Some types of algae can produce toxins that can be harmful to people and animals. Algal blooms that produce toxins are known as Harmful Algal Blooms (HABs). Environmental conditions that contribute to the formation of HABs in bodies of water include excess nutrients (phosphorus and nitrogen), lots of sunlight, calm water conditions, and warmer temperatures.

In recent years, HABs have been identified in many Cayuga County lakes including Skaneateles, Cayuga, and Owasco Lakes. In Cayuga County, Owasco Lake is the source of public drinking water for the City of Auburn, Town of Owasco and surrounding municipalities who purchase their public drinking water from Auburn or Owasco. Cayuga Lake is the source of drinking water for Wells College and the Village of Aurora. In addition, many residents use water drawn from these three lakes for their own private water supply.

In September and October of 2016, low levels of toxins associated with HABs were found in the public drinking water produced by both the City of Auburn and Town of Owasco. The toxin levels remained low enough, based on current research, for the water to be considered safe for drinking. The City of Auburn, the Town of Owasco, and Wells College currently have carbon treatment systems in place that are designed to remove toxins associated with HABs from the drinking water.

The following information is based on current science from the New York State (NYS) Department of Health, the NYS Department of Environmental Conservation, and the U.S. Environmental Protection Agency.

Health Risk Concerns:

A. Exposure to toxins associated with Harmful Algal Blooms in recreational lakes

1. Can children and pets play in the lake water if it is experiencing a Harmful Algal Bloom?
 - People, pets, and livestock should avoid contact with water that is discolored or has floating scum on the surface. If contact does occur, rinse the exposed skin thoroughly with clean water.
 - Exposure to Harmful Algal Blooms can be deadly for pets, especially if they drink water with Harmful Algal Blooms or when they lick their fur after swimming in waters with Harmful Algal Blooms.
2. How soon after a bloom dissipates will it be safe to swim?
 - The Health Department regulates public bathing beaches and closes those beaches when a Harmful Algal Bloom occurs. After the bloom dissipates and before the beach can be re-opened, the water is sampled to make sure the toxin concentration is below the level at which health impacts may occur. Private swim areas are not regulated or sampled by the Health Department and therefore it is unknown when it is safe to swim after a bloom dissipates. The Health Department's experience with public bathing



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beaches, however, suggests that typically 24 hours after a bloom dissipates, levels have been below those at which health impacts occur.

3. What health effects can I expect to see if I was recreating in lake water experiencing a bloom?
 - Recreational exposures can occur while swimming, wading, fishing, or boating in areas with Harmful Algal Blooms if this water is touched, swallowed, or airborne droplets are inhaled. Exposure to Harmful Algal Blooms can cause diarrhea, nausea, or vomiting; skin, eye, or throat irritation; allergic reactions and/or difficulty breathing. Seek medical attention if you experience these symptoms after exposure to Harmful Algal Blooms.
4. Have any health problems been reported by people after recreating in water bodies experiencing Harmful Algal Blooms?
 - According to the New York State Department of Health, there have been infrequent reports of illnesses associated with recreational exposure to Harmful Algal Blooms, and most illnesses reported were minor. Since the symptoms from Harmful Algal Bloom exposure are very similar to symptoms from other gastrointestinal illnesses or allergic reactions, we expect that bloom-related illnesses are under-reported.
5. What health effects may my pet experience if they were exposed to Harmful Algal Blooms?
 - Symptoms for animals include vomiting, diarrhea, loss of appetite, excessive salivation or drooling, stumbling, seizures, convulsions, paralysis, disorientation, inactivity, excessive tiredness, elevated heart rate, and/or difficulty breathing. Seek veterinary care if your pet experiences these symptoms after exposure to Harmful Algal Blooms.

B. Exposure to toxins associated with Harmful Algal Blooms in public drinking water

6. What municipalities draw water from Owasco Lake and supply public drinking water?
 - Owasco Lake is the source of public drinking water for the City of Auburn and Town of Owasco water treatment facilities.
 - Residents in the following municipalities obtain their public drinking water from the City of Auburn's water treatment facility:
 - The City of Auburn
 - Town of Aurelius
 - Town of Brutus
 - Town of Fleming – Water District #6
 - Town of Mentz
 - Town of Montezuma
 - Town of Sennett
 - Town of Springport – Water District #2
 - Town of Throop



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- Village of Cayuga
 - Village of Port Byron
 - Village of Weedsport
 - Residents in the following municipalities obtain their public drinking water from the Town of Owasco's water treatment facility:
 - Town of Owasco
 - Town of Fleming – Consolidated Water District
7. What municipalities draw water from Cayuga Lake and supply public drinking water?
- Cayuga Lake is the source of public drinking water for the Wells College water treatment facility. Residents from the Village of Aurora obtain their drinking water from Wells College's water treatment facility.
8. How is the public drinking water being monitored?
- The City of Auburn, the Town of Owasco, Wells College, and the Cayuga County Health Department are monitoring the public drinking water for the presence of toxins associated with Harmful Algal Blooms. Samples of the public drinking water are collected and sent to a certified laboratory when Harmful Algal Blooms are observed to determine if toxins are present.
 - Water sampling results can be found on the Cayuga County Health Department website at: www.cayugacounty.us/health and click on Harmful Algal Blooms. Historically, sampling has begun between late July and early August.
9. If toxins associated with Harmful Algal Blooms are in the public drinking water, is the water safe to drink?
- The Cayuga County Health Department will notify the public when alternative water should be used for drinking, making infant formula, making ice, brushing teeth, and preparing food.
 - The Cayuga County Health Department in consultation with the New York State Department of Health will issue necessary advisories for drinking water when levels exceed limits that may cause adverse health risks to sensitive individuals via our website and several media outlets, including tv, radio, social media, and newspaper.
10. What could the effects on my health be if I drink public drinking water with toxins associated with Harmful Algal Blooms above the levels set by the United States Environmental Protection Agency (EPA)?
- Symptoms such as vomiting, nausea, diarrhea, skin, eye or throat irritation, allergic reactions, or difficulty breathing may occur after drinking water with elevated levels of toxins associated with Harmful Algal Blooms. These symptoms are very similar to symptoms from other gastrointestinal illnesses or allergic reactions. Stop drinking the water and seek medical attention if you or your family experience these symptoms.



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- Gastroenteritis, which may include diarrhea, vomiting, nausea, abdominal pain, and/or liver and kidney damage, has been reported in humans following short-term exposure to toxins associated with Harmful Algal Blooms in drinking water. However, more research is needed to fully understand the health effects.
11. If I am pregnant, or planning to be, will consuming the public drinking water with toxins affect my unborn child?
- There is limited information available in the scientific literature on the potential for health effects from ingesting microcystin – the primary toxin associated with Harmful Algal Blooms – during pregnancy.
 - The Cayuga County Health Department in consultation with the New York State Department of Health advises pregnant women not to drink the water if levels exceed limits that may cause adverse health risks to sensitive individuals.
 - Symptoms such as vomiting, nausea, diarrhea, skin, eye or throat irritation, allergic reactions, or breathing difficulties may occur after drinking water with elevated levels of toxins associated with Harmful Algal Blooms. These symptoms are very similar to symptoms from other gastrointestinal illnesses or allergic reactions. Stop drinking the water and seek medical attention if you or your family experience these symptoms.
12. What can I safely use the public drinking water for if the toxins associated with Harmful Algal Blooms exceed levels set by the United States Environmental Protection Agency (EPA)?
- If the toxins in the public drinking water exceed the levels that are considered safe for children and/or adults to consume, you may still use the water to wash laundry and dishes, bathe/shower, water plants, and flush toilets.
13. If I catch a fish from water experiencing a Harmful Algal Bloom, is it safe to eat?
- There is limited information available in the scientific literature on the potential health impact of eating fish obtained from water experiencing Harmful Algal Blooms. The Cayuga County Health Department advises that people not fish in areas where the water has a noticeable Harmful Algal Bloom.
 - Fish caught in other areas that may have experienced Harmful Algal Blooms previously should be properly cooked and cleaned prior to consumption, ensuring all skin, organs, and fat are removed.

C. Exposure to toxins associated with Harmful Algal Blooms in individual water supplies

14. If I live near a lake experiencing a Harmful Algal Bloom, is my private well water safe to use?
- If properly installed, a private, drilled well is unlikely to be impacted by Harmful Algal Blooms present in the lake. If the well is shallow and installed along the shore of a lake experiencing a Harmful Algal Bloom, toxins associated with the bloom may be



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present in the well water. In-home treatments such as boiling, disinfecting water with chlorine or ultraviolet (UV) radiation, and water filtration units **do not** remove the toxins associated with Harmful Algal Blooms. There are treatment units on the market that have been shown to reduce microcystin levels in water, but it is not known if the microcystins would be reduced to a level considered safe. Since individual water supplies are not regulated or monitored; it is not known if there is a health risk to drinking the water from your private well.

15. If I draw my water directly from the lake experiencing a bloom, is my water safe to drink, bathe, wash dishes, etc.?
- Never drink untreated surface water (water that is drawn from the lake, at any depth), whether Harmful Algal Blooms are present or not. Even if the water is treated by in-home treatment units, avoid drinking water drawn directly from the lake or using the water for making infant formula, making ice, brushing teeth, preparing food, bathing/showering, and washing dishes when blooms are present. In-home treatments such as boiling, disinfecting water with chlorine or ultraviolet radiation (UV), and water filtration units do not remove the toxins associated with Harmful Algal Blooms. There are treatment units on the market that have been shown to reduce microcystin levels in water, but it is not known if the microcystins would be reduced to a level considered safe. Since individual water supplies are not regulated or monitored, it is not known if there is a health risk to drinking the water from your private water supply.

D. DO NOT DRINK ORDER

The Cayuga County Health Department will issue a “DO NOT DRINK” order if toxins associated with Harmful Algal Blooms in the public drinking water exceed limits that may cause adverse health risks to sensitive individuals. When a “DO NOT DRINK” order has been issued, the Cayuga County Health Department will advise the public to not drink or use public drinking water for:

- Drinking and cooking
- Preparing and washing food
- Brushing teeth
- Making infant formula
- Making ice
- Giving water to pets

16. If a “DO NOT DRINK” order is issued by the Cayuga County Health Department due to elevated toxins associated with a Harmful Algal Bloom in a public water supply, what can I safely use the public water for?
- Water can be used for:
 - Showering/bathing
 - Washing dishes
 - Flushing toilets



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- Laundry
 - Watering plants
17. If a “DO NOT DRINK” order is issued by the Cayuga County Health Department due to elevated toxins associated with a Harmful Algal Bloom in a public water supply, what should I use bottled water for?
- Bottled water should be used for:
 - Drinking
 - Bottle-feeding infants
 - Food preparation and ice making
 - Brushing of teeth
 - Providing water to pets
18. How much bottled water should I store in preparation for if a “DO NOT DRINK” order is issued?
- To be prepared for a “DO NOT DRINK” order, residents should store one gallon of clean water per day for each person and pet in your household. You should plan on storing three days’ worth of water. For example, for one person there should be a total of three (3) gallons of water for a total of three (3) days. Allow more water for those who are disabled, pregnant, or if you have pets. Bottled water should be stored in a cool location away from direct sunlight.
 - To view an informational flyer about how much water you should store, visit: www.cayugacounty.us/health and click on Harmful Algal Blooms > Quick Links.
19. How will I know the bottled water I am drinking is safe?
- You should purchase bottled water that is certified by New York State Department of Health. This certification will be printed on the label of each bottle. The FDA considers bottled water to have an indefinite shelf life if it is produced in accordance with regulations and remains sealed and unopened. Therefore, expiration dates on bottles are voluntary and may reflect concerns for taste and odor rather than safety.
 - If you bottled public drinking water from your faucet prior to toxins being identified in the public drinking water, use only clean, food-grade plastic or glass containers that seal tightly and replace the supply every six months.
20. What symptoms should I be looking for if I or family members drink the water after a “DO NOT DRINK” order is issued by the Cayuga County Health Department due to elevated toxins associated with a Harmful Algal Bloom in a public water supply?
- Symptoms such as vomiting, nausea, diarrhea, skin, eye or throat irritation, allergic reactions, or difficulty breathing may occur after drinking water with elevated levels of toxins associated with Harmful Algal Blooms. These symptoms are very similar to



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symptoms from other gastrointestinal illnesses or allergic reactions. Stop drinking the water and seek medical attention if you or your family experience these symptoms.

E. Identification/Monitoring of Harmful Algal Blooms

21. What do Harmful Algal Blooms look like? How will I be able to identify these blooms if I am on the lake?
- Discolored water, often with a paint-like appearance, with or without floating scum or mats may be evidence of a Harmful Algal Bloom. Pictures of Harmful Algal Blooms can be found here: <http://www.dec.ny.gov/chemical/81962.html>
 - It is hard to tell a Harmful Algal Bloom from other non-harmful algae blooms. Therefore, the Cayuga County Health Department recommends that you avoid wading, swimming, boating, and fishing in bodies of water that are discolored or have scum or floating mats present.
22. How will I know if a body of water has recently experienced a Harmful Algal Bloom?
- The New York State Department of Environmental Conservation (NYSDEC) maintains a website of bodies of water that have reported Harmful Algal Blooms. The link to this website is: <http://www.dec.ny.gov/chemical/83310.html>
 - Please note not all blooms are reported to the NYSDEC. If a body of water is not listed, it does not mean that it currently does not have a bloom or did not have a bloom in the past. It is best to avoid swimming, boating, fishing, or other recreating if the body of water you are interested in has discolored water, scum or floating mats present.
23. What should I do if I see a Harmful Algal Bloom on a body of water?
- If you think that a bloom may be harmful, report it through New York State's online Harmful Algal Blooms map and reporting system: <https://on.ny.gov/nyhabs>
24. What causes Harmful Algal Blooms?
- Scientists do not fully understand the exact causes of Harmful Algal Blooms. They are likely triggered by a combination of water and environmental conditions that allow Harmful Algal Blooms to outcompete other algae. This occurs most often in waters that have a source of nutrients, such as phosphorus and/or nitrogen, and during periods of sunny days, calm water conditions, and warmer temperatures. Harmful Algal Blooms may be short-lived—appearing and disappearing in hours—or long-lived—persisting for several weeks—depending on the weather and the characteristics of the lake.
25. Are Harmful Algal Blooms caused by climate change, agriculture, or septic systems?
- Harmful Algal Blooms tend to occur during sunny days and warmer water temperatures. The prevalence of these weather conditions may be related to global warming effects. Harmful Algal Blooms need nutrients, such as phosphorus and/or nitrogen, to develop. Nutrients come from many sources including agriculture, failing



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septic systems, and storm water runoff. To reduce the occurrence of Harmful Algal Blooms, it is important to reduce all sources of nutrients entering a body of water.

F. Preparing for the Occurrence of Harmful Algal Blooms

26. What preparations are being made within the City and the County to prevent toxins from getting into the public drinking water?
- The City of Auburn, the Town of Owasco, and Wells College have installed treatment processes at their water treatment plants to remove toxins from the drinking water before it leaves the plant.
27. Do we have a back-up water source available and ready for distribution?
- The City of Auburn, the Town of Owasco, and those municipalities who purchase water from the City and Town, as well as the Village of Aurora who purchases water from Wells College, have prepared emergency plans for distributing drinking water in the event the Cayuga County Health Department issues a “Do Not Drink” order. In addition, the Cayuga County Health Department is encouraging residents to store three (3) days’ worth of water before the Harmful Algal Bloom season, which is typically summer through fall, begins every year.

G. Prevention

28. What is being done to prevent this from happening in future years?
- Revised Owasco Lake Watershed Rules and Regulations that are more protective of water quality have been submitted to New York State Department of Health for their approval. The proposed revision can be found at the link below:
<http://www.cayugacounty.us/776/Owasco-Watershed-Rules-and-Regulations>
- The New York State Department of Environmental Conservation has developed a Finger Lakes Water Hub to address water quality issues in the Finger Lakes Region.

H. Current Information

29. Where can I find current information on Harmful Algal Blooms?
- Health Department Facebook Page & Instagram Account:
 - Search Cayuga County Health Department on Facebook and like our page.
 - Search Cayuga County Health Department on Instagram and follow our page.
 - Health Department Website:
 - www.cayugacounty.us/health
 - Health Department Main Phone Number:
 - 315-253-1560
 - Answered by Health Department staff during business hours Monday – Friday.
 - Answered by our answering service at night, weekends, and holidays.



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30. How will I be notified if toxins are identified in the drinking water?

- The Cayuga County Health Department would issue a press release that would be sent to local media outlets including newspapers, TV stations, and radio stations. This press release would also be posted on our website: www.cayugacounty.us/health as well as posted on the Cayuga County Health Department Facebook page and Instagram account. We encourage you to like our Facebook page and follow our Instagram account so our updated posting will appear in your newsfeed.
- If a DO NOT DRINK ORDER is issued, we will utilize the Cayuga County Emergency Alert system, Hyper Reach.
- Landlines are already registered with the Hyper Reach alert system, but if you would like the alerts sent to your cellphone or email address, you must register at: <http://hyper-reach.com/cayugasignup.html>

I. Impact to local businesses, schools, hospitals, and restaurants

31. Where will users of water (e.g., businesses, schools, hospitals, restaurants, etc.) be getting their water if a “DO NOT DRINK” order is issued by the Cayuga County Health Department?

- Hospitals and healthcare facilities are required by the New York State Department of Health to have emergency plans in place that address a loss of potable water.
- If a “DO NOT DRINK” order is issued by the Cayuga County Health Department, Health Department Staff will advise restaurants on what they need to do in order to stay open. Otherwise, the restaurants may have to close until the “DO NOT DRINK” order is lifted.
- Schools and Businesses: We encourage all schools and businesses to prepare an emergency plan on how they will continue to remain open in the event that a “DO NOT DRINK” Order is issued by the Health Department. The Cayuga County Health Department will advise the schools on what they can do to keep their cafeterias open during a “DO NOT DRINK” event.