Florida Public Health Protection Strategies for Cyanobacteria and their Toxins

Andrew Reich, MS, MSPH
Coordinator
Aquatic Toxins Program
Public Health Toxicology Section
Bureau of Epidemiology
Division of Disease Control and Health Protection
Public Health
Susceptible Populations?

- Elderly
- Immuno-suppressed
- Underlying disease: Asthma
- Pregnant women, fetus
- Children
- People with extended exposure periods
Potential Exposure Pathways

- Direct Skin Contact
- Ingestion of Food
- Incidental Ingestion
- Drinking Water
- Inhalation of Aerosols
Cyanobacteria Blooms in Florida
FOR IMMEDIATE RELEASE
June 15, 2010

***HEALTH ADVISORY***

JACKSONVILLE, FL—State health officials continue to monitor the most recent fish kill on the St. Johns River. Teams from the Florida Fish and Wildlife Conservation Commission, St. Johns River Water Management District, Florida Department of Environmental Protection, Florida Department of Health, Duval County Health Department and the City of Jacksonville continue to investigate the situation. The cause of the kill has not yet been determined.

Fish kills can be caused by low dissolved oxygen in the water, algal blooms, chemical spills and other events. To ensure the public’s safety, the Duval County Health Department advises common-sense precautions and to avoid algae blooms and fish kill areas.

If you see a fish kill of more than a few fish that are dead, dying, acting erratically or have sores:

- Stay away from the immediate area and the fish while those conditions exist.
- Do not eat, use or collect any fish, crabs, other life or items from the immediate area.
- Do not let pets swim in or eat fish from those waters.
- Report the areas of sick or dead fish to the Fish Kill Hotline (Florida Fish and Wildlife Conservation Commission): 800-636-0511.

- If you come in contact with the water where there is an algae bloom or where fish are dead, dying, appear sick, or have sores:
  - Remove wet clothing and keep separate from other items until it is washed.
  - Wash any body part (except the eyes) that comes in contact with the waters, using soap and clean water. Rinse eyes with lots of clear, clean water.
  - Use waterproof gloves when handling pets and items that have come in contact with algae and the water.
  - Keep your pets away from the algae and do not let them either eat algae or lick their fur after contact with the water.
  - See your doctor or health provider if you experience any symptoms that might be caused by exposure to these waters, such as burning eyes, respiratory irritation, or a skin rash.
  - Report any illness from exposure to harmful algae to the toll-free Aquatic Toxins Hotline: 888-232-9835.

State and local agencies are continuing to collect samples for analysis in response to reports of fish kills in the St. Johns River.

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Duval County Health Department
Communications Office • MC-40 • 900 University Boulevard, North • Suite 205 • Jacksonville, Florida • 32211 • (904) 253-1470

In partnership with the City of Jacksonville
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If you see a fish kill of more than a few fish that are dead, dying, acting erratically or have scores:

- Stay away from the immediate area and the fish while those conditions exist.
- Do not eat, use or collect any fish, crabs, or other life forms, or items from the immediate area.
- Do not let pets swim in or eat fish from those waters.
- Report the area of sick or dead fish to the Fish Kill Hotline (Florida Fish and Wildlife Conservation Commission), 800-836-0511.

If you come in contact with the water where there is an algae bloom or where fish are dead, dying, appear sick, or have scores:

- Remove wet clothing and keep separate from other items until it is washed.
- Wash any body part (except the eyes) that comes in contact with the waters, using soap and clean water. Rinse eyes with lots of clear, clean water.
- Use waterproof gloves when handling pets and items that have come in contact with the algae and the water.
- Keep your pets away from the algae and do not let them eat algae or kick their fur after contact with the water.
- See your doctor or health provider if you experience any symptoms that might be caused by exposure to these waters, such as burning eyes, respiratory irritation, or a skin rash.
- Report any illness from exposure to harmful algae to the toll-free Aquatic Toxin Hotline: 1-800-232-8032.

State and local agencies are continuing to collect samples for analysis in response to fish kills in the St. Johns River.

Duval County Health Department
Communications Office - MC 40 - 900 University Boulevard, North - Suite 215 - Jacksonville, FL

St. Johns County Health Department
1915 US 1 South, Suite 100 - St. Augustine, FL 32086
Phone: (904) 830-1051
Website: www.sjcountyfl.org

Public Health
PROTECT YOURSELF, YOUR FAMILY, AND YOUR PETS FROM BLUE GREEN ALGAE

Periodically, large amounts of blue-green algae grow – or “bloom” on the Caloosahatchee River. Certain types can release toxins, or poisons, into the water. At these times you will see that the water is discolored or has green scum floating on the surface. At times a bloom may not be noticeable but toxins may still persist at low levels.

For your protection, Lee County recommends these precautions:

1. Don’t swim, water ski, or boat in areas where the water is discolored, or where you see foam, scum or mats of algae on the water.
2. If you do swim in water with visible blue green algae, rinse off with fresh water as soon as possible.
3. People with chronic liver disease and pregnant women may be at increased risk.
4. Don’t let pets or livestock swim in or drink from areas where water is discolored or where you see foam, scum, or mats of algae on the water.
5. If pets (especially dogs) swim in scummy water, rinse them off immediately – do not let them lick the algae (and toxin) off their fur.
6. Healthy, active fish caught in the river are safe to eat. Do not eat dead or dying fish.
7. Do not eat shellfish (clams, mussels, etc.) harvested from the river.

For further information, please call The Aquatic Toxin Hotline at 1-888-232-8655.
Animal Impacts - Target Audience: DVMs, Farmers, Pet Owners

Cyanotoxins and the Health Impacts on Pets, Livestock, and Wildlife

Rocky Lazonesy, MPH
Andrew Beach, MS, MSPH
Dr. Stanick, DVM
and Dr. Blackmore, DVM, PhD
Human Health Impacts – Target Audience: health care providers, residents, visitors, workers
Public Health Surveillance Tools

- EpiCom: Public Health Bulletin Board

- Florida Poison Information Centers
  - Tampa, Jacksonville, Miami
  Aquatic Toxins Hotline

- Florida Reportable Disease System
  - Merlin

- ESSENCE
  - Syndromic Surveillance
    Includes Florida Hospital ED and Acute Care Facility data
Florida Poison Information Centers

1-800-222-1222

- Staffed by doctors, nurses and pharmacists
- Speak with a poison specialist
- Free, confidential service: 24/7, 365
- 3 Centers receive 550-600 total calls/ day
- > 25,000 calls since 1998 on Aquatic Toxins
Merlin: CyanoHAB Outbreak Module

Communicable Disease Reporting

Outbreak Info
- Outbreak ID: 1637
- Outbreak Date: 09/22/2011
- Outbreak Type: SYMPTOM/SYNDROME CLUSTER
- Outbreak Name: STATE - ILLNESSES ATTRIBUTED TO ALGAL TOXIN EXPOSURES
- County: STATE
- Outbreak Status: OPEN

Setting Detail
- Setting Type: RECREATIONAL WATER
- Relation to Outbreak: 
- Facility Name: AQUATIC TOXINS DISEASE PREVENTION PROGRAM
- Street Address: 
- Zip: 
- City: 
- State: FL
- County: 
- Contact Name: 
- Contact Phone: 
- Comments: 

People Associated with this Setting
No Results Found for the Criteria Selected.

Unique ID for CyanoHAB
Cyano-HAB Illness
Tabs Available for Data Entry
ESSENCE: Florida System

Electronic Surveillance System for Early Notification of Community-based Epidemics

“Merlin” Reportable Disease Database

Florida Poison Control Centers

Florida-Based Emergency Room Data
ESSENCE Participating Hospitals
Hospital Emergency Departments and Urgent Care Centers Reporting

176 hospitals and urgent care centers (~85% of Florida’s ED visits)
Florida Slime Crime Tracker
NASA Earth Science Division:
Monitoring and Forecasting Cyanobacterial Blooms for Public Health Protection and Response

St. Johns River
Lake Apopka
Lake Istokpoga
Lake Okeechobee
Satellite Health Bulletins: Example
FDOH Cyanobacteria Tracking Website

Harmful Algal Bloom Tracking Module

Welcome to the Florida Harmful Algal Bloom (HAB) Online Tracking Module. This site is designed to collect and secure electronic database.

PRIVACY DISCLAIMER: This site should not be used to collect HIPAA protected health information or any other personally identifiable information about a person’s health status. This includes symptoms and health complaints related to a bloom. If you have a concern or question about a bloom, contact the Florida Department of Health’s Aquatic Toxins Disease Prevention Program, at 850-245-4187.

- Format for all dates and times is MM/DD/YYYY and HH:MM AM/PM EST
- Size limit for attachments is 15MB per submission and up to 60MB cumulatively (initial submission plus re-submission)
- (*) Indicates the field is required

Descriptive Bloom ID*

Format: AgencyName_Date_WaterBody
- Note: Use the name of the agency you represent - Examples: FDOH, CHD, FDEP, FDACS, FWC/FWR, etc.

Name of Water Body

To protect privacy, do not report blooms that occurred in a water body with a single residence located next to the bloom location.

Contains a Searchable Database for Retrieving Data

http://www.caspio.com
Resource Guide for Public Health Response to HABs in Florida

http://research.myfwc.com/education/view_article.asp?id=20125
Cyanotoxin Case Definitions

Note: Cyanotoxin illness is currently not reportable in Florida, however suspect cases are requested to be reported to the Aquatic Toxins Hotline to improve surveillance.

Developed and Proposed by North Carolina Department of Health
J. Newton MacCormack, MD, MPH
Occupational & Environmental Epidemiology Branch

Microcystin Poisoning

Possible case: Confirmed exposure (ingestion OR immersion) to water with confirmed bloom of cyanobacterial species capable of microcystin production AND clinical evidence of hepatic dysfunction [e.g., painful hepatomegaly, aminotransferase (AST/ALT) level at least 2 times normal] developing within 48 hours of exposure AND other causes of hepatic dysfunction have been excluded.

Probable case: Meets criteria for “possible case” AND there is laboratory documentation of microcystin toxin in water.

Confirmed case: Meets criteria for “probable case” AND/OR positive assay for microcystin toxin in clinical specimen (blood or tissue).

Cylindrospermopsin Poisoning

Possible case: Confirmed exposure (ingestion OR immersion) to water with confirmed bloom of cyanobacterial species capable of cylindrospermopsin production AND development of at least one of the following within 48 hours:

- clinical evidence of hepatic dysfunction [e.g., painful hepatomegaly; aminotransferase (AST/ALT) level at least 2 times normal]
- GI symptoms (e.g., nausea, vomiting, diarrhea, abdominal cramps)
- Proteinuria, hematuria, or other signs of acute renal damage

Probable case: Meets criteria for “possible case” AND laboratory documentation of cylindrospermopsin toxin in water.

Confirmed case: Meets criteria for “probable case” AND positive assay for cylindrospermopsin toxin in clinical specimen (blood or tissue).

ADDITIONAL INFORMATION:
Florida Department of Health: www.myfloridaEH.com under Food and Waterborne Surveillance Program, Aquatic Toxins Program.
Aquatic Toxins Hotline (24/7 medical information): 1-888-232-8635
Developing Local Health Department HAB Response Plans

Manual for Harmful Algal Bloom (HABs) Public Health Response Plan Development at County Health Departments

Florida Department of Health
Division of Environmental Health
Florida Department of Health
Bureau of Environmental Public Health Medicine
Aquatic Toxins Program
September 2000

Environmental Health Overall Response to HABs

- CHD: Environmental Health Office
- HAB complaint/information received
- Investigate Complaint
- Is HAB confirmed?
  - Yes: Start notification process
  - No: Conduct risk assessment
  - Is threat eliminated?
    - Yes: Educate the public
    - No: Continue monitoring
- CHD responded to problem
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Current Funding Acknowledgements:

- CDC Cooperative Agreement to Enhance Surveillance of Risk Factors and Health Effects Related to Harmful Algal Blooms, #1 U38 EH000334-01

- National Science Foundation: Collaborative Research – Dynamics of Coupled Natural and Human Systems (CHN) # 1009244

- NOAA/NASA: Monitoring and Forecasting Cyanobacterial Blooms for Public Health Protection and Response # DG133C10SE1964